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OCTOBER 2023

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.244 Remington & 6mm Remington

I READ LAYNE SIMPSON'S ARTICLE TITLED ".244 REMINGTON & 6MM REM-ington, the Whole Story" (*Shooting Times* April 2023) with much interest.

My dad was a very early fan of the 6mm Remington cartridge and had two custom rifles chambered for the round—an 03A3 Remington and an 1898 Mauser. I own and shoot both of them.

Dad was a handloader and worked up and tested quite a few 6mm recipes on which he kept careful and detailed notes. His favorite powder for 6mm was IMR 4064.

I would offer just a little more to Layne's excellent article to expand on the whole story. It was *Shooting Times* back in 1963 (some 60 years ago) that first announced the news of Remington's then-new 6mm round and was then the first to test it.

ST writers George C. Nonte Jr. and Ken Waters covered the new cartridge in articles detailing their testing and experimentation with both factory loads and handloads.

Today, factory-loaded 6mm Remington ammunition is hard to find, and handloading for it is necessary. It is a very accurate, flat-shooting round that delivers a hard-hitting punch to game up to the size of whitetails, and it is particularly effective on larger predators like coyotes.

Richard Bergren
Via email

Lightweight Trigger Pulls

I thoroughly enjoyed Craig Boddington's article titled "7 Steps to Better Rifle Shooting." No matter how long we have been involved in the shooting sports, it is always good to go back to the basics to remind ourselves what our daddy taught us.

I'd like to see Craig write about lightweight trigger pulls for hunting rifles. It ties in nicely with his "7 Steps" article.

For several years now, a friend of mine has had a Kimber Model 8400 in .300 Win. Mag. He has complained that it just is not accurate. One day he gave it to me to shoot and see what I could do with it. I shot it, and after firing three shots with little success of accuracy, I realized my problem was the lightweight trigger pull.

I have been a handgun hunter for most of the past 20 years, including harvesting a cow elk at 230 yards with the .500 S&W. Plus, I shoot prairie dogs in Montana with a Remington 788 in .22-250. It has a 4-pound trigger pull and a Vortex scope. It is plenty accurate, and I love shooting it.

After realizing the light trigger pull of my friend's Kimber, I settled down and practiced the basics, focusing on trigger application. After the sixth shot, I was able to shoot 1.25- to 1.5-inch, three-shot groups at 100 yards.

When I got home, I measured the trigger pull weight and was not surprised that it averaged 3.25 pounds.

My friend shoots his old Winchester Model 70 in .270 Win. well, so I measured its trigger pull, and it averaged 6.0 pounds. I gave him back his Kimber and told him to read Craig's article and do as Craig says.

For my likes, a 3.25-pound trigger pull is too light for the in-the-woods, in-the-heat-of-the-moment, adrenaline-driven, heart-pumping shooting likely to be encountered.

I'd like to read Craig's opinion.

Jim Lydigsen
Yakima, WA

Thanks for the Great Read

I know the passion Terry Wieland speaks of in his recent "Gunsmoke" column on groundhog hunting. I spent 40 years as a dairy

farmer. My main tractor always had a gun boot on it. Inside was a Remington Model 660 rifle in .243 Winchester. I, too, was always looking for those "brown spots." One summer 39 chucks did not make their holes. I kept score. On where the woodchucks have gone, some years back, some dummy introduced coyotes to the Northeast. Now the only place you find woodchucks is around the farm buildings and homes, places where coyotes shy away from.

Thanks for the great column.

Bill Blickensderfer
Via email

Still Never Misses

I loved the article on the .22 Short cartridge in the June issue. When I was a young boy in the early 1950s, if I were passably good all week, I would get an allowance of a quarter. That massive 25 cent coin could buy at least five full-size candy bars and many other cool things.

I bought 50-round boxes of .22 Short ammunition at the local hardware store/barber shop/candy store for 50 cents per box. That was during the years when I was seven to 10 years old.

My Grandpa Davis had eight giant sour cherry trees behind his farmhouse. He paid me 5 cents for every bird carcass. My Winchester Model 69A bolt-action rifle with a 4X Weaver scope never missed. At the end of each day, I piled my day's work on his back porch so he could count them easily, and he always paid me immediately. My profit on a box of .22 Shorts averaged about $2, because I could sometimes pick a line of sight that would get me more than one bird with a single shot, to make up for any misses. After the cherries came peaches, apples, plums, pears, and those magnificent grapes. I still have that rifle, and it still never misses.

Walt Davis
Lebanon, OH

ST

Mossberg Optic-Ready Model 500 Turkey Guns

MOSSBERG HAS ADDED OPTIC-READY VERSIONS OF THE MODEL 500 PUMP-action shotgun that feature receiver cuts for low-profile, direct mounting of micro dot sights with the Shield RMSc footprint. The new 500 Turkey Optic-Ready is chambered for .410 Bore (shown) and 20 gauge, and it has nonbinding twin action bars, dual extractors, an antijam elevator, an anodized aluminum receiver, and an ambidextrous top-mounted safety. It comes with extended choke tubes, a fiber-optic front sight, sling-swivel studs, and Mossy Oak Greenleaf camo finish. The .410 Bore gun has a 24-inch barrel with a 3.0-inch chamber and a vent rib. The 20-gauge gun has a 22-inch barrel with a 3.0-inch chamber and a vent rib.

MSRP: $644
mossberg.com

Blaser B2 Riflescopes

Blaser has just announced an all-new line of compact, all-purpose hunting riflescopes. They provide German optical performance and feature 30mm main tubes, 6X zoom, illuminated fiber-optic 4C reticles (located in the second focal plane), and hydrophobic lens coatings. In addition, these scopes are designed to be compatible with Liemke clip-on thermal devices. Models include the 1-6X 24mm, 2-12X 50mm (shown), and 2.5-15X 56mm.

MSRP: $1,700 to $1,900
blaser.de

Davidson's Exclusive Girsan MC P35 PI OPS

The most recent Davidson's exclusive Girsan pistol is a shortened "detective" version of the 9mm MC P35 semiauto. The new MC P35 PI OPS has a silver Cerakote-finished frame, a 3.88-inch stainless-steel barrel, and a 15-round magazine. The slide is cut for optics with the Shield RMSc footprint. The pistol has walnut grips, an extended beavertail, an ambidextrous thumb safety, and a flat-faced trigger. The sights have three white dots, and the frame has an integral Picatinny accessory rail.

MSRP: $669.99
galleryofguns.com

Burris Signature LRF 10X42 Rangefinding Binocular

The integrated rangefinder in the new Signature LRF 10X42 laser rangefinding binocular from Burris can deliver fast results ranging to 2,600 yards with a crystal-clear image. Five ranging options include line-of-sight (LOS) only, horizontal distance (HOR) only, LOS and HOR, LOS and angle (ANG) above and below horizontal, and HOR and ANG. The Signature LRF 10X42 is accurate to within 1 yard at ranges under 1,000 yards and ±2 yards at ranges over 1,000 yards. The binocular features multicoated HD lenses, BaK-4 roof prisms, and a shockproof chassis with rubber armor. It measures 6.0x5.5x2.7 inches, and it weighs 36 ounces.

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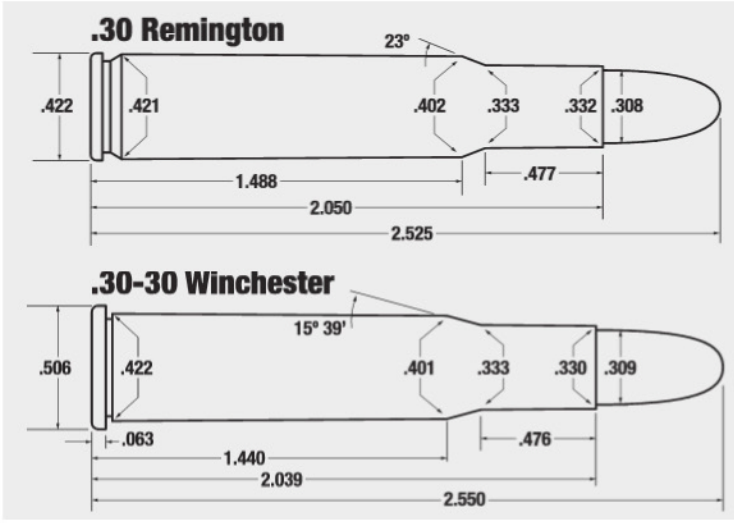


Full Charge or Fireform Charge?

Q. LANE PEARCE'S "THE RELOADER" COLUMN ON MAKING .30 Remington from .30-30 WCF in the July issue was the best description of this process that I have seen. I have never seen the method of setting head space as illustrated in the case on the right side of the photograph shown on page 26 of that issue. The taper to the neck that he forms must fireform to the final dimension in the first use. Does he use a full charge or a fireform charge to do this?

He states that the machinist who did the lathe work for him made a collet to hold the brass in the lathe. That is a challenge for many amateur lathe users (like me) to produce. Some online writers have suggested using a sizing die as a holder. The case can be held in place with a live center. I have used a less-than-collet-fit cylindrical holder with a live center in the primer hole for this purpose.

James Beasom
Via email

A. Although a cursory inspection would suggest the two rounds are identical except for the rimmed versus rimless case heads, the cartridge drawings (shown in that column and here, for convenience) definitely reveal other significant differences. Although the case shoulder diameters are almost the same, the position of the .30 WCF's shoulder is 0.048 inch shorter than the .30 Remington's. In addition, the .30 Remington's shoulder angle is noticeably more sloped than that of the .30 WCF.

So even if you precisely alter the .30 WCF rim, load up a fireforming round, and chamber it, either of two events may occur. First, the round may not fire because the headspace gap caused by the "short" and shallower shoulder may preclude the firing pin from striking the primer properly. Or if the round does fire, the loosely fitting cartridge will instantly expand to fill the rifle's chamber and likely stretch excessively near the case head.

To avoid this problem, you must also expand the neck and then partially resize to create a "false" shoulder forward of the parent case's shoulder. I simply load the reworked .30 WCF case with an *in-between start and max powder charge* and top it with the corresponding appropriate-weight bullet (either jacketed or cast). If you've sized the case properly, you'll achieve a close "crush" fit in the rifle's chamber. The firing pin will reliably strike and ignite the primer, and the case will expand under pressure, fireforming the shoulder with little to no case head stretching.

I don't use reduced-volume charges of fast-burning pistol or shotgun propellants topped with a filler (Cream of Wheat or corn meal) to fireform cases. You're not saving much money, considering the current cost of primers and bullets, and doing so calls into question what powder charge is safe to load and how much filler is too much. I don't think the risk is worth the reward, plus I prefer to eat cornbread and have never tried Cream of Wheat.

Lane Pearce

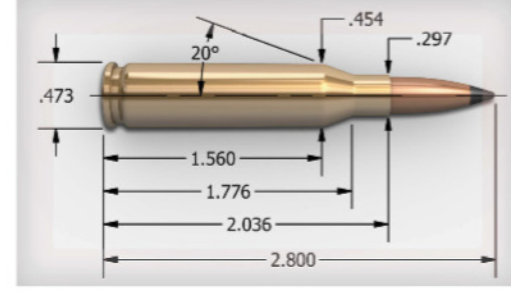
.260 Remington Freebore Plus Leade Total Length?

Q. The recent "The Ballistician" column on the .260 Remington was informative until the end when Allan started talking about cartridge freebore plus leade total lengths. He gave specifics of different cartridges, but not for the .260 Remington, which the column was about. Could he supply that information for the .260 Remington?

William Gaylord
Via email

A. According to SAAMI, the .260 Remington chamber is as follows:
Freebore = 0.1185 inch
Leade = 0.0859 inch with 3-degree leade angle
Total Throat = 0.2044 inch
Ratio of Leade to Total Throat = 0.42

Allan Jones ST



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Remington Model 870 Wingmaster

Of the more than 11 million Remington 870 shotguns in households around the world, the best ever made were the original, now-classic Wingmasters. **BY JOSEPH VON BENEDIKT**

The Remington Wingmaster is synonymous with quality. Few pump-action shotguns have ever been so popular, so rigorously used, and so cherished.

INTRODUCED IN 1950, THE SLIDE-ACTION REMington Model 870 was engineered with an ethos of simplicity, reliability, and ease of manufacturing. Nearly two million guns were sold in the first two decades it was offered, and 32 years after introduction, the 870 set the world record for the most shotguns of a specific model ever sold. Today, more than 11 million have been made.

For a gun that set records and became the standard by which all other pump-action shotguns are judged, it's interesting to note that the designers did not have legendary names like Browning or Mauser. The 870 was a collaborative effort by four engineers named Crittendon, Haskell, Hailston, and Pinckney.

For the first 37 years of manufacture, Model 870s featured nice, gloss-finished walnut; deeply blued steel; and well-fitted machined steel and aluminum parts. These were the legendary Wingmasters, and they would forever be the best of the breed.

Over the decades, many variants were produced, ranging from trap guns to turkey guns, and from rifled deer guns to police guns. In 1969 Remington added a scaled-down receiver for 28-gauge and .410-Bore versions, and in '72 a lightweight, alloy-framed 20-gauge version was built on that same smaller frame. Eventually, all the smaller gauges were migrated to the smaller frame. (The gun shown here was built after the classic Wingmaster pattern, using a 12-gauge frame.)

For the first 35 years of production, all 870s featured a fixed choke, which was marked on the barrel. In 1986 and '87, Remington introduced the now-widespread Rem Choke system of interchangeable, screw-in chokes.

Wingmasters were not inexpensive, so in 1987 Remington introduced the 870 Express—a gun that felt and functioned like a Wingmaster but cost about half as much. Stocks were basic laminated wood or injection-molded plastic. Metal finish was a textured black matte that was easy and cheap to produce. Certain internal parts were MIM (metal injection molded) rather than machined steel. Trigger groups were plastic rather than machined aluminum. Chambers were not polished; bolts were not chrome-plated.

Mechanicals

Even the original 12-gauge 870 frame is relatively sleek, so a 20-gauge gun built on the 12-gauge frame looks and feels fine. Weight of this nice Wingmaster is 6 pounds, 9 ounces—just right for a day spent walking the hills for upland birds.

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To load, thumb shotshells into the bottom of the action, feeding them up into the tubular magazine. If the internal mechanism is cocked (which locks the slide forward), press the latch at the front of the trigger guard to release the pump and briskly work it rearward and forward. This will release a shotshell onto the lifter and feed it up into the chamber. You can also load the chamber directly.

Regarding the slide, it's considered by some to be superior to most competing models because it uses two slide bars, one on each side, to drive the bolt. This adds strength and reliability and makes for balanced, smooth slide reciprocation.

The safety is a crossbolt affair located in the rear of the trigger guard. Proponents claim it's the ideal location for a safety, as it positions the shooter's hand well rearward on the pistol grip when the shotgun is carried at the ready. When a target or bird appears and the gun is mounted, the grip and wrist are well-positioned without wrist torque.

Like most pump-action guns, the 870 easily takes down into two halves for storage, transport, and maintenance.

Provenance

According to its serial number, the 20-gauge Wingmaster pictured here was made in December 1975. It's in very nice condition and shows little wear and tear. My friend inherited it from an acquaintance who owned a nice gun collection.

Although the original Wingmaster was spec'd with a ventilated rib on the barrel, this gun has none. Rather, a quarter-inch width atop the barrel is engraved with fine, slightly wavy, glare-reducing lines. It's beautifully done, and I can't help wondering if it may have been a special-order item. I estimate its value somewhere between $500 and $700.

Rangetime

Scrounging up a box of Federal 2.75-inch Field & Target loads stoked with 0.875 ounce of No. 7½ shot, I walked out to the ravine behind the house with my wife, Jenna. Our little plastic hand thrower proved to be squirrely, and she couldn't get it to release a clay target. Finally, I held the 870 Wingmaster in my left hand, took the clay thrower, and whipped it out over the draw. The clay went high and hard. Dropping the thrower, I mounted the gun and managed to smash the clay some 40 yards out.

Chuckling with glee, I repeated the feat. Then did it several times more. Clearly, the shotgun was shooting exactly where I looked.

Jenna threw several for me by hand—close, quick-moving targets hurled out through the plum and chokecherry trees. I managed to break all but one.

Impressed, I handed the shotgun to Jenna, and she went one better than me. She never missed a shot once she got a feel for the gun.

