WOODS HUNTERS **TAKE NOTICE!** (PAGE 62)

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JUNE 2025

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PHOTO BY JOSEPH VON BENEDIKT

Savage Super Sporters Are Fabulous!

THREE OF MY FAMILY MEMBERS, INCLUDING MYSELF, HUNT EVERY WIS-consin deer gun season with Savage Super Sporter rifles. My grandfather acquired one in .30-30 in 1933 or 1934. That was the start of the Savage Super Sporter in my family. That gun was handed down to my father and from there to my niece. She killed her first buck with it when she was 16 and has hunted with it for the last 26 years. Also, one of my brothers and I had hunted with it.

Now I own five Savage Super Sporters, my brother owns three, and a brother-in-law owns one. I have hunted with one for the last 35+ years. My other brother owns three and hunts with two of them every year. I have all four calibers in the early model, straight fore-end with a four-round magazine. My brother hunts yearly with two late models, post-1935 with the schnabel fore-end, side mag release, and three-round magazine (as pictured in Joseph von Benedikt's "The Shootist" column in the May 2024 issue.)

The .30-30s shoot 1/4- to 1/2-inch groups at 100 yards, and I've gotten 1.5-inch groups at 300 yards. Similar groups are the norm with all of the Super Sporters. I've taken bucks out to over 500 yards with my .30-06. My niece dropped one at 237 yards this past season, one shot, with her .30-30, and she shot through a 3-inch poplar first though (her second time doing that).

No one knows much about these rifles. They are extremely simple, and all parts except the barrels are interchangeable between calibers. They are, for the most part, as accurate as any rifle made. They are fabulous rifles.

Terry Ludwikowski
Via email

Colt's New Alaskan Revolvers

I've always loved Colt revolvers, especially when blued. They were great guns, and they were visually beautiful. While I'm encouraged that Colt is back to making revolvers, I was disappointed by a couple items in the recent gun review of Colt's new Alaskan revolvers in *Shooting Times* by Joseph von Benedikt. I saw that the cylinders are not fluted. The added weight wouldn't appear to make much difference in balance with a 4.0-inch barrel, so what was the motivation? To me, the featureless cylinder is ugly and detracts from the gun's design, and it makes it a tad more difficult to rotate.

The report also pointed out the lack of drilled and tapped holes on the .357 Magnum revolver for mounting an optic—something that, perhaps, should have been addressed more directly. Many hunters use the .357 Magnum to hunt large game with a mounted optic. The absence of the optic-mounting option, to me, is a significant oversight on Colt's part. I'm assuming that the reference to use as a sidearm would apply to either gun as a backup while hunting dangerous game. Certainly, few people would choose either gun for everyday carry, but Colt seems to have dismissed the needs of those who hunt with a .357 Magnum handgun and a mounted optic in terrain where thickets or heavily wooded areas are more common.

Shooting Times is the only shooting magazine I receive (aside from my NRA membership), and I ordered a gift subscription for my grandson for Christmas. Keep up the good work.

Bill Rose
Chesapeake, VA

No .375 Ruger Brass

If .375 Ruger is the parent case for the .300 PRC, why can I buy .300 PRC brass for reloading but not .375 Ruger? They are both made by Hornady. Something just doesn't make sense.

Richard Kinmartin
Via email

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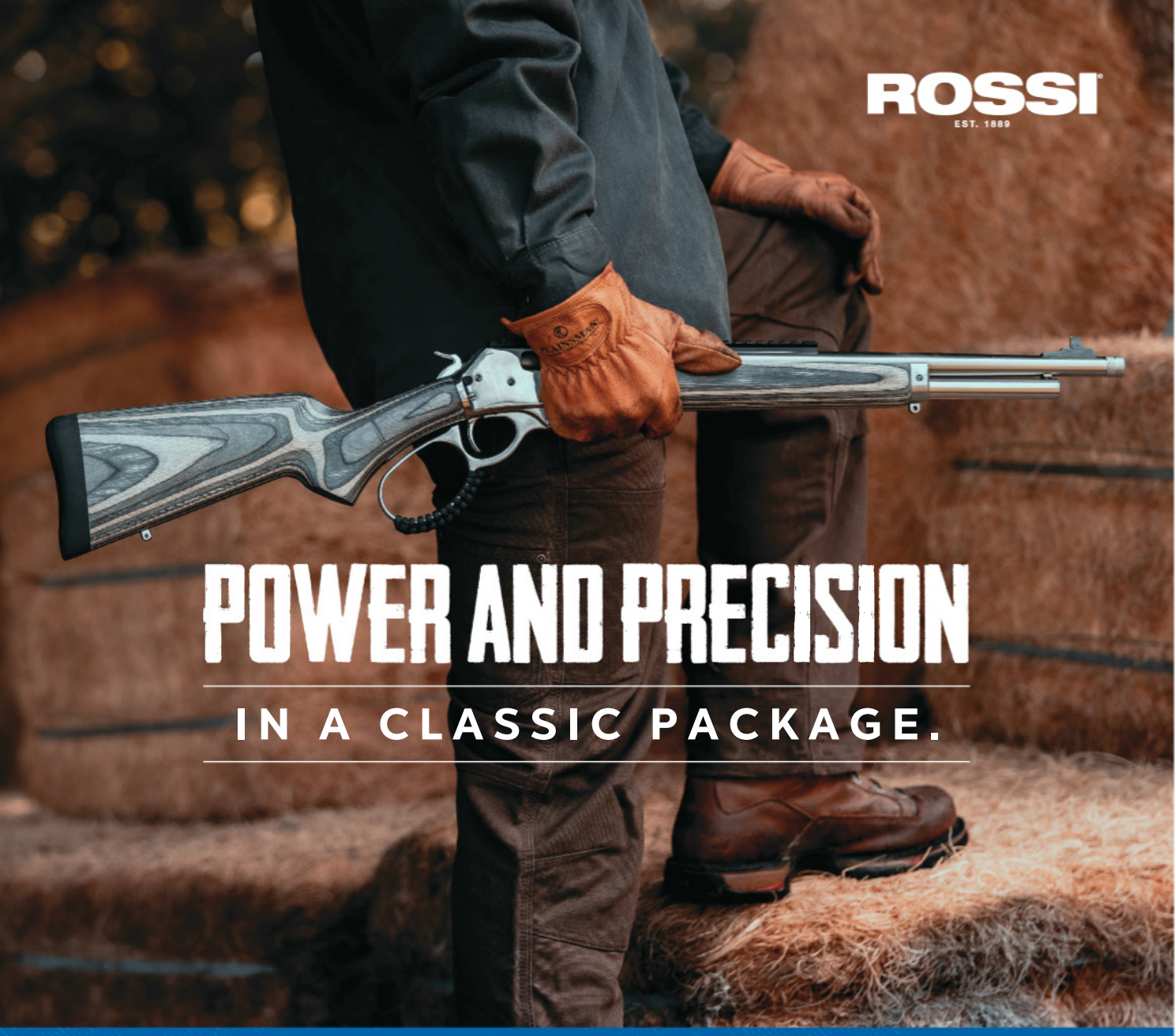

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.22 WMR Handgun Velocity Compared to .22 LR Rifle Velocity?

Q. **I'VE HEARD THAT FOR SMALL-GAME HUNTING, SHOOT-**ing the .22 WMR out of a handgun generates as much velocity as shooting the .22 LR out of a rifle. Is there any truth to that?

Fred McCoy
Via email

A. Your timing is excellent for this question because the loose theme for this month's issue of *Shooting Times* is rimfires. In keeping with that, we present Payton Miller's full-length feature article on the .22 WMR (a.k.a. .22 Magnum and .22 Mag.) beginning on page 38. We have Steve Gash's article on getting ready for a rimfire squirrel hunt; it begins on page 32. And we also have Terry Wieland's "Gunsmoke" column beginning on page 68 that reminds us of the many fine old single-shot .22 rimfire rifles on the used gun market, some of which are real works of art and exhibit superb craftsmanship. While these pieces don't address your question, I point them out as they may be of interest to you. Now to your question.

I, too, have heard and read this statement before. After receiving your question, I did a comparison, but instead of using factory-published velocities, I compared actual velocities from recent articles published in this magazine. We ran two articles on .22 WMR pistols in the last year. One was on Walther's WMP; the other detailed Smith & Wesson's M&P 22 Magnum. Both articles were written by Joseph von Benedikt. The S&W M&P 22 Magnum has a 4.35-inch barrel, whereas the Walther WMP has a 4.9-inch barrel. Three .22 WMR loads with 40-grain, 45-grain, and 50-grain bullets averaged 1,422 fps, 1,363 fps, and 1,126 fps, respectively, out of the WMP. Two of those three loads were fired in the S&W pistol, and they averaged 1,313 fps and 1,103 fps. So, the .22 WMR produced velocity averages out of the handguns ranging from 1,103 fps to 1,422 fps.

Two articles we published on .22 LR rifles over the past 12 months are a roundup of Ruger 75th anniversary guns, including a 10/22, by Layne Simpson and a review of Winchester's latest lever-action .22 LR rifle that I wrote. The Ruger anniversary 10/22 has an 18.5-inch barrel, and the Winchester Ranger has a 20.5-inch barrel. In total, more than 15 different .22 LR loads were fired in those rifles; however, not many of the exact same ones were fired in each rifle. The bullet weights varied from 32 grains to 40 grains. The simplest way to summarize the velocity results is to say actual velocities ranged from 995 fps to 1,722 fps. That 1,722 fps was for CCI 32-grain Stingers out of the 18.5-inch 10/22 barrel. The second highest .22 LR velocity was 1,352 fps, and it came from the 18.5-inch barrel with the Federal Classic 40-grain LRN load.

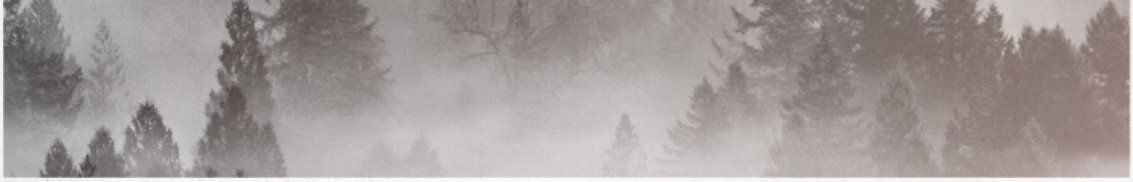
So, my answer to your question is this: With the exception of the 32-grain Stingers, the .22 WMR fired from a handgun does in fact have as much, if not more, velocity as the .22 LR fired in a rifle. We've listed the velocity results from those articles in the accompanying chart for your perusal.

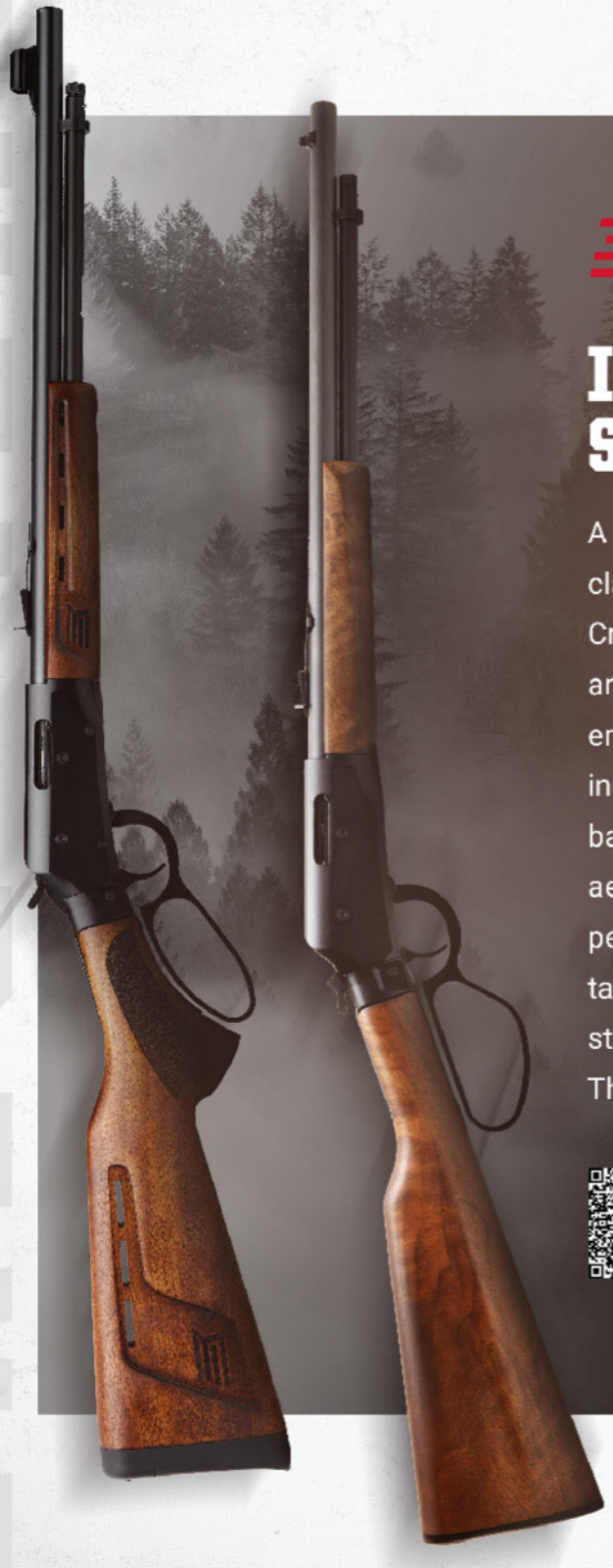
Joel J. Hutchcroft ST

.22 WMR & .22 LR VELOCITY COMPARISON

AMMUNITION	VEL. (FPS)
.22 WMR S&W M&P 22 Magnum, 4.35-in. Barrel	
Hornady Critical Defense 45-gr. FTX	1313
Federal Game-Shok 50-gr. JHP	1103
.22 WMR Walther WMP, 4.90-in. Barrel	
Remington Magnum Rimfire 40-gr. PSP	1422
Hornady Critical Defense 45-gr. FTX	1363
Federal Game-Shok 50-gr. JHP	1126
.22 LR Ruger 75th Anniversary 10/22, 18.5-in. Barrel	
CCI Stinger 32-gr. LHP	1722
Remington Cyclone 36-gr. LGHP	1312
Winchester Super-X 37-gr. LHP	1133
CCI Mini-Mag 40-gr. LSHP	1260
Federal Classic 40-gr. LRN	1352
Remington High Velocity 40-gr. LRN	1285
SK High Velocity Match 40-gr. LRN	1142
SK Long Range Match 40-gr. LRN	1104
SK Standard Plus 40-gr. LRN	1041
.22 LR Winchester Ranger, 20.5-in. Barrel	
CCI Mini Mag 40-gr. CPRN	1195
Eley Match 40-gr. LFN	1052
Federal Gold Medal Target 40-gr. LRN #711	1121
Federal Hunter Match 40-gr. LHP	1135
Norma TAC-22 High Performance Target 40-gr. LRN	1018
PMC Match Rifle 40-gr. LRN	1038
SK Rifle Match 40-gr. LRN	995
SK Standard Plus 40-gr. LRN	1022
Winchester Power-Point 40-gr. LHP	1219
Winchester Wildcat 40-gr. LRN	1127

NOTES: The .22 WMR velocities were measured 10 feet from the muzzles. The .22 LR velocities were measured 12 feet from the muzzles.





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Model 1891 Argentine Mauser 7.65x53

The craftsmanship of this 132-year-old military rifle far exceeds what you typically see on nearly all small arms built after the Great War. **BY JOSEPH VON BENEDIKT**

LAST YEAR, I HAD THE PLEASURE OF REVIEWING an 1891 Argentine Mauser that had been elegantly sporterized and rechambered to .30-06. Here is another version of the *Mauser Modelo Argentino 1891* that's properly chambered for the 7.65x53 cartridge.

As noted in my column last year, the 1891 replaced Argentina's Remington Rolling Block military long guns in the late 19th century and remained in service in one guise or another into the 1960s.

The version shown here appears to have been made in 1893 and was originally a rifle-length model. As with most rifle-length 1891s released for civilian sale, the national crest atop the front receiver ring was ground off. At some point a previous owner—presumably N.E. Cole, as scratched into the wood stock—had the barrel cut down to 24 inches, reinstalled the original front sight, and shortened the fore-end. Up top, both receiver rings were drilled and tapped with two screw holes for mounting a scope. The bolt handle was bent and ground flatter to provide sufficient clearance for a scope.

As this example shows, the Argentine Mauser 1891 exudes quality. Its fit, finish, and feel are second to none in the world of surplus bolt-action military rifles.

Unfortunately, all this work reduced this 1891 rifle from a lovely collectible Argentine Mauser of the first order (all matching numbers, near-perfect condition) to a cheap, sporterized military surplus rifle. However, two things are striking about this rifle. First, even though it's aggressively modified, the wood stock is in prime condition, and all the stamps and cartouches are sharp and clearly defined. Second, the craftsmanship of military arms builders in 1893, when this rifle was manufactured, far exceeded what you see on nearly all small arms built after the Great War. The wood-to-metal fit rivals what you'd see on a fine sporting rifle from Britain or Germany; the metal finish is superb and has still-visible nitre-blued components, which is a time-consuming, high-end finish usually reserved for luxury sporting firearms.

As nice as they were, *Modelo 1891s* had a weakness. The extractors tended to wear out and/or break. So much so that according to once source, company armorers in Argentina carried no fewer than 40 spares in their field kits, along with a special tool


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that facilitated fast replacements. An updated version introduced in 1893—the Model 1893—featured the massive, nonrotating claw extractor that was to become a hallmark of Mauser reliability.

That's right: The 1891 was a push-feed action and lacked the combat reliability that later became so valued by soldiers and dangerous-game hunters.

The standard chambering was the 7.65x53, which was loaded with a variety of projectiles during its combat lifespan, beginning with a 211-grain FMJ RN at about 2,130 fps. Lighter, pointed 174- and 155-grain FMJ Spitzer types, rated at 2,460 and 2,710 fps respectively, later became standard.

Mechanicals

The push-feed 1891 features dual, opposing locking lugs; a small spring-loaded extractor; and a fixed ejector. Unlike the Model 98 and other later Mauser models, the 1891 does not cock on opening. Rather, it's a cock-on-close design. This makes it easy to open the bolt and extract the cartridge but requires the bolt to be run forward with force and momentum in order to operate it smoothly. That said, it is a very fast action to operate.

M1891 actions are fed from a steel single-stack magazine. To load, press cartridges down into the top of the action one by one or thumb a stack of five in all at once if you have appropriate stripper clips.

The safety is a wing-type affair located on the bolt shroud. It's a two-position design that must be rotated up and right to engage.

