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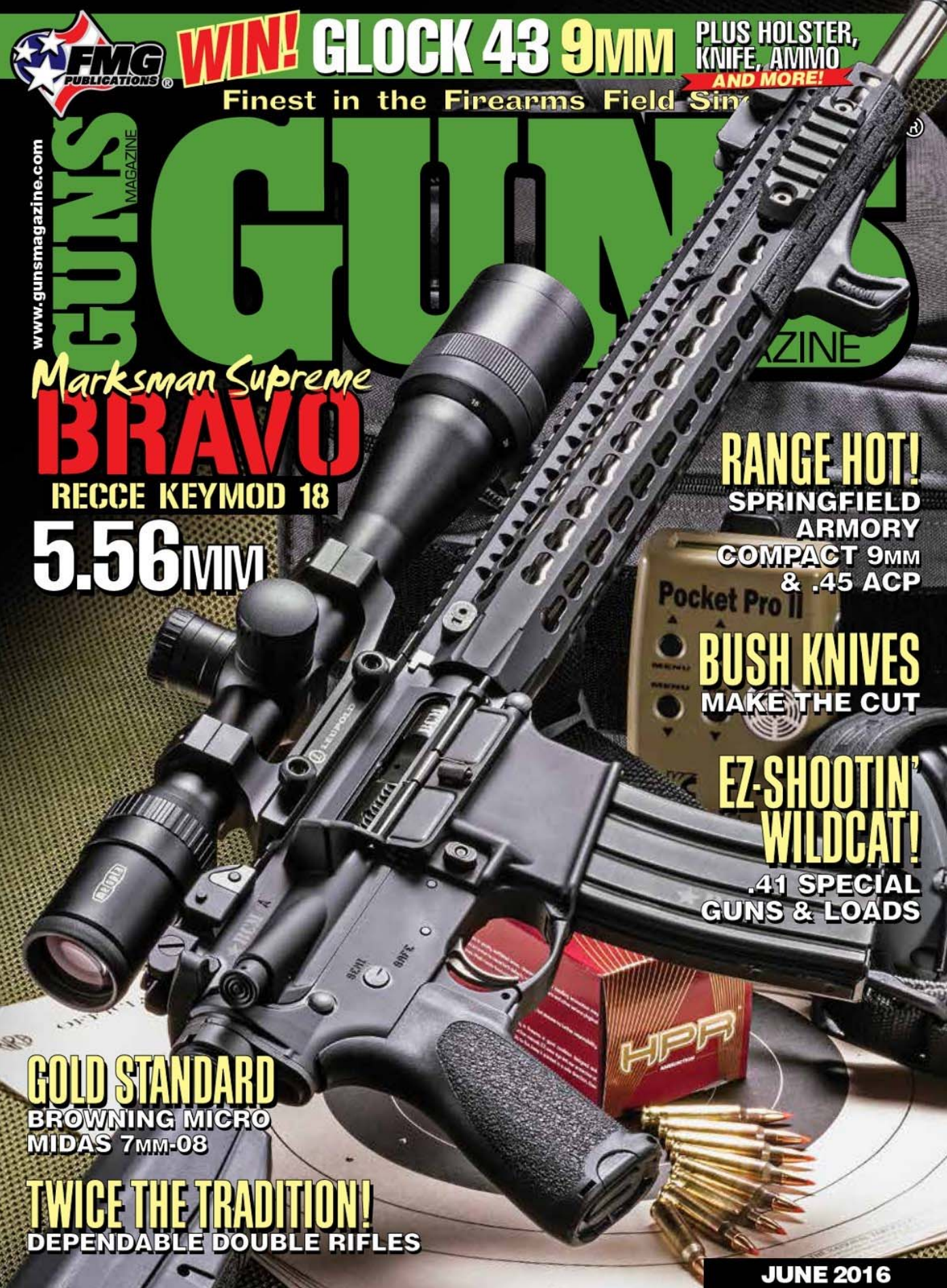
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JUNE 2016

Vol. 62, Number 6, 738th Issue



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Photo: Takashi Sato

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Even if it's less than mighty, a gun in hand beats one at home

A special presentation from FMG's GUNS 2016 Special Edition.