My first love in pump-action shotguns is Winchester's Model 12, and when looking for something really light and responsive, I like a 20-gauge Ithaca Model 37. However, I confess I'm quite taken with this fine old Model 870 Wingmaster. I'm not a particularly natural shotgunner, and the ease with which I broke targets with this gun says a lot about its shootability. ST

MODEL 870 WINGMASTER

MANUFACTURER	Remington Arms Inc.
TYPE	Pump-action repeater
GAUGE	20 gauge
MAGAZINE CAPACITY	4 rounds
BARREL	28 in. (MOD choke)
OVERALL LENGTH	48.4 in.
WEIGHT, EMPTY	6.56 lbs.
STOCK	Walnut
LENGTH OF PULL	14 in.
FINISH	Blued barrel and action, gloss-finished wood
SIGHTS	Bead front
TRIGGER	4.5-lb. pull (as tested)
SAFETY	Crossbolt

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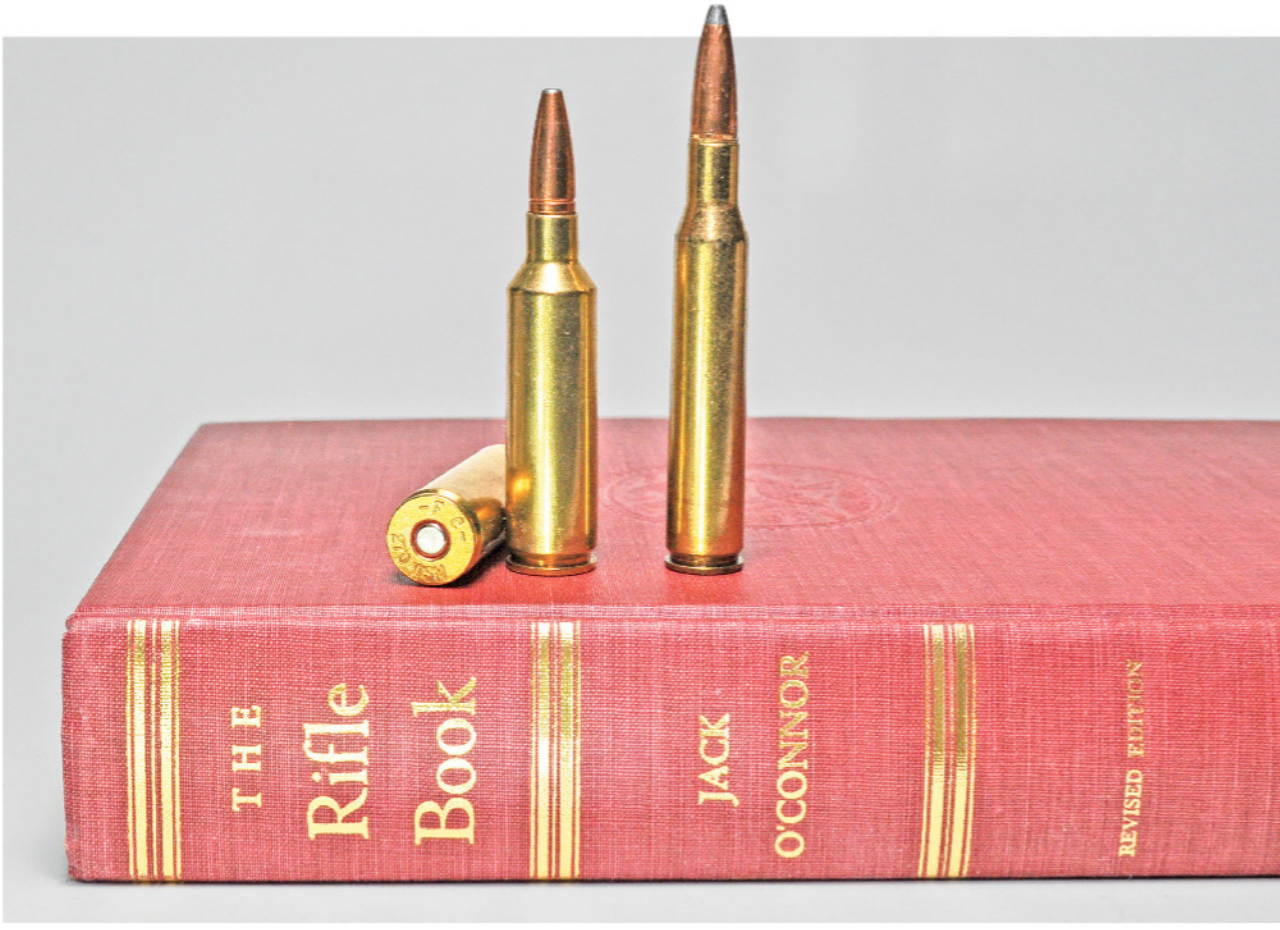

The .270 Winchester Short Magnum

Here's a very well-thought-out argument for what Jack O'Connor would have thought about the .270 WSM. **BY ALLAN JONES**

Playing on the popularity of short-action rifles, the .270 WSM (left) was created in 2002 and challenged its long-action predecessor, the classic .270 Winchester (right).

I MAKE NO CLAIMS ABOUT DECODING THE mind of any other writer, but sometimes I wish I could. During a May 2023 writers' panel discussion at the Jack O'Connor Hunting Heritage & Education Center in Lewiston, Idaho, the .270 Winchester cartridge obviously came up.

According to Robert M. Anderson's biography of O'Connor, Jack bought his first .270 Win. rifle (a Winchester Model 54) in the second half of 1925. That was the year the cartridge was released, and Jack became its most influential evangelist.

A brief comment from a panelist (my colleague Lane Pearce) resurrected a question I was too busy to ponder when I was cranking out Speer load data. Lane asked, "How would O'Connor have viewed the .270 Winchester Short Magnum that debuted in 2002?"

I'm no mind reader, but I have read enough of O'Connor's writings to sense his practicality and how he might have viewed the upstart WSM. O'Connor was a reloader, if for no other reason than to get premium bullets like the Nosler Partition that were not factory-loaded then. Thus, I focused on comparisons

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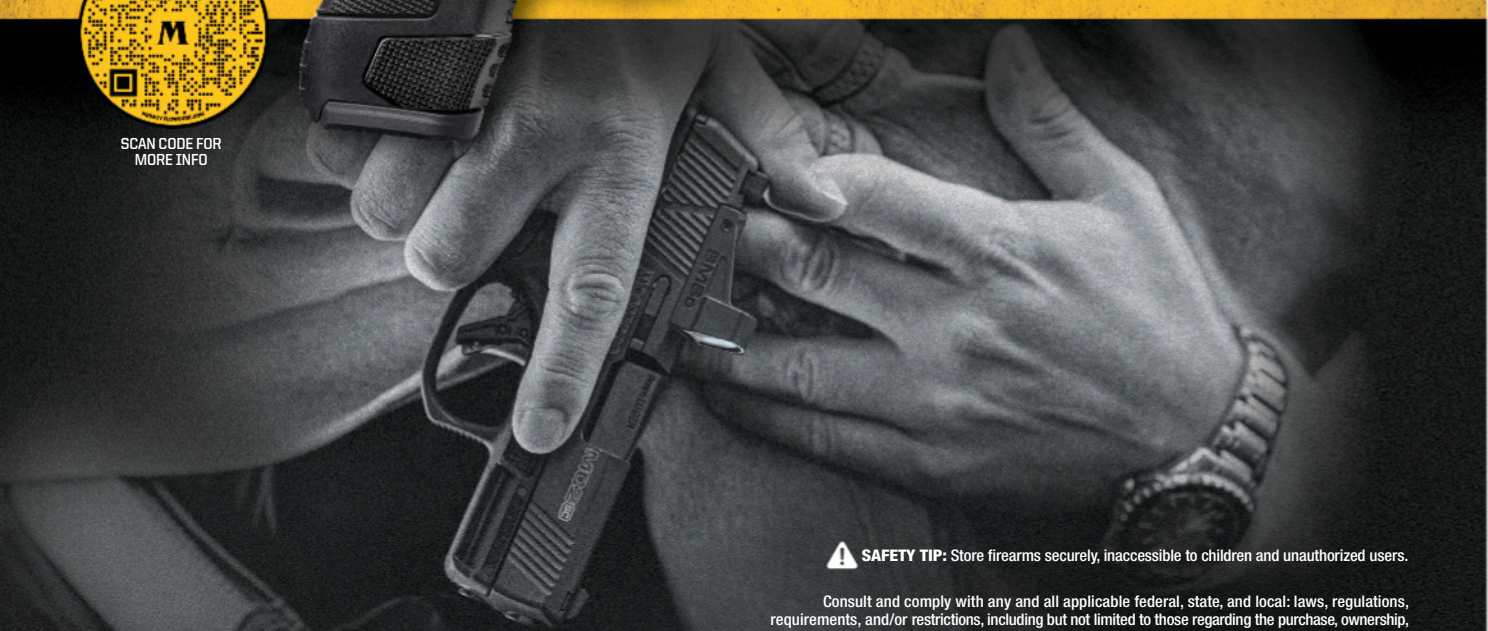

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based on handload performance, where I had access to ballistics data.

I focused this evaluation on three areas:

Does the evolution of .270 Win. factory ammo show anything that is greatly different from when O'Connor was active?

What are the performance differences between the two Winchester .270 cartridges when handloaded to today's pressure standards and protocols?

Is the .270 WSM as efficient as the .300 WSM when we compare velocity increase to charge weight increase?

Point One: Changes with Time—The earliest reference to which I have access (a 1928 Western Cartridge catalog) lists the .270 Win.'s velocity as 3,082 fps (130-grain bullet). A 1928 Peters catalog lists it as 3,160 fps. Philip B. Sharpe, in *The Rifle in America* (1938), also cites 3,160 fps. Later came the number I memorized as an aspiring pre-teen ballistician—3,140 fps.

Today's industry voluntary guideline for 130-grain loads is 3,050 fps, but some faster factory loads are available. The 150-grain loads fared better over time. Introduced in about 1936 at between 2,700 and 2,770 fps, the lowest current 150-grain guideline is 2,830 fps. Overall, I conclude that factory load performance for the .270 Win. is little changed from when O'Connor was active.

However, components have changed. O'Connor mentions that his preferred H4831 load would only fit in one brand of .270 Win. case; others had less internal volume and would not work. Today, all the cases are less capacious than those made 70+ years ago. Do not try to duplicate O'Connor's loads.

Point Two: Handload Performance— Comparing handloads for Winchester's .270 twosome requires "apples-to-apples" evaluation, and I had it with 140-grain Trophy Bonded Bear Claw bullet data. From 24-inch piezo-electric test barrels, the .270 Win. posted average velocities from 2,872 to 2,949 fps; the .270 WSM ranged from 3,019 to 3,179 fps at roughly the same pressures.

After I retired, and with new propellants available, the *Speer Handloading Manual Number 15* crew was able to safely get the old .270 Win. within 100 fps of the WSM with 130-grain bullets.

Point Three: Velocity Versus Charge Weight—Previously, I'd compared the .300 WSM and larger-case .30-caliber cartridges to the .30-06 Springfield, asking, "Is velocity increase in larger cases proportional to the charge increase?"

In that study, .300 WSM and the .300 Remington Short Action Ultra Mag did what larger cases could not. Five percent more powder than .30-06 increased the muzzle velocity by about 5 percent.

The same analysis between the .270 Win. and the .270 WSM gave unexpected results. The .270 WSM used an average of 14 percent more propellant to get an average 6 percent velocity gain over the older .270 Win.

Does this make the .270 WSM a dud? Of course not. When I compare the .270 WSM to the older .270 Weatherby Magnum and the newer 27 Nosler, it's almost a photo finish. The WSM and the Weatherby are effectively tied with 130- and 150-grain bullets. The WSM does that with about three grains less propellant, but the WSM has a small pressure limit advantage over the Weatherby—65,000 versus 62,500 psi. The WSM also comes surprisingly close to 27 Nosler handload velocities in Hodgdon's online Data Center.

With performance parity like that, I always choose the nonbelted case options. I'm on record as saying belts belong only on cartridges that need them. On a cartridge with little or no shoulder, the belt resists the firing pin blow that otherwise would drive the cartridge deeper into the chamber and cause a misfire. Cases with plenty of shoulder support for headspacing do not need a belt.

The popularity of the short-action bolt rifle was surely a driver in the short magnums' development, but such hardware was almost unknown until the early 1950s. For modern hunters seeking a light rifle, the modest weight reduction of a short-action bolt rifle makes sense, and by extension, a Short Magnum cartridge.

The .270 WSM easily allows truly efficient reduced loads for training new shooters or putting small game in the camp's cook pot. We used Accurate 5744 propellant to create very happy reduced loads at 2,000 fps and under 30,000 psi pressure. It is not as easy with the larger cases.

Rifle propellant is now over $40 to $50 a pound. The .270 Win. takes the prize for handloading economy, but the WSM enjoys a small advantage over the Weatherby and Nosler cartridges.

Back to Mr. O'Connor. We know he was quite practical in his approach to shooting. I believe he would never trade in a fine .270 Win. rifle for a .270 WSM. The gain is simply too small.

However, were Jack alive today and building his first, lightweight .27-caliber rifle, I get the feeling he would find a worthy hunting companion in the .270 Winchester Short Magnum. ST

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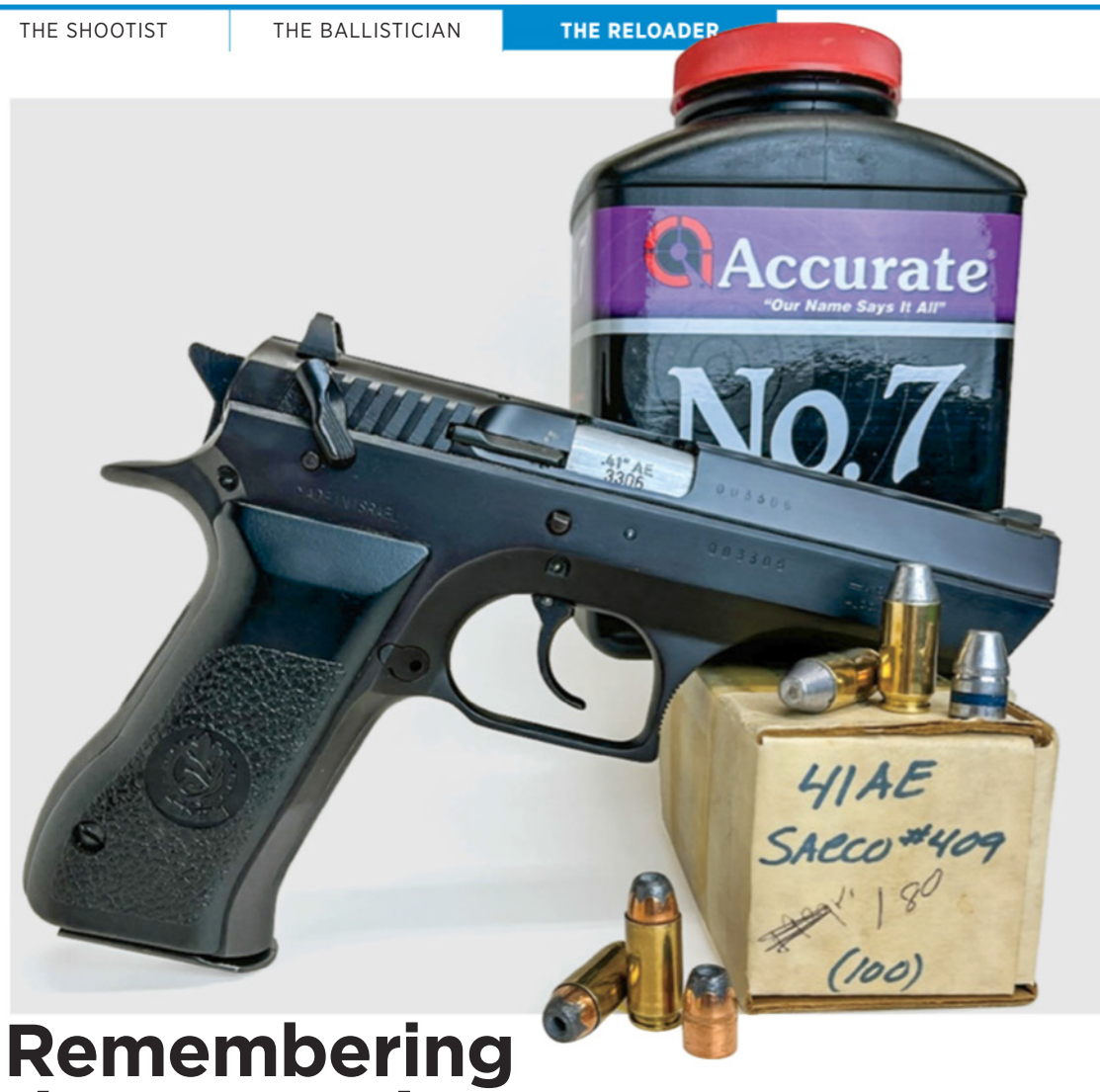

Remembering the .41 Action Express

The .41 Action Express is all but forgotten these days; however, it had real potential when it was created almost 40 years ago. **BY LANE PEARCE**

Developed in 1986 by Evan Whildin, the .41 Action Express was designed to launch a 200-grain bullet at a velocity of approximately 1,000 fps.