A variety of sights were used and were updated when the military went to Spitzer-type bullets. The version on this rifle appears to be one of the later types and was likely updated during an arsenal refitting at some point. Of ladder type, the sight is simple and clear and has markings for volley fire out to 2,000 meters.

Provenance

Little is known about this specific rifle. I found it lurking in the dusty corner of a local gunsmith's shop. I don't know when it came to the area (as there are no import marks) or when it was sporterized. The last name scratched into the wood and metal is that of an old and established family in the area, indicating that it likely came to the region as a surplus rifle and was sporterized and put to hunting usage long ago. I bought it and three boxes of PPU 7.65x53 ammo that accompanied it. It's valued at about $300.

Rangetime

Resting the 1891 Argentine Mauser over a sandbag up front and a bunny-ear bag beneath the toe of the stock, I aimed and fired at a six-inch black bullseye on the 50-yard target bank. Since I'd read that rifles with the updated sights engineered for Spitzer-type bullets were sighted-in with a 300-yard battle zero, I aimed at 6 o'clock on the black spot. Sure enough, my bullets impacted about four inches above point of aim.

Groups were pretty good, considering the rifle is more than 130 years old, has been heavily modified, and was being aimed by middle-age eyes. The average of three consecutive three-shot groups was 1.29 inches.

Recoil was noticeable but not violent. The 7.65x53 cartridge is akin to the .308 Winchester in performance, and the eight-pound M1891 with iron buttplate kicked about like a sparky .308 hunting rifle would.

For whatever reason, this particular M1891 action is quite tight. Tolerances are minimal, and the spring load built by the cocking piece as you close the bolt is substantial. As a result, the rifle ran perfectly and smoothly when I worked it robustly.

Although the trigger pull measured a stout 5 pounds, 3 ounces on my digital gauge, its crisp, two-stage design gives the impression it's lighter. Balance and pointability were surprisingly good. My only adverse observation is that the steel buttplate felt slippery on my shoulder. Part of that is due to the 13-inch length of pull being somewhat short for my lanky 6-foot, 1-inch frame.

I only had the one factory load to test in the rifle, but it is decent ammo that features 174-grain FMJ bullets and reloadable brass cases. The muzzle velocity averaged 2,531 fps out of the 24-inch barrel, and the standard deviation was right at 20 fps, which is more than acceptable. ST

ARGENTINE MAUSER 1891

MANUFACTURER	*Manufactura Loewe Berlin*
TYPE	Bolt-action repeater
CALIBER	7.65x53
MAGAZINE CAPACITY	5 rounds
BARREL	24 in.
OVERALL LENGTH	43.25 in.
WEIGHT, EMPTY	8.06 lbs.
STOCK	Walnut
LENGTH OF PULL	13 in.
FINISH	Blued barrel and action, oil-finished stock
SIGHTS	Ladder-type military rear, blade on barrel band front
TRIGGER	5.19-lb. pull (as tested)
SAFETY	Two position

ARGENTINE MAUSER 1891 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	50-YD. ACC. (IN.)
7.65x53, 24-in. Barrel				
PPU 174-gr. FMJ BT	2531	59	20	1.29

NOTES: Accuracy is the average of three, three-shot groups fired from a sandbag benchrest. Velocity is the average of nine rounds measured with a Garmin Xero C1 Pro Doppler chronograph adjacent to the gun's muzzle. Ambient temperature: 25 degrees Fahrenheit. Elevation: 5,100 feet.

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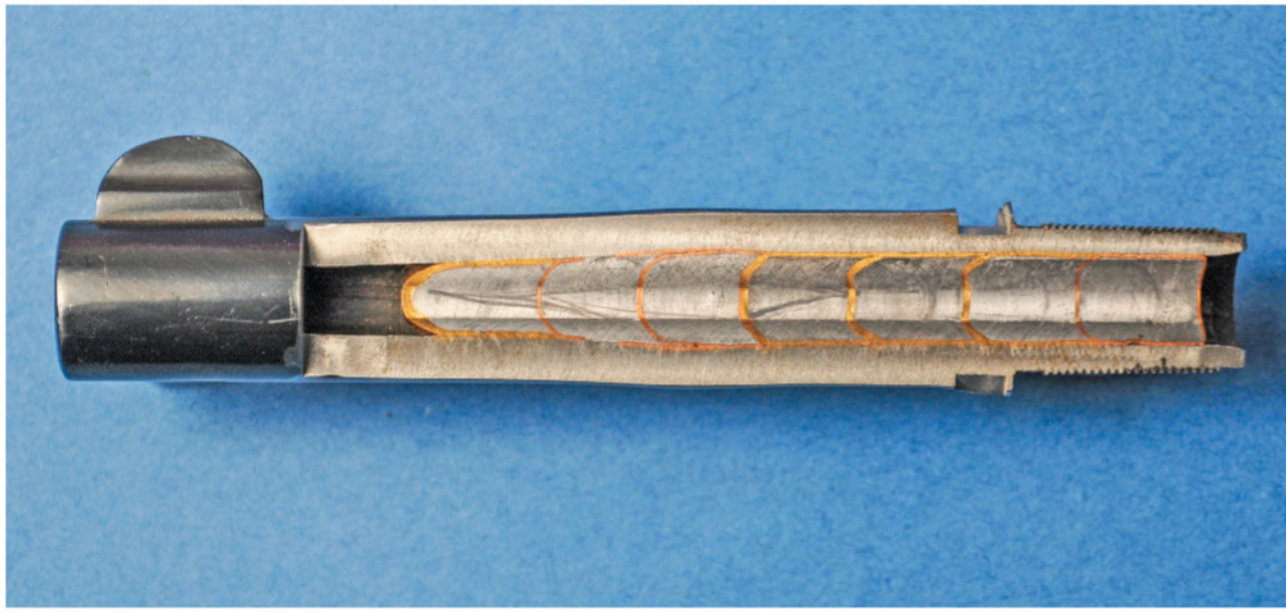

The Ballistics of "BIB"

The firearms industry is full of abbreviations. One you don't want to encounter is "BIB," for "bullet in bore." **BY ALLAN JONES**

BULLET IN BORE (BIB) IS A COMPLEX ISSUE that has, in seconds, reclassified firearms from "new in box" to "for parts only." To most, "stuck bullet" correctly suggests "too little propellant." That's the most common cause—not enough gas generated to push a bullet out of the barrel. But not always. You can get a BIB from a partial propellant burn because of contamination. Revolvers struggle more because of the unavoidable barrel-cylinder (b-c) gap. Sometimes a dimensional misfit can stick a bullet.

In the photo for this column, the century-old revolver was designed when .38 Special ammo was loaded only with soft lead bullets, but the owner fired modern jacketed-bullet ammo. The barrel diameter for that model tended to be 0.354 inch to 0.355 inch, but the cylinder's chamber throats were typically close to 0.360 inch. That's seldom an issue with factory lead bullets.

Normal combustion pressure expands lead-bullet bases to seal the chamber throats. However, rear-jacketed bullets that are fine at magnum pressures struggle to expand enough at .38 Special pressures to fit a top-of-spec throat; gas is lost around the jacketed bullet in the chamber throat before encountering the b-c gap.

By the way, the sectioned barrel shows two different makes of bullets based on jacket thickness and alloy color. Did you count the bullets? Seven. Number eight split the frame and locked the cylinder. The owner reloaded and kept shooting until he couldn't. Due to frame damage, we could not determine if the next factor was at play.

The b-c gap in revolvers, if too large, can cause a BIB even with an optimal fit between bullets and chamber throats. Excess gas lost through a too-large gap cannot push a bullet normally. If factory b-c gap specs are typically 0.008 inch or less, how can the gap get too large? Easy—bad repair.

With use a revolver can develop front-to-rear cylinder movement. Wear on the cylinder mounting surfaces shifts the cylinder's "at-rest" position forward. You notice it when the cylinder begins to drag on the back of the barrel. Properly repaired, this is not an issue. Improper repair increases b-c gap.

Some people fail to interpret the condition and file off the back of the barrel; they must believe the barrel has *grown*. Sorry, no amount of sunshine and

This pileup is costly. An unnoticed bullet in the bore damaged an old revolver beyond practical repair. (Sample courtesy of Brett Olin.)

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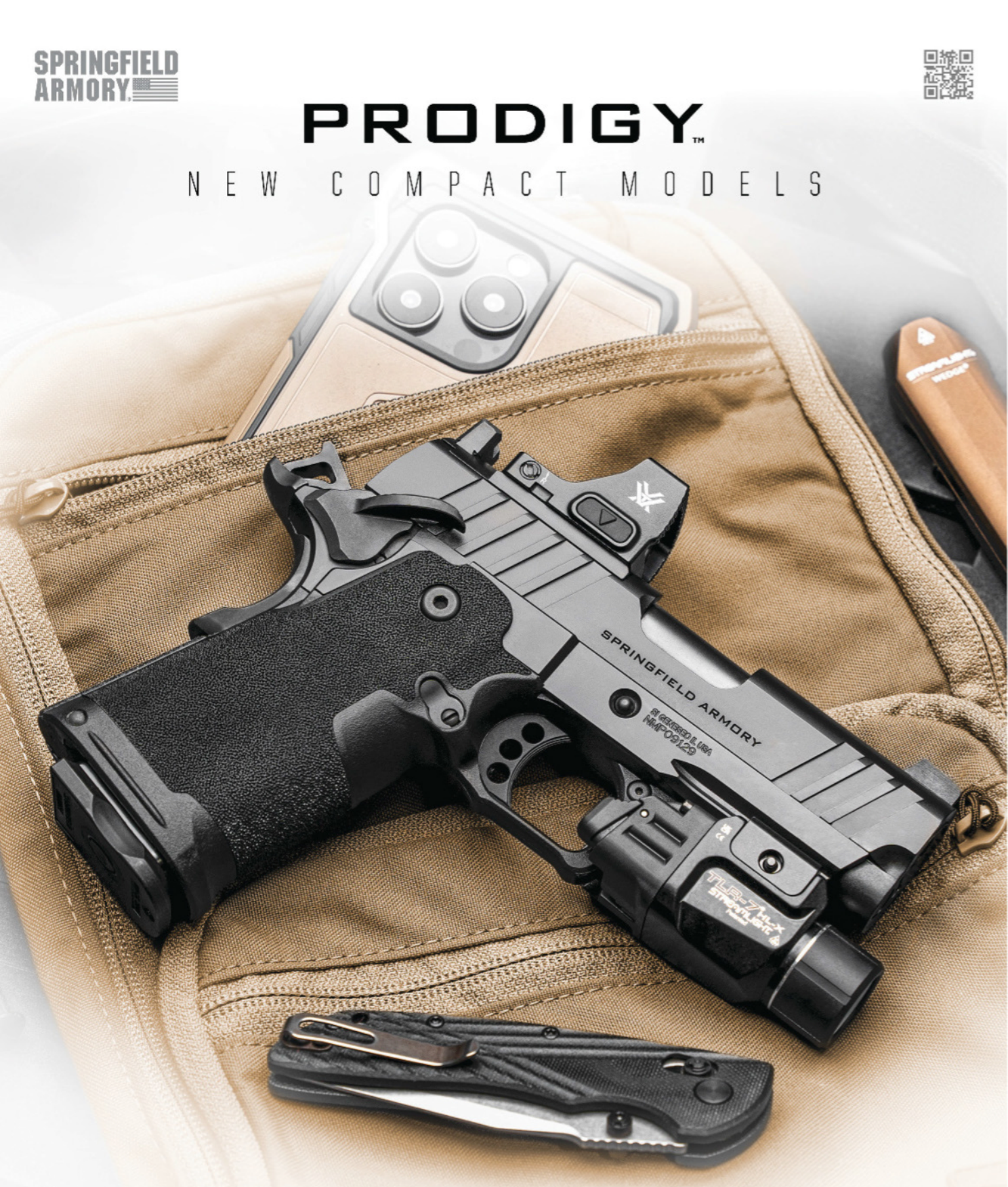

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The Ballistics of "BIB" // Continued From Page 18

loving care can make a barrel grow. Filing increases the critical functional gap (the gap at the moment the cartridge fires). That makes low-pressure to modest-pressure cartridges more likely to go BIB. I've seen gaps of 0.012 inch or more when people start filing barrels.

Check that gap correctly by removing any end-play that causes low readings. Manually hold the cylinder to the rear as far as possible while measuring the gap. That is roughly where the cylinder will be at peak cartridge pressure and is your functional gap.

Bullet type affects BIB potential. A lubricated lead bullet encounters far less in-bore friction than a jacketed bullet. Long bullets have greater bore contact than short ones. Superhard cast bullet alloys can restrict base expansion in the chamber throats. I save those for magnum revolver loads.

Barrel condition also plays a role in the BIB story. A corroded or heavily fouled bore creates more frictional load than a clean, unpitted one. Add reduced-pressure ammo and you've invited a BIB to the picnic.

Semiautomatic pistols don't have gaps, so most BIBs in them are likely undercharges, but not all. Rarely, a blown primer or ruptured case may vent gas out from the ejection port, robbing energy needed to drive a bullet. Either of those exciting events in a pistol happens close to your face, so you're likely to notice and hopefully stop before piling up bullets.

What to do if you manage to "go BIB" can be complicated.

Hopefully you stopped at one stuck bullet. More than one usually gooseeggs the barrel like in the photo, ruining it. For stuck lead bullets, lube up the bore and use a flat, solid-tipped punch softer than steel that is close to a snug fit in the bore and tap gently. Avoid a soft punch with a cupped end like a cleaning rod; it can flare and wedge against the bullet.

If a second bullet bulged the barrel, that may not affect basic firearms function. However, point of impact could change significantly if the bulge is not perfectly symmetrical. Depending on the inside diameter of the bulge and how far down the barrel the bulge occurred, other issues arise. I've examined recovered jacketed bullets with doubled rifling marks, clearly showing the bullet was in free flight across the bulge, letting gas escape. One bulge could lead to another.

If you stick a jacketed bullet, a little devil in your head may say, "Shoot or drill it out." Ignore the temptation and call a pro. Jacketed rifle bullets stick incredibly hard, and even with the best professional removal methods, the barrel may never shoot well again.

Quality ammo and good firearm condition are the best defenses. If in doubt about an older firearm's dimensional or bore condition, have it checked out by a pro. Too little recoil and off sounds can warn of a potential BIB. Both are usually apparent even when wearing hearing protection, so stop shooting and inspect!

If handloading revolver cartridges for carbines or rifles, don't load too light. A propellant charge that happily pushes a bullet down a 6.0-inch barrel may give up in one 18 inches long.

I've fielded many questions about creating light handloads for .38 Special and .357 Magnum carbines. My response is to avoid jacketed bullets and keep the bullet weight up (140+ grains). Keep the pressures close to the top safe load levels. Inspect your charges before seating bullets. Powder level detectors are available for most progressive reloading presses. Always test what you load in slow-fire mode so you can hear any off sounds.

The BIB is avoidable. Don't let an overly light load lighten your wallet. ST

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10mm Auto Handloads in Carbines

Handloading the 10mm Auto for carbines is easy, and the result is you can save money or simply shoot more for the same money. **BY LANE PEARCE**

With Ruger's recent addition of the 10mm Auto to the LC Carbine's chamberings, Lane decided it was time to test some handloads in the carbine. He was very satisfied with the results.

THE 10MM AUTO CARTRIDGE, INTRODUCED IN the early 1980s, was almost a flash in the pan—not because the exemplar Bren Ten pistol design was at fault and not because of the original Norma 10mm Auto factory-loaded ammo's ballistics (200-grain bullets launched at a velocity of 1,200 fps). The problem was the company making the pistols was almost doomed from the start. The old adage "it takes money to make money" proved out, and the Dornaus & Dixon company made only about 1,500 pistols. Plagued with business troubles, by 1986, the Bren Ten project was dead.

Two events revived interest in the 10mm Auto cartridge. The first was a tragic confrontation in Miami between two suspected bank robbers and law enforcement. During a violent shootout, both bad guys were killed but not before two FBI agents succumbed and five others were wounded. The subsequent investigation concluded the agents' handgun ammo was not powerful enough to immediately incapacitate the robbers, who were armed with rifles. Subsequently, during the next couple years, the FBI adopted a full-size, stainless-steel Smith & Wesson semiautomatic pistol chambered for the 10mm Auto for their agents to carry on duty.

The second event was much less traumatic. In 1987 Colt introduced a variation of the Model 1911 pistol called the Delta Elite and chambered it for the 10mm cartridge. It came with an eight-round, single-stack magazine and cost about half of what the original Bren Ten cost. The cartridge found favor with a limited following of serious handgunners but not with a wider, more general audience.

More recently, the 10mm Auto has seen a resurgence in popularity, and today, a whole host of major

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gunmakers offer 10mm Auto pistols, and there also are a few 10mm carbines in production. Ruger is the latest to enter this market, so I used a brand-new Ruger LC Carbine with a 16.12-inch barrel for this report.

The handloading process for the 10mm Auto is the same as for any straight-wall handgun cartridge, especially using carbide or nitride-coated sizer dies. If warranted, first tumble the brass (wet or dry) to clean and resize (no lube required). Adjust the sizer die to just clear the shellholder, i.e., the small gap will preclude damaging the sizer die. Although every chambering has a maximum COL specified, I have never needed to trim a straight tapered pistol case. However, properly adjusting the expander die to bell the case mouth is a trial-and-error scheme that varies depending on the batch of brass and the bullet being loaded. I've found it's best to segregate the cases by headstamp and, if possible, keep the fired brass from a box of factory-loaded ammo in continuous batches.

Depending on the case material and heat treatment, each brand/batch will form differently when you flare the case mouths. In fact, I discovered when loading the Barnes TAC-XP copper bullet, no belling was required, and I backed the expander plug up a half-inch or so to avoid reducing the bullet retention force. Again, you'll likely have to adjust the die differently while trial fitting the specific bullet you intend to load for each brand/type of brass.

Priming is the next step. The 10mm Auto case accommodates any standard Large Pistol primer you can find. I haven't tried to determine which brand is best for any handgun loads I've assembled and tested. Trying different propellants and varying charge weights is about as far as I go when developing a satisfactory load for a handgun round. Firing a handgun cartridge in a longer-barreled carbine might affect performance, but I didn't experiment with that variable for this column.

I usually loaded near-maximum charges to achieve higher velocities. However, the exception was Federal's TSJ synthetic-coated bullet that's intended for more modest target loads. Federal offers .40 S&W load data for this bullet, which is essentially a low-powered 10mm load, so I used the recommended Accurate No. 5 charge weight plus 5 percent to make up for the 10mm Auto's larger case capacity. The reliable functioning and velocity data indicated safe and satisfactory performance.