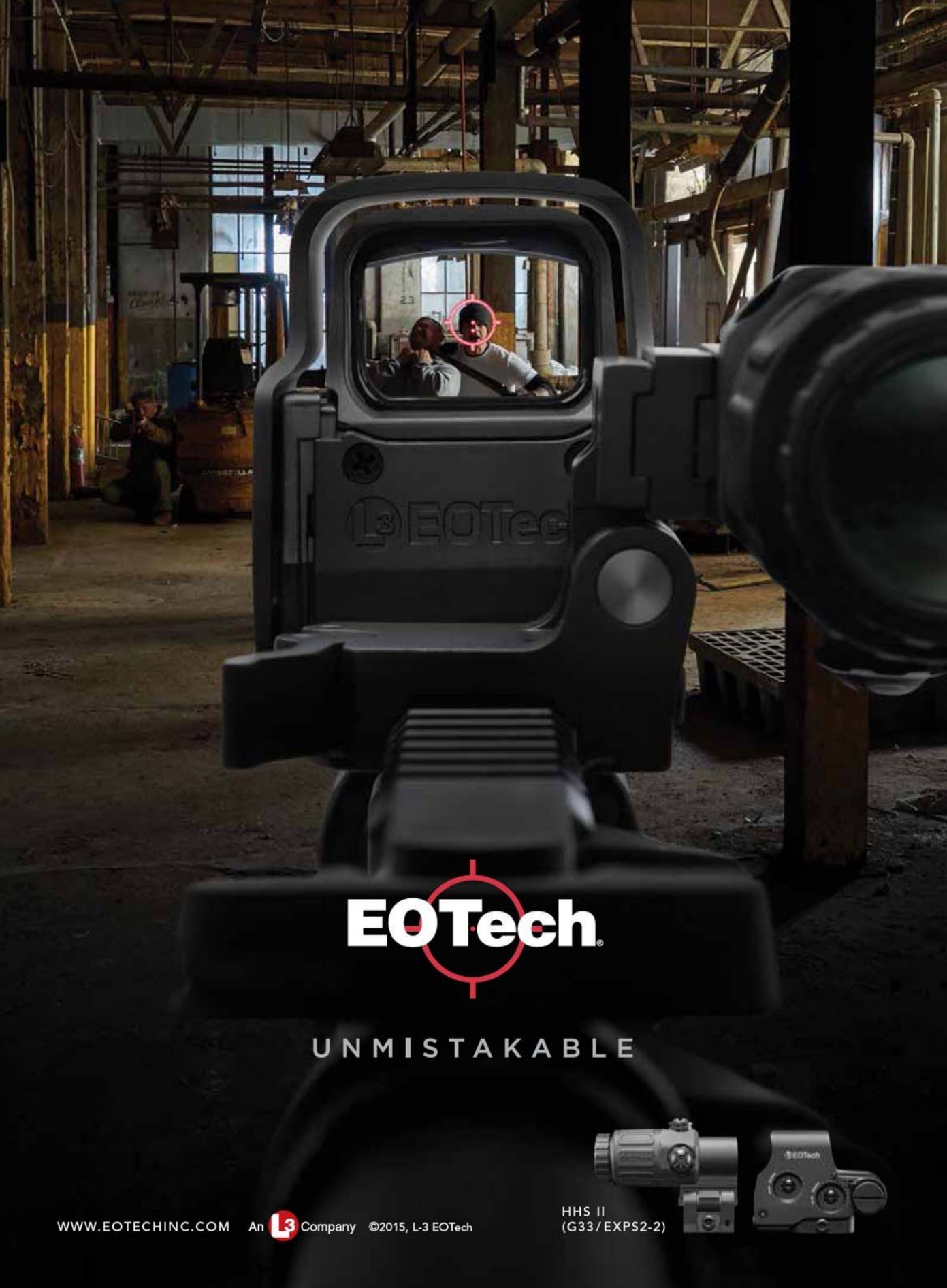
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.32 MAG KUDOS