DEVELOPED A COUPLE OF YEARS AFTER THE 10mm Auto cartridge, the .41 Action Express (.41 AE) predated the .40 S&W by at least three years. The .41 AE was created by Evan Whildin, VP/COO of Action Arms, in 1986. (He also developed the 9mm AE and the .50 AE.) And I had the opportunity to meet with him several times.

Whildin's goal was to improve the Uzi submachine gun's performance. He first looked at adapting a .45 ACP Uzi to fire the 10mm Auto. Although that was successful, he considered the 9mm Luger's popularity and wondered if a 9mm Uzi could be modified to fire a shortened 10mm round. That, too, was successful, and his prototype "10mm AE" cartridge was essentially identical to a round that would later be introduced in partnership by Winchester and Smith & Wesson as the .40 S&W. The modified Uzi required alteration of the extractor, but Whildin realized that could be avoided by duplicating the 9mm Luger's rim configuration (a rebated rim, if you will). As the project evolved, he realized salvaging components from 10mm Auto ammo, which were hard to get at that

.41 ACTION EXPRESS ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)	CASE	PRIMER	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	25-YD. ACC. (IN.)
Jericho 941, 4.4-in. Barrel								
Sierra 170-gr. JHP	Accurate No. 7	10.0	IMI	Wolf SP	1111	28	10	3.10
Sierra 170-gr. JHP	Unique	7.0	IMI	Wolf SP	1127	22	7	2.80
SAECO No. 409 180-gr. Cast CFP	W231	5.8	IMI	Wolf SP	1095	26	9	2.50

NOTES: Accuracy is for a single 10-shot group fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 10 feet from the gun's muzzle.

time, was not the best idea, so he switched to modifying .41 Magnum brass. He used Sierra 170-grain JHP bullets and targeted the performance to match the original .41 Magnum's "police load" that launched a 200-grain bullet at a velocity of about 1,000 fps.

Action Arms planned to import a .41 AE pistol similar in form to a CZ-75 from Switzerland, but right at that time, the Swiss revoked the export license. As an alternative plan, Action Arms offered conversion kits for Browning Hi-Powers and Colt Model 1911s. FIE, IMI, and Taurus imported similar 9mm Luger/.41 AE convertible pistols, and IMI made 170-grain JHP and 200-grain FMJ ammo for Action Arms. Speer was the only U.S. domestic source, loading 180-grain Uni-Cor JHPs.

Thus, the potential for success of the .41 AE depended on a few foreign-made guns and ammunition made by one foreign company and one domestic company. This scant team of independent players was up against the largest handgun supplier (Smith & Wesson) and one of the largest ammomakers (Winchester), both in the U.S. And remember the U.S. military had recently decided to replace the .45 ACP Model 1911 with a high-capacity 9mm semiautomatic pistol.

When *Shooting Times* reviewed the .41 AE back in 1990, I got the assignment. I used a Jericho 941 pistol for that report, and I did the best I could with two IMI factory loads and the few handloads I cobbled together. At the time, reloading recipes for the .41 AE were scarce, to say the least. Later, several load manuals provided tested handload data, and I still have the Jericho pistol, so I assembled two test loads with Sierra 170-grain JHP bullets and one load with a SAECO 180-grain cast conical flat-point bullet using .41 AE recipes from the 12th edition of the Speer manual for this column. Their performance is listed in the accompanying chart. As you can see, they have plenty of potential. Unfortunately, even if it was a good idea in the early 1990s, today, the .41 Action Express is just another minor footnote in the anecdotal history of firearms. ST

While the .41 AE showed potential in the late 1980s, it never caught on with handgunners. Shown here for comparison are (left to right) 10mm Auto, .40 S&W, .41 AE, and .41 Mag.

PHOTOS BY **MICHAEL ANSCHUETZ**

BIG BOY REVOLVER

HENRY REPEATING ARMS IS BLAZING A NEW TRAIL BY PRODUCING THE COMPANY'S FIRST-EVER REVOLVER, AND THIS NEW .357 MAGNUM DOUBLE-ACTION SIXGUN IS A FITTING ADDITION.

BY JOEL J. HUTCHCROFT

HENRY REPEATING ARMS, WHICH STARTED OUT IN Brooklyn, New York, and later opened facilities in New Jersey and Wisconsin, celebrated its 25th anniversary two years ago. It's hard to believe it's been in business that long. On the other hand, with such an iconic name, it's easy to think it's been around since the 1800s. Of course, that's because Anthony Imperato (co-founder and CEO) secured the trademark to the Henry name in 1996. It's named for Benjamin Tyler Henry, the inventor of the first repeating rifle (1860), but there is no affiliation with the lineage of Benjamin Tyler Henry or the New Haven Arms Company that manufactured the original Henry rifle from 1862 to 1864. *Shooting Times* has been covering Henry rifles since the company's beginnings, so readers should be well aware of the company's flagship Big Boy lever-action rifle. The company has also produced semiautomatic rifles, single-shot rifles, and pump-action rifles, as well as other models of lever actions. The company manufactures close to 200 models of rifles, shotguns, and lever-action pistols, and it is the official licensee of the Boy Scouts of America. And now the company is building a revolver. Fittingly, it is named the Big Boy Revolver, and it comes in two versions.

18+

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The brand-new double-action Henry Big Boy Revolver features a brass grip frame and a coil mainspring.

BIG BOY REVOLVER

MANUFACTURER	Henry Repeating Arms henryusa.com
TYPE	Double-action revolver
CALIBER	.357 Magnum/.38 Special
CYLINDER CAPACITY	6 rounds
BARREL	4.0 in.
OVERALL LENGTH	9.5 in.
WIDTH	1.55 in.
HEIGHT	5.38 in.
WEIGHT, EMPTY	35 oz.
GRIPS	American walnut
FINISH	Polished blued steel barrel, cylinder, cylinder frame; brass grip frame and trigger guard
SIGHTS	Grooved rear, interchangeable post front
TRIGGER	4.88-lb. single-action pull, 14.0-lb. double-action pull (as tested)
SAFETY	Transfer-bar firing mechanism
MSRP	$928

First-Rate Features

The Big Boy Revolver is a medium-size, double-action wheelgun, and it's chambered for the powerful and versatile .357 Magnum cartridge. That means it will also safely accept .38 Special ammunition. The fluted cylinder's capacity is six rounds, and the chambers are not countersunk. The cylinder's diameter measures 1.55 inches. That's a tad bigger than the diameter of my vintage .357 Magnum Ruger Security-Six's cylinder, which measures 1.49 inches. The only Smith & Wesson K-Frame revolvers I currently own are a .22 LR Model 17 and a .22 WMR Model 648, but their cylinder diameters measure 1.45 inches. My .357 Magnum S&W L-Frame Model 586's cylinder diameter measures 1.56 inches, but everyone knows that the L-Frame cylinder has a larger diameter than the K-Frame cylinder. The point I'm trying to make is the new Big Boy Revolver's cylinder is very close in diameter to other classic medium-frame revolvers. In fact, we discovered that speedloaders for Smith & Wesson K-Frame revolvers will work with the Big Boy Revolver.

Our sample Big Boy Revolver has a square butt (it's called the Gunfighter), but the company also offers a round-butt version (it's call the Birdshead). As you can see from the accompanying photograph, our sample has a coil-type mainspring. The grip frame and trigger guard are brass, while the cylinder frame, cylinder, cylinder release thumbpiece, trigger, hammer, and barrel are polished blued steel.

Speaking of the barrel, it is round, measures 4.0 inches long, and has "Henry Repeating Arms, Rice Lake, WI" and "Made in USA" on the left side and "Cal. .357 Mag/.38 Spl." on the right side. It has a very slight

Our sample revolver's double-action trigger pull averaged 14 pounds, and its single-action trigger pull averaged 4.88 pounds.

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taper. Its diameter at the frame measures 0.75 inch, and it is 0.70 inch at the muzzle, according to my calipers. The twist rate is one turn in 16 inches.

The ramped front sight blade's base is attached to the barrel with a slot-head screw, and two extra front sights came with our sample revolver. The installed sight is 0.302 inch tall, and Henry refers to it as medium in size. The extra sights are 0.277 inch and 0.327 inch tall, respectively, and they are referred to as size low and size high. The blades' thicknesses measure 0.065 inch.

The revolver has a transfer-bar firing mechanism. The hammerspur is 0.307 inch wide, and it has five ridges on top. The trigger is 0.30 inch wide, and it is smooth. Our sample's double-action trigger pull averaged 14 pounds even for five measurements with an RCBS trigger pull scale. The single-action trigger pull averaged 4 pounds, 14 ounces for five measurements. By the way, the cylinder rotates counterclockwise during operation.

The revolver's topstrap is grooved, much like a traditional fixed-sight single-action revolver. Of course, plenty of double-action revolvers also have grooved topstraps for the rear sights, especially vintage ones. In fact, this revolver reminds me of the classic fixed-sight Smith & Wesson Model 13 .357 Magnum revolver with a 4.0-inch barrel and a square butt.

Obviously, our Big Boy Revolver's grips are square-butt style, and they are made of American walnut. As the photos show, they are smooth except for the Henry logo located low on each panel. I must say they fit the gun's frame nicely. Each grip panel has its own screw, and those screws are blued and have slotted heads.

The Big Boy Revolver weighs 35 ounces unloaded, is 9.5 inches long overall, measures 5.38 inches tall, and is 1.55 inches thick. The grip circumference is 4.75 inches measured straight across from the bottom of the trigger guard.

Admirable Accuracy

Serious handgunners know that a quality-built double-action revolver can be surprisingly accurate. And while the Big Boy Revolver wasn't what I would call match-grade accurate in my evaluation, it certainly did not disappoint. In fact, given its grooved-topstrap rear sight and my not-so-good eyesight (I wear trifocals), I was surprised that I could shoot the Big Boy so well. I fired five .357 Magnum factory loads and five .38 Special factory loads in the Big Boy Revolver, and its overall accuracy for all 10 loads was 2.99 inches. That's the average of five, five-shot groups with each load fired from a sandbag benchrest at a distance of 25 yards. The five .357 Magnum factory loads averaged 2.93 inches, and the five .38 Special factory loads averaged 3.05 inches. The most accurate .357 Magnum load was some old Remington 158-grain LSWC ammo that I've had for more than 30 years. It averaged 2.00 inches, and its average velocity was 1,185 fps, with an extreme spread of 37 fps and a standard deviation of 15 fps. The most accurate .38 Special load was the Moylan 125-grain TMJ ammo, and it, too, averaged 2.00 inches. Its average velocity was 541 fps, and it had a very high extreme spread of 108 fps with a standard deviation of 73 fps. Even so, it produced excellent accuracy. The results for all 10 loads are listed in the accompanying chart.

I also fired a 12-shot string with each of those two most accurate loads just to see what two full cylinders into a single group would do. Generally, when you shoot all six chambers in a revolver's cylinder, you'll likely find one or two that aren't

The wheelgun's cylinder, cylinder frame, cylinder release thumbpiece, hammer, trigger, sights, and barrel have a polished blued steel finish.

Like many traditional single-action revolvers and vintage double-action revolvers, the Big Boy's rear sight consists of a groove along the topstrap.

The front sight is a ramped blade held in place by a slot-head screw. The gun comes with three different front sights in low, medium, and high sizes.

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The .357 Magnum Big Boy Revolver has a 4.0-inch barrel and a six-shot cylinder. The grips are smooth American walnut.

While the *Shooting Times* sample was the square-butt Gunfighter version, the Big Boy Revolver is also offered in a round-butt Birdshead style.

quite as consistent as the others, causing groups to open up, sometimes quite a lot. The Big Boy's results were pleasing. In both cases, each 12-shot string was not much bigger than the average for the five-shot groups. Both of the 12-shot groups were less than three-quarters of an inch larger than the average of each load's five-shot groups. That tells me the Big Boy Revolver shoots quite consistently.

One of my all-time favorite .357 Magnum/.38 Special double-action revolvers is a first-generation Smith & Wesson Model 586 with a 4.0-inch barrel. Part of my fondness for that gun is the sheer joy I experienced each and every time I shot it. Plinking, shooting for group, and even packing it on the trail gave me hours and hours of shooting fun. I generally could hit whatever I shot at with that old sixgun, and it actually felt like a natural extension of my shooting arm. Henry's new Big Boy Revolver feels and handles almost as well as that old Model 586 in my hands. Granted, it doesn't have the same balance due to the Model 586's full-lug barrel, but the Big Boy Revolver points naturally, feels like an extension of my shooting arm, and is very comfortable to shoot, even with stout .357 Magnum ammunition. With the .38 Special 125-grain TMJ loads, it was a real powder puff and a pure pleasure to shoot, and it was quite accurate, to boot.

Henry Repeating Arms says, "Modern design features with historically consistent style have always been our hallmark, and the Big Boy Revolver is no exception." I say the company hit the nail squarely on the head with that statement. This sixgun has sleek lines and very nice finish. It feels good in the hand and shoots well. If it does half as well in the marketplace as the Henry Big Boy lever-action rifle has, it's going to be very successful. ST

HENRY BIG BOY REVOLVER ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	25 YD. ACC. (IN.)
.357 Magnum, 4.0-in. Barrel				
Barnes 125-gr. TAC-XPD	1332	99	43	2.88
HPR 125-gr. JHP	1212	59	21	3.50
SIG SAUER 125-gr. JHP	1395	38	17	2.75
Hornady Handgun Hunter 130-gr. MonoFlex	1234	45	21	3.50
Remington 158-gr. LSWC	1185	37	15	2.00
.38 Special, 4.0-in. Barrel				
Black Hills 125-gr. JHP +P	967	40	16	2.75
Moylan 125-gr. TMJ	541	108	73	2.00
Remington 125-gr. Golden Saber BJHP +P	977	33	15	3.50
Winchester Train & Defend 130-gr. JHP	857	87	36	3.00
Hornady 148-gr. HBWC	797	25	10	4.00

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

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PHOTO BY **MICHAEL ANSCHUETZ**

A HUNTER'S SYNERGY

BY ALL ACCOUNTS, RUGER'S AMERICAN BOLT-ACTION RIFLE AND THE CLASSIC 7MM-08 REMINGTON CARTRIDGE MAKE AN IDEAL COMBINATION.

BY STEVE GASH

WEBSTER DEFINES "SYNERGY" as the combined effect of one or more objects that is greater than the sum of their individual effects. This concept certainly applies to rifle-cartridge combinations, and a prime example is the Ruger American rifle chambered for the 7mm-08 Remington cartridge. It's a textbook combination.

The Cartridge

Many fine cartridges have been developed by wildcatters, and the 7mm-08 is one of them. The 7mm-08 began as a cartridge for metallic silhouette competition in about 1960 and was quite effective and popular. Hunters of deer and other North American game realized the ballistic virtues of the round. Remington also caught on and brought out the cartridge as a factory round in 1980.

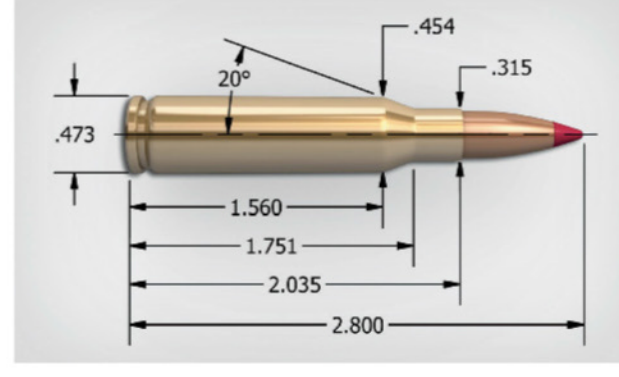
The 7mm-08 case is merely the .308 Winchester necked down to hold 0.284-inch (7mm) bullets. Case capacity is about midway between the 7x57 Mauser and the .280 Remington, and it is about 13 percent less than the older (but excellent) 7x57 Mauser. The 7mm-08 is loaded to a maximum average pressure (MAP) of 61,000 psi, compared to the 7x57's MAP of 51,000 psi. This gives the 7mm-08 a bit of a ballistic advantage over the 7x57.