As the chart clearly shows, any load that's suitable for a 10mm pistol is quite compatible with the Ruger carbine. In fact, all the test load recipes were developed using handgun load data. Power levels can vary from nearly 600 to 1,000 ft-lbs. The accuracy results with the EOTech 552 A65 holographic optic I used were more than adequate for casual plinking and personal defense.

The bottom line is the 10mm Auto cartridge is alive and well. If you consider the .45 ACP an effective personal-defense cartridge, then the noticeably more powerful 10mm Auto is an attractive option if you can handle the modest increase in recoil. Lots of different factory-loaded ammo and reloading components are readily available. And as I've often pointed out, you can save money (or just shoot more for the same money) if you handload your own ammo. ST

10MM AUTO ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)	CASE	PRIMER	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	ENERGY (FT-LBS)	50-YD. ACC. (IN.)
Ruger LC Carbine, 16.12-in. Barrel									
Barnes 140-gr. TAC-XP	Unique	7.2	JAG	CCI 300	1386	68	17	597	1.38
Sierra 150-gr. JHP	Power Pistol	9.3	Fed.	CCI 300	1624	50	14	879	2.38
Hornady 155-gr. XTP	Blue Dot	12.0	JAG	WLP	1702	46	14	997	3.90
Federal 165-gr. TSJ	Accurate No. 5	7.9	JAG	WLP	1262	77	19	584	3.92
Sierra 165-gr. JHP	W572	8.5	JAG	CCI 300	1512	33	11	838	2.88
Hornady 180-gr. XTP	HS-6	10.0	PMC	CCI 300	1467	34	11	860	1.82
Speer 180-gr. Gold Dot	2400	12.5	Win.	WLP	1490	35	11	888	1.68
Speer 180-gr. Gold Dot	Accurate No. 7	11.8	Win. USA	WLP	1565	40	12	979	1.86
Speer 180-gr. Gold Dot	Blue Dot	10.0	Win. USA	CCI 300	1552	42	16	963	2.42

NOTES: Accuracy is the average of two, five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured with a Garmin Xero C1 Pro Doppler chronograph adjacent to 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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THE NEW .338 ARC FROM HORNADY IS VERY POSSIBLY THE BEST SUBSONIC CARTRIDGE EVER.

BY JOSEPH VON BENEDIKT

THERE'S A NEW ARC CARTRIDGE FROM HORNADY, and it could very possibly be the best subsonic cartridge ever. For anyone who doesn't already know it, ARC stands for Advanced Rifle Cartridge, and the new .338 version joins the established and popular 6mm ARC and the relatively new .22 ARC.

What drew my attention to this new one was a comment Hornady's Seth Swerczek made during an interview with *Gun Talk*'s Tom Gresham. Swerczek said, "If you feel comfortable hunting with a .44 Magnum, any animal, and at any distance you would shoot a .44 Magnum, that .338 ARC with its 307-grain SUB-X bullet can do."

Prior to hearing that statement, I wondered whether the .338 ARC was simply a response to the 8.6 Blackout, which is a cartridge that as a Westerner who hunts wide-open country and plays tactical man not at all, I've found little practical use for. I was wrong, on several counts.

First, according to Hornady's ballistician Jayden Quinlan, the .338 ARC concept has been in research and development since 2017, which predates the 8.6 Blackout. Second, the .338 ARC is anything but a "me too" cartridge; it's the epitome of subsonic perfection. In other words, it provides best-in-class subsonic authority, efficiency, versatility, and accuracy.

Shooting subsonic was the realm of relatively few shooters until recently. Either you were a military or LE operator with a need for ultimate discretion or a hunter who shot a lot of game up close (nighttime feral hog management or urban whitetail population management, for example) and needed to do so as quietly as possible.

Those covered the *needs*. A more recently developed—and certainly the largest—demographic of subsonic shooters is those who simply *want* to shoot very quiet cartridges in suppressed firearms. And that, my friends, is just as valid as an actual need.

For the most part, this report will focus on what the .338 ARC is and what it does best. But because it will inevitably be compared to the 8.6 Blackout, I'll pit the two against each other just a bit. Here's the first profound difference: The .338 ARC fits perfectly into standard, sleek AR-15 rifles, while the 8.6 Blackout requires an AR-10 or at least a small-frame/AR-10 hybrid receiver.

The .338 ARC case (right) was created by shortening and necking up the 6mm ARC (center), which was created by modifying the 6.5 Grendel (left). Hornady engineers optimized the .338 ARC's propellant capacity for subsonic bullets.

Initially, Hornady will offer two bullet weights/types in .338 ARC ammunition. At left is the long 307-grain SUB-X, and at right is the 175-grain Match HP.

The Technology

To make the .338 ARC ultimately efficient with heavy bullets at subsonic velocity, Hornady engineered it with a relatively small-capacity case. Its parent case is the ARC case, which is derived from the 6.5 Grendel case. The Grendel case, in turn, is rooted way back in the .220 Russian.

Case head diameter is 0.441 inch; overall case length is 1.3 inches. A 30-degree shoulder provides a small but precise angle for the cartridge to headspace against. Neck length is 0.369 inch, so it's slightly greater than the full-caliber length many experts suggest is necessary to securely hold a bullet well-aligned and concentric.

Recommended primer size is Small Rifle Magnum. You might think that it should be capped with Large Rifle primers since it's .338 caliber, but propellant capacity, not bore diameter, dictates primer suitability. With optimal propellants, the .338 ARC uses just 9 to 10 grains of powder.

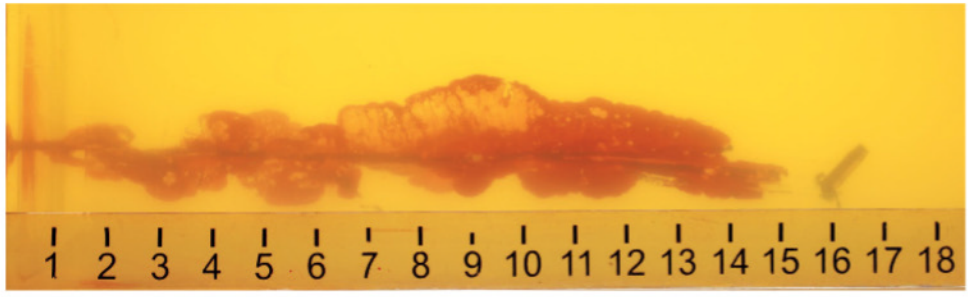
Hornady submitted the .338 ARC to SAAMI with a rifling twist rate of 1:8, which is nearly three times slower than the eyebrow-raising 1:3 twist rate of the 8.6 Blackout. I'll delve more into why shortly.

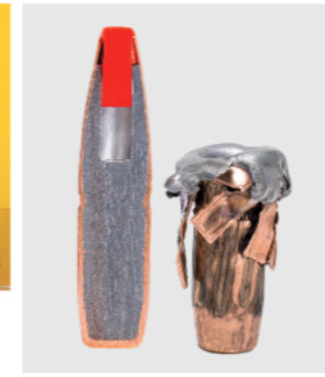
To perform in the subsonic realm, the top velocity limit is 1,100 fps. The speed of sound is just north of that, depending on your altitude and temperature. The .338 ARC's flagship factory load pushes a 307-grain SUB-X bullet at 1,050 fps, safely under the transonic threshold. Muzzle energy is 752 ft-lbs. Bullet drop and wind deflection at distance? Those are the wrong questions to ask about the .338 ARC. It's a close-range sledgehammer that's nearly silent, not a far-reaching precision cartridge.

That 307-grain SUB-X is not your average heavy-for-caliber projectile drafted into service in a subsonic cartridge. It's designed for the .338 ARC from the ground up, utilizing every benefit of Hornady's vast R&D capabilities.

"We know what knobs to turn as far as bullet design goes, to make it work," said Swerczek. "But it still takes a significant amount of testing in ballistics gelatin to really make it perfect, and our R&D team did a wonderful job with it."

Designed to expand from 1.5 to two times original diameter down to very slow impact speeds—slower than any hunter will





The 307-grain SUB-X bullet penetrated 16 inches in ballistic gelatin, with the bullet beginning to tumble in the last four inches or so. The recovered bullet is shown next to a sectioned bullet. Photos courtesy of Hornady.

ever need—the 307-grain SUB-X maximizes energy deposit on impact. It leans heavily on bullet weight, and its larger-than-average 0.338-inch diameter to achieve that. According to Hornady, it's the ideal balance of bullet diameter and weight to provide best-in-class wallop at a very comfortable price in recoil. "The 307-grain SUB-X in the .338 ARC is really the pinnacle of performance in a subsonic bullet," said Quinlan.

The other initial factory load is supersonic, and it pushes Hornady's 175-grain HP Match bullet at 2,075 fps. Its muzzle energy is substantially higher at 1,673 ft-lbs. This round is faster than the speed of sound and, as a result, is much louder than the 307-grain subsonic load. On the plus side, it shoots fast enough to be useful farther out. When zeroed at 200 yards, the 175-grain HP Match bullet arches 4.2 inches high at 100 yards, then drops 16.3 inches low at 300 yards.

That's not flat by any means, but if you have a good hold-over reticle or dial-up turret, you can learn to compensate for that trajectory and make reliable hits on steel targets and game like feral hogs.

One benefit of the .338 ARC when compared to the 8.6 Blackout is that the ARC uses a reasonable rifling twist rate of one turn in every eight inches. That makes the ARC compatible with all common 0.338-inch-diameter bullets designed for cartridges like the .338 Federal, the .338 Win. Mag., the 33 Nosler, the .338 Norma, the .338 RUM, and the .340 Weatherby. For people handloading the .338 ARC, the bullet world is the reloader's oyster.

Comparatively, the 8.6 Blackout's extremely fast 1:3 rifling twist rate requires special bullets. Rotational velocity is extreme and, at least in supersonic loadings, often causes conventional cup-and-core hunting and target bullets to rupture and fly apart as soon as they exit the muzzle. As a result, most 8.6 Blackout loads utilize expensive specialty bullets lathe-turned from copper or a copper alloy.

Proponents of the 8.6 Blackout point out that the fast rotational velocity imparted by the 1:3 rate of twist enhances bullet expansion. They're not wrong. It also enables the wide-expanded petals of those unique, purpose-built monometal bullets to impart a bit of energy via rotation momentum. Certainly, the cartridge has some inspiring characteristics; it's unfortunate that the fast 1:3 rate of twist makes the 8.6 Blackout incompatible with many typical 0.338-inch projectiles.

Gun Compatibility

Because so much subsonic shooting is done with AR-15-type firearms, Hornady determined it was crucial to create a subsonic mid-bore that fit, functioned, and fired in standard AR-15-size receivers.

This wasn't a hard sell. Most cartridges loaded to subsonic speeds struggle with too much case capacity. Subsonic loads use very little propellant. When loaded into regular-size (for the caliber) cases, such as the .308 Win. or the 6.5 Creedmoor-based

Hornady's new .338 ARC cartridge is optimized for use in AR-15 firearms. Like its ancestral 6.5 Grendel and 6mm ARC, the new cartridge feeds best from a magazine designed for the Grendel and ARC family of cartridges.

Fundamentally similar to an AR-15, the UP-15 Joseph used is a bolt-action rifle fed by AR-15 magazines. It has a three-lug bolt and is compatible with most AR stocks and handguards.

UP-15 .338 ARC	
MANUFACTURER	Uintah Precision uintahprecision.com
TYPE	Bolt-action repeater
CALIBER	.338 ARC
MAGAZINE CAPACITY	10 rounds
BARREL	16 in.
OVERALL LENGTH	34.75 in.
WEIGHT, EMPTY	7.38 lbs.
STOCK	Magpul PRS Lite buttstock, 15-in. handguard, Magpul MOE-K2+ grip
LENGTH OF PULL	13.75 in.
FINISH	Black Cerakote on barrel and bolt, black Type 3 anodizing on aluminum parts
SIGHTS	None, Picatinny rail on receiver
TRIGGER	3.3-lb. pull (as tested)
SAFETY	Two position
MSRP	$2,150

parent case of the 8.6 Blackout, those diminutive charges have excessive space. As a result, ignition and velocity consistency suffer.

Fortunately, the Grendel-based ARC case has just the right capacity. It provides ideal balance of case fill, efficiency, and consistency with heavy 0.338-inch-diameter bullets, making it a perfect fit for AR-15 platforms.

In case you're wondering, all it takes to convert an existing AR-15 chambered in 6.5 Grendel or 6mm ARC or .22 ARC to .338 ARC is an appropriate barrel. To convert a 5.56, add an ARC-size bolt and Grendel/ARC-compatible magazine.

And yes, you can get an AR pistol chambered in .338 ARC. Just imagine 20-plus rounds of .44 Magnum-level authority out of a short, handy, suppressed AR pistol or—better yet—an SBR. Be still my beating heart!

What about bolt actions? This was a burning question in my mind, since suppressed bolt-action firearms are even quieter than semiautomatics and because I'm gearing up to do some nighttime predator control with thermal optics. No surprise, any bolt-action rifle that handles 6mm ARC, .22 ARC, or 6.5 Grendel will comfortably handle the .338 ARC.

At the time of this writing, more than 30 rifle companies are already on board and producing .338 ARC firearms. Look up the .338 ARC on Hornady's website, and you'll find a long list of partnering manufacturers.

.338 ARC Performance

When I was first assigned to cover the .338 ARC, it had not yet been officially announced, and test rifles were nowhere to be had. I put in a call to Uintah Precision, and in short order a fine-looking UP-15 with a 16-inch barrel arrived at the local dealer.

It's a heavy rifle, properly built for precise shooting. For those unfamiliar with Uintah Precision, the company makes bolt-action rifles built fundamentally like an AR-15. Actions feature three-lug bolts with 60-degree throws, housed in machined aluminum receiver sets. Sleek, free-floating handguards enclose the barrels—and they're truly free-floating, since there are no gas blocks and gas tubes to drive the action.

Up top, the upper receiver features a 1913-spec optic rail in classic flat-top AR fashion, but of course there's no charging handle and no spot for it. The fire controls on the lower receiver are exactly what you'd expect to find on an upper-crust AR-15. Both receivers are machined with distinctly upscale styling that's attractive and functional.

The Magpul PRS Lite buttstock features an adjustable cheekrest and robust, ergonomic styling. The rifle came with an AMEND2 composite magazine marked for 6.5 Grendel.

I lost no time mounting a bipod and scope so that I could step outside to my backyard range and wring out the new cartridge. Because I wanted to give the rifle its best shot at accuracy, I chose a Leupold Mark 5 HD 7-35X 56mm scope. That's a lot more optic than I'd select for any practical uses the .338 ARC is ideal for, but it's sure nice when you're trying to shoot itty bitty groups.

Because every .338 ARC should wear a suppressor, and because the gun's muzzle is threaded 5/8-24, I spun my Banish 338 by Silencer Central onto the muzzle. Then, with a few boxes of each flavor of .338 ARC factory-loaded ammo in hand, I was ready for the range.

Getting zeroed was a bit of a challenge. I bore-sighted the rifle, then made the mistake of starting with subsonic ammo at 100 yards. My shots impacted below the target and splattered mud all over it.

Switching to supersonic ammo, I got on target, made a scope correction, and printed a tidy group with all three bullets touching, right on my point of aim. The following three-shot groups were similarly small. After four consecutive groups that resulted in a 0.92-inch 100-yard average, I switched back to subsonic loads.

The tightly clustered shots showed point of impact was 8.5 inches lower than with supersonic ammo. After dialing a correction into the scope's turret, I fired three more groups of three shots each. The resulting average was even better than with the supersonic ammo, coming in at 0.81 inch.

With clinical accuracy testing complete, I crunched ballistics and dialed up—way up—for 350 yards. A half-size steel torso target beckoned. To my surprise, I made a first-round impact with the 307-grain SUB-X ammo. Even better, my following shots all impacted steel.

Time of flight was impressive—it took roughly two seconds for the clank of lead on steel to drift back to my ears.

Throughout my shooting, one of my daughters was sitting nearby doing homework on her laptop. When I asked her how loud the shots were, she expressed surprise that I'd been shooting! The report was about like the sound of a mild nail gun, she told me, or an air compressor hose disconnecting.

That is darned quiet!

Because it's so new, I don't have a ton of experience with the new .338 ARC yet. I don't have the expertise of having taken a number of game animals with it. I haven't recovered expanded bullets from carcasses. I haven't fired it in semiautomatic rifles and compact AR pistols. But I'm excited about this new round and intend on getting a lot more experience with it over time.

Will it kill the 8.6 Blackout? Doubtful. That cartridge has a very devoted following. However, I predict the .338 ARC will surely be more widely available in local stores, both in ammo and in rifles. It fits in more different platforms. And I believe ammo and firearms will likely be much less expensive.

Research indicates that—once again—Hornady's cartridge designers got it right. Small but mighty, the .338 ARC could well be the best subsonic cartridge ever engineered. ST

Joseph achieved excellent accuracy with both of the Hornady factory loads in a Uintah Precision bolt-action rifle with a 16-inch barrel.

.338 ARC ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	100-YD. ACC. (IN.)
Uintah Precision UP-15, 16-in. Barrel, 1:8 Twist				
Hornady Black 175-gr. HP Match	2095	23	8	0.92
Hornady Subsonic 307-gr. SUB-X	1077	41	15	0.81

NOTES: Accuracy is the average of three consecutive three-shot groups fired from a bipod and a sandbag rear rest. Velocity is the average of nine rounds measured with a Garmin Xero C1 Pro Doppler chronograph. Elevation: 4,800 feet. Temperature: 40 degrees Fahrenheit.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RIMFIRE READINESS

IF YOU ENJOY HUNTING WITH YOUR RIMFIRE GUNS, THEN YOU SHOULD GET READY FOR YOUR SMALL-GAME SAFARI JUST LIKE YOU PREPARE FOR YOUR BIG-GAME HUNTS.

BY STEVE GASH

IT HAS BEEN SAID THAT GETTING READY FOR A big-game hunting trip is almost as much fun as the actual hunt. That very well could be, and I, myself, thoroughly enjoy prepping for my big-game hunts. I also relish gearing up for squirrel and rabbit hunting. For me, everything has to be just right.

Squirrel season is a ways off while I write this article, but it's never too early to start getting ready. And besides, gearing up for hunting with a favorite rimfire rifle is pure joy no matter what time of year.

I came to enjoy squirrel hunting quite naturally. My dad's dad was an inveterate squirrel hunter, who hunted with a Winchester Model 42 .410 Bore pump shotgun with a 28-inch, Full-choke barrel, and I often tagged along with him, watching and learning.