I've been a long-time fan of the .32 H&R Magnum. It is chambered in the same-sized revolver as a .22 at about the same weight, but has far superior ballistics with a nominal increase in recoil and report. I shoot a 100-grain Keith-style semi-wadcutter handload from my Ruger Single Six with a 4-1/2-inch barrel, achieving velocities consistently over 1,000 fps. The .32 bullet's of superior design 2-1/2 times the weight of a .22 LR bullet, traveling as fast or faster, with a negligible increase in recoil and noise. Additionally, loadings can be found in a far greater range of weight and bullet style, generally from 85 to 115 grains or more.

I'm not arguing the fact a .22 is a good beginner's gun and is good for target practice. But as a trail or kit gun it can't compete with the .32 Magnum's terminal energy or effectiveness. If there was more interest in this fine caliber, manufacturers would have to respond, making both guns and ammunition more readily available. Mr. Taffin would surely agree, this could be a Perfect Packin' Pistol.

T.C. Roundstream
Flagstaff, AZ

WELCOME BACK!

Wow! Great April issue. I'm an old G&A and ST guy and gave up on GUNS years back for various reasons. Now, .45's, .44's .416, oh my. Superior publication. Nice pics. I'm back.

PS: Oh, savoring the second half.
Cratg via e-mail

"COLLECTIBLE" CONNOR

"Collecting Strange Friends" in the February 2016, is another example of the outstanding writing by John Connor. His skill with dialects and imagery is the best among some very good "magazine" writers (no disrespect intended). I look forward to

reading his column every issue and hope he continues to write for a long time and even considers writing books. I think I will go online and reread his columns from the beginning. Maybe Connor is someone's "strange" friend as well.

Jerry Ciccone
Taylor, MI

STOP AND SMELL THE FLOWERS

I enjoy John Taffin's "Campfire Tales," especially the March 2016 story. Such an interesting young boy with courage and faith that is truly inspiring to all. Life is so very precious, we need to remember every day is one more we won't get back.

Don T. Tell
via e-mail

MOA ACCURACY

I enjoyed "Dangerous Game Good" in the April issue. McPherson says at one point, "... it was obvious most of the tested loads would place 3 shots very close to the minute-of-angle standard with which we are all so familiar, and which is uselessly precise in a rifle intended for hunting dangerous game where shots might not exceed 40 yards! Moreover, when hunting, few hunters can hold good enough to take advantage of such accuracy."

I see this a lot and know what he means, but it has a fallacy. If a hunter has a five MOA personal accuracy variation at 100 yards and the gun 1 MOA the total variation is 6 MOA. But if he has a gun with 3 MOA the total becomes 8. Error is additive. That's why all we normal hunters who don't shoot as much as we'd like love accurate rifles. It's not just to brag about off the bench.