Interestingly, the 7mm-08 is one of the few cartridges that started out as a match cartridge and successfully transitioned into a hunting round. Today, Remington, Federal, Hornady, Nosler, HSM, and Winchester list loads for the 7mm-08. Typically, factory loads for the 7mm-08 are loaded with 120-, 139-, 140-, and 150-grain bullets. Its relatively mild recoil makes it an excellent choice for hunters sensitive to recoil.

The 7mm-08 case length is 0.025 inch longer than its parent cartridge, so it fits nicely in "medium-length" actions. The 7mm-08 retains the same 20-degree shoulder angle and rim diameter as the .308 Win.

Most factory loads for the 7mm-08 have 140-grain bullets, and these are appropriate for a variety of deer-sized game. The standard twist for the round is one turn in nine inches (1:9), but the Ruger American Rifle's faster 1:8.5-inch twist probably works a bit better to stabilize bullets ranging from 110 to 175 grains.

The versatility of the 7mm-08 can be expanded by the large variety of bullets available to the handloader. Component bullets are available in several styles and weights from 110 to 180 grains. Probably few varmints are shot with the ultralightweight



COURTESY OF NOSLER INC.

The 7mm-08 is the .308 Winchester necked down to 0.284 inch. It retains the same 20-degree shoulder angle and rim diameter as the .308 Win.

Ruger's standard bolt-action American Rifle chambered in 7mm-08 features a 22-inch barrel and a synthetic stock. The MSRP is a very reasonable $599.

110- and 120-grain bullets, but they are useful in light-recoil practice rounds. The numerous 139-, 140-, and 150-grain bullets are applicable for big game, and there are plenty of styles from which to choose. With today's high-tech hunting and monolithic bullets, the opportunities for successful loads for almost any big-game application are there. In addition, the round has proved its accuracy on metallic silhouette targets for decades, and plenty of specialized bullets for competition shooting also are available.

AMERICAN RIFLE	
MANUFACTURER	Sturm, Ruger & Co., Inc. ruger.com
TYPE	Bolt-action repeater
CALIBER	7mm-08
MAGAZINE CAPACITY	4 rounds
BARREL	22 in.
OVERALL LENGTH	42 in.
WEIGHT, EMPTY	6.3 lbs.
STOCK	Synthetic
LENGTH OF PULL	13.75 in.
FINISH	Matte black barrel and action, black stock
SIGHTS	None
TRIGGER	3.1-lb. pull (as tested)
SAFETY	Two-position
MSRP	$599

The Rifle

The Ruger American Rifle is a genuine success story. It is generally acknowledged to be high quality, accurate, reliable, low priced, and a good value. An important factor in the American's success story is that it is available in several configurations that fill a multitude of shooting needs. A prime example is the Ruger American Standard model. It is available in short-action and long-action models, and the MSRP is a competitive $599.

The standard American's metal is alloy steel, and it is finished in matte black. The trigger is what Ruger calls the Marksman Trigger, which is user adjustable from about 3 to 5 pounds, and which has the now familiar safety lever. Ruger calls it the "trigger release." As received, the trigger pull on the American I used for this report was 3 pounds,

While the rifle comes with an optic rail installed at the factory, Steve wanted to mount his Leupold VX-3 scope as low as possible, so he replaced the rail with Weaver bases.

Steve prefers to single-load test rifles, and Ruger's new One-Shot Sled that fits the American's detachable magazine makes that method very easy.

8.5 ounces, and that is certainly acceptable for just about any shooting need. However, I just had to try out that "user adjustable" feature and backed the adjustment screw out a little over one turn. The pull weight then measured 3 pounds, 0.9 ounce. I suppose that more adjustment could have made it even lighter, but it felt just fine, so I left it there.

The bolt body is a fat 0.847 inch, and it has three lugs that provide a 70-degree bolt lift. This provides plenty of clearance for the bolt handle with a low scope mount. Additionally, there are twin cocking cams that make for easy operation, even from the shoulder.

The American's barrel is cold-hammer-forged, and it has five-groove rifling. As I said earlier, the American chambered for 7mm-08 has a 1:8.5-inch twist.

A two-position safety on the tang is easy to engage and disengage. The bolt is not locked when the safety is "On," so the chamber can be unloaded safely.

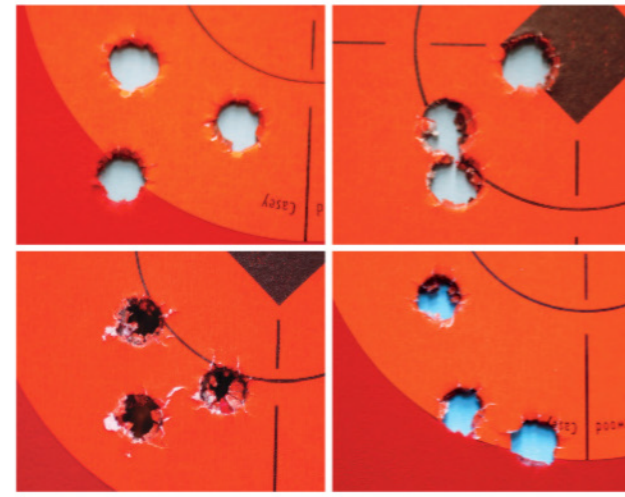
A six-inch Picatinny rail comes installed on the receiver, and while this base accepts all manner of optics and red dots, I wanted to mount a scope lower than can be done with the rail, so I removed it and installed Weaver No. 46 bases. Then I installed a Leupold VX-3 6.5-20X 40mm scope that I have used on several other rifles.

The standard American has a sturdy synthetic stock with a functional recoil pad and sling-swivel studs. It is not a flimsy piece of plastic like on some other budget-friendly guns. The buttstock and fore-end have contoured gripping surfaces that feel good in the hands. The stock is contoured in what might be called a "classic sporter" shape, and it cleverly nestles onto two "bedding blocks" that properly locate the receiver in the stock and free-float the barrel. Both features contribute to the rifle's good accuracy.

The American has a removable box magazine that holds four rounds, and it slips in and out smoothly and securely. I generally load one round at a time for testing, so I ordered a Ruger One-Shot Sled single-shot adapter. This is a new product from Ruger, and it is one of the best single-shot adapters I've ever used. It works like a charm. Just remove the magazine and snap the One-Shot Sled in place. That's it. To single load, just open the bolt, toss a round into the opening, and close the bolt. No hang-ups, no glitches. It's a gem for testing and any other need for single loading. A friend in the Texas Hill Country takes young hunters on hunts, teaching them about wildlife, responsible hunting, and other life skills, and he has a "one shot rule." When the kid is ready to shoot, he or she loads one round. As soon as the shot is fired, the gun is instantly safe. The One-Shot Sled is perfect for such safe hunting.

The 7mm-08 takes Large Rifle primers, and it works great with medium- to slow-burning powders like these that Steve used in his handloads. He also used new Hornady brass and Hornady Custom reloading dies for his handloads.

The American is chambered for several popular cartridges, including the .30-06, .270 Win., .308 Win., .243 Win., 6.5 Creedmoor, and 7mm-08. I have several Americans, and they all are good shooters. I've always been a 7mm fan, and the 7mm-08 has impressed me ever since it was introduced four decades ago. It is a fine, well-balanced cartridge. I had dabbled with it a few years back, but that test rifle went back to its maker. Fate was smiling on me recently when a local shop got in a good supply of new American Rifles, with one of them being in 7mm-08. I had to have it.



The proof is in the pudding, and as these targets illustrate, the 7mm-08 Ruger American Rifle proved to be accurate with factory-loaded ammunition and the handloads the author crafted.

At the Range

I gathered all the factory-loaded 7mm-08 ammo I could find, and I also put together a variety of handloads with well-proven hunting bullets paired with a bunch of medium-burning powders in order to put my new American to the test. The results of all that shooting are listed in the accompanying chart.

The American and the five factory loads I found averaged 1.30 inches at 100 yards. On top was the Hornady American Whitetail loading with the 139-grain InterLock softpoint bullet. It registered a velocity of 2,647 fps and a muzzle energy of 2,163 ft-lbs. The Winchester Super-X 140-grain Power-Core clocked 2,588 fps and grouped into 1.71 inches. The Nosler 140-grain AccuBond registered 2,672 fps and had a 1.24-inch group average. The Remington factory load with the 140-grain Core-Lokt PSP had the highest velocity and muzzle energy at 2,700 fps and 2,267 ft-lbs, respectively.

I had two factory loads from Hornady that made for an interesting comparison. I pulled a bullet from each load and weighed the powder charges. The unique Custom Lite load promises reduced recoil, and it features a 120-grain SST bullet rated at a velocity of 2,675 fps. From the American, it registered 2,470 fps and produced a measly 8.9 ft-lbs of recoil. Hornady's American Whitetail load with the 139-grain InterLock (2,647 fps) produced 13.7 ft-lbs of recoil. That means the Custom Lite load has a 35 percent reduction in recoil from the American Whitetail load. All the loads I test-fired produced recoil ranging from 8.9 ft-lbs to 17.2 ft-lbs, with most hovering around the 14 ft-lbs mark.

Crafting handloads for the 7mm-08 is a breeze, and the shooter can brew up whatever load suits his or her shooting

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purpose. Medium- to slow-burning powders work well in the 7mm-08. And while there are many good 7mm bullets available to the handloader, there can be too much of a good thing, so many of my handloads were limited to bullets weighing from 150 to 165 grains. Prominent big-game examples are the Nosler 150-grain Partition, the Speer 160-grain Grand Slam, and the Hornady 162-grain ELD-X. And we can't forget the Sierra 165-grain Tipped GameKing; it achieved a velocity of 2,626 fps with 44.0 grains of H414.

I also tried a few 140-grain and 145-grain bullets because they would pretty much cover almost any hunting chore for which the 7mm-08 is suitable. And I also tried a lighter-weight bullet in each of the 120-grain, 130-grain, and 139-grain categories. In fact, I have taken deer with the Speer 130-grain Hot-Cor softpoint, so I just had to try it in the American. With 43.2 grains of IMR 4064, velocity was an impressive 2,727 fps, and the group average was 0.40 inch. Again, the results are shown in the accompanying chart.

An important factor in rifle accuracy is the distance the bullet has to travel before it engages the rifling. I call it "bullet jump." The cartridge overall length (COL) of my first set of handloads was limited to 2.82 inches so that they would work through the American's magazine. While the overall accuracy of these loads was quite acceptable, averaging an impressive 0.72 inch, I wondered if bullet jump would be a big factor with this rifle. Thus, I tested a second group of handloads with longer COLs.

Many benchrest shooters think that a bullet jump of about 0.010 inch is the best for accuracy, so for my second set of loads, I used the Hornady Lock-N-Load Bullet Comparator to determine the length at which each of my test bullets engaged the rifling and then seated each bullet 0.010 inch from the rifling. I used new Hornady cases with CCI BR-2 Match primers. Be that as it may, the average accuracy of my "long loads" was 0.81 inch. Surprisingly, the "magazine-length loads" were more accurate for overall average.

In the course of shooting many different factory loads and handloads, the Ruger American was 100 percent reliable and accurate, and the black synthetic stock is actually quite attractive to my eyes. This rifle will make a fine hunting companion. And the rifle took to the 7mm-08 cartridge like a duck to water. The cartridge and the rifle make an excellent hunting combo—a hunter's synergy, if you will.

I bought this rifle for a "test gun," but I must admit, it's a keeper. I like it. I bet you will, too. ST

7MM-08 RUGER AMERICAN RIFLE ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)	CASE	PRIMER	COL (IN.)	VEL. (FPS)	S.D. (FPS)	ENERGY (FT-LBS)	100-YD. ACC. (IN.)
"Magazine-Length" Loads									
Nosler 120-gr. Ballistic Tip	Varget	43.5	Fed.	WLR	2.820	2900	25	2241	0.59
Sierra 130-gr. MatchKing	CFE 223	42.0	Fed.	WLR	2.750	2706	10	2114	0.67
Hornady 139-gr. SST	IMR 4451	45.0	Fed.	WLR	2.820	2634	24	2142	0.65
Sierra 150-gr. Tipped GameKing	IMR 4451	44.2	Lapua	CCI BR-2	2.820	2452	5	2033	0.87
Speer 160-gr. Grand Slam	Reloder 19	45.1	Fed.	WLR	2.811	2521	7	2259	0.55
Hornady 162-gr. ELD-X	Hybrid 100V	42.2	Fed.	WLR	2.820	2504	5	2256	0.67
Sierra 165-gr. Tipped GameKing	Hybrid 100V	42.7	Lapua	CCI BR-2	2.820	2459	3	2216	1.06
"Long Loads" (COLs 0.010 inch off the lands)									
Nosler 120-gr. Ballistic Tip	H4350	48.0	Horn.	CCI BR-2	2.857	2774	14	2051	0.87
Speer 130-gr. Hot-Cor SP	IMR 4064	43.2	Horn.	CCI BR-2	2.819	2727	12	2147	0.40
Hornady 139-gr. SST	H4350	46.0	Horn.	CCI BR-2	2.877	2619	6	2117	0.90
Nosler 140-gr. AccuBond	IMR 4166	40.3	Horn.	CCI BR-2	2.857	2610	21	2118	0.77
Speer 145-gr. Hot-Cor SP	Reloder 17	43.1	Horn.	CCI BR-2	2.833	2432	16	1905	0.89
Sierra 150-gr. SBT	W760	44.6	Horn.	CCI 250	2.757	2596	12	2245	0.94
Hornady 162-gr. ELD-X	Hybrid 100V	43.2	Horn.	CCI BR-2	2.913	2506	5	2092	0.60
Sierra 165-gr. Tipped GameKing	H414	44.0	Horn.	CCI BR-2	2.925	2626	8	2527	1.10
Hornady Custom Lite 120-gr. SST	Factory Load				2.749	2470	28	1626	1.22
Hornady American Whitetail 139-gr. InterLock	Factory Load				2.765	2647	17	2163	0.94
Nosler Trophy Grade 140-gr. AccuBond	Factory Load				2.751	2672	7	2220	1.24
Remington 140-gr. Core-Lokt PSP	Factory Load				2.771	2700	49	2267	1.38
Winchester 140-gr. Power-Core	Factory Load				2.742	2588	19	2083	1.71

NOTES: Accuracy is the average of three, three-shot groups fired from a Caldwell Lead Sled rifle rest. Velocity is the average of 10 rounds measured 10 feet from the gun's muzzle. Range temperatures were 47 to 65 degrees Fahrenheit.

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

SCIENTIST CONFESSES:
Global Warming a $22 Billion Lie!

John L. Casey

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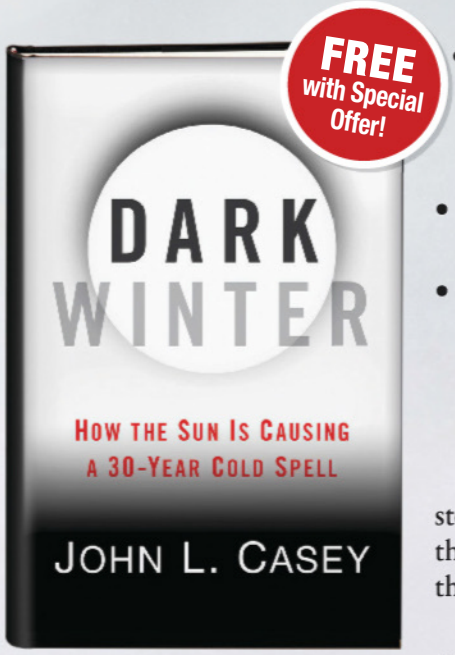
Our editors were recently handed an alarming research document that contains damning evidence.

It reveals that a network of politicians, corporations, and scientists have conspired together to promote the fear of "global warming" . . . despite evidence clearly stating no such "global warming" exists.



This 164-page document proves once and for all, that "global warming" is a sham. A $22 billion-a-year sham perpetuated by a network of dirty government officials, greedy corporations, and bought-off scientific organizations.

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BENELLI'S BE.S.T. LUPO

THE AUTHOR THINKS THIS NEW VERSION OF THE LUPO IS ALMOST CERTAINLY BENELLI'S FINEST BOLT-ACTION RIFLE EVER.