As Jack O'Connor pointed out in his book on sheep hunting, the first requirement to be met is to hunt where there are sheep. The same goes for any other game. My corner of the world is western Missouri, an area known as the Osage Plains. The physiognomy of this unglaciated region has rolling hills; small, meandering streams; tallgrass prairies; and lots of oak trees. Acorns from the red and white oak families provide a bounty of mast crops for a multitude of critters, both large and small. Deer and turkeys love them, and so do squirrels.

"Small game" in Missouri consists of the fox squirrel (*Sciurus niger*), gray squirrel (*Sciurus carolinensis*), and cottontail rabbits (*Sylvilagus floridanus*). In my area, the fox squirrel is dominant.

Some might think that not much forethought is needed for the pursuit of such small game, but whatever the quarry, a good plan tends to produce better results. The habitat of the Osage Plains fills the first part of the plan, and my acreage is squirrel-laden with mixed hardwood trees.

Guns & Gear

The next part of the plan includes guns, scopes, and ammo. It is rather obvious that for squirrels, it's a .22 rimfire rifle or a shotgun. My duck-hunting buddy Walt Hanna, who lives in Georgia, hunts the plentiful gray squirrels on his place with his Beretta 12-gauge BL-2. I don't know what load he prefers, but I think scatterguns are a bit of overkill for squirrels and can destroy some fine vittles. Besides, they kick and make a lot of noise. I rely on a .22 rimfire rifle for such pursuits.

The main .22 LR in my battery dates from 1967, when I purchased a Marlin Model 989 from college classmate Roger Streeter for the grand sum of $20. That was a long time ago. This promotional model semiauto was made from 1962 to 1965. As a hungry college student back then, I cruised the Kansas backroads and farm fields and used the Model 989 to collect many rabbit dinners. Later, in Colorado, mountain cottontails, the occasional snowshoe hare, blue grouse, and white-tailed ptarmigan were taken. The last three species mentioned are real delicacies, and the .22 LR was all that I needed for gathering them.

Most serious gun cranks have one or more .22 rimfire rifles on hand, so a squirrel hunt gives us yet another reason to shoot them. I had recently acquired a neat, new, snazzy .22 bolt-action rifle from Savage called the B22 Timberlite Thumbhole, so I focused on it for this report. You want a handy, accurate rifle for a rimfire safari, and the B22 is just that.

The Timberlite Thumbhole is made by Savage's subsidiary in Lakefield, Ontario, Canada, and it sports a nifty stock that has light gray finish. At first glance it looks for all the world like a synthetic stock, but Savage says it's actually made of a hardwood. I'm usually not partial to thumbhole stocks, but this one just fits my hand like it was made for it.

You want a handy, accurate rifle for a rimfire safari, and the Savage B22 Timberlite Thumbhole is just that. It features an 18-inch carbon-fiber-wrapped barrel, a gray hardwood thumbhole stock, Savage's excellent AccuTrigger, and a 10-round rotary magazine.

B22 TIMBERLITE THUMBHOLE

MANUFACTURER	Savage Arms savagearms.com
TYPE	Bolt-action repeater
CALIBER	.22 LR
MAGAZINE CAPACITY	10 rounds
BARREL	18 in.
OVERALL LENGTH	36.25 in.
WEIGHT, EMPTY	6.13 lbs.
STOCK	Hardwood
LENGTH OF PULL	13.75 in.
FINISH	Matte receiver, carbon-fiber barrel, gray stock
SIGHTS	None, Picatinny rail on receiver
TRIGGER	2.03-lb. pull (as tested)
SAFETY	Two position
MSRP	$699

The sleek little rifle also has a nifty carbon-fiber-wrapped barrel that's 18 inches long. The muzzle is threaded and comes with a thread protector. And of course the rifle features Savage's excellent AccuTrigger with built-in safety lever. The entire rifle weighs a mere 6 pounds, 2 ounces.

The B22 Timberlite Thumbhole does not come with iron sights, but that's just fine with me because I am a strong advocate for using a riflescope for hunting squirrels anyway, and the Timberlite Thumbhole rifle comes with a Picatinny rail on the receiver that makes mounting an optic a simple, 10-minute job. I tried two scopes on the rifle. The first was a new Sightron S-TAC 1-6X 24IRAR1. This alphabet soup describes a 1-6X variable scope with a 30mm tube and an illuminated reticle. I'm guessing that the "AR" in its nomenclature refers to an AR-15-platform rifle. This scope has what Sightron calls capped "hunting turrets," with 0.25-MOA click adjustments.

The IRAR1 reticle has a red circle over a central black dot and some horizontal hash marks for holdover correction. That, I think, is the AR connection. It worked well, but the reticle is a bit large and covered too much of the target for small game. It's a fine scope, but it's almost too much of a good thing for a .22 LR rifle in my opinion.

The second scope I tried was the one I settled on for serious testing and field use. It is a Leupold VX-1 3-9X 40mm. In addition to dazzling optics, the reticle has a really fine Duplex crosshair reticle that doesn't blot out a bushy-tail's head. The

Steve is an advocate for using a scope on a squirrel-hunting rifle, which is good considering that the B22 Timberlite Thumbhole rifle doesn't have any sights. It does come with a top rail, which made installing the Leupold VX-1 3-9X 40mm scope the author used quick and easy.

Prepping for a rimfire hunt should involve shooting a lot of different ammo to find the best-performing load. Steve tried a bevy of everyday hunting ammo and match ammo, and he settled on Remington Ranch Hand 38-grain HP for the upcoming squirrel season.

.22 LONG RIFLE VELOCITY & ACCURACY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	COV (PERCENT)	ENERGY (FT-LBS)	50-YD. ACC. (IN.)
Savage B22 Timberlite Thumbhole, 18-in. Barrel: Everyday Hunting Loads						
Federal Champion 36-gr. HP	1184	44	19	1.6	112	0.88
Remington Viper 36-gr. TCS	1288	103	38	3.0	133	0.87
Browning 37-gr. Fragmenting	1382	64	26	1.9	157	1.14
Remington Ranch Hand 38-gr. PHP	1220	31	12	1.0	126	0.85
CCI Clean-22 40-gr. PCLRN	1300	88	38	2.9	150	0.90
Remington 40-gr. Golden Bullet HP	1204	62	24	2.0	129	1.08
Remington Ranch Hand 40-gr. PRN	1178	49	19	1.6	123	1.34
Winchester M-22 40-gr. CPRN	1255	45	19	1.5	140	1.03
Winchester 40-gr. Super Speed RN	1243	49	20	1.6	137	1.04
Winchester Super Suppressed 45-gr. CPRN	1074	73	27	2.5	115	1.32
Match Loads						
Federal Gold Medal Match 40-gr. LRN	1167	65	26	2.2	121	1.65
Lapua Biathlon Xtreme 40-gr. LRN	966	36	12	1.2	83	0.66
Lapua Center-X 40-gr. LRN	957	20	8	0.8	81	1.10
Lapua Midas+ 40-gr. LRN	931	76	30	3.2	77	1.53
SK Long Range Match 40-gr. LRN	1055	25	9	0.9	99	0.88
SK Rifle Match 40-gr. LRN	898	74	29	3.2	72	1.25
SK Standard Plus 40-gr. LRN	940	98	35	3.7	79	1.61

NOTES: Accuracy is the average of three, five-shot groups fired from a Caldwell Lead Sled DFT benchrest. Velocity is the average of 10 rounds measured 10 feet from the gun's muzzle. Range temperatures were 44 to 56 degrees Fahrenheit.

scope's 1-inch tube was secured to the Timberlite in 1-inch Burris Z-Rings. If you think this one is a little "over-scoped" for the B22, let me just say it worked really well, and the reticle was great for target work when the magnification level was cranked down to about 4X. I think it's about perfect for squirrel hunting.

The next thing on our rimfire readiness list is ammo. Load selection for that old Marlin Model 989 was really simple back in my college days. I always went with the cheapest .22 LR ammo I could find, brand mattered not. Today's ammo prices would have put a real dent in my small-game harvests back then, but the wealth of .22 LR loadings today is a real boon for small-game hunters. I inventoried my supply of .22 LR ammo and found that I had 27 different loads. No way was I going to bench test all of them for the upcoming squirrel season, so I arbitrarily placed ammo into two groups to test-fire in the new Savage B22. I tested seven match loads and 10 "everyday" hunting loads. I fired three, five-shot groups with each load at 50 yards from a Caldwell Lead Sled DFT rifle rest from my shooting building. Velocities were measured with an Oehler Model 35P chronograph, and the results are shown in the accompanying chart.

Interestingly, the everyday hunting loads I tested produced a smaller overall group average than the match loads. The match loads averaged 1.24 inches, while the hunting ammo averaged 1.04 inches. Two of the match loads, the SK 40-grain Long Range Match and the Lapua 40-grain Baithalon Xtreme, averaged under an inch, whereas four of the hunting loads shot under an inch, and the rest were very close to that.

The winner in terms of accuracy was Remington's Ranch Hand ammo with the 38-grain hollowpoint bullet. It produced a 0.85-inch group average, and it registered an average velocity of 1,220 fps. Any of the top five or six everyday hunting loads would be suitable for squirrels in this rifle. The muzzle energies of all of these loads were 112 ft-lbs or higher, which, as expected, was considerably higher than those of the match loads.

One metric I list in the chart is the coefficient of variation (COV). This is the standard deviation expressed as a percent of the average velocity. Anything under 1 percent is really good, and 2 percent is also good. But as the COV creeps up over 3 or 4 percent, it becomes problematic. The COVs of three of the match loads and one of the everyday loads were 3 percent or higher. In my experience, high COVs are not unusual in .22 rimfire ammo, but to put this in perspective, a .300 Magnum elk load with a velocity of 3,000 fps would have to have an S.D. of 90 fps to show a COV of 3 percent. This, of course, would be unacceptable.

Overall, I was impressed with the accuracy of the B22. As noted, the Ranch Hand load from Remington with the 38-grain hollowpoint bullet clocked 1,220 fps and grouped into 0.85 inch. The RN Ranch Hand registered 1,178 fps and had a group average of 1.34 inches. The Browning Performance Rimfire with the 37-grain Fragmenting bullet averaged 1.14 inches and

clocked 1,382 fps. It produced 157 ft-lbs at the muzzle. The CCI High Velocity Clean-22 load had a 40-grain bullet, and it averaged 0.90 inch with a velocity of 1,300, which produced a muzzle energy of 150 ft-lbs. These two loads were the fastest loads tested.

The heaviest bullet tested was with the Winchester Super Suppressed load. Its 45-grain bullet had a velocity of 1,074 fps and a group average of 1.32 inches. I should note that one fired case of this ammo could not be ejected from the chamber and had to be pushed out with a cleaning rod. That was the only hiccup during my shooting session.

For hunting squirrels, I anticipated the ranges would be relatively short, so I sighted-in the B22 at 50 yards and then checked the point of impact at intermediate ranges. Everything looked good. A squirrel within that range would be in big trouble.

Practice Makes Perfect

Shooting from an indoor benchrest is one thing, but woods roaming is quite another. So, to get into the practice of utilizing impromptu rests, I took the B22 Timberlite Thumbhole and a box of ammo to the hardwoods west of my house and fired at targets of opportunity, with whatever improvised rest I could find and also offhand. "Stand on your hind legs and fight like a man," Granddad used to say. After a little practice, no hedge apple or persimmon fruit was safe on these endeavors. I was ready for squirrel hunting season.

The squirrel season in Missouri opens on the fourth Saturday in May and runs to February 15 each year. In other words, the season closes on February 16, 2025, and reopens in May. While the season was technically open as I write this, in my opinion, it conflicts with squirrel biology and, in my opinion, ethical hunting.

Most squirrel litters are born in mid-March. The newborn young are altricial (blind and hairless), dependent on the female for several weeks, develop slowly, and cannot fend for themselves. Females harvested during this critical period may leave a litter in the nest. Thus, I restrict my squirrel hunting to later in the season, when the little furballs are out and about, and on their own.

Squirrel hunting is a fun way to spend an afternoon in the woods, and I am confident that the little B22 and the selected load will do a fine job. The preparation was productive, and it gave me an opportunity to test a lot of ammo and practice shooting from field conditions. The wary squirrels in my neck of the woods are small and challenging targets, and they make prize table fare. With the plethora of nice rimfire rifles and a cornucopia of great ammo available these days, hunting them is a highly satisfying endeavor. ST

Critical for any type of hunt, including a rimfire safari, is practicing from real-life field-shooting positions prior to hunting season. Plus, it's a ton of fun.

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A REAL RIMFIRE HOTSHOT

66 YEARS OF THE .22 MAGNUM

THE CARTRIDGE THAT ONCE POWERED UP THE RIMFIRE MARKET IS STILL GOING STRONG. IN FACT, IT'S BETTER THAN EVER.

BY PAYTON MILLER

LIKE ALL YEARS IN HISTORY'S REARVIEW mirror, 1959 was an eventful one. Here are a few select highlights and lowlights for the tail end of the Nifty Fifties:

Alaska and Hawaii became the 49th and 50th states. Fidel Castro prevailed in the Cuban Revolution. The 1959 Cadillac Eldorado took the "big fin" look to its inevitable extreme. And Buddy Holly, The Big Bopper, and Richie Valens perished in a plane crash near Clear Lake, Iowa.

But for shooters of the smallbore persuasion, the year 1959 saw the introduction of the .22 Winchester Magnum Rimfire (WMR), now generally referred to as .22 Magnum and .22 Mag. The term "magnum" had been a sales buzzword for many decades by then, but in this case, it was certainly deserved—although obviously on a considerably smaller scale than something you'd want to take to Africa

By the Numbers

The .22 Magnum is essentially a lengthened—and seriously amped-up—.22 Winchester Rimfire (WRF) at higher pressures. The old .22 WRF (also known as the .22 Remington Special) launched a 45-grain flat-nose hollowpoint at 1,425 fps from the 24-inch barrel of a vintage Remington Model 12 pump rifle I had access to—along with some hard-to-find WRF ammo—not long ago.

That's pretty darn impressive for those "pre-magnum" rimfire days. But the .22 WMR was something else. Featuring a 0.224-inch-diameter bullet and a 1.055-inch-long case, in its original 40-grain Winchester loading, it clocked a claimed exit speed of 1,875 fps from a 24-inch pressure barrel. If I remember correctly, that original load did slightly less from my old 22-inch-barreled Marlin rifle but still considerably outpaced the .22 WRF by a wide margin. And, of course, it put every .22 Long Rifle load in the shade by an even wider margin.

It took a while for the availability of guns chambered in the then-new cartridge to keep pace with the sales demand for the new rimfire hotshot. In terms of rifles, Winchester jumped on its own bandwagon early with the Model 61M in 1960, a pump-action standby whose powered-up chambering to .22 Mag. extended its range by 60 or 70 yards or so for small game, not to mention the occasional mid-size predator.

Speaking of predators, although the .22 Magnum isn't really an optimal coyote load, I once saw a guy down a pair of them with two shots at 50 and 75 yards, respectively, using a Browning BPR.

Introduced in 1959, the .22 WMR was first offered in rifles like this vintage Winchester Model 61M pump gun. It may be old, but it is still accurate.

Rifles and Handguns

A couple semiautomatic .22 Mag. rifles have come and gone over the years. The first I can recall was the rather short-lived Jefferson Kodiak in the early 1960s. The Remington Model 597 (1998 to 2003) and Ruger 10/22 Magnum (1999 to 2006) were introduced in the late 1990s but were unsuccessful and ceased production in the early 2000s. Apparently, the high pressures generated by the .22 Mag. (a maximum of 24,000 psi) created considerable design challenges for blowback actions. A more successful (and pricier) item was the Heckler & Koch HK300; however, importation was discontinued in 1989. Currently, there's the Savage A Series Magnum, which is billed as a delayed blowback.

Notable early .22 Magnum lever guns included Winchester's 9422M and Marlin's Levermatic—both now defunct. But there are dozens of lever-action, bolt-action, and pump-action models from Henry, Browning, Savage, Anschutz, Rossi, Ruger, and CZ-USA.

Revolvers chambered for the round followed quickly. One such iconic single-action specimen was the Ruger Single-Six Convertible, a dual-cylinder arrangement allowing for the use of less-expensive .22 Long Rifle ammo. (Later, Ruger also had a dual-cylinder version of the small-frame single-action Bearcat for a very short time.) By 1964 Colt's Frontier Scout was offered in a dual-cylinder version as well. One notable current addition to the Ruger dual-cylinder stable is an economical alternative to the Single-Six—the Super Wrangler. Heritage Arms also offers several versions of its Rough Rider single-action revolver with dual .22 Mag. and .22 LR cylinders.

Double-action revolvers in .22 Mag. were not long in coming, either, and included the medium-frame S&W Model 48 and a very limited run of Colt Officer's Model Match. Currently, Smith & Wesson offers the blued Model 48 as well as the stainless-steel Model 648, and Rock Island Armory and Taurus also offer double-action .22 Mag. revolvers. In some cases, the dual-cylinder concept also now extends to double actions, as typified by the Taurus Model 992.

Today, the recent S&W Model 351C and 351PD, Ruger's LCRx, and the Taurus 942 series testify to the emergence of lightweight small-frame snubbies as defensive/CCW options for the .22 Mag.

And we musn't forget semiautomatic pistols in .22 Mag. Ever since AMT produced the .22 Magnum Automag II pistol beginning in the late 1980s, handgunners have clamored for more handguns of the type. Fairly early on, the AMT got a bad reputation for frequent malfunctions, and other gunmakers have worked hard to produce better-functioning .22 Mag. pistols. Today, several major gunmakers offer reliable and versatile .22 Magnum pistols, including KelTec, Walther, Smith & Wesson, and Rock Island Armory.

The author's first .22 WMR handgun was this 1960s-vintage Ruger Single-Six. It converts from .22 LR to .22 WMR by switching cylinders.

Many double-action revolvers have been chambered for the .22 Magnum over the decades, including this S&W Model 48. Payton used it for his velocity comparison, and the results are listed in the accompanying chart.

Blast for Your Buck

When it appeared, the per-box cost of the .22 Magnum was considerably steeper than standard ammo. I can recall paying something in the neighborhood of $4.50 a box in the early 1960s in order to feed the magnum cylinder of my Single-Six. This generated more than a little sticker shock, being uncomfortably close to the price of an entire 500-round brick of .22 Long Rifle ammo. But being a teenager with a pretty good (read: untaxed) summer job, I was more than happy to pony up in order to enjoy that substantial "whack" and watch the sand fly off the berm of my local range.

In the mid-1970s the concept of the hypervelocity .22 Long Rifle took root. Generally, it involved a bit of propellant tinkering plus a reduction in bullet weight down from the conventional 40 and 36 grains. The end result was considerably speedier than the regular old high-velocity offerings. Thus, the much ballyhooed, late 1970s emergence of such evocatively named items as the CCI Stinger, Federal Xpediter, Remington Yellow Jacket, and so forth.