Lou Marttn
via email

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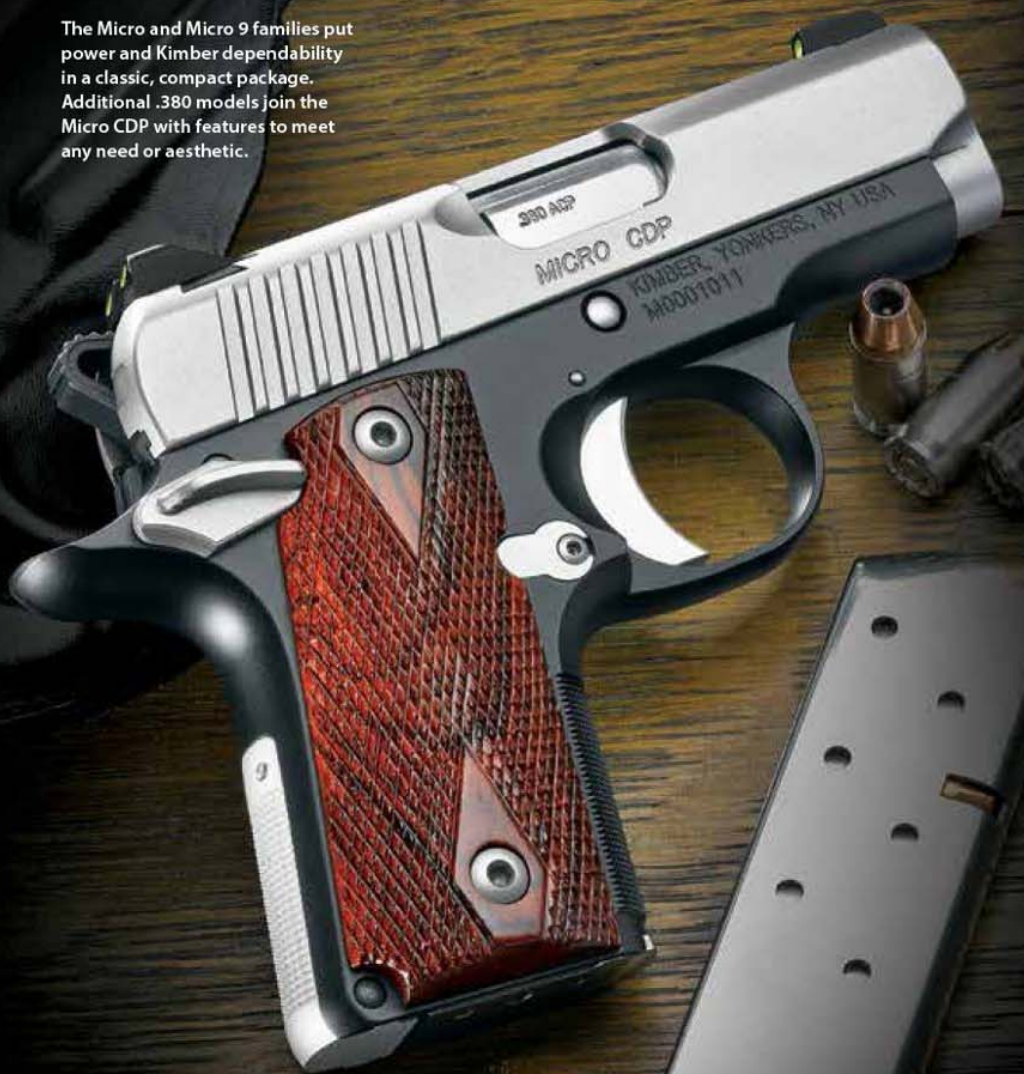


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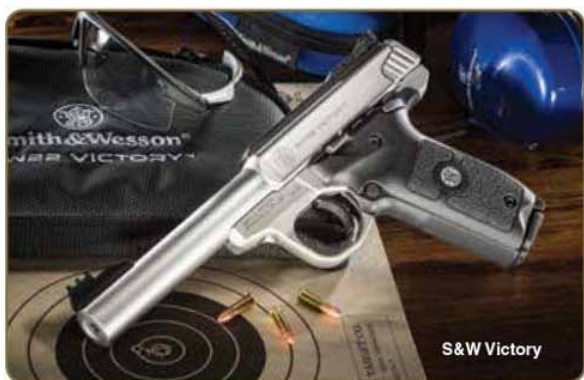
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GUNS AND GEAR AU GO GO

Thoughts on SHOT.