BY JOSEPH VON BENEDIKT

ITALY TO ARGENTINA—WHAT COULD BE MORE romantic than taking a fine Italian rifle across the ocean to hunt red stag during the roar in Argentina? I recently had the privilege of doing so with a new, upscale version of Benelli's Lupo bolt-action rifle.

Benelli's new BE.S.T. version of the Lupo (Italian for "wolf") is almost certainly the company's finest bolt-action rifle ever. It shares the same advanced technology as the standard Lupo models, with the addition of AA-grade walnut stocks and highly polished steel finished in a deep, lustrous blue-black BE.S.T. surface treatment.

The Lupo's magazine well is generous and aids fast, sure reloads. The sturdy polymer magazine holds four rounds of .300 Win. Mag. ammo.

By the by, the BE.S.T. finish "...is a hybrid physical vapor deposition (PVD) and plasma-enhanced chemical vapor deposition (PECVD) technology... [the] process utilizes electricity, radio frequencies, and plasma in a high vacuum environment. This results in a multi-layered surface of diamond-like particles and an exceptionally hard surface that won't ever rust or corrode." Rigorous testing—both in-house and independent—has proved the finish to be truly spectacular. As for the BE.S.T. name, it's a fun play on words: BEnelli Surface Treatment.

A few years back, I had the privilege of journeying to Italy for a pre-launch event that showcased the new Lupo. It was shocking—in a good way—in its space-age appearance and advanced ergonomics. The .30-06 version I later evaluated and reviewed in the pages of *Shooting Times* was the most accurate .30-06 rifle I've ever tested.

This year, with the new, refined BE.S.T. version in the pipeline, I received an assignment to travel to Argentina and hunt wild boars, blackbucks, and red stags with the new model. When unboxing the Lupo BE.S.T., I was prepared for the usual European tendency toward extravagance. What I didn't expect was the subtle refinement possessed by the rifle. And I'll get to that, but first, let's review the fundamental design of the Lupo because it's so different.

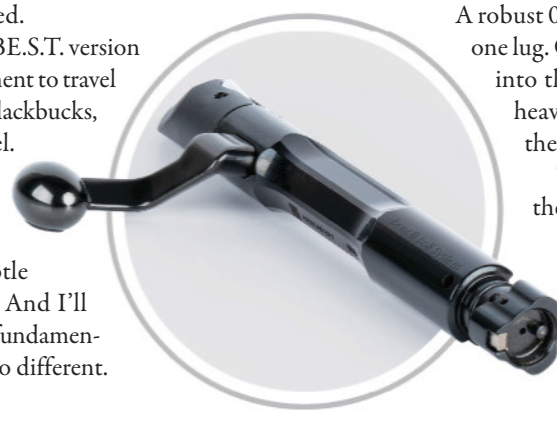
The Lupo Up Close

First, it's worth knowing that the stock isn't what it seems. Unlike similar-looking traditional rifles with two-piece stocks attached fore and aft, the Lupo has a chassis-type stock. The cylindrical steel action mates with an alloy chassis bed, which is fixed to the fore-end and buttstock. Even though it looks distinctive and classic, the Lupo actually possesses all the advantages of the modern machined-aluminum chassis-type stocks currently so popular in the United States.

Additionally, the bolt is a three-lug design with a short, fast, 60-degree throw. Those lugs lock into a barrel extension, in essence interfacing directly with the barrel breech in typical contemporary European fashion, rather than using the action as a middleman. It's a very strong system.

A robust 0.18-inch-wide extractor is insetted into one lug. Opposite, a plunger-type ejector is built into the boltface. The two capably haul and heave fired cases from the chamber and out the ejection port.

The bolt features a full-diameter body, the same size as the exterior dimension of



The Lupo bolt features a full-diameter body and three locking lugs. The bolt's body is the same size as the exterior dimension of the locking lugs.

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the locking lugs. This makes for a very smooth bolt throw—something European rifles are known for. Presumably, what with all the driven-hunting traditions on the Continent, smooth, fast function is prized like long-range accuracy is here in the States.

The bolt handle has a rakish angle, and it is rather flat. It ends in a comfortable football-shaped knob that's insetted with a small, grippy-rubber oval on the bottom.

Getting the bolt out of the action initially baffled me, since the lovely wood comb on the buttstock was too high to allow straight-back removal. Then the light bulb in the back of my brain lit up, and I had it: Draw the bolt rearward until it contacts the stop, press the well-polished bolt release on the left side of the action, and rotate the bolt knob 180 degrees up and over so the slanted top of the bolt shroud is now down. Positioned this way, there's plenty of clearance, and the bolt may be drawn out of the action.

The Lupo's well-designed buttstock sports Benelli's Progressive Comfort pad and a high comb that supports a consistent cheek weld. The grip angle and trigger position are engineered to eliminate torque in the shooting-hand wrist.

Bolt disassembly for field maintenance is easy—unlikely to be necessary, but easy nonetheless. I won't go into the process here; you can check it out online in the Lupo manual.

Like a few other European designs, the Lupo action does not have an on-board recoil lug. Rather, it's machined with a slot that fits over a robust steel crossbar imbedded into the chassis.

My rifle is chambered for .300 Winchester Magnum, and its stout polymer magazine holds four rounds of ammo. I'm a big fan of this magazine. Finger the well-protected release in the nose of the magazine to drop it out of the action. An internal spring will pop it partway out, easing the process.

With the magazine removed, the bottom of the chassis/stock's midriff shows a yawning mouth, gaping wide and begging for a fresh magazine. This serves two purposes. It provides an instant visual that lets hunters know the status of their tool, and it enables fast, fumble-free insertion of the magazine.

As I wrote in my review of the standard Lupo, the magazine is probably the easiest detachable box magazine I've ever loaded. Plus, it features a double-stack bullet divider up front and internal shoulders for the cartridges inside to position against, which protects projectile noses from cracking against the front of the magazine during recoil.

Benelli's Lupo trigger is unique in that it's adjustable for pull weight and position. The advertised weight range is 2.2 to 4.4 pounds. The reach from the grip is adjustable via "trigger-reach spacers."

Aft of the action is the only feature of the Lupo BE.S.T. that I believe does not live up to Benelli's reputation for aesthetic perfection and to functional demands. It's the safety. Located in the traditional spot for a tang safety, it's an injection-molded polymer part recessed into a slot hewed into that lovely wood. To my eye, it's out of place on such a fine rifle.

As for function, the safety works as intended, preventing the rifle from firing when engaged. However, the bulbous end that protrudes rearward is too big, and on several occasions I inadvertently bumped it to the "Fire" position when carrying at the high ready and when shifting the rifle to the African carry position across my shoulder.

Up front, the barrel is understated and elegant. Cryogenic stress-relieving treatment optimizes accuracy. The barrel is free-floated in the fore-end, thanks to the chassis-type stock system. Well-cut muzzle threads with a pitch of 5/8-24 make it easy to install a suppressor or a muzzle brake.

At one turn every 11 inches, the rifling is slower than one might anticipate based on modern trends toward long, high-ballistic-coefficient bullets. The most advanced of such projectiles

LUPO BE.S.T.

MANUFACTURER	Benelli benelliusa.com
TYPE	Bolt-action repeater
CALIBER	.300 Win. Mag.
MAGAZINE CAPACITY	4 rounds
BARREL	24 in.
OVERALL LENGTH	46.6 in.
WEIGHT, EMPTY	7.1 lbs.
STOCK	AA-grade walnut
LENGTH OF PULL	13.8 to 14.75 in.
FINISH	BE.S.T. barrel and action, satin wood
SIGHTS	None
TRIGGER	2.25-lb. pull (as tested)
SAFETY	Two-position
MSRP	$2,199

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require faster-than-traditional twists to stabilize, but as it turns out, this Lupo shoots Hornady's 200-grain ELD-X bullets just fine.

The rifle's racy fore-end features just a bit of checkering-like texture that's laser-cut into the rear sides and deep, comfortable finger grooves down each side. They enable a very secure grasp. A swivel stud just shy of the tip makes attaching a sling easy.

Aft, the buttstock features Lamborghini-like lines. A high cheekrest makes for a consistent, comfortable cheek weld. Tasteful texture at the grip makes the rifle easy to hold whether your hand is sweaty or near numb with cold. And Benelli's Progressive Comfort pad takes the bite out of recoil.

In a very nice feature that all too few hunters will take advantage of, the Lupo BE.S.T. comes with stock shims—much like Benelli shotguns—that are slightly tapered in various degrees. They fit between the wood stock and the alloy chassis midsection, and they enable the rifle's owner to fine-tune fit to personal perfection by adjusting cast and drop. Additionally, recoil-pad spacers allow the shooter to increase or decrease length of pull for ideal fit.

In the Field

I received the .300 Win. Mag. Lupo BE.S.T. test rifle during a freight-train procession of heavy snowstorms. With departure dates looming, I mounted a lovely Zeiss Conquest V4 4-16X 44mm riflescope with exposed dial-up turrets and an SFP-MOA reticle. Each Lupo BE.S.T. comes factory-mounted with rail-type two-piece bases, so installing the scope was simple.

With no time to waste, I tested loads. Hornady's Precision Hunter ammo with 200-grain ELD-X bullets shot slightly better than the 178-grain version in my particular rifle, plus I prefer the heavier bullet for use on large, tough game, such as red stags and wild boars.

Last steps to make the rifle hunt-ready were to fit an adapter for my favorite quick-detach Spartan Javelin bipod and install an M19 Red Kettle sling, then take a few wraps of electrical tape around the barrel just shy of the muzzle. In case of rain, I'd always have tape on hand to cover the muzzle.

Traveling into Argentina with firearms is harder than any other place I've been, but when testing and writing about new products, it's necessary. The country is beautiful and historic

The BE.S.T. Lupo was up to the challenge of hunting in the Argentinian bush. Joseph dropped this gnarly, old red stag with one shot from about 220 yards.

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and huge. In the north of the La Pampa province, we stalked red stags among old-growth trees and brush thickets so dense you sometimes couldn't see 10 yards.

On the evening of day three of the Argentina hunt, a trio of wonderful red stags crossed a burn, some 220 yards distant. "The last," whispered my guide. Steady over three-legged shooting sticks, I glued the crosshairs to his shoulder and pressed the trigger. The welcome sound of a bullet impacting vitals followed.

We found the old stag just 14 steps from where the bullet impacted. Bright, frothy lung blood painted the hip-high grasses and led to where he'd dropped. My bullet had taken him on the X, resulting in a fast, clean kill.

Unbelievable mass and points aplenty graced the stag's antlers. He was ancient, past his prime enough that his beam length had shortened, but it seemed to have all transferred into mass.

During the six-day hunt I also managed to take a good blackbuck with a quartering-to shot from 132 yards and a wild boar—hunted at night the way the Argentinians do—with a bullet through the head from about 40 yards. The Lupo BE.S.T. was proving worthy of its name.

The new .300 Win. Mag. Lupo BE.S.T. was accurate. Three out of the four factory loads test-fired averaged around or under one MOA.

Benelli VP of Marketing and Product Development Tim Joseph managed to take a thumper of an Asiatic buffalo. Some 20 to 30 percent larger than a Cape buffalo, but slightly less belligerent, these animals present a challenge to a bullet. Tim chose to hunt with the outfitter's .300 Win. Mag. handloads topped with Barnes 180-grain TTSX bullets. Three perfect shots to the vitals from about 100 yards did the trick.

Back home after the hunt, with the record snowpack melting off in rivers that eroded roads and flooded homes, I made my way to the shooting range to establish the Lupo's accuracy potential with several more factory loads. For protocol, I fired three consecutive three-shot groups with each different loading for average, allowing the rifle to cool between groups.

Of the four factory loads, only one averaged over an inch at 100 yards—and it was just 1.32 inches. Still very acceptable. Top honors went to Nosler's 180-grain E-Tip, which averaged 0.77 inch. That's darn good for factory ammo through what is, after all, a production-class rifle.

Although it's a small thing, one of my favorite features about the Lupo is its ability to hold four .300 Win. Mag. cartridges in the magazine, plus one up the spout. While testing, I filled the magazine full and often added one over the top into the chamber, just to ascertain how smoothly and reliably the rifle functioned through a full payload of cartridges. Never did I encounter a malfunction of any kind.

Lupo rifles are engineered with a very modern approach to ergonomics. Yes, they look different. They *are* different. Grip angles, trigger positioning, bolt handle shape...everything is optimized for comfort and to minimize joint torque and the resulting tremor-inducing muscle stress.

As a result, Lupo rifles balance beautifully, about like you'd expect from the country that engineers Ferrari and Lamborghini cars. Beauty combined with function.

I'm nearing a half-century old, and to my eye the most beautiful bolt-action rifles ever built are typified by Rigby's Highland Stalker, Winchester's prewar Model 70 Super Grade, and the like. The Lupo's very modern aesthetics register to my eye as excellent and applaudable, but then I'm a bit old-fashioned. However, I'd be willing to place a small wager that in another half-century, this Lupo BE.S.T. will be heralded as an example of this era's finest. ST

BENELLI LUPO BE.S.T. ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
.300 Win. Mag., 24-in. Barrel				
Nosler 180-gr. E-Tip	2962	47	15	0.77
Berger 185-gr. Classic Hunter	2938	30	10	1.32
Barnes 190-gr. LRX BT	2856	50	16	1.07
Hornady 200-gr. ELD-X	2850	19	7	0.99

NOTES: Accuracy is the average of three, three-shot groups fired from a Spartan Precision bipod. Velocity is the average of 10 rounds measured adjacent to the gun's muzzle with a LabRadar. Ambient temperature: 50 degrees Fahrenheit. Elevation: 4,600 feet.

LIGHT LEAD BULLETS IN THE .38 SPECIAL

THE 148-GRAIN WADCUTTER MAY BE PERCEIVED AS THE MOST ACCURATE BULLET IN THE .38 SPECIAL, BUT LIGHTER-WEIGHT BULLETS CAN BE EVEN MORE ACCURATE.

BY BRAD MILLER PHD

WHEN YOU TALK ABOUT ACCURATE lead bullets in the .38 Special, the 148-grain wadcutter comes to mind. It's been winning trophies since, well, forever. Another favorite is the 158-grain SWC. There's nothing wrong with how that bullet shoots either.

But what about lighter lead bullets? I mean really light, like around 100 grains. What? Nonsense! The regular 148- and

158-grain bullets rule the day. Everyone knows that. Right? Well, to quote William Shakespeare's Hamlet (circa 1600), "There are more things in Heaven and Earth, Horatio, than are dreamt of in your philosophy."

I learned something surprising when trying light lead bullets in the .38 Special. My goal was to find some low-recoil rounds for fun blasting and training. I was looking more at recoil than accuracy, but I tried some with the gun mounted in a Ransom Rest to test accuracy, just to see what they would do.

The bullet weights ranged from 75 grains up to 110 grains and were three shapes—full wadcutter, semiwadcutter, and truncated cone. I included handloads with 148-grain wadcutters charged with 2.7 grains of Bullseye powder, a load often touted to be exceptionally accurate, for comparison. All loads were fired from a .38 Special Smith & Wesson Model 67 with a 4.0-inch barrel; the distance was 25 yards.

Accuracy from some of these light lead bullets amazed me. They were equal to, or better than, the 148-grain wadcutter bullets.

The lightest bullet tested was Matt's Bullets 75-grain wadcutter (0.359-inch diameter). Accuracy was good at 25 yards, with one load producing an 18-shot group that measured 1.47 inches. The other load produced a 2.47-inch group. However, some of the bullet impacts on paper showed a large degree of yaw, indicating that my barrel was not stabilizing them very well.

The Ibejiheads 100-grain SWC (0.357-inch diameter) and Matt's 105-grain SWC (0.359-inch diameter) bullets produced 18-shot groups that hovered around 2.0 inches. That was the same size of groups with the 148-grain wadcutters. The accompanying chart shows all the results.

The most consistently accurate bullet tested were Summers Enterprises 105-grain truncated cone (0.358-inch diameter). Most of its 18-shot groups were under 2.0 inches. Two loads, powered by Bullseye and Winchester Super Target (WST), were at 1.2 inches. A 24-shot group loaded with Vihtavuori N310 measured 1.35 inches. That's impressive and consistent accuracy.

Dr. Miller tested lightweight bullets in .38 Special handloads, including (left to right) Matt's Bullets 75-grain wadcutter, Ibejiheads polymer-coated 100-grain SWC, Matt's Bullets 105-grain SWC, Summers Enterprises polymer-coated 105-grain truncated cone, Matt's Bullets 110-grain wadcutter, and Remington 148-grain hollowbase wadcutter. He fired them for accuracy in an S&W Model 67 with a 4.0-inch barrel mounted in a Ransom Rest.