It may have started as a small-game-hunting cartridge for rifles, but today the .22 Magnum is available in loadings and snubnose revolvers intentionally geared for self-defense.

SMALL (ER) BORE COMPETITORS

SINCE ITS 1959 PREMIERE, THE .22 MAGNUM HAS faced a couple of challenges to its once-undisputed status as "Ruler of the Rimfire Roost." All came, oddly, from smaller-caliber rounds rather than larger. A betting man with a very long memory might've figured on an updated version of the old 65-grain .25 Stevens, but no.

In 1972 Remington introduced the 5mm Remington Magnum, featuring a 38- and 30-grain 0.204-inch-diameter bullet at 2,100 and 2,410 fps, respectively. It lasted from 1969 to 1973 but was reintroduced in 2008, employing a 30-grain bullet at a listed 2,300 fps.

In 2002 Hornady introduced the .17 Hornady Magnum Rimfire (HMR). Based on a necked-down .22 Mag. case, it featured a bore size of 0.172 inch and was phenomenally successful. In terms of raw speed, it was impressive indeed: a 20-grain "mini-Spitzer" polymer-tipped projectile at 2,350 fps and a 17-grain bullet at 2,650 fps. Today, it is available in nearly as many rifle and handgun models as the .22 Mag.

In 2013 Winchester introduced its own take on the .17 format—the .17 Winchester Super Magnum (WSM). It was based on nail-gun blanks whose thicker walls allowed for substantially greater pressures. It boasts blistering velocities of 3,000 fps (20-grain bullet) and 2,600 fps (25-grain bullet). Despite the fact that the .17 HMR had an 11-year head start on it commercially, the .17 WSM has gained quite a few fans and is currently available in several models of bolt-action rifles from Savage, Winchester, and Ruger.

I took a cursory glance through the recent offerings of three of our most prolific makers of rimfire firearms to try and get a handle on the .22 Mag./.17 HMR popularity question. What I found was this:

Ruger: .22 Mag. SKUs (31), .17 HMR SKUs (17). Henry Repeating Arms: .22 Mag. SKUs (13), .17 HMR SKUs (6). Savage: .22 Mag. SKUs (28), .17 HMR SKUs (35). For those with a limited knowledge of marketing lingo, "SKU" stands for Stock Keeping Unit. This refers to all models and their associated variants.

The upshot of all this? Both the .22 Mag. and the .17 HMR are pretty healthy—a contention reinforced by Jason Slinkard, Rimfire Global Product Director for Federal, Remington, and CCI, who stated, "We recognize that .17 HMR and .22 Mag. platforms have their loyal fan bases. As a manufacturer of a broad depth of products, we recognize this and plan appropriately to meet the demand for both."

They're both here to stay, so take your pick.

It was inevitable that this "hyper-ization" concept would eventually reach the .22 Magnum. And indeed it did. Dropping the original 40-grain weight down to 30 grains or so boosted velocities into the 2,200-fps range.

Although this didn't quite match up with the lower-end .22 centerfire cartridges like the .22 Hornet, it did open up some enhanced varmint possibilities for the .22 Mag. CCI, Hornady, and Federal all came up with 30-grain loadings designed to vaporize ground squirrels, prairie dogs, and whatnot, all within sensible yardages, of course (generally topping out at 150 yards or so). Obviously, that's not in the .223 Remington ballpark, but it's nearly twice the effective reach of any type of .22 LR. And it was still usually less expensive per round than any centerfire .22, the nonreloadability of the WMR notwithstanding.

.22 MAGNUM VELOCITY COMPARISON

AMMUNITION	22-IN. BARREL VEL. (FPS)	6.0-IN. BARREL VEL. (FPS)
CCI Maxi-Mag 30-gr. TNT	2149	1620
CCI Maxi-Mag 40-gr. HP	1890	1268
Hornady 30-gr. V-Max	2229	1727
Hornady Critical Defense 45-gr. FTX	1631	1230
Winchester Supreme 34-gr. JHP	2110	1598
Winchester Super-X 40-gr. FMJ	1813	1275
Federal 50-gr. JHP	1542	1219

NOTES: The Hornady Critical Defense 45-grain FTX ammo registered a velocity of 1,020 fps from the S&W Model 351C snubnose revolver with 1.875-inch barrel. The Federal 50-grain HP ammo registered a velocity of 980 fps from the S&W Model 351C snubnose revolver with 1.875-inch barrel.

Bullet Weights and Speeds

Current .22 Mag. offerings I've chronographed include bullet weights of 30, 34, 40, 45, and 50 grains, using a 6.0-inch-barreled S&W Model 48 revolver and a 22-inch-barreled Winchester Model 61M pump rifle. I also ran the two "heavyweight loads" through a 1.875-inch-barreled S&W Model 351C snubbie in deference to its fairly recent CCW niche, whether you agree with it or not. The results are listed in the accompany chart.

Obviously, the .22 Magnum achieved most of its reputation from a rifle. I used my 6.5-inch Single-Six Convertible extensively when I was a kid but really didn't start fully appreciating the cartridge until I got a rifle chambered for it—a bolt-action Marlin Model 783 that I mounted an old Weaver K4 scope on. It turned out to be a first-rate rig for jackrabbits and ground squirrels out to nearly 150 yards or so.

Why the .22 Mag. Makes Sense Today

Most shooters have a list of what they consider to be cartridges so "niche perfect" that it would be impossible to survey the shooting scene without taking them into account. Few shooters would opt to leave out the .38 Special, .45 ACP, 9mm Luger, .223 Remington, .308 Winchester, or .375 H&H. The .22 Mag. is a personal pick of mine, simply because I go so far back with it.

Granted, it can't compete with the .22 LR or the .223 Rem./5.56 NATO in terms of cost per round or effective yardage. And it lacks the relative "new kid on the block" charm of the .17s. But it's still as good—and even better—than it was when it lit up the shooting world. And the fact that it can handle heavier bullets than a .17 is a plus in my estimation.

The author counts the .22 WMR as a "niche perfect" cartridge because he's spent a lot of time shooting it in various loadings. He'd rather not live without it.

Craig Boddington once opined that "sheer bullet weight can compensate for a multitude of design sins." Of course, Craig was talking about centerfire big-game rounds, but this observation could also apply to the .22 Mag. if it is called upon to punch above its weight, or if it is used at the outer limits of rimfire ranges.

Plus, the .22 Mag. can be had in a nearly endless array of rifles and handguns—some current, some no longer in production, but many of which have reached the status of classic.

I guess I could *probably* live without it. But I'd rather not. ST


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THE PERFECT FIGHTING GUN

ACCORDING TO THE AUTHOR, THREE WORDS DESCRIBE SMITH & WESSON'S CENTENNIAL MODEL 640 .357 MAGNUM REVOLVER. PLAIN. PERFECT. BEAUTIFUL.

BY BRAD MILLER PHD

SOME OF SMITH & WESSON'S MOST POPULAR revolvers are the small J-Frame guns. They fit the role of personal defender, plinker, and kit gun. They've been made in every cartridge from .22 LR to .357 Magnum. In .38 Special and .357 Magnum, they hold just five rounds.

These revolvers have three different hammer designs: A traditional exposed hammer for single- and double-action firing; the Bodyguard model has a shrouded hammer, but the hammer-spur is accessible, which allows single- and double-action firing; and the Centennial model has an enclosed (internal) hammer that makes it double action only. It is the subject of this report.

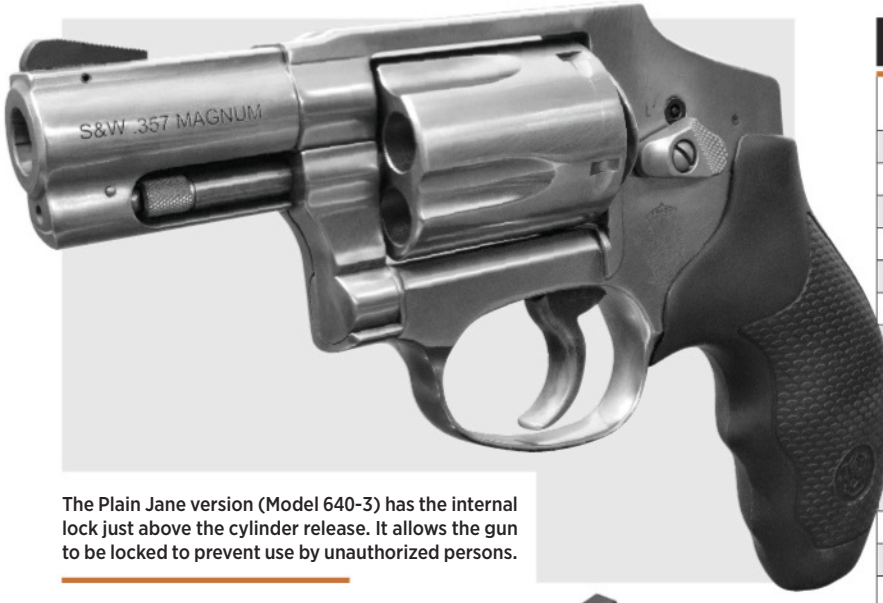
The Centennial model was introduced in 1952 chambered in .38 Special on the round-butt steel frame of the Chiefs Special. It had a "lemon squeezer" grip safety on the backstrap. Its name commemorated the company's 100th anniversary. In 1957 it was renamed the Model 40. The Model 40 was discontinued in 1974 but was reintroduced from 2007 to 2012 as a Classic Series gun. Today, none of the several Centennial version revolvers retains the grip safety.

The popularity of the Centennial design has endured because the enclosed hammer makes the gun snag-free when drawn from a holster, pocket, purse, waistband, or wherever. It also allows the gun to be fired from a pocket or purse because it has no external hammer to snag on obstructions that could disable firing. At present, S&W offers the Centennial design in three different frame materials: aluminum alloy, scandium alloy, and stainless steel. I used the current stainless-steel version (the Model 640) for this article.

First made in 1989, the Model 640 was all stainless steel and chambered in .38 Special with a 1.88-inch or 3.0-inch barrel and was rated for +P ammo. The 3.0-inch barrel was dropped in 1993.

The Model 640 was changed to .357 Magnum in 1995 and built on the then-new strengthened magnum J-Frame. It was designated the 640-1 and was the first five-shot .357 Magnum offered on the J-Frame. It featured a 2.12-inch full lug barrel, a smooth trigger, and a pinned black front sight—the configuration it still has today. In 2003 the internal lock was added and designated 640-3. S&W reintroduced the Model 640 in .38 Special in 1997 for the NYPD, and it was tagged the 640-2. The internal lock version of the 640-2 was marked 640-4. Currently, only the 640-1 and 640-3 guns chambered in .357 Magnum are listed on S&W's website.

The 2.12-inch full lug barrel on the current 640s allows a longer ejector rod than found on most snubnose revolvers.



The Plain Jane version (Model 640-3) has the internal lock just above the cylinder release. It allows the gun to be locked to prevent use by unauthorized persons.

MODEL 640	
MANUFACTURER	Smith & Wesson smith-wesson.com
TYPE	Double-action-only revolver
CALIBER	.357 Magnum/.38 Special
CYLINDER CAPACITY	5 rounds
BARREL	2.12 in.
OVERALL LENGTH	6.6 in.
WIDTH	1.3 in.
HEIGHT	5.0 in.
WEIGHT, EMPTY	22.4 oz.
GRIPS	Synthetic
FINISH	Satin stainless
SIGHTS	Trench cut rear, black ramp front
TRIGGER	10-lb. pull
SAFETY	None
MSRP	$819

The Model 640 Pro Series (left) has tritium night sights that are dovetailed. The plain and engraved (right) versions have a black, striated ramp front sight and a trench cut rear sight.

The Plain Jane version is a run-of-the-mill production five-shot wheelgun—no added or special features. The sights are a trench cut rear and a striated black blade front, though the front sight is pinned and can be replaced with something more to your liking, such as fiber optic or tritium. It is the 640-3 version, the only one of the series that has the internal key lock. With its three-finger synthetic grips, it weighs 22.4 ounces.

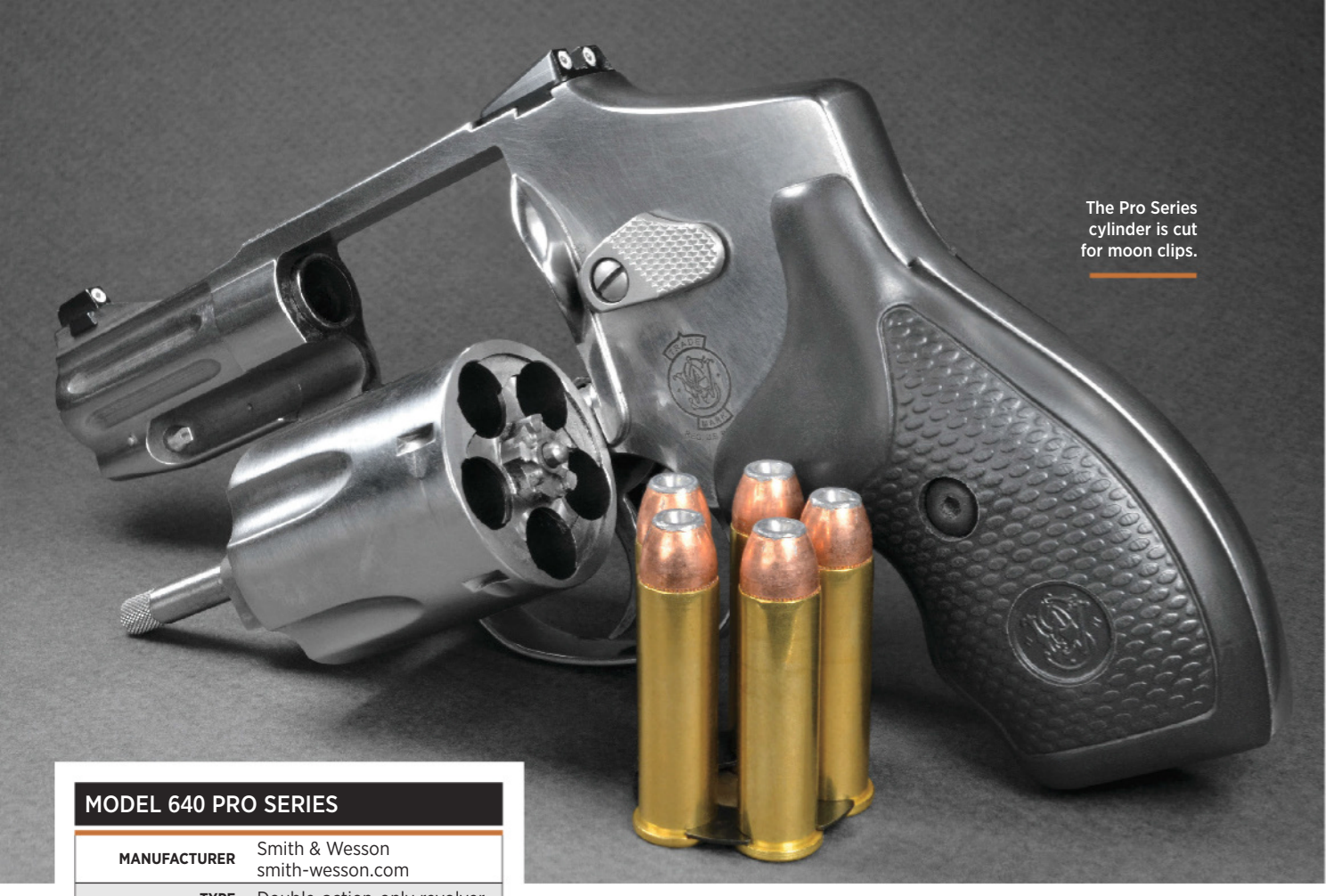
S&W's Pro Series 640 features a fluted 2.12-inch barrel and drift-adjustable dovetailed front and rear tritium sights. And the cylinder is cut for moon clips. The frame bears the mark 640-1 because it does not have the internal key lock, so there's no chance for the lock to be accidentally engaged and disable the gun when you're in a gunfight. It comes with a synthetic two-finger grip. Like the Plain Jane model, it weighs 22.4 ounces.

Many people consider this version to be the perfect J-Frame gun because it has more visible sights in addition to them being tritium. The company's website says it has a 10-pound trigger pull. Mine measured 11.25 pounds on a Timney trigger pull gauge. It's cut for moon clips to be capable for fast, reliable ejection, and reloading. You can carry a moon clip or a speed-loader or a speed strip for your reloads, whatever you desire. Moon clips are not required, so you can feed it however you like. It's a serious gun made for fighting.

This pushes the spent cartridges farther out of the chambers. The ejector rod throw length is 0.935 inch, which contrasts to a throw length of just 0.650 inch on a J-Frame Model 642 .38 Special with a 1.88-inch barrel. The Model 640's ejector throw is nearly as long as those on S&W full-size guns. For example, my Model 686-6 L-Frame six-shot .357 Magnum with a 4.0-inch barrel has an ejector throw length of 0.970 inch.

Current Versions

There are currently three iterations of the Model 640: a Plain Jane version (SKU 163690), a Pro Series version (SKU 178044), and a fancified engraved version (SKU 150784).



The Pro Series cylinder is cut for moon clips.

MODEL 640 PRO SERIES

MANUFACTURER	Smith & Wesson smith-wesson.com
TYPE	Double-action-only revolver
CALIBER	.357 Magnum/.38 Special
CYLINDER CAPACITY	5 rounds
BARREL	2.12 in.
OVERALL LENGTH	6.6 in.
WIDTH	1.3 in.
HEIGHT	4.3 in.
WEIGHT, EMPTY	22.4 oz.
GRIPS	Synthetic
FINISH	Satin stainless
SIGHTS	Drift-adjustable tritium night sights
TRIGGER	11.25-lb. pull (as tested)
SAFETY	None
MSRP	$959

S&W's fancy engraved 640 is an interesting hybrid of the Plain Jane model and the Pro Series. It has the sights of the Plain Jane gun but lacks the internal key lock, so it has the 640-1 labeled frame. It's not cut for moon clips. It has a listed weight of 21.8 ounces.

The scroll engraving is done by machine with a diamond-tipped tool. The frame, cylinder, and barrel are all engraved, albeit very little of the barrel. It's not as rich as engraving done by hand by a skilled engraver, but it doesn't carry the heavy price tag of a hand-engraved gun, either.

It has two-finger bantam wood grips that are engraved. It does make for a pretty gun, worthy of packing to a barbecue. The gun comes in a blue plastic box, but it also comes with a blue felt-lined mahogany wooden presentation case reminiscent of the wood boxes of the old days that were common with premium guns like the Model 29 .44 Magnum.