For me, the 2016 SHOT Show started out on Media Day at the mammoth, state-of-the-art Clark County Shooting Complex north of Las Vegas, Nevada. I was shooting SIG's suppressed P226 in .22 Long Rifle—the rimfire option is an absolute must if you ever want to experience true "Hollywood Quiet" with a suppressed handgun. But since I was surrounded by folks lighting off non-suppressed firearms in various centerfire calibers, the experience was a bit unsatisfying—it was all I could do to hear the muffled *tink* when I managed to hit the orange-sized steel gong. When you're simply a cog in a mega-length firing line, even large differences in decibel output are pretty tough to appreciate.



Anyway, once I set down the pistol, I wandered over to try my hand with SIG's new M400 Predator, a DGI item available in 5.56 and .300 Blackout expressly designed for what its name implies (although it would certainly do the trick for whitetail as well.) The rifle's collapsible stock makes it "winter clothing friendly" in terms of length-of-pull. I fired several 5-round magazines through it (the one I shot was in 5.56) and found it handled very nicely—and is mercifully free of cheese-grater rail sections.

LOAD UP! NEW YEAR, NEW AMMO

Browning's inaugural ammo offerings include too many items to list here, so we'll cull a few highlights. First off is the BXC Controlled Expansion Deep Penetrating Terminal Tip line of hunting ammo, featuring a 185-grain .30-06 load (2,700 fps) and a 145-grain .270 Win offering (2,960 fps). The BXR Rapid Expansion Matrix Tip line includes a 97-grain .243 Win load (3,100 fps) and a 155-grain .300 Win Mag offering (3,260 fps). For handguns, they've got the BXP X-Point Personal Defense line, which includes .380 ACP, 9mm, .40 S&W and .45 ACP. There's also a line of BXD Extra Distance Steel shotshells, BXD Extra Distance Lead shotshells, plus a BPT Performance Target line. Heck, Browning's even got a BPR Performance Rimfire line.

PPU Ammunition of Serbia now offers two

new loads for the 6.8 Remington SPC—a 115-grain FMJBT and a 115-grain HPBT, both at 2,674 fps. The

company's also got a new 140-grain PSP load for the now-neglected .264 Winchester Magnum, which clocks 3,018 fps.

PMC has two new SP hunting loads in its Bronze Line—a 55-grain .223 at 3,200 fps and a 150-grain .308 at 2,820 fps.

SIG SAUER isn't known for revolvers, but their personal-defense ammo line now includes a 125-grain .38 Special JHP at 900 fps, a 125-grain .357 at 1,450 fps, a 240-grain .44 Special at 800 fps and a 230-grain .45 Colt load at 950 fps. All feature the company's V-Crown JHP (there's also an FMJ 125-grain practice load in .38 Special as well).

Magtech has a pair of .300 Blackout loads including a 123-grain FMJ at 2,230 fps and a 115-grain HP Flat-Base at 2,280 fps.

Federal's American Eagle brand has a new line of Syntech range ammo which features polymer-coated Total Synthetic Jacket bullets to



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YOU HAVE YOUR REASONS. WE HAVE YOUR PRODUCTS.

Let's start out with some mangled metaphor-izing: When a company known for producing sports cars comes out with a motorcycle, that's news. OK, *that* didn't work. We'll play it straight. What I saw next day wandering the aisles turned out to be the talk of the show. Kimber's new K6S revolver. Yep, you read that right. Roughly resembling a J-Frame hammerless on steroids, this .357 snubbie's a 6-shooter. Sizewise, it's roughly between a Colt Detective Special and a Ruger SP-101. It's all-stainless steel, features an excellent non-stacking trigger pull, and broad, low-profile sights. I wasn't at the right range on Media Day to shoot it, but I talked to several revolver aficionados who did, and they were impressed. This sleek and highly-distinctive snubbie is definitely something to keep your eye on. It'll be interesting to see how many variations to the basic platform Kimber comes up with down the line. And somehow I don't think it'll take too long. We're going to do our best to get our ink-stained hands on one soon.