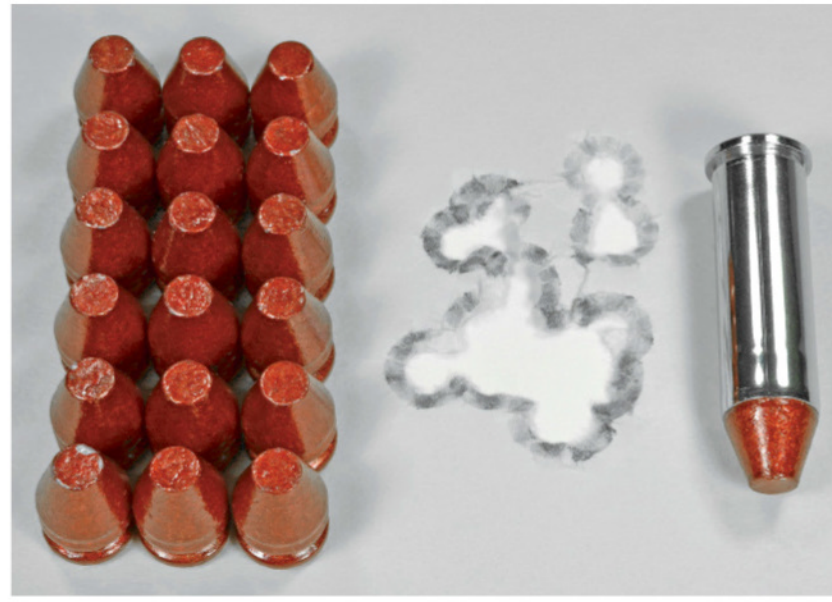
Not all the bullets tested had such outstanding performance. My revolver didn't like Matt's 110-grain wadcutter (0.359-inch diameter). It produced 4.0-inch groups. The same can be said for how my gun shot the Blue Bullets 158-grain SWC; its group measured 4.26 inches. My revolver won't be winning any shooting matches with those loads.

Some of these are light loads, and sometimes the extreme velocity spread is wide, hence the large standard deviations in velocity. But this did not appear to affect accuracy at 25 yards.

Lightweight lead bullets seem to go well with the .38 Special—certainly better than I was expecting. They shot with equal or better accuracy than the 148-grain wadcutter loads used in this exercise, in my specific revolver. There are exceptions, and the 110-grain wadcutter loads reinforce an important point. Light weight, and even a wadcutter design, does not guarantee excellent accuracy. No doubt, results will vary depending on the gun.

The results from this experiment should encourage readers to try light lead bullets in their .38 Special handloads. They can be superbly accurate, and if the velocity is low, they have low recoil as a bonus.

Shakespeare was a smart guy, but who knew that when he penned those famous words for Hamlet over 400 years ago, he knew how well light lead bullets would shoot in the .38 Special? That's a true sign of genius. ST



This 18-shot group fired at 25 yards measures 1.2 inches center to center, and it is smaller than the length of a loaded .38 Special round.

LIGHT .38 SPECIAL LEAD BULLETS ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)	CASE	PRIMER	VEL. (FPS)	S.D. (FPS)	25-YD. ACC. (IN.)
S&W Model 67, 4.0-in. Barrel							
Matt's 75-gr. WC	Bullseye	2.4	Starline	CCI 500	701	28	1.47
Matt's 75-gr. WC	VV N310	3.0	Starline	CCI 500	844	34	2.47
Ibejiheads 100-gr. SWC	Bullseye	4.0	Starline	CCI 500	935	12	1.73
Ibejiheads 100-gr. SWC	Bullseye	4.5	Starline	CCI 500	1033	14	2.08
Ibejiheads 100-gr. SWC	VV N310	3.0	Starline	Fiocchi LF	742	28	2.02
Matt's 105-gr. SWC	Bullseye	4.5	Starline	CCI 500	1185	16	1.65
Summers 105-gr. TC	Accurate No. 2	3.5	Starline	CCI 500	786	19	2.28
Summers 105-gr. TC	Bullseye	4.5	Mixed	Unknown	1018	16	1.20
Summers 105-gr. TC	VV N310	3.6	Mixed	Unknown	919	17	1.35*
Summers 105-gr. TC	WST	4.0	Starline	CCI 500	954	27	1.21
Summers 105-gr. TC	W231	3.6	Starline	CCI 500	----	----	1.54
Matt's 110-gr. WC	Titegroup	3.0	Starline	CCI 500	812	16	4.16
Matt's 110-gr. WC	W231	3.3	Starline	CCI 500	783	13	3.87
ACME 148-gr. WC	Bullseye	2.7	Starline	CCI 500	720	10	2.09
Remington 148-gr. HBWC	Bullseye	2.7	Starline	CCI 500	740	10	1.94
Speer 148-gr. HBWC	Bullseye	2.7	Starline	CCI 500	733	15	2.34
Blue Bullets 158-gr. SWC	Bullseye	3.5	Starline	Fed. 100	760	9	4.26

* 24 shots

NOTES: Accuracy is for a single 18-shot group except where noted. Velocity is the average of at least 18 rounds measured eight feet from the gun's muzzle. All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the high test loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and components manufacturers assumes any responsibility for the use of this data.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A CLOSE LOOK AT LAPUA AND SK .22 LR AMMUNITION

LAPUA AND SK .22 LR AMMUNITION ARE OFTEN AMONG THE MOST ACCURATE RIMFIRE LOADINGS IN COMPETITION-GRADE GUNS AND EVERYDAY SPORTING GUNS, TOO.

BY LAYNE SIMPSON

ONE HUNDRED YEARS AGO, THE FINNish government built a large centerfire ammunition-manufacturing plant in Lapua, a small village on a river of the same name in the southwestern part of Finland. The factory eventually came to be called Nammo Lapua Oy, or Lapua for short, and the loading of .22 rimfire ammunition began in 1947. In 1998 Lapua became part of Nammo Group, an international aerospace and defense company co-owned by the Finnish, Norwegian, and Swedish governments. During that same year, Nammo Group acquired an ammunition factory in Schonebeck, Germany, that had been in operation since 1832, and it is where Lapua rimfire ammunition is loaded today. SK rimfire ammo is also made there, with its name derived from the first and last letters of its home city. The two brands of rimfire ammunition are loaded on different production lines.

Moving to this side of the big water, Capstone Precision Group of Mesa, Arizona, is the exclusive importer and distributor of Lapua and SK rimfire ammunition. The company also imports and distributes Vihtavuori powders (manufactured in Finland) and owns Berger, maker of top-quality bullets and ammunition at a plant in Mesa. Rimfire Performance Centers there and in Marengo, Ohio, owned by Capstone have 100-meter and 300-meter test tunnels used for accuracy evaluation and pressure confirmation.

Many competitive shooters around the globe consider Lapua to be the very best .22 rimfire ammunition made. According to Capstone Marketing Director Geoff Esterline, in various world shooting events during the past several years, including the Olympics, Lapua has captured over 75 percent of the medals awarded. Closer to home, Lapua is also enjoying great success in ARA Benchrest, PRS22, NRL22, Smallbore F-Class, and 3-position competitions.

Price is not always indicative of the level of accuracy delivered by a particular Lapua load in a particular firearm, but based on price alone, X-ACT is at the very top, followed by Super Long Range, Midas +, Polar Biathlon, Long Range, and Center-X, in that order. While X-ACT is inherently the most accurate of all, individual rifle preference may not agree. Of several lots each of X-ACT, Midas +, and Center-X fired in my custom Remington 40XB-BR, Midas + was the most accurate, followed by X-ACT and then Center-X. While the differences were not great, they were there. Factory technicians typically view Lapua as the first choice for high-end factory and custom-built rifles used in competitive disciplines where ammunition cost is not a factor. But in order to maximize performance, a rifle should be tested with several different manufacturing lots of ammunition. More on that further on.

Moving to SK, factory technicians describe it as the best off-the-shelf .22 rimfire ammunition available, although not of the same quality as Lapua. This is reflected in large differences in their prices. The top Lapua load is priced at almost three times as much as the top SK load, while the least expensive Lapua load is about twice as much as the least expensive SK load. The least expensive Lapua load costs about 40 percent more than the most expensive SK load. Among the SK lineup, Long Range Match has the highest price, followed by Biathlon Sport, Rifle Match, Pistol Match Special, High Velocity Match, Pistol Match, Standard Plus, and Semi-Auto Rifle. All are loaded with the exact same 40-grain bullet. Millions of rounds of SK ammo are fired in various forms of competitive shooting each year, and since many of the loads are head-shot accurate from good rifles, the brand is also quite popular among small-game hunters.

Highlighted Loadings

Here are more in-depth looks at the various SK and Lapua loads. SK Rifle Match and Standard Plus are the exact same

As each lot of Lapua ammunition comes off its production line, a series of 50-shot groups are fired from a return-to-battery rest to determine which of three labels it will be sold under, with X-ACT proving to be the most accurate, followed by Midas + and Center-X. The same accuracy testing determines whether SK ammo will be boxed under the Rifle Match label or as the slightly less expensive Standard Plus.

SK Biathlon Sport and Lapua Polar Biathlon are loaded with a special powder that optimizes performance in frigid winter weather conditions. Their higher velocities increase impact on steel targets shot from prone and standing positions at 50 meters in biathlon competition. And their bullets are coated with a lube that maintains viscosity and lubricity in low temps.

ammo, with 50-shot accuracy from a machine rest determining which of the two labels a particular lot will be sold under. The same applies to Lapua X-ACT, Midas +, and Center X. Lapua Polar Biathlon and SK Biathlon Sport are loaded with a special powder that optimizes performance in the cold weather that biathlon shooters must deal with. Their higher velocities increase impact on steel targets shot at 50 meters in biathlon competition. Targets shot from the prone position measure 1.8 inches in diameter, while those shot offhand are 4.5 inches in diameter. As is the case with the entire Lapua and SK lines of ammunition, bullets are coated with a lubricant that maintains the same viscosity and lubricity at both high and low temperature extremes, thereby eliminating magazine and action malfunctions. SK Semi-Auto Rifle is loaded with a special clean-burning powder, and in addition to leaving a minimum amount of residue behind, it shot inside minute of angle from my custom 10/22 rifle.

Strange things happen to accuracy when a bullet launched at supersonic velocity slows to subsonic speed, and for this reason, most .22 Long Rifle match ammo is loaded to a velocity that does not exceed the speed of sound. At 1,253 fps, SK High-Velocity Match exceeds that by a considerable margin, and while it delivered excellent 50-yard accuracy from my rifle, the same may not be true at greater distances. Despite its name, the round was actually developed for punching paper and steel out to 100 yards or so and for taking small game.

Pistol King and less expensive Lapua OSP (Olympic Sport Pistol) are the same under different labels. The same goes for

SK Semi-Auto Rifle .22 LR ammunition is loaded with a special clean-burning powder that reduces residue left behind in semiautomatic firearms while being capable of match-winning accuracy in match-grade rifles.

SK Pistol Match Special and less expensive Pistol Match. The four loads were developed specifically for reliable feeding from the magazines of semiautomatic pistols used in Olympic Rapid-Fire and NRA Precision Bullseye competitions. The powder used was developed for complete burn in barrel lengths ranging from five to six inches.

As is typical in the ammunition manufacturing industry, each lot of Lapua and SK .22 Long Rifle ammo is given its own identification number.

New from Lapua this year are Long Range and Super Long Range loaded with a 40-grain bullet at 1,106 fps. Extreme precision combined with minimum shot-to-shot velocity variation and temperature-stable propellant make them excellent candidates for use in long-distance benchrest, PRS22, ELR22, and Smallbore F-Class competitive shooting. During extensive testing at the factory, both loads delivered match-winning accuracy out to 300 meters and beyond.

For many years, serious competitors took their match rifles to Lapua facilities located in Germany, Finland, and Norway for ammunition lot selection, and this gave shooters in other countries a big edge over those in the United States. This is no longer the case. Due to the rapidly growing popularity of various precision shooting sports in our country, along with the many thousands of shooters who seriously compete in various types of .22 Long Rifle matches, Capstone has Rimfire Performance Centers in Mesa, Arizona, and Marengo, Ohio.

Each time new lots of Lapua ammunition come off the production line in Germany, thousands of rounds are shipped to the two

Custom rifles Layne used for accuracy-testing the Lapua and SK rimfire ammo were a Fraley-built Ruger 10/22 with a heavy Lilja barrel with Bentz chamber and Trijicon 5-50X 56mm scope (bottom) and a Remington 40XB-BR with a heavy Pac-Nor barrel with a match chamber and a Nightforce 12-42X 56mm scope (top).

Performance Centers. A number of different lots of each available load are kept on hand. Some customers bring their rifles and observe it being tested, while others ship the rifle to the facility. Accuracy testing takes place in a tunnel under a controlled environment. A rifle (or its barreled action) is fired from a machine rest with sophisticated electronic equipment simultaneously measuring 10-shot group size at 50 and 100 meters. Sometime during 2023, a special fixture designed for testing pistols will be in operation. Regardless of whether it be rifle or pistol, several different lots are fired, and the customer has the option of purchasing a 5,000-round case of the most accurate lot in his or her firearm. If the accuracy of two or more lots is quite close, additional 20-shot or even 50-shot group testing before making a choice is an option. Both Performance Centers stay quite busy, with waiting lists typically several months long, indicating just how popular various forms of .22 rimfire competition have become, not to mention how serious many competitors are.

The Test Guns

One of the rifles I used for my accuracy tests is on a blueprinted Remington 40XB-BR single-shot action, and it was originally built for BR-50 competition (now known as American Rimfire Association competition). The rifle has a Jewell two-ounce trigger, and the three-inch-wide fore-end of its McMillan benchrest stock makes it ideal for shooting over an adjustable front rest. Its Pac-Nor Super Match stainless-steel barrel has a match chamber and five-groove rifling at a twist rate of 1:16. Bore and groove diameters are 0.2170 and 0.2221 inch. As a cartridge is pushed into the chamber, its bullet engages the rifling for precise alignment. Generous elevation adjustment of the Nightforce 12-42X 56mm scope resting on a 30-MOA rail enables me to shoot the rifle on paper at greatly extended distances. With scope, the rifle weighs 12.5 pounds.

The other test rifle is a custom Ruger 10/22 built by Don Fraley. After discarding the factory V-block barrel attachment system, he line-bored and threaded the receiver for a heavy, Lilja, six-groove, match-grade barrel with a Bentz chamber and a 1:16 twist. Stress on the aluminum receiver was eliminated by bedding the barrel in the entire length of the fore-end of the stock and free-floating the action. With a Trijicon 5-50X 56mm scope held in place by a 30-MOA rail, it weighs 11.5 pounds and is my favorite .22 for shooting groups at long range and for keeping the flickertail population under control.

Layne also used a Marvel Custom Unit 1 .22 LR conversion for the Model 1911 pistol. It has earned more than 60 titles and national records in NRA Precision Bullseye competition and is guaranteed to shoot inside half an inch at 50 yards with match ammunition.

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I also used a Unit 1 .22 Long Rifle conversion made by Marvel Custom for Model 1911 pistols to accuracy-test the Lapua and SK pistol ammunition. Since its introduction by Bob Marvel and Lemante Drees, the Unit 1 has been used by shooters to take home more than 60 titles and national records in NRA Precision Bullseye competition. It is test-fired at the Marvel factory mounted in a Ransom Rest, and it will not be shipped unless it shoots inside an inch at 50 yards with match-grade ammunition. With selected lots of ammunition, mine consistently shoots inside half an inch at that distance. Attaching a scope to the pistol when accuracy-testing ammunition from a Ransom Rest enables me to adjust windage and elevation of the rest just enough to shoot many groups on a single target.

In a true test of ammunition accuracy, human error is removed by using a return-to-battery rest, and wind is eliminated by shooting in an environmentally controlled tunnel. I have the return-to-battery rest, but at this time its barrels are for center-fire cartridges, and there is no shooting tunnel in my area. So the best I can do is choose days when outdoor range conditions are favorable and use wind flags to tell me when to squeeze off rounds and when to get off the trigger. Given enough time, I am capable of shooting groups that are truly indicative of ammunition accuracy, or at least quite close to it. It is important to note that I had several different lots of some Lapua and SK loads on hand, and the average accuracy results shown in the accompanying chart are not necessarily for consecutively fired groups. If after shooting a group I thought that its increase in size over the others fired with that particular lot of ammo was my fault, that group was tossed and another was shot in its place. Shoot enough over the years, as I have, and you instinctively know when you have pulled a shot or misread the flags.