The price of the engraved gun with the box is pretty reasonable, about $240 more than a Plain Jane, given the engraving work, wood grips, and presentation box. And it's not so expensive that you would feel guilty about dirtying it up with gunpowder residue from time to time by actually shooting it. I find the lack of the internal lock very appealing and could easily justify using it as a carry gun over the Plain Jane gun with the lock. And don't we all deserve a little something fancy in our everyday life?

Delivers the Goods

As with any snubnose gun, you trade convenience to carry for velocity, but that doesn't mean these small guns can't deliver the goods. Being chambered in .357 Magnum, it still has plenty of power for defensive use. As shown in the chart, .357 Magnum 125-grain bullets achieve over 1,200 fps from the 2.12-inch barrel. The Speer 125-grain Gold Dot hollowpoint at 1,265 fps delivers 443 ft-lbs of muzzle energy. And Remington's heavy 158-grain bullet at 1,120 fps produces 440 ft-lbs of energy. That much force can't be ignored.

S&W MODEL 640 ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	S.D (FPS)	ENERGY (FT-LBS)	10-YD. ACC. (IN.)
.357 Magnum, 2.12-inch Barrel				
Super Vel 110-gr. SCHP	1228	34	368	2.78
Winchester 110-gr. JHP	1188	37	345	2.20
SIG SAUER 125-gr. JHP	1226	36	417	----
Speer 125-gr. Gold Dot	1264	10	443	1.68
Remington 158-gr. SJHP	1120	12	440	3.30
.38 Special				
Federal Punch 120-gr. JHP +P	906	27	219	2.76
Remington 158-gr. LSWCHP +P	814	15	232	4.19
Underwood 158-gr. LSWCHPGC	886	19	275	3.30

NOTES: Accuracy is for a single five-shot group fired from a benchrest. Velocity is the average of five rounds measured eight feet from the gun's muzzle. A Smith & Wesson Model 640 Pro Series revolver was used to gather the data.

MODEL 640 ENGRAVED

MANUFACTURER	Smith & Wesson smith-wesson.com
TYPE	Double-action-only revolver
CALIBER	.357 Magnum/.38 Special
CYLINDER CAPACITY	5 rounds
BARREL	2.12 in.
OVERALL LENGTH	6.6 in.
WIDTH	1.3 in.
HEIGHT	4.3 in.
WEIGHT, EMPTY	21.8 oz.
GRIPS	Synthetic
FINISH	Satin Stainless
SIGHTS	Trench cut rear, black ramp front
TRIGGER	10-lb. pull
SAFETY	None
MSRP	$1,059

Speeds are also good with .38 Special +P loads. Federal's 120-grain Punch round was clocked at 906 fps from the short barrel, for 219 ft-lbs of energy. And the speeds with Remington 158-grain lead SWCHP +P and Underwood 158-grain lead SWCHPGC both exceeded 800 fps, which will aid these bullets' expansion.

I fired the Model 640 Pro from the bench at 10 yards for accuracy. Its sights produce a nice sight picture, but the short sight radius makes getting the precision one would with a longer barrel a challenge. The average five-shot group size with seven different loads was 2.89 inches, which is more than accurate enough for the intended task of defending oneself.

Be warned: Recoil with full-power .357 Magnum ammunition is brutal in these guns, which should come as no surprise given their 22-ounce weights. I've found S&W's three-finger synthetic grip on the Plain Jane that wraps around the back of the frame adequate to cushion the bite of magnums. Hogue and Pachmayr make soft rubber aftermarket grips that will do the same.

S&W's Centennial Model 640 is a carry gun built to handle the potent .357 Magnum round. It does this well and brings serious power from a snubby to your defense. Buyers can select which features they desire from its three variations. MSRP prices at the time this article was written are $819 for the Plain Jane, $959 for the "perfect" fighting gun, and $1,059 for the engraved beauty. Which one suits you best? ST

The engraved gun includes a blue felt-lined mahogany display box.

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PHOTO BY **MICHAEL ANSCHUETZ**

HAPPY 75TH BIRTHDAY, .222 REMINGTON!

CREATED IN 1950 BY MIKE WALKER, THE EXCEPTIONALLY ACCURATE .222 REMINGTON IS ONE OF THE ALL-TIME CLASSIC CARTRIDGES.

BY LAYNE SIMPSON

ORGANIZED BENCHREST COMPETITION with modern rifles got its start in the state of Washington when the Seattle Sniper's Conference was formed in 1945. Two years later the International Benchrest Shooters (IBS) was formed by a group of New York varmint shooters. There were no limitations on rifle weight, and most were built on 1898 Mauser actions, with the Winchester Model 70 action in a distant second place. A few competitors favored an extremely strong single-shot action built by Wilber Hauck of Arlington, Vermont, which was a spitting image of the Ruger No. 1 action that would come later. Most rifles wore high-magnification scopes made by Lyman and Unertl.

The .219 Donaldson was the most popular cartridge, although the .220 Swift, .220 Wilson Arrow, and .22-250 had their share of wins as well. Then came the .222 Remington in 1950, and it would upset all other apple carts.

A Real Record-Setter

Created by Remington engineer Mike Walker, who was one of the founders of the IBS, the little cartridge was a totally new design. It proved to be incredibly accurate. Walker also designed the Remington Model 722 rifle introduced by Remington in 1948. And during the summer of 1950, he installed a heavy barrel (also made by him) chambered for .222 Remington on a Model 722 action and used the rifle in a match at the Johnstown, New York Gun Club. His five, five-shot groups fired at 100 yards averaged 0.350 inch. That was exceptional accuracy 75 years ago. For many years the .222 Rem. held a firm grasp on the smallest five-shot group fired in registered benchrest competition. Officially measured at 0.009 inch, it was shot by Mac McMillan on September 23, 1973, during a sanctioned match at the Skunk Creek rifle range near Phoenix, Arizona. The record stood until 2013 when Mike Stinnett used a rifle in .30 PPC to shoot a five-shot group measuring 0.007 inch.

The .222 Rem. also excelled in other competitive sports. Remington Model 760 slide-action rifles fitted with Redfield

Created by Remington engineer Mike Walker and introduced in 1950, the .222 Remington cartridge quickly took the benchrest competition and the varmint-hunting worlds by storm. It's still offered by the major ammomakers the world over.

Weighing just over 6.0 pounds, the Danish-built Shultz & Larson Legacy may be the finest bolt-action rifle built in .222 Remington today.

International target sights and heavy barrels in .222 Rem. were adopted by the U.S. Army Marksmanship Unit at Ft. Benning, Georgia, for use in 100-meter international running deer competitions, where a moving target is exposed for only a few seconds. The first win came in 1961, when the Army team took gold during the double-shot aggregate at the world championship matches in Oslo, Norway. Other medals in other countries, including the United States, followed.

The .222 Rem. also took the varmint-shooting world by storm. Faster than the .22 Hornet with longer barrel accuracy life than the .220 Swift, the .222 Remington's 50-grain bullet launched at 3,200 fps put any varmint standing within 300 yards of the muzzle of the Remington Model 722 rifle in grave danger. Interestingly, Norma .222 Rem. ammunition appeared on gun store shelves across America almost as quickly as ammo from Remington. The .222 Rem. remains quite popular in a number of other countries, with Lapua, Norma, RWS, and Sako still loading the ammo. Hornady, Federal, Remington, Prvi Partizan, Sellier & Bellot, and Fiocchi are also in the fray. Hornady's introduction of Superformance loads with a 35-grain FTX bullet at a velocity of 3,750 fps and a 50-grain V-Max bullet at 3,390 fps pumped new life into Mike Walker's wonderful little cartridge.

The .222 Remington rifle that Layne shoots the most these days is this prized Remington Model 700 CDL Limited Edition made in the 1970s.

Another favorite .222 Rem. rifle of Layne's is the custom-made single shot built by Dave Talley on a Martini Cadet action.

A Cadre of Classic Rifles

Beginning with the Model 722 in 1950, Remington offered the most models in .222 Remington, and the company included the Model 700, Model 600, Model 788, and 40X. Browning, Colt, and Marlin built rifles in .222 Rem. on the Sako L461 action. Others riding the .222 train through the years were Kimber, Cooper, Krico, Anschutz, CZ, Wichita, Mannlicher Schoenauer, and Ultra Light Arms. In addition to the economy-grade Model 340 bolt action, Savage offered the Model 24V, a break-action double with a 12-gauge barrel over a .222 Rem. barrel. Ithaca also offered the same type of combination gun. There were others, but these are what I recall.

As .222 Rem. rifles made in America today go, the Savage Lightweight Varminter is still being produced, although sometimes it's difficult to find. The .222 Rem. still has a strong following in other countries, with Anschutz and Sauer probably leading the pack in rifle options. The Danish-built Shultz & Larson Legacy may be the finest bolt-action rifle built in .222 Remington today, and it is still in production. Scaled to size for that cartridge as well as the .223 Remington, 6.5 Grendel, and .300 Blackout, it weighs just over six pounds. The rifle has nicely figured wood, flawless metal finish, and a reputation for excellent accuracy. A switch-barrel design, it can be ordered with two or more barrels in the four calibers. During one of my visits to the Sako factory in Finland, I bagged a capercaillie with a Sako L461 in 6x45mm belonging to a friend who was my guide and who worked at Sako. He also had a Shultz & Larson Legacy in .222 Rem., and what a beauty it was. Unfortunately, rifles built by Schultz & Larson are no longer exported to the U.S.

I have lost count of the number of rifles in .222 Remington I have owned through the years. While most are long gone, I have managed to hang onto several. Sako began exporting the trim L46 bolt-action rifle to the U.S. in .22 Hornet and .218 Bee in 1949, with the .222 Remington added in 1951. My L46 in .218 Bee has the thin barrel typical for those rifles, but my 1952-vintage .222 Rem. has the optional heavy barrel. It came with the standard three-round detachable magazine as well as a six-rounder offered by Sako at the time. My rifle was originally owned by a friend of my father, and it went up for sale while I was in college. I don't recall how I managed to scrape up the money, but the handsome little rifle proved to be worth the sacrifice.

The .222 Rem. rifle I shoot most today is a Remington Model 700 CDL Limited Edition built during the 1970s. It has a stainless-steel barreled action and a 24-inch fluted barrel, and it is quite accurate. The walnut stock has nicely executed cut checkering, and it is quite thin, too. With a Shepherd 6-18X scope the rifle has always worn, it weighs 8.5 pounds, making it ideal when miles are to be walked and hills will be climbed in groundhog country.

While in high school, I bought a single-shot Martini Cadet action imported from Australia by Winfield Arms, a popular American mail-order firm specializing in military surplus firearms. It cost me $12 back then. Quite strong for its size, the action was popular among Australian varmint shooters, so the Bertram Bullet Co. Pty Ltd of Victoria made .222 Rem. cases having a rim sized for the extractor of the little Martini action. RCBS .222 Remington reloading dies and a shellholder for the .38 Special/.357 Magnum worked perfectly. Many years thereafter, my friend Dave Talley (who later founded Talley Manufacturing) fitted a fairly heavy 24-inch barrel chambered for the .222 Rimmed cartridge.

Most of the old single-shot varmint rifles built on actions made by Winchester and others had long target-style scopes attached to their barrels, but I never had the pleasure of owning one. The Unertl Varmint in 12X magnification with a 7/8-inch tube proved to be perfect for that varmint rifle when it was new (and still is today). Its optical quality will take your breath away. The stock and forearm are nicely figured American walnut, given a hand-rubbed oil finish and 24-lines-per-inch checkering. The very first five-shot group I fired with the completed rifle at 100 yards measured a very satisfying 0.552 inch.

If not for the introduction of the .222 Remington 75 years ago, a number of other cartridges would not exist. Shown here are (left to right) .222 Remington, .222 Rimmed, .222 Remington Magnum, .223 Remington/5.56mm NATO, 5.6x50mm Magnum, .221 Fireball, .17 Fireball, .17 Remington, .204 Ruger, .22 TCM, and .300 AAC Blackout.

Another oldie .222 Rem. in my battery is a Ruger No. 1 with a low-digit serial number indicating it was built in 1966, the first year of production. It was originally cataloged by Ruger as Model S26M and later changed to 1-B. The then-new .223 Remington cartridge was receiving tons of publicity and perhaps for that reason, not many nonprefix serial numbered Ruger No. 1 rifles were chambered for the .222 Remington. In those days, rifles often departed the Southport, Connecticut, factory with highly figured walnut stocks, and my No. 1 was among those graduating at the very front of its class.

There was a time when collectors of Winchester Model 70 rifles absolutely hated the .222 Remington, and some probably still do. Soon after it was introduced, demand from varmint shooters far exceeded production of the Remington 722 in that caliber for several years. This kept gunsmiths busy rechambering and modifying the boltfaces of rifles in .22 Hornet for the new cartridge, and many Winchester Model 54 and Model 70 rifles became victims of that "butchering," as described by more than one collector. Years ago, I collected rifles in .22 Hornet and still have several, including a Winchester Model 54 and a Winchester Model 70. While I paid a premium for those two, a Model 70 modified for the .222 Remington that I also still have came to me at a near give-away price.

The .222 Rem.'s Legacy

If not for the development of the .222 Remington, quite a few other cartridges would not exist. Shortly after its introduction, Remington became involved in the development of a new military cartridge for the Armalite AR-15 rifle by lengthening the .222 Rem. case by about 0.150 inch. Uncle Sam never drafted that one, but it was introduced commercially by Remington in 1958 as the .222 Remington Magnum. Its velocity exceeded that of the .222 Remington by 200 fps when both were loaded with 50-grain bullets. Not entirely satisfied with that cartridge, decision makers at Springfield Armory basically shortened its neck, moved its shoulder forward slightly, and created the cartridge that would eventually be called the 5.56mm NATO. Still involved in the project, Remington wasted no time introducing that cartridge commercially as the .223 Remington.

Moving to higher velocities, the 5.6x50mm Magnum introduced during the mid-1960s by the German firm of DWM is a lengthened version of the .222 Remington Magnum. Loaded with a 50-grain controlled-expansion bullet at about 3,550 fps, the cartridge was developed for use on European roe deer, which seldom exceed 100 pounds on the hoof. Load data with bullets weighing up to 60 grains have appeared in various reloading manuals published by Hornady through the years.

Going smaller, the .204 Ruger is basically the .222 Remington Magnum necked down and given a slightly sharper shoulder angle. Going smaller still, during the 1960s, .17-caliber wildcat cartridges on various cases became popular enough for Harrington & Richardson to offer the Model 317 Ultra Wildcat on the Sako L461 action chambered for the .223 Remington case necked down for 0.172-inch bullets. It was one of the few times that a major manufacturer offered a rifle chambered for a wildcat cartridge. That prompted Remington to neck down the .223 Remington case, move its shoulder back a tad, and introduce the .17 Remington cartridge in 1971. Advertised velocity of its 25-grain Power-Lokt HP bullet was 4,020 fps.

.222 REMINGTON ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)	CASE	PRIMER	COL (IN.)	VEL. (FPS)	100-YD. ACC. (IN.)
Remington Model 700 CDL Limited Edition, 24-in. Barrel							
Berger 30-gr. FBHP	Reloader 7	23.0	Starline	Fed. GM205M	2.130	3855	0.61
Nosler 35-gr. Ballistic Tip Lead Free	Accurate 2200	24.0	Starline	Fed. GM205M	2.135	3765	0.86
Hornady 40-gr. V-Max	Accurate 2200	23.0	Starline	Fed. GM205M	2.140	3609	0.54
Hornady 40-gr. V-Max	PP 1200-R	23.5	Starline	Fed. GM205M	2.140	3759	0.60
Berger 50-gr. FBHP	X-Terminator	25.3	Starline	Fed. GM205M	2.130	3210	0.55
Nosler 50-gr. Ballistic Tip	CFE 223	24.0	Starline	Fed. GM205M	2.140	3238	0.59
Nosler 50-gr. Ballistic Tip	PP Varmint	25.0	Starline	Fed. GM205M	2.140	3184	0.68
Hornady 55-gr. V-Max	VV N130	21.0	Starline	Fed. GM205M	2.140	3119	0.65
Hornady Superformance 35-gr. NTX	Factory Load				2.120	3754	0.74
Federal High-Shok 50-gr. PSP	Factory Load				2.130	3133	1.07
Hornady Superformance 50-gr. V-Max	Factory Load				2.135	3366	0.82
Lapua 55-gr. SP	Factory Load				2.130	2928	0.85
Sako L46, 24-in. Heavy Barrel							
Nosler 35-gr. Ballistic Tip Lead Free	Benchmark	25.0	Starline	Fed. GM205M	2.135	3641	0.77
Berger 50-gr. FB Varmint	VV N130	21.0	Starline	Fed. GM205M	2.130	3210	0.64
Berger 52-gr. FB Target	CFE 223	25.5	Starline	Fed. GM205M	2.130	3181	0.55
Dave Talley Custom Martini Cadet, 24.5-in. Barrel							
Berger 30-gr. FBHP	VV N110	18.3	Starline	Fed. GM205M	2.145	3722	0.48
Nosler 35-gr. Ballistic Tip Lead Free	CFE BLK	20.7	Starline	Fed. GM205M	2.120	3598	0.62
Nosler 40-gr. Ballistic Tip	IMR 4198	21.1	Starline	Fed. GM205M	2.165	3529	0.51
Hornady 45-gr. Hornet	Reloder 7	21.2	Starline	Fed. GM205M	2.130	3388	0.91
Hornady 50-gr. V-Max	PP Varmint	25.0	Starline	Fed. GM205M	2.150	3210	0.54
Berger 52-gr. FB Target	VV N130	20.9	Starline	Fed. GM205M	2.120	3112	0.61

NOTES: Accuracy is the average of two or more five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 15 feet from the guns' muzzles. All powder charges were maximum but safe in the test rifles and should be reduced by 2.0 grains for starting loads in other rifles.

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

The .221 Fireball, introduced by Remington in 1962 in the XP-100 pistol, was created by shortening the .222 Remington case and giving it the same 23-degree shoulder angle. I had one of those and later bought a Remington 700 chambered for the little cartridge. The .17 Fireball was created in 2007 by necking down the .221 Fireball case, and it was a near copy of the .17 Mach IV introduced earlier by Vern O'Brien, who owned O'Brien Rifle Co. in Las Vegas. His rifle was on the Sako L461 action, and the one I shot for several years was quite accurate. Dimensional differences between .17 Mach IV and .17 Fireball cartridges are quite small, but they are enough to prompt Redding to offer reloading die sets for both. Moving up in caliber, in 1993, J.D. Jones necked up the .221 Fireball case for .30-caliber bullets and called it the .300 Whisper, now known as the .300 AAC Blackout. Last and most certainly shortest of the .222 Remington descendents is the Armscor .22 TCM.