I don't know many serious handgun guys who don't think highly of the Browning Hi-Power, John Browning's 1935 follow-up to the great 1911. This "ultimate 9" is now getting the full-dress tweak-and-tune treatment from Nighthawk Custom. This includes frame-to-slide fitting, a hand-stippled frame and triggerguard, extended beavertail, contoured magwell, Heinie Slant Pro Black Rear Sight, 14K gold bead front sight, crowned barrel, serrated mag release, competition steel hammer, a custom trigger job, Cerakote Satin finish and custom cocobolo



Kimber K6S



STI Guardian 2011

checked grip panels. It's a showstopper—subtle and just plain *classy*. The closer you look, the better it looks.

Another big bit of handgun news was Smith & Wesson's .22 Victory. A single-action .22 LR blowback semi-auto, it features a 5-1/2-inch match grade barrel, fiber optic front and adjustable fiber optic rear. It's also got a Picatinny rail for optics. With a weight just over 37 ounces, it should fit the bill for target shooting or informal plinking equally well. It comes with two 10-round magazines and is priced at just over \$400.

continued from page 10

eliminate copper and lead fouling and cut down on splashback from steel targets. Current offerings include 9mm 115-grain at 1,130 fps, a .40 S&W 165-grain at 1,050 fps and a .45 ACP 230-grain at 830 fps.


Black Hills has two new Extreme Defense loads aimed directly at the CCW market, both lighter and considerably faster than the norm. One is a 100-grain .38 Special JHP at 1,275 fps, the other is a 60-grain .380 ACP JHP at 1,150 fps.

Hornady's big ammo news was the Precision Hunter line featuring the ELD-X bullet. Initial offerings include 6.5 Creedmoor (143-grain/2,700 fps), 7mm Rem Mag (162-grain/2,975 fps), .308 (178-grain/2,600 fps), .30-06 (178-grain/2,750 fps), .300 RCM (178-grain/2,900 fps), .300 Win Mag (200-grain/2,860 fps), .300 RUM (220-grain/2,910 fps), .30-378 Wby Mag (220-grain/3,025 fps).

In their Dangerous Game line, they've added two loads for the .500-416 Nitro Express, a 400-grain DGS solid and a 400-grain DGX SP, both at 2,150 fps. And lever-action users will be

interested in the 140-grain MonoFlex .30-30 load in their Full Boar line. This one starts off at 2,500 fps and we'll be getting into it in more detail in a future issue.

Winchester's new products include a new line of steel-case pistol ammo called USA Forged. The initial offering is a 115-grain 9mm FMJ load at 1,190 fps. In addition, the Big Red has a new 20-grain solid-copper HP "Power Core" load for their hot—as in 2,875 fps—.17 WSM. And in commemoration of their 150th Anniversary, the company is issuing special-edition collectible ammo boxes for four loads— .270 Win, .30-30, .44-40 and 12-gauge.

Remington has two new items on the shotgun side of the ledger. The Express Extra Long Range line covers the bases from 12-gauge to .410 bore and pellet sizes from No. 2 to No. 7-1/2. The company's new Ultimate Defense Buckshot line features a pair of 12-gauge, 2-3/4-inch loads, one featuring nine 00 buck pellets, the other—a Managed Recoil option—features eight 00 pellets. 

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No trip to the SHOT Show would be complete without at least one 1911, so I'd like to offer up one from my own short list of eye-grabbers—the new STI Guardian 2011. This elegant little double-stack 9mm features a 3.9-inch barrel, Cerakote frame, stainless slide and 15-round capacity, yet its short VIP grip helps keep it in the CCW category. The rear sight's adjustable, which should make things a heck of a lot easier when you want to zero to your favorite high-performance defense load.