The Remington 40XB-BR is inherently more accurate than the custom 10/22, but my accuracy at 300 yards is better with the 10/22. Its rapid-fire capability enables me to quickly send bullets downrange each time my Graham wind flags indicate a chosen condition has arrived. If the condition holds for five seconds, I usually get off 10 shots, and that's not possible with the bolt-action single-shot rifle. If I misread a flag and several bullets get pushed far from their mates, that group is tossed. In other words, the accuracy shown for each load is for the five best 10-shot groups among a number of groups fired, sometimes with more than one lot of ammunition. A half-dozen magazines holding 25 rounds each available from the Ruger website speed up the process.

When reviewing my accuracy results chart keep in mind that different manufacturing lots of the same load will often deliver varying levels of accuracy when fired in an accurate rifle. Among SK ammunition, two of my match rifles deliver their best accuracy with two different lots of Long Range Match. This does not mean that all lots of Long Range Match will deliver the best accuracy from those rifles, and it does not mean that it will be more accurate than other SK loads in other rifles. As an example, my Anschutz Model 54 prefers Rifle Match over Long Range Match.

Enjoying the wonderful accuracy of Lapua rimfire ammunition to its fullest requires a precision-built rifle with a match or a Bentz chamber, and while there is certainly no law against shooting it in, say, a Marlin 39A, Remington Nylon 66, or other hunting/plinking rifle, accuracy likely will be no better than with SK ammunition. In fact, it may not be as good. While Lapua is the cream of the crop for top-tier competitive shooting, SK ammunition is all many of us need for shooting in club matches, even when a precision rifle is used. I recently participated in a benchrest match in which five 10-shot groups were fired on paper at 300 yards, and group sizes were averaged to determine how each competitor placed. The SK banner flew quite high at that particular match. ST

LAPUA AND SK .22 LR ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	50-YD. ACC. (IN.)	300-YD. ACC. (IN.)
Marvel Precision Unit 1 Model 1911 Conversion, 5.35-in. Barrel, Bentz Chamber				
Lapua Pistol OSP 40-gr. LRN	957	12	0.450	----
Lapua Pistol King 40-gr. LRN	1004	30	0.671	----
SK Pistol Match Special 40-gr. LRN	933	25	0.902	----
SK Pistol Match 40-gr. LRN	940	33	1.121	----
Don Fraley Custom Ruger 10/22, 18.75-in. Lilja Barrel, Bentz Chamber				
SK Semi-Auto 40-gr. LRN	1088	74	0.844	----
Lapua Super Long Range 40-gr. LRN	1119	24	----	4.046
Lapua Long Range 40-gr. LRN	1108	20	----	4.237
SK Long Range Match 40-gr. LRN	1106	29	----	5.824
Custom Remington 40XB-BR-50, 22.5-in. Pac-Nor Super Match Barrel, Match Chamber				
Lapua Super Long Range 40-gr. LRN	1088	10	----	5.532
Lapua Long Range 40-gr. LRN	1074	21	----	5.785
Lapua Midas + 40-gr. LRN	1066	28	0.137	----
Lapua X-ACT 40-gr. LRN	1043	19	0.139	----
Lapua Center-X 40-gr. LRN	1061	36	0.162	----
Lapua Polar Biathlon 40-gr. LRN	1114	17	0.170	----
SK Long Range Match 40-gr. LRN	1094	30	0.219	----
SK Standard Plus 40-gr. LRN	1040	31	0.240	----
SK Rifle Match 40-gr. LRN	1024	27	0.261	----
SK High Velocity Match 40-gr. LRN	1245	19	0.266	----
SK Biathlon Sport 40-gr. LRN	1109	20	0.272	----
SK Standard Plus 40-gr. LRN	1034	25	0.323	----

NOTES: Accuracy is the average of the best five 10-shot groups. The rifles were fired from an adjustable front rest and a bunny ear sandbag at the rear. The pistol was fired from a Ransom Rest. Wind flags were used. Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles.

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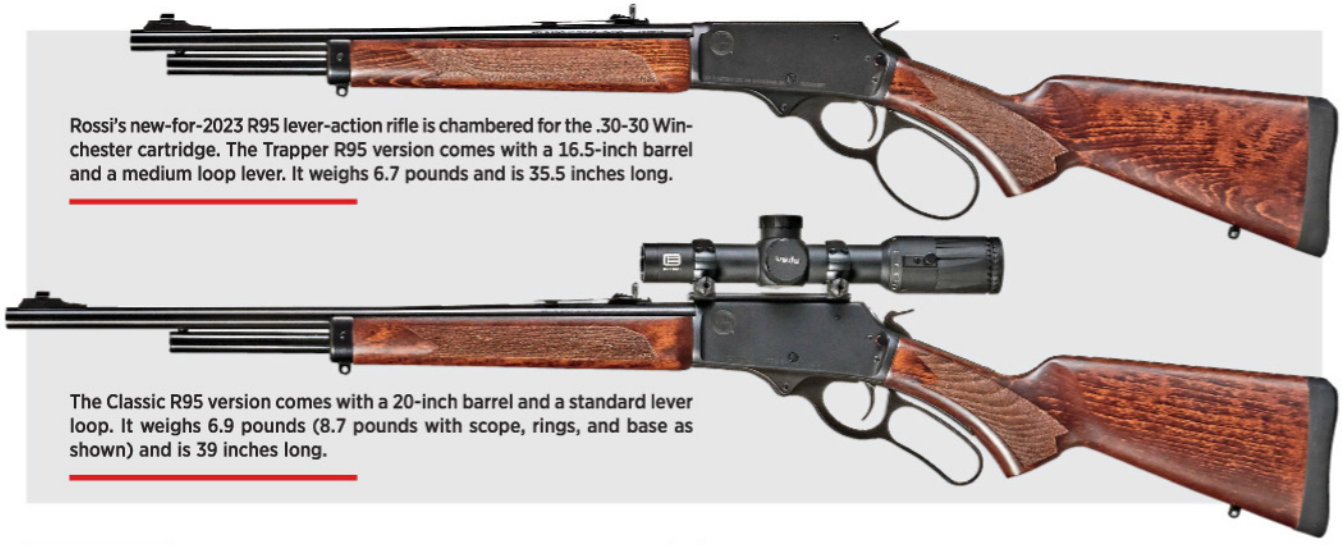
PHOTOS BY **MICHAEL ANSCHUETZ**

SMOOTH OPERATOR

ROSSI'S SLICK AND SLEEK NEW R95 LEVER ACTION IS CHAMBERED FOR .30-30, AND IT COMES IN CLASSIC AND TRAPPER CONFIGURATIONS.

BY JOEL J. HUTCHCROFT

SMOOTH OPERATOR



Rossi's new-for-2023 R95 lever-action rifle is chambered for the .30-30 Winchester cartridge. The Trapper R95 version comes with a 16.5-inch barrel and a medium loop lever. It weighs 6.7 pounds and is 35.5 inches long.

The Classic R95 version comes with a 20-inch barrel and a standard lever loop. It weighs 6.9 pounds (8.7 pounds with scope, rings, and base as shown) and is 39 inches long.

THIS YEAR MAY TURN OUT TO BE THE year of the lever action because we've had the birth of POF's new-fangled Tombstone, the rebirth of the Marlin 336 by Ruger, and now the unveiling of Rossi's new R95, which is the subject of this report. The new R95 is chambered for the timeless .30-30 Winchester cartridge, and it comes in a Classic version and a Trapper configuration.

Shooting Times received early samples of both versions of the new R95, and I put them through a thorough evaluation. Here's a look at their features and their shooting performances.

Characteristics

Both the Classic and the Trapper R95s come with hardwood buttstocks and forearms. They are stained a dark walnut brown, and they have thick, curved, black rubber recoil pads and textured gripping surfaces on the wrist areas and the forearms (it's sort of a pebbled texture). The stocks also have sling-swivel studs, and the length of pull on both Rossi R95 models is 13.75 inches, according to my measurements. The wrists of both guns measure 5.5 inches in circumference at the back end of the tang, which is a bit thicker than other traditional lever actions. For example, measured at the same position, my Mossberg 464's wrist circumference is 5.25 inches, my Marlin 444's wrist circumference is 5.38 inches, and my Henry Big Boy's wrist circumference is 5.13 inches.

R95	
MANUFACTURER	Rossi rossiusa.com
TYPE	Lever-action repeater
CALIBER	.30-30 Winchester
MAGAZINE CAPACITY	5 rounds
BARREL	20 in. and 16.5 in.
OVERALL LENGTH	35.5 in. (16.5-in. barrel)
WEIGHT, EMPTY	6.7 lbs. (16.5-in. barrel)
STOCK	Hardwood
LENGTH OF PULL	13.75 in.
FINISH	Black oxide metal, walnut-stained wood
TRIGGER	6.4-lb. pull Classic, 5.4-lb. pull Trapper (as tested)
SIGHTS	Fully adjustable buckhorn rear, drift-adjustable black bead blade front
SAFETY	Crossbolt
MSRP	$949.99

While I'm on the subject of circumferences, the circumference of the R95 receivers ahead of the levers is 5.6 inches, which makes these guns feel just right for one-handed carry.

The Classic R95 configuration has a 20-inch round barrel, whereas the Trapper version has a 16.5-inch round barrel. The

Both versions of the R95 come with bead front sights that are dovetailed into their bases, making them drift-adjustable for windage.

Both R95s come with fully adjustable buckhorn-style rear sights, and the tops of the receivers are drilled and tapped for scope-mount bases.

Rossi R95 Trapper

20-inch barrel's diameter at the muzzle is 0.63 inch, and the 16.5-inch barrel's diameter at its muzzle also is 0.63 inch.

In addition to the barrel lengths, another difference between the two configurations is the type of lever loop. The Classic has the standard size lever loop, whereas the Trapper has what Rossi is calling a medium lever loop. As you can see from our photos, it is rounder and much wider than the Classic's standard loop.

The magazine tubes on both versions hold five rounds of .30-30 Winchester ammo. They load the traditional way through loading gates on the right sides of the receivers. And I must say the loading gates have just the right amount of spring tension to allow cartridges to be inserted without any pain or discomfort to my thumb.

And both versions have fully adjustable buckhorn-style rear sights and blade front

The R95 triggers are smooth and measure 0.27 inch wide. Our Classic version's trigger pull averaged 6.4 pounds. Our Trapper version's trigger pull averaged 5.4 pounds. The hammerspurs are 0.33 inch wide, grooved, and shaped for easy installation of a hammer extension.

sights with black beads. The rear sights are dovetailed into the barrels, and the front sights are dovetailed into ramped bases that are attached to the barrels by two slot-head screws each. Both the front and rear sights can be drifted for windage adjustments, and the rear sights are ladder-adjustable for elevation. The solid-top receivers are drilled and tapped for scope mount bases, and our good friends at Rossi sent the Classic version to us with a scope-mount base installed. They also included a very nice EOTech Vudu 1-8X 24mm scope for us to use.

The Classic R95 is 39 inches long and weighs 6 pounds, 15.7 ounces, according to my digital scale. (It weighs 8 pounds, 10.6 ounces with the scope, rings, and base.) The Trapper R95 is 35.5 inches long and weighs 6 pounds, 11.5 ounces on my scale.

The blued triggers on both versions are smooth and measure 0.27 inch wide, as measured with my digital calipers. Our Classic's trigger pull averaged 6 pounds, 6 ounces, whereas our Trapper's trigger pull averaged 5 pounds, 6 ounces. Those averages are for five measurements with an RCBS trigger pull scale.

The hammerspurs on both versions measure 0.33 inch wide, and they have a dozen horizontal grooves going across them. The hammerspurs appear to be shaped for easy installation of a hammer extension for when a riflescope is installed. Both lever guns have halfcock notches and crossbolt safeties that block the hammers from striking the firing pins. The crossbolts are located at the rear of the receivers, straight up from the triggers, and they are engaged when they are pushed to the right. When pushed to the left in "Fire" mode, a red ring on the crossbolts is visible. They can be engaged with the hammers in fullcock and halfcock positions, but not with the hammers fully forward.

Range Results

Speaking of firing the R95s, our review samples were fun to shoot. While I had only four .30-30 factory loads in my cache, the R95s gobbled up every round I fed them and spit out the empty cases without a single bobble, wobble, or malfunction. Each and every fired case ejected out the side within approximately three feet, and that made finding and picking up my empties at the end of the shooting sessions very easy. I've been doing this job for three decades, and invariably I lose a few empty cases almost every time I review a new gun. Not so with the R95s. Let me tell you, it's a pleasant day when you find all your fired brass.

And the accuracy displayed by both R95s was just as pleasing. I fired the Trapper with its iron sights at a distance of 50 yards in deference to my not-so-good eyesight because I just don't think it's fair to the gun for me to try to shoot at a distance of 100 yards without using a scope. That said, the Trapper produced what I consider to be very good accuracy at 50 yards with all four loads. The Federal 150-grain Trophy Copper loading averaged 1.25 inches. The Hornady LEVERevolution 160-grain FTX loading averaged 1.00 inch. The Remington 150-grain Core-Lokt loading averaged 1.75 inches. And the Winchester 150-grain Power-Point loading averaged 2.00 inches. Those are averages for three, three-shot groups each, fired from a sandbag benchrest.

Because the Classic R95 was set up with a scope, I fired the same four loads through it at a range of 100 yards. At that distance, the Federal 150-grain Trophy Copper loading averaged 1.05 inches. The Hornady LEVERevolution 160-grain FTX loading averaged 2.00 inches. The Remington 150-grain

Core-Lokt loading also averaged 2.00 inches. And the Winchester 150-grain Power-Point loading averaged 1.75 inches. Again, those are averages for three, three-shot groups each, fired from a sandbag benchrest.

Clearly, both R95s fired for this report are plenty accurate for hunting and plinking. And as I said earlier, they functioned with 100 percent reliability. If I were forced to pick between the two version, I'd probably go with the Trapper because there's just something fascinating about the short barrel and the wide lever loop. And I'd set it up with a scope-mount base so that I could use a red-dot optic or a riflescope so as not to inhibit its accuracy due to my poor eyesight.

A little over one year ago, Craig Boddington wrote an article for *Shooting Times* titled "Lever Action Comeback." It was about how the lever action is experiencing a resurgence in the 21st century. At the end of that piece, he stated, "The lever action will never again be America's dominant rifle action. No lever gun is likely to win a benchrest match. With the exception of the BLR in .300 Magnum, a lever action is not a long-range rifle. But the lever gun is fast and sweet-handling—not just a piece of history, but effective, accurate, and much fun to shoot." I say that statement fits the new Rossi R95s in .30-30 Winchester to a T. ST

The new .30-30 Rossi R95 lever actions have thick, curved, black rubber recoil pads. The length of pull on both versions measures 13.75 inches.

ROSSI R95 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	50-YD. ACC. (IN.)	100-YD. ACC. (IN.)
.30-30 Winchester, 20-in. Barrel					
Federal 150-gr. Trophy Copper	2191	21	11	----	1.05
Remington 150-gr. Core-Lokt SP	2166	19	10	----	2.00
Winchester 150-gr. Power-Point	2233	85	45	----	1.75
Hornady LEVERevolution 160-gr. FTX	2233	34	15	----	2.00
.30-30 Winchester, 16.5-in. Barrel					
Federal 150-gr. Trophy Copper	2073	32	13	1.25	----
Remington 150-gr. Core-Lokt SP	2166	16	7	1.75	----
Winchester 150-gr. Power-Point	2119	51	27	2.00	----
Hornady LEVERevolution 160-gr. FTX	2122	40	16	1.00	----

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

Prototype for a Century

Hunting rifle evolution has not been well documented, but there have been some great ones, including the New Model Haenel-Mannlicher. **BY TERRY WIELAND**

Terry's New Model Haenel-Mannlicher (circa 1902) is chambered in 9x57. It has been retrofitted with a recoil pad and a Lyman Model 36 receiver sight, and the sling is a vintage George Lawrence.

THE EVOLUTION OF MILITARY RIFLES OVER THE past 200 years has been documented in a mountain of books, but hunting rifles? Not so much. Many of those who pursued the grail of the "ideal" rifle for big game are now almost forgotten.

Yet there are great hunting rifles in history. The problem, it seemed, was that each was shortly supplanted by an even greater one. Progress in military rifles is made in more or less measured waves, while hunting rifles are constantly evolving amidst popular chaos, with only periodic pauses to nod at the current champ.