Most benchrest shooters of yesteryear preferred IMR 4198 when loading the .222 Rem., and while it's still an excellent choice, a number of other propellants, such as H322, Benchmark, CFE 223, IMR 8208 XBR, Reloder 7, Reloder 10x, Power Pro Varmint, VV N120, VV N130, Accurate 2200, and Ramshot X-Terminator are also capable of producing high velocities. There are others, and at a time when some powders are difficult to find, the fact that many work quite well in the .222 Rem. is good reason for hanging onto a rifle chambered for it.

In a pinch, the case can be formed by running .223 Remington brass through a .222 Rem. full-length sizer, trimming to 1.690 inches, and annealing, but there's no need to bother since Starline has plenty of excellent cases ready to load. There was a time when I sent lots of Hornady 50-grain SX (Super Explosive) and Sierra 50-grain Blitz bullets toward yon varmints, but today I usually stick with the Berger 50-grain Varmint, the Hornady 50-grain V-Max, and the Nosler 50-grain Ballistic Tip. The 40-grain versions of the V-Max and Ballistic Tip are also fun to shoot. Nowadays, we cannot be choosy about primers, and I am quite happy if Federal 205 or CCI 400 is awaiting duty in my reloading room.

I wrote in the pages of *Shooting Times* several years ago that the .222 Remington is the cartridge that first showed shooters how accurate a varmint rifle can be. The accurate little cartridge turns 75 this year, and I for one celebrate the milestone. ST


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FACTORY NEW
American Made Excellence
9MM Luger
100 Gr. Hone
20
FACTORY NEW
9 mm

THE CHALLENGER

ROST MARTIN'S NEW SUBCOMPACT RM1S IS CHALLENGING THE STANDARDS WHEN IT COMES TO STRIKER-FIRED 9MM SEMIAUTOMATIC PERSONAL-PROTECTION PISTOLS.

BY JOEL J. HUTCHCROFT

ALMOST EXACTLY ONE YEAR ago, we introduced *Shooting Times* readers to the then-new Rost Martin Firearms Co. with our report on the compact polymer-frame, striker-fired Rost Martin RM1C 9mm semiautomatic pistol. Of course, it was the company's first production pistol. Since then, Rost Martin has introduced the RM1C California Compliant and RM1C Comped versions. New for 2025, Rost Martin has a subcompact version, and it's called the RM1S. Here's what you need to know about the new pistol.

PHOTOS BY MICHAEL ANSCHUETZ

The new-for-2025 Rost Martin RM1S (bottom) is a subcompact polymer-frame, striker-fired 9mm semiautomatic pistol with a 3.6-inch barrel. Shown for comparison is the earlier RM1C, which has a 3.77-inch barrel and a slightly longer grip frame.

RM1S	
MANUFACTURER	Rost Martin rostmartin.com
TYPE	Striker-fired autoloader
CALIBER	9mm Luger
MAGAZINE CAPACITY	12 and 15 rounds
BARREL	3.6 in.
OVERALL LENGTH	6.72 in.
WIDTH	1.12 in.
HEIGHT	4.4 in.
WEIGHT, EMPTY	19.76 oz.
GRIPS	Integral to polymer frame
FINISH	Black Tenifer slide, black frame
SIGHTS	Black U-notch rear, white-dot front, optic ready, RMR footprint plate included
TRIGGER	6.35-lb. pull (as tested)
SAFETY	Trigger safety lever
MSRP	$469

Features

The new RM1S has a 3.6-inch barrel with 1:10 twist, and it comes with two magazines. A flush-fitting magazine holds 12 rounds of 9mm ammo, and an extended mag holds 15 rounds. The pistol is 4.4 inches tall, 1.12 inches wide, and 6.72 inches long. It weighs 19.76 ounces. The grip circumference is 5.25 inches.

Just for comparison purposes, the earlier RM1C comes with 15- and 17-round magazines, and it is 4.92 inches tall, 1.23 inches wide, and 7.96 inches long. It weighs 21.1 ounces.

The RM1S's steel slide has wide grasping grooves at the front and the rear. It has glare-reducing striations on top. And it is finished in matte black.

The RM1S comes with a striated U-notch rear sight. The pistol's slide is optic ready and comes with a mounting plate for RMR footprint red-dot sights. Other mounting plates are offered for separate purchase. Note the red cocking indicator on the back of the slide.

The RM1S's front sight is dovetailed into the slide, and it has a single white dot. The post is angled to facilitate a snag-free draw.

The trigger has a flat face, and the mechanism utilizes a trigger safety lever. Our sample's trigger pull averaged 6.35 pounds.

The rear sight is dovetailed into the slide, and it has a U-shaped notch and fine horizontal striations. The front sight also is dovetailed into the slide. It has a single white dot, and it is angled to help facilitate a snag-free draw. By the way, the RM1S fits holsters for similar-size Glock pistols.

The top of the slide is cut for installing a red-dot sight, and the pistol comes with one optic-mounting plate that fits the RMR footprint. Plates with other footprints are sold separately, and they can be ordered through the Rost Martin website.

The polymer frame has an integral accessory rail with two cross-slots. The only color offered at the time of this writing is black. The fact that the RM1C is offered in black, Flat Dark Earth, green, and stone gray colors may indicate that someday down the line perhaps the RM1S also will be offered in those options, but that's not an official statement. It's simply my personal prognostication.

The RM1S's frame has expanded textured areas on the grip and on both sides of the frame where the trigger finger can rest. Rost Martin calls the texturing pattern Responsive Grip Texture (RGT). It is a proprietary laser-stippled texture, and it is effective while not being too aggressive. The front of the trigger guard has horizontal ridges, and the back inside of the trigger guard has a molded-in trigger stop.

Like that of the RM1C, the backstrap of the RM1S's grip frame can be switched between three different backstrap sizes. They also wear the RGT texturing. The company calls attention to the new RM1S's beavertail at the top of the grip. It provides a higher handhold. There's a hidden lanyard slot on the back side and bottom of the grip, and the bottom of the grip frame is flared for easier magazine insertion.

Speaking of the magazines, the RM1S comes with two high-capacity magazines. The bodies are steel, the followers are synthetic, and the baseplates/bumper pads are synthetic. Like I mentioned at the beginning of this report, one magazine holds 12 rounds of 9mm ammo, and an extended mag holds 15 rounds. The backs of the magazines have numbered witness holes.

The pistol's trigger has a flat face, and the mechanism incorporates a trigger safety lever similar to other striker-fired pistol

The RM1S's polymer grip frame has more texturing and a beavertail for an improved grip. The pistol comes with thee interchangeable backstraps.

The compact RM1S comes with two steel magazines. A flush-fitting mag holds 12 rounds of 9mm Luger ammunition, and an extended mag holds 15 rounds.

designs. Our sample's trigger pull averaged 6 pounds, 6 ounces, according to five measurements with an RCBS trigger pull gauge. It had some take-up, but it broke crisply and consistently.

The back of the slide features a cocking indicator. When the pistol is cocked, a red dot is visible. Also, the top rear of the barrel's chamber and the slide have a witness notch that allows a chambered round to be viewed. For anyone interested, the pistol will fire with the magazine ejected. And the pistol's slide stop and magazine release are ambidextrous.

The RM1S disassembles much like other striker-fired pistols; however, the procedure does not require the trigger to be squeezed. By the way, with my jury-rigged setup, I measured the amount of force required to rack the RM1S's slide, and it averaged 22 pounds. That's right in line with other striker-fired pistols that I have measured in the past.

Like I said earlier, the new-for-2025 RM1S is chambered for the 9mm Luger. I'll remind readers that the 9mm Luger cartridge has been around for a very long time. It was originally developed by Georg Luger and introduced in 1903 for use in autoloading military pistols. It has served as a duty and defensive round for militaries, law enforcement agencies, and civilians around the globe.

Developments over the last several decades have established the round's potential for effectiveness and accuracy. Typical choices for defensive purposes are 115-grain, 124-grain, 135-grain, 147-grain, and 150-grain expanding-type bullets. The loads I fired in those bullet weights (note that I did not shoot any 150-grain loads) in the new RM1S's short 3.6-inch barrel produced velocities ranging from roughly 950 fps to more than 1,300 fps, with energies ranging from 291 ft-lbs to 443 ft-lbs.

The 9mm Luger is undoubtedly the most popular handgun cartridge in the United States and has been for many years now. It is well suited for personal defense, match competition, and plinking. Heck, it also can be effective for hunting small game, too.

Shootability

I put the RM1S through a thorough shooting evaluation by firing three, five-shot groups from a benchrest at 25 yards with a dozen 9mm factory loads. The results of all that shooting are listed in the accompanying chart. The loads ranged from the Black Hills 100-grain HoneyBadger +P to the Browning, SIG SAUER, and Winchester 147-grain loads, with 115-grain, 124-grain, and 135-grain offerings from Black Hills, Federal American Eagle, Hornady, Nosler, Remington, SIG SAUER, Speer, and Winchester in between.

As you can see, all loads averaged 3.75 inches or less, which is well under the old self-defense standard of 4.25 inches at 25 yards. Overall average accuracy was 2.96 inches, and at 2.00 inches, my best average came with Nosler Match Grade 124-grain JHP ammo. That load's average velocity was 1,104 fps from the pistol's 3.6-inch barrel measured 12 feet from the gun's muzzle with a Competition Electronics ProChrono Digital chronograph.

ROST MARTIN RM1S ACCURACY & VELOCITY

AMMUNITION	VEL. (FPS)	E.S. (FPS)	S.D. (FPS)	ENERGY (FT-LBS)	25-YD. ACC. (IN.)
9mm, 3.6-in. Barrel					
Black Hills HoneyBadger 100-gr. Solid Copper +P	1164	14	9	301	2.50
American Eagle Syntech 115-gr. TSJ	1110	40	18	315	2.75
SIG SAUER 115-gr. JHP	1222	27	12	381	2.25
Winchester Active Duty 115-gr. FN FMJ	1317	37	20	443	3.50
Black Hills 124-gr. JHP	1092	34	15	328	2.75
Hornady American Gunner 124-gr. XTP	1059	30	11	309	3.25
Nosler Match Grade 124-gr. JHP	1104	32	17	336	2.00
Hornady Critical Duty 135-gr. FlexLock	1122	19	9	377	2.75
Speer CarryGun 135-gr. Gold Dot G2	1049	31	15	330	3.75
Browning 147-gr. BXP	965	40	16	304	3.50
SIG SAUER 147-gr. FMJ	1013	25	14	335	3.00
Winchester Defender 147-gr. JHP	945	41	17	291	3.50

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

My second-best average accuracy was achieved with SIG SAUER 115-grain JHP ammunition. The three-group average for it was 2.25 inches. That load produced an average velocity of 1,222 fps.

The third-best average accuracy came with Black Hills 100-grain HoneyBadger +P ammo. The three-group average for that was 2.50 inches, and the average velocity was 1,164 fps.

Three loads tied for fourth place, and they averaged 2.75 inches for their three, five-shot groups at 25 yards. They were the American Eagle Syntech 115-grain TSJ, the Black Hills 124-grain JHP, and the Hornady Critical Duty 135-grain FlexLock loads. Their average velocities were 1,110, 1,092, and 1,122 fps, respectively.

Rounding out the top five in terms of accuracy was the SIG SAUER 147-grain FMJ ammo. Its average velocity was 1,013 fps, and its group average was 3.00 inches.

Function was 100 percent throughout my entire shooting session. Muzzle jump and recoil were easy to manage. And the pistol was very comfortable to shoot. While the RM1S's grip frame is noticeably shorter than that of the RM1C, three fingers of my shooting hand fit easily and comfortably, without needing to drop the little finger under the magazine. And for the record, I wear medium-size gloves.

I like the new RM1S a lot. You can't beat its feature set. You can't beat its 100 percent functionality. And you can't beat its retail price of just $469. ST

The RM1S disassembles much like other striker-fired pistols. It does not require squeezing the trigger.


TREK
SAFARIS

WOODS HUNTERS TAKE NOTICE

RUGER'S 77/357 FEEDS .357 MAGNUM AND .38 SPECIAL AMMO AS SMOOTHLY AS GREASE ON GLASS, IS ACCURATE, AND MAKES FOR A HANDY LITTLE HUNTING CARBINE.

BY LAYNE SIMPSON

AS THE OLD SAYING GOES, TIME SURE FLIES WHEN YOU are having fun. It seems like only yesterday that I introduced the Ruger Model 77/22 in .22 Hornet to the readers of *Shooting Times*, and yet it was way back in the September 1994 issue. The December issue during that same year featured my report on the little bolt-action rifle in .22 WMR. First of the 77 series appeared in 1983 in .22 Long Rifle (77/22), and as I described it back in the old days, with a scope mounting base integral to its slab-sided receiver and a classic-styled walnut stock, it appeared to be a scaled-down version of Ruger's Model 77 centerfire rifle. Close examination revealed major differences that I will cover in this report.

According to Ruger's website, the present 77 series of carbines begins with the 77/17 in .17 Hornet and .17 Winchester Super Magnum (WSM). Yes, I too am surprised to see the .17 WSM still listed. The 77/22 is offered only in .22 Hornet. Moving up in bore sizes, if you guessed that the 77/357 is in .357 Magnum and the 77/44 is in .44 Magnum, you are correct. The former also works nicely with .38 Special ammo, and the latter is equally fond of .44 Special. As the designation indicated, the 77/50 was a .50-caliber inline muzzleloader, and I am not sure when it went out of production.

The barrels of all models built today are threaded at the muzzle for suppressors or muzzle brake attachments. Thread sizes vary among the various calibers. Some models have open sights, while others do not. Stock options vary among them, and they include American walnut, Green Mountain laminated wood, and synthetic, the latter with several different finishes. Regardless of which 77 variation you choose, easily attached scope-mounting rings are included. This is a longtime tradition for various Ruger firearms, and down through the decades it has saved shooters around the world a lot of money.

Layne really likes the size and shape of the camo synthetic stock. Note that the top of the stainless-steel receiver is machined for Ruger scope-mounting rings, which come with the rifle.

The 77/357 Up Close

The 77/357 featured in this report has a synthetic stock with a camo finish described by Ruger as Desolve Bare Reduced. Kryptek Obskura Nox is the other camo option, and you can save money by taking home plain old black. The first camo finish mentioned is $30 higher than the second camo option, which is $10 higher than the black finish. Trust me when I say that a feral hog will never notice the difference.

I really like the size and shape of the stock, and girder-style reinforcing makes it extremely rigid. The stock weighs 22 ounces. It has quick-detach sling-swivel posts up front and at the rear and a recoil pad with horizontal grooving that prevents slipping from the shoulder. The fit between the stock and the barreled action is as good as it could possibly be, and rather than the usual free-floating, the barrel is closely bedded in the fore-end. Molded-in checkering prevents the rifle from sliding around in the hands during a downpour, but I would like to see a bit more coverage on the fore-end. The stock's length of pull is 13.5 inches.

As it should be on an all-weather firearm, all metal is stainless steel with a nicely executed brushed finish. The cold-hammer-forged barrel is 18.5 inches long with eight-groove rifling at a 1:16 right-hand twist. Open sights consist of a folding leaf dovetailed to the barrel at the rear and a blade with a gold-colored bead resting in a dovetail up front. The rear sight is windage and elevation adjustable. Muzzle threads of 1/2-28 presented no challenge for me because a longtime friend who owns a gunshop about 30 minutes from my home stocks several brands of suppressors, and he had an adapter for my SilencerCo Hybrid

77/357	
MANUFACTURER	Sturm, Ruger & Co., Inc. ruger.com
TYPE	Bolt-action repeater
CALIBER	.357 Magnum
MAGAZINE CAPACITY	5 rounds
BARREL	18.5 in.
OVERALL LENGTH	38.5 in.
WEIGHT, EMPTY	5.6 lbs.
STOCK	Synthetic
LENGTH OF PULL	13.5 in.
FINISH	Brushed stainless steel, Desolve Bare Reduced camo stock
SIGHTS	Fully adjustable folding rear, gold bead front
TRIGGER	8.15-lb. pull (as tested)
SAFETY	Three position
MSRP	$1,279

The muzzle has 1/2-28 threads for attachment of a suppressor or a muzzle brake, and a thread protector is included. Note that the gold-bead front sight is dovetailed to the barrel.

46. At an overall length of 38.5 inches, the 77/357 would still be quite maneuverable in a ground blind or tree stand even with the addition of a suppressor.

It is not unusual to spot a design feature of a Ruger firearm as being borrowed from the firearm of a competitor, and such is the case with the 77 bolt. Like the bolt of the Remington 40X target rifle in .22 Long Rifle introduced in 1955, the Ruger bolt is a two-piece design consisting of a nonrotating front section containing the extractor joined to a rotating rear section with very large dual-opposed locking lugs that engage recesses in the interior of the receiver. And while the action was initially introduced in .22 Long Rifle, its designers peered into the future and made certain it would be more than strong enough to handle the greater force of centerfire cartridges like the .357 Magnum and the .44 Magnum.

Excellence in design does not stop there. In the event of a blown primer or ruptured case, the bolt shroud deflects propellant gas and debris escaping back around the bolt away from the face of the shooter by blocking off the rear of the receiver. Pressing on the spring-loaded boltstop at the left-side rear of the receiver allows the bolt to be completely withdrawn. As explained in the included instruction manual, the bolt is easy to take apart for cleaning and, equally important, easy to put back together. Should the manual for the 77/357 or any firearm ever built by Ruger go astray, the company's website has all of them for viewing.

The safety of the 77/357 has three positions, with all the way to the rear blocking both trigger movement and bolt rotation. Push the lever to its middle position and trigger movement is still blocked, but the bolt can be rotated for loading or unloading the chamber. All the way forward allows the rifle to fire when the trigger is squeezed. Should you suddenly awake from a doze and find that big buck you have been after for a very long time standing beneath your tree stand, the safety can be operated quietly.

The rotary magazine holds five .357 Magnum (or .38 Special) cartridges, and during my sessions with it, both chamberings fed as smoothly as grease on glass. When inserted, the magazine fits flush with the stock, which is nice because that's the balance point of the rifle. The entire magazine retention/release system is contained by the front of the bottom metal. Pushing upward on a spring-loaded plate at the bottom releases the magazine for removal.

The bolt is a two-piece design with a nonrotating front section containing the extractor and a rear rotating section with two large dual-opposed locking lugs that engage recesses machined into the inner wall of the receiver.

Located at the right side of the receiver, the three-position safety lever is easy to reach, and it can be operated quietly, which is important for a hunting rifle.

The 77/357 at the Range

When shooting the rifle from a benchrest, I noted that the trigger was smooth with no detectable creep or overtravel, but my Lyman digital scale indicated a pull weight ranging from 7.3 to 9.0 pounds (for an average of a bit more than 8 pounds). I grew up on military surplus rifles, so a heavy trigger does not bother me, but for those who insist on something lighter, Rifle Basix offers a replacement with an adjustment range of 14 to 37 ounces for $105. Years ago, Jim Clark Jr. of Clark Custom Guns built me a custom rifle around the Ruger 77/22 action. Among other nice features, it has a heavy Lilja barrel and a Rifle Basix trigger, and it has long been my favorite rifle in .22 Hornet.

The only other issue I experienced with the 77/357 was stubbornness in the magazine when being inserted and removed

from the rifle. Removing it worked better when I pushed the release with my thumb, slightly lowered the rear end of the magazine, and then pulled it to the rear and downward. Inserting the magazine was a two-hand operation, one to depress the release, the other to insert the magazine. That might improve with use.

Back on the positive side, the 77/357 shot big holes in the old tale about the .38 Special delivering poor accuracy when fired in a .357 Magnum firearm. Equally interesting was the level of accuracy it delivered with Black Hills .357 Magnum cowboy ammo loaded with a 158-grain lead-alloy, truncated-cone, flat-nose bullet cast by Rim Rock. What a great easy-on-the budget pig load it would be!

I have long preferred to choose scope size and magnification appropriate for a particular rifle and the cartridge for which it is chambered, so when shooting the Ruger 77/357 I used a faithful old Weaver 1.5-3X variable scope with a one-inch tube and a spacious 45-foot field of view at 50 yards. Good light transmission early in the morning and late in the afternoon when deer movement is often at its best makes it one of my favorites for woods hunting. While that scope is no longer available, gun show and eBay prices are usually within easy reach of most hunters and shooters. Total weight of the 77/357 with that scope in Ruger rings and a magazine full of cartridges was 6 pounds, 13.5 ounces.

One thing is certain—shooting the .357 Magnum in a rifle barrel gives it a decent energy boost. Muzzle energy of the Black Hills and Federal 158-grain loads is in the neighborhood of 1,100 ft-lbs, and Buffalo Bore ammo loaded with a 180-grain bullet is approaching 1,400 ft-lbs. Ruger should sell lots of 77/357s to woods hunters who live in states that allow only straight-wall cartridges to be used on deer. Among them is Delaware, where in certain areas, rifles can only be chambered for handgun cartridges of calibers ranging from .357 to .45, with a maximum case length of 1.82 inches. Did I already mention how much fun the 77/357 is to shoot? ST

Layne fed the 77/357 .357 Magnum and .38 Special ammo, and the handy little carbine delivered its best accuracy with the latter. Accuracy with Black Hills Cowboy .357 Magnum ammo loaded with a 158-grain truncated-cone, flat-nose cast bullet was also quite good, and it should be quite effective on feral pigs.

RUGER 77/357 ACCURACY & VELOCITY

BULLET	POWDER (TYPE)	POWDER (GRS.)			COL (IN.)	VEL. (FPS)	E.S. (FPS)	50-YD. ACC. (IN.)
.357 Magnum, 18.5-in. Barrel								
Lehigh Defense 105-gr. CF	2400	18.0	Starline	CCI 550	1.605	2168	57	1.26
Lehigh Defense 125-gr. CF	W296	17.5	Starline	CCI 550	1.575	1766	41	2.12
Hornady 140-gr. FTX	Enforcer	14.3	Starline	CCI 550	1.590	1830	29	1.62
Nosler 158-gr. JHP	W296	15.0	Starline	CCI 550	1.585	1540	38	1.34
Swift 180-gr. A-Frame	H110	13.5	Starline	CCI 550	1.590	1319	50	1.55
Lehigh Defense 105-gr. CF	Factory Load				1.625	2084	49	1.58
Lehigh Defense 125-gr. CF	Factory Load				1.625	1438	79	2.62
Hornady 140-gr. FTX	Factory Load				1.570	1802	39	1.53
Federal 154-gr. HST	Factory Load				1.570	1774	30	1.45
American Eagle 158-gr. JSP	Factory Load				1.575	1765	35	1.84
Black Hills Cowboy 158-gr. TCFN	Factory Load				1.575	1723	67	1.52
Black Hills 158-gr. JHP	Factory Load				1.565	1779	22	1.60
Buffalo Bore 180-gr. HCFN	Factory Load				1.555	1852	38	1.48
.38 Special, 18.5-in. Barrel								
Federal 129-gr. Hydra-Shok	Factory Load				1.435	1311	34	1.07

NOTES: Accuracy is the average of two, five-shot groups fired from a Lyman Match Bag benchrest. Velocity is the average of 10 rounds measured 15 feet from the gun's muzzle. Powder charges listed were maximum or close to it in the test gun and should be reduced by 10 percent for starting loads in other firearms.

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.

MOTV

MYOUTDOORTV®

WE HAVE JUST RETURNED FROM THE 2025 SHOT SHOW, WHERE WE got an early look at a bunch of new and exciting shooting-related products. Once again, the industry has been busy conjuring up new handguns, rifles, shotguns, ammo, optics, and shooting gear. The MyOutdoorTV crew was there to record and reveal some of the most interesting new products, and you can now find out all about many of these new items by viewing the 2025 SHOT Show New Product Premiere at MyOutdoorTV.com.

If you're interested in the latest guns and gear, you'll want to check out the innovative features of Streamlight's ProTac Rail Mount HP-X Pro tactical light, Kimber's stylish double-stack 2K11 Model 1911 pistol, Browning's new 825 Citori over-under shotgun and X-Bolt Speed 2 bolt-action rifle, new scope rings and accessories from Warne, Winchester's new Long Beard shotshells and 21 Sharp rimfire ammunition, Rock Island Armory's new RIA-USA TAC Ultra and STK Series pistols, FN's Reflex XL pistol, S&W's Model 1854 Stealth Hunter lever-action rifle and M&P9 2.0 Spec Series pistol, Spypoint's FLEX-DARK and FLEX-S-Dark cellular trail cameras, and the new GX2 pistol and 850 small-frame double-action-only EDC revolver from Taurus. Fourteen episodes are available for viewing.

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Looking for Solid

From 1900 to the 1920s, America produced many, many fine .22 rimfire rifles, and they come up for sale on a regular basis. **BY TERRY WIELAND**

Alas, today's .22 rimfires aren't like they used to be. This fine old Stevens Model 49 "Walnut Hill" has a tang sight from Lee Shaver, and Terry says it shoots like a dream.

NOW HERE'S AN ODD THING: LIKE MOST PEOPLE, I began my shooting career in my teens, with a single-shot bolt-action .22 rimfire. The rifle was made by Cooey, a Canadian company later acquired by Winchester, and my father bought the rifle in the 1930s. It was a solid gun, with an action and barrel of machined steel and a stock of black walnut.

Naturally, as a teenage devotee of *Outdoor Life* and *Shooting Times* (yes, *Shooting Times*, way back then), I wanted a hot centerfire, squinting down the sights at a Dall sheep or a Cape buffalo. In the course of events, that pretty much all came to pass. As I passed the half-century mark, however, I found myself with a strange yearning. I desperately wanted a .22 rimfire rifle made of machined steel and genuine walnut—no plastic, no alloys, no pressed metal. It needed to be accurate enough for woodchucks at 75 yards and tin cans at any range.

And guess what? There were none to be had.

I found myself one of the legion of gun lovers who had mourned the passing of well-made adult .22s, but when Kimber offered us exactly what we'd been asking for in their beautiful-but-expensive Model 82, not enough of us ponied up a grand to get one.

There was, however, an answer. From 1900 to the 1920s, America produced many, many fine .22s, and these come up for sale on a regular basis. These include the excellent pre-1914 Stevens single shots, the Winchester Model 1885 Low Wall, occasional Ballards, and countless custom rifles built on the great single-shot actions of the day.

One devotee of the .22 was Harry M. Pope, and he created many target rifles, both offhand and rest rifles, chambered for it. Naturally, any rifle with the Pope name attached is going to draw collectors and command big bucks, but his five-year association with Stevens (1901 to 1906) lent the Pope mystique to all the rifles they built until 1915, when the company

changed over to war production. There seems no shortage of rifles built on the company's first-rate No. 44½ falling block action, ranging from the nicely solid but basic Model 45 up to and including the top of the range Models 54 and 56.

The uppermost models were *Schützens*, intended for offhand target shooting and usable for little else, with perch bellies, elaborate cheekrests, double-prong buttplates, set triggers, palm rests, delicate tang sights, and weights up to 13 pounds. They're not ideal for prowling after squirrels.

From the lower-grade Models 45 to 49, however, we find rifles intended for all-around use, with shorter, lighter barrels, simple underlevers, single triggers, and open or basic receiver sights.

Oddly, way back when, I remember my father, who did not hunt after he came home from the war in Europe in 1945, musing that he'd still like to have "a Stevens rifle in .22 Hornet." That was the dream in the 1930s, when my father was in his teens, hunting around Lake Huron. It was a desire that never left him.

In my random gathering of Stevens rifles, I now have two .22 rimfires. Both are built on the 44½ action. One is a Model 52, a near top of the range target rifle with all the goodies mentioned above. The other is a Model 49, the one designated by Stevens as the "Walnut Hill." It's a kind of in-between *Schützen*, with the more outlandish features scaled back or toned down. I acquired it first but then decided I would never sleep properly until I had one of the very top ones. Hence the later Model 52, and guess what? When I feel like grabbing a .22 and taking a walk in the woods, I reach for the Model 49. It's simply a friendlier rifle, if you know what I mean.

Since all this began, I have been searching for a nice Winchester Low Wall in .22 Long Rifle—ah, that would be perfect!—but those are a tougher proposition, especially in really fine shape. Midrange .22s tend not to come on the market in exquisite condition since a great many were possessed by small boys early in life. Really good ones? They're bait for Winchester collectors, and those lads have deep pockets and insatiable appetites.

But—there's always a but—hope springs eternal, and it's as good a reason as any to keep attending auctions, hoping to glimpse the grail. ST

"In 1856, while exploring ideas for expanded applications of the improved S&W self-contained cartridge, D.B. Wesson built a prototype revolver with bored-through cylinders to fire the rimmed .22. Remember that all Colt revolvers at the time were percussion cap with the cylinder chambers closed at the rear. The Colt revolver patent had expired in February 1856, so Wesson was free to manufacture revolvers. But Wesson discovered that a former Colt employee, Rollin White, had already patented a revolver design with cylinders bored end to end. Wesson met with White in November 1856, and they agreed on an arrangement giving S&W exclusive license to manufacture bored-through cylinders."

Daniel Baird Wesson was born on May 18, 1825, in Worcester, Massachusetts. He worked on his father's farm and attended public school until the age of 18. At that time, he apprenticed to his brother, who was a leading manufacturer of target rifles and pistols in the 1840s.

In 1854 D.B. partnered with Horace Smith and Cortlandt Palmer to develop the lever-action Volcanic pistol and rifle. Their first company was called Smith & Wesson Co. In 1855 the name was changed to the Volcanic Repeating Arms Co., in which Oliver Winchester became an investor. In 1856 D.B. and Smith formed a new company named the Smith & Wesson Revolver Co. In 1874, at the age of 65, Smith retired and sold his shares of the company to D.B., making him the sole owner. The rest is, as they say, history. The firm went on to produce some of the most important revolvers and semiautomatic pistols of all time, with D.B. active in the company until his death.

D.B. passed away of heart failure on August 4, 1906, at the age of 81, after a four-year illness. He was an advocate of homeopathy and had donated $100,000 for the construction of a building at the Hampden Homeopathic Hospital two years prior to his death. It was thereafter referred to as Wesson Memorial Hospital. D.B. had acquired immense wealth for the times and contributed to the building of churches, the hospital, and as many as 13 homes, some of which are now on the National Register of Historic Places. He also was the father of American rimfire ammunition. ST

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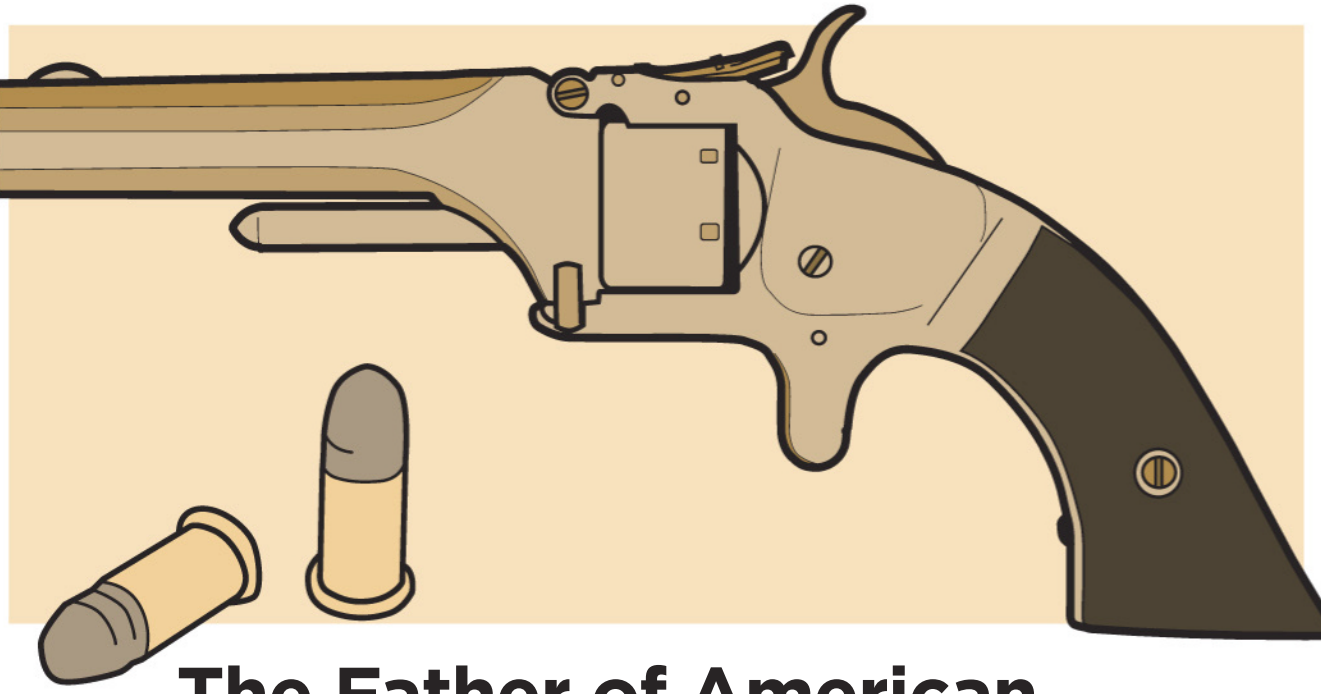

The Father of American Rimfire Ammunition

D.B. Wesson was instrumental in developing a self-contained metallic rimfire cartridge, which led to the first fully self-contained cartridge revolver in the world. **BY JOEL J. HUTCHCROFT**

In 1857 D.B. Wesson developed the rimfire cartridge we know as the .22 Short and the first fully self-contained cartridge revolver in the world, which fired that very cartridge.

CARRYING ON THE RIMFIRE THEME FROM TERRY Wieland's "Gunsmoke" column, Payton Miller's feature article on the .22 WMR cartridge, and Steve Gash's article on getting ready for a rimfire hunt in this issue of *Shooting Times*, I'm devoting this installment of "Hipshots" to one of the men responsible for producing what is accepted as the first successful fully self-contained cartridge revolver in history, which was chambered for the .22 Short rimfire cartridge. I'm referring to Daniel Baird Wesson, who, along with Horace Smith, produced the Smith & Wesson Model 1 seven-shot revolver beginning in 1857 and the metallic cartridge it fired.

Back in 2002, longtime *Shooting Times* writer Dick Metcalf wrote that the S&W Model 1 was Smith & Wesson's most important gun, stating, "Smith & Wesson's first revolver (the Model 1) tops the list *not* because it was the first revolver ever made (Colt patented that in 1836), nor because it was the first firearm to use a self-contained cartridge (Flobert patented that in France in 1846). The Model 1 is No. 1 because it was the first gun to *combine* those concepts. The S&W Model 1, introduced in 1857, was the first cartridge revolver. The S&W No. 1 load was the first commercial American metallic cartridge. (Today, it's known as the .22 Short....) All revolvers since, and all American cartridge ammunition, follow from that moment.

"Messrs. Smith and Wesson, while working on the finger-lever Magazine Pistol produced by their first partnership in 1854, had patented improvements on a rimmed-case Flobert design with primer compound spread evenly across the base of the cartridge (for reliable ignition) and a tallow 'cup' directly behind the lead ball over a propellant charge (to make the load waterproof for outdoor use). With a slightly longer case, a 29-grain bullet, and four grains of fine blackpowder, this would become the S&W No. 1.

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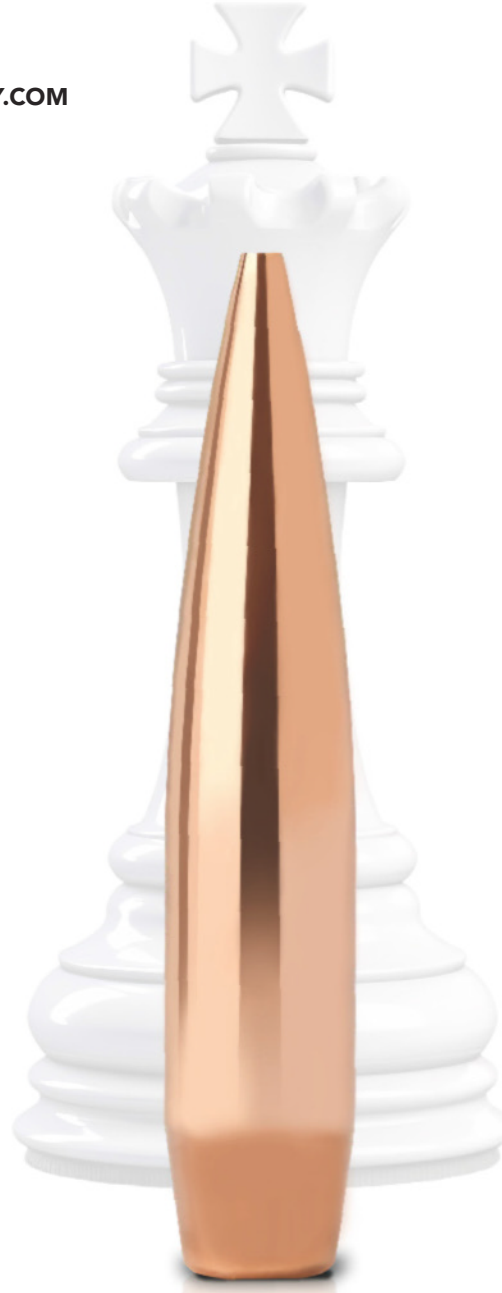

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