For example, around 1900, some bright light in Europe decided the Commission 88 bolt action, in the hands of a master gunmaker, could be refashioned into a fine hunting rifle. The result was a hybrid commonly referred to as the Haenel-Mannlicher.

I say "commonly" because there were many variations. C.G. Haenel was only one of the companies that made them, there were at least two distinct vintages, and the variations depended on the whims of the manufacturer, importer (there were two major ones in the United States), and the tastes of individual gunsmiths.

Still, Haenel is a good starting point. Its first effort essentially sporterized the Commission 88, which itself was a mongrel creation involving Ferdinand von Mannlicher, Paul Mauser, and members of the Prussian purchasing commission. Sporterizing the 88 involved cutting this and trimming that but leaving the mechanism little changed.

In 1902, however, the company brought out its New Model, which was quite different. Some sources give the date as 1909, but it was advertised in New York in 1902, so I go with that date. This is significant because 1902 predates the Mannlicher Model 1903 civilian rifle, the Ross 1905 target rifle, and the Springfield '06, which was to become America's premier sporting/military bolt rifle.

The New Model Haenel-Mannlicher was, in effect, the first real bolt-action hunting rifle, designed specifically as such, with a variety of chamberings.

Improvements found on the New Model include a box-type magazine, replacing the Commission 88's packet system. Using the spring-steel clips, or packets, you were limited to the military 8x57. With Haenel's box, both the 7x57 and the 9x57 could be added. The

latter, which is the chambering of the rifle shown here, is roughly equivalent to the much later .358 Winchester. It's a sweetheart to shoot and to handload, giving as much versatility as the most depraved rifle nut could desire.

The magazine employs a hinged floorplate with a spring-powered arm that lifts the cartridges into position for feeding. Instead of a simple steel follower with a W-shaped spring, it is a precision mechanism that folds back as the floorplate is opened. The floorplate is held in place and released by a knurled button inside the front of the trigger guard. This floorplate system became a standard for almost all bolt-action sporters that followed.

The New Model had a double-set trigger, a gas shield in front of the bolt shroud, and a pivoting ejector. Two other major features deserve some comment: the sight system and the stock.

The rifle shown here has a Lyman Model 36 receiver sight, which was designed for the Mannlicher '03 but also fit the Haenel. Its spring-loaded arm swings out of the way, and back into place, as the bolt passes through the split bridge. It can be moved out to the side if the shooter wants to use only the barrel sights. These consist of hinged blades at the rear and a rocking front sight, giving a choice of two different heights and beads, at the muzzle. All are installed on a full-length rib. Unlike many complex sight systems, all can be set in such a way that they don't get in the way.

The stock closely resembles those found on such modern bolt actions as Ruger's Hawkeye. The cheekpiece could have been carved yesterday.

Altogether, the New Model Haenel-Mannlicher belies its 120 years of age. What's more, it was obviously fashioned by a hunter and shooter. It carries easily, mounts effortlessly, and in every mechanical operation is as cooperative as a well-trained horse, unlike many sporters—even new ones—that are as uncooperative as an obdurate mother-in-law.

Within a few years, the Haenel-Mannlicher was shouldered aside by the Mannlicher 1903, the Ross M10, the early sporterized Springfields, and of course, all the Mauser 98s. But it deserves a place on the list of great hunting rifles. In many ways, it set the standard for what followed for the next 100 years. ST

Scientific Discovery Stuns Doctors

Biblical Bush Relieves Joint Discomfort in as Little as 5 Days

Legendary "special herb" gives new life to old joints without clobbering you. So safe you can take it every day without worry.

According to the Centers for Disease Control and Prevention, more than 54 million Americans are suffering from joint discomfort.

This epidemic rise in aching joints has led to a search for alternative treatments—as many sufferers want relief without the harmful side effects of conventional "solutions."

Leading the way from nature's pharmacy is the new "King of Oils" that pioneering Florida MD and anti-aging specialist Dr. Al Sears calls "the most significant breakthrough I've ever found for easing joint discomfort."

Biblical scholars treasured this "holy oil." Ancient healers valued it more than gold for its medicinal properties. Marco Polo prized it as he blazed the Silk Road. And Ayurvedic practitioners, to this day, rely on it for healing and detoxification.

Yet what really caught Dr. Sears' attention is how modern medical findings now prove this "King of Oils" can powerfully…

Deactivate 400 Agony-Causing Genes

If you want genuine, long-lasting relief for joint discomfort, you must address inflammation. Too much inflammation will wreak havoc on joints, break down cartilage and cause unending discomfort. This is why so many natural joint relief solutions try to stop one of the main inflammatory genes called COX-2.

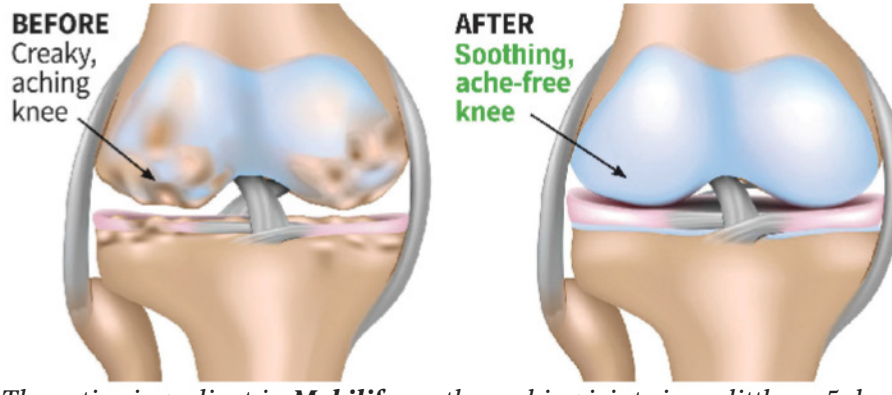
But the truth is, there are hundreds of agony-causing genes like COX-2, 5-LOX, iNOS, TNK, Interleukin 1,6,8 and many more—and stopping just one of them won't give you all the relief you need.

Doctors and scientists now confirm the "King of Oils"—Indian Frankincense—deactivates not one but 400 agony-causing genes. It does so by shutting down the inflammation command center called Nuclear Factor Kappa Beta.

NK-Kappa B is like a switch that can turn 400 inflammatory genes "on" or "off." A study in Journal of Food Lipids reports that Indian Frankincense powerfully deactivates NF-Kappa B. This journal adds that Indian Frankincense is "so powerful it shuts down the pathway triggering aching joints."

Relief That's 10 Times Faster… and in Just 5 Days

Many joint sufferers prefer natural solutions but say they work too slowly. Take the best-seller glucosamine. Good as it is, the National Institutes of Health reports that glucosamine takes as long as eight weeks to work.



*The active ingredient in **Mobilify** soothes aching joints in as little as 5 days*

Yet in a study published in the International Journal of Medical Sciences, 60 patients with stiff knees took 100 mg of Indian Frankincense or a placebo daily for 30 days. Remarkably, Indian Frankincense "significantly improved joint function and relieved discomfort in as early as five days." That's relief that is 10 times faster than glucosamine.

78% Better Relief Than the Most Popular Joint Solution

In another study, people suffering from discomfort took a formula containing Indian Frankincense and another natural substance or a popular man-made joint solution every day for 12 weeks.

The results? Stunning! At the end of the study, 64% of those taking the Indian Frankincense formula saw their joint discomfort go from moderate or severe to mild or no discomfort. Only 28% of those taking the placebo got the relief they wanted. So Indian Frankincense delivered relief at a 78% better clip than the popular man-made formula.

In addition, in a randomized, double blind, placebo controlled study, patients suffering from knee discomfort took Indian Frankincense or a placebo daily for eight weeks. Then the groups switched and got the opposite intervention. Every one of the patients taking Indian Frankincense got relief. That's a 100% success rate—numbers unseen by typical solutions.

In addition, BMJ (formerly the British Medical Journal) reports that Indian Frankincense is safe for joint relief — so safe and natural you can take it every day.

Because of clinically proven results like this, Dr. Sears has made Indian Frankincense the centerpiece of a new natural joint relief formula called **Mobilify**.

Great Results for Knees, Hips, Shoulders and Joints

Joni D. says, "**Mobilify** really helps with soreness, stiffness and mild temporary pain. The day after taking it, I was completely back to normal—so fast." Shirley M. adds, "Two weeks after taking **Mobilify**, I had no knee discomfort and could go up and down the staircase." Larry M. says, "After a week and a half of taking **Mobilify**, the discomfort, stiffness and minor aches went away… it's almost like being reborn." And avid golfer Dennis H. says, "I can attest to **Mobilify** easing discomfort to enable me to pursue my golfing days. Definitely one pill that works for me out of the many I have tried."

How to Get Mobilify

To secure the hot, new **Mobilify** formula, buyers should contact the Sears Health Hotline at **1-800-305-0332** TODAY. "It's not available in retail stores yet," says Dr. Sears. "The Hotline allows us to ship directly to the customer." Dr. Sears feels so strongly about **Mobilify**, all orders are backed by a 100% money-back guarantee. "Just send me back the bottle and any unused product within 90 days from purchase date, and I'll send you all your money back."

Use Promo Code **MBST823** when you call to secure your supply of **Mobilify**. Lines are frequently busy and due to heightened demand, supplies are limited. To secure your suppy today, call **1-800-305-0332**.

insane asylum (but later escaped), and claimed to have eaten some of his victims (hence, the Kentucky Cannibal moniker). He is quoted as having said, "Many's the poor devil I've killed, at one time or another... and the time has been that I've been obliged to feed on some of 'em."

In 1862, after gunning down an unarmed man in a saloon, Helm was captured. However, he persuaded his brother to pay off all the witnesses (at considerable expense to the family), and because the authorities were unable to convict him, he was released.

Making his way to Oregon, Helm continued drinking heavily, robbing, and murdering. Eventually, he was apprehended in Montana and hanged on January 14, 1864. But prior to that, he came up against a stagecoach driver who possessed true grit.

Meeting His Match

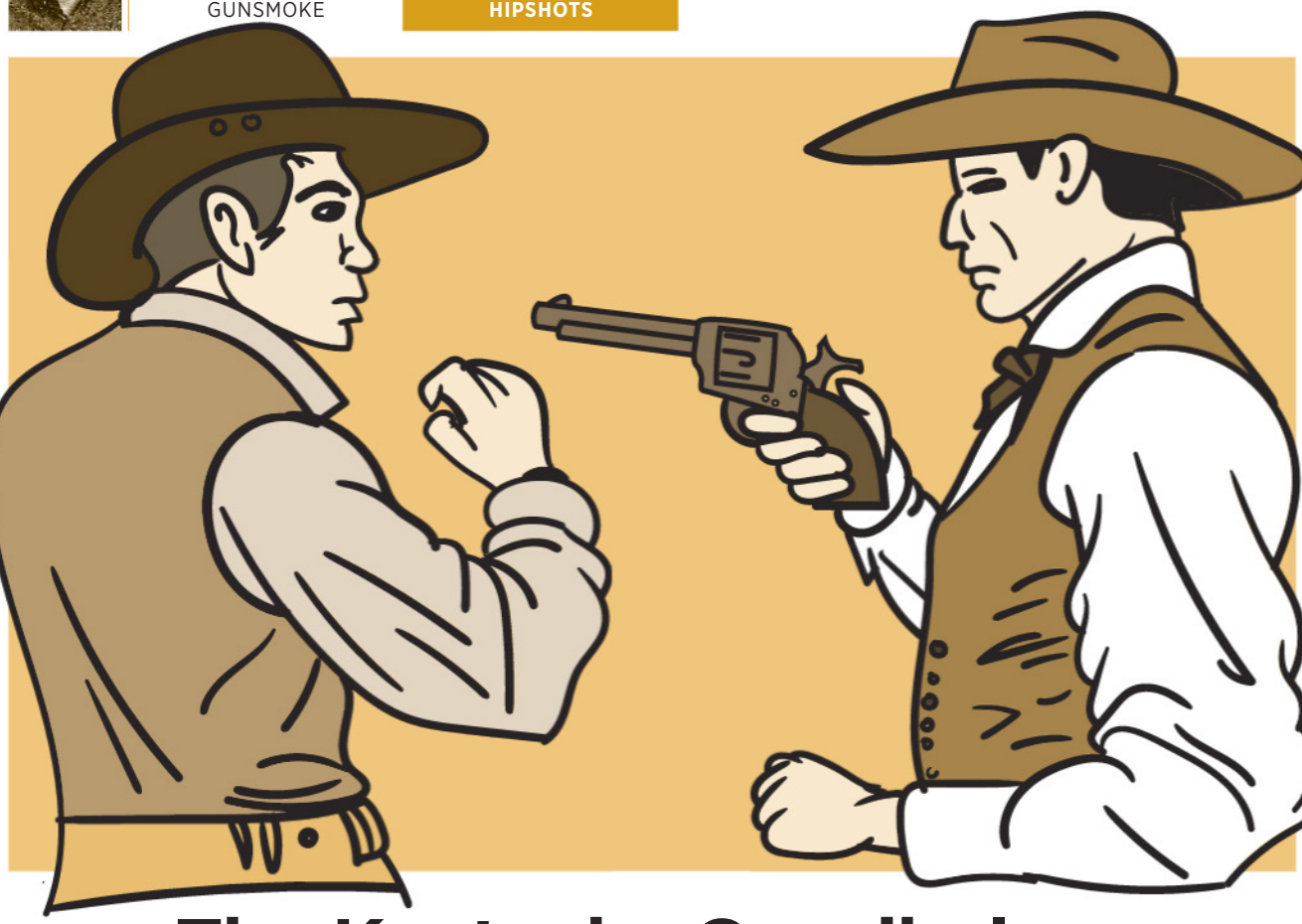
According to Al Cimino in *Gunfighters: A Chronicle of Dangerous Men & Violent Death*, Helm was busy drinking in a saloon in Virginia City, Montana, when stagecoach driver William Rumsey, who had just stood up to a band of robbers, came in to wet his whistle. Helm invited him and others to join in a round of drinks. Rumsey obliged. One drink led to a second, and then to a third. When Helm wanted another, Rumsey declined, stating, "Not another drop. I know my gauge on the liquor question and never go beyond it."

This angered Helm, and he growled, "You *shall* drink again." To which, Rumsey replied, "I *won't* drink again, and no man can make me."

Helm responded with, "No man can refuse to drink with me and live," and grabbed the grip of his revolver. Rumsey beat Helm to the draw, leveled his revolver at Helm's head, and said, "Don't draw your pistol, or I'll shoot you, sure."

After a tense moment or two, Helm let go of his revolver and said, "You're the first man that ever looked me down. Let's be friends."

Rumsey, who had first stood up to a band of stagecoach robbers and then stood up to one of the most cold-blooded killers I've ever heard about, had real courage. He certainly had the moxie to stand his ground. ST



The Kentucky Cannibal

The notorious Levi Boone Helm met his match when he confronted a law-abiding stagecoach driver named William Rumsey. **BY JOEL J. HUTCHCROFT**

The infamous Levi Boone Helm (a.k.a. the Kentucky Cannibal) uncharacteristically backed down after trying to bully stagecoach driver William Rumsey into drinking more because Rumsey beat Helm to the draw.

OFTEN, WHEN I WRITE ABOUT OLD WEST OUTlaws and lawmen in this column, I detail some escapade that more times than not involves someone, or several characters, imbibing in too much "who hit John." In that vein, the main event this time included a ruffian drinking more than he should have, but the part I found to be more interesting is what happened when one of the central characters refused to drink too much. Here's how it happened.

One of the most nefarious but little-known Old West outlaws was Levi Boone Helm (1828–1864). He was a mountain man, gunfighter, and serial killer, and he was called the Kentucky Cannibal. He had a penchant for drinking too much, and in fact, he committed many of his most outrageous crimes while being intoxicated.

Some Background

Helm had a colorful life. Born in Kentucky, he moved to Missouri when he was a boy. There, he learned to ride a horse and liked showing off his quite good horsemanship skills. He also liked showing off his contempt for authority. In one well-documented case, while intoxicated, he snubbed a sheriff's attempt to arrest him by walking his horse up the steps and into a courtroom, where he berated the circuit court judge while on horseback. He also was known to ride his horse into his own home after a bout of heavy drinking and beat his wife. She eventually divorced him, so he picked up and headed west to California, but not before murdering a close friend.

On his journey west, Helm murdered several people (including many who aided him), was confined to an

CONTINUED ON PAGE 71

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