By the second day of cruising the aisles, I was in a shotgunny frame of mind. And it was fortunate for me the first pair I ran across were both inertia-operated autoloaders—my favorite type, thanks to my abhorrence for dealing with the carbon buildup associated with gas-operated guns. First there was Browning's A-5 "Sweet 16." I'm a sucker for resurrected classics, and this one's a beaut—a revised "short action" inertia-powered take on the old long-recoil original. And it's in 16-gauge, a cult gauge if ever there was one. Alloy receiver, lightweight barrel, F, M, IC Invector DS choke tubes. I mean, you don't have to be a born-again humpback fanatic to like this one. A lot of folks shoot better with this kind of

receiver configuration because they're less likely to see "too much barrel" and shoot high. I know because I'm one of them.

A better fit means fatter scores at skeet, trap or sporting clays. SKB's new RS300 Target autoloader can be tweaked to fit darn near anyone. It features an inertia recoil system, adjustable buttplate and stock shim system and comb. It's in 12-gauge, naturally, and can be had with a 26-, 28- or 30-inch barrel. For longer than I can remember, SKB has been building terrific shotguns—autos, O/U's and side-by-sides—under their own banner and for others (Ithaca and Weatherby come to mind). This one has a suggested retail price tag of around a grand, and like all SKB products, it's a lot of gun for the money.

"Close" is the operative word in regard to Springfield's new M1A SOCOM 16 CQB (Close Quarters Battle). This potent little 16-inch barreled .308 brute features an adjustable buttstock mounted on a standard AR-type receiver extension tube. That plus a new pistol grip should make things handier than ever—the CQB is 10 inches shorter than the standard M1A. It's



Nighthawk Custom Hi-Power

got slotted rails for all manner of scout-type or red-dot optic (including the Vortex Venom) you can think of and features an XS Tritium front sight to work with its aperture rear.

Winchester's track record with bolt-action centerfire rifles not named "Model 70" has been somewhat spotty, but the comparatively inexpensive XPR appears to be changing all that. It's got a host of modern features—2-position thumb safety, detachable box magazine, barrel nut and polymer stock, but the XPR's MOA trigger system—which features zero creep, take-up or overtravel—is pretty impressive, as is the rifle's reputation for accuracy. This year, the new XPR Hunter—a Mossy Oak Break-Up Country camo variant—is available in 11 calibers ranging from .243 to .338 Win Mag.

With all the shootable stuff, I saw no shortage of optical items of interest. Two that particularly interested me were from Steiner (now part of Burris). First—from the tactical arena—was their new P4Xi riflescope, a lightweight 1-4X illuminated (six settings) variable on a 30mm 1-piece tube. The other was the HX roof prism series of binoculars, covering the magnification spectrum of 8x42, 10x42, 10x56 and 15x56. They feature an improved optical design and they're tough too, being able to withstand up to 11 G's of impact. What's really neat, however, is the Fast-Close-Focus feature, which minimizes how far you have to rotate the focus wheel to sharpen the image at any given distance.

Safariland's Pro-Fit synthetic IWB holster line now includes the 575 IWB, designed for deep concealment. Available in one size, the Model 575 can fit more than 100 pistols. It features the company's patented Grip Locking System to automatically secure the gun once it's holstered. New variants to the Pro-Fit line are available in black and Flat Dark Earth.



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CHILEAN MAUSERS

These affordable 7x57 bolt actions offer quality craftsmanship and are still affordable for the beginning collector.

Some time back I mentioned becoming fascinated by military Mauser rifles. At this writing in my vault are ones either made by or for the following countries: Germany, Czechoslovakia, Sweden, Brazil, Argentina, Yugoslavia and Chile. The three I have from the latter country are especially interesting. They are all 7x57mm and represent Models 1895, 1912 and 1935.

According to *Military Mausers Of The World, Third Edition* by Robert W.D. Ball, the Model 1895 was so popular with the Chilean military that at one point their armories stored 80,000 full-length rifles and 30,000 carbines. At that time bolt-action military rifles were fitted with very long barrels because bayonet fighting was still considered important by military tacticians. Model 1895 Chilean rifle

barrels were 29.60 inches. Overall length was 48.60 inches and weight of the one in my rack is 9 pounds.

For various reasons during this time, some countries including Chile saw fit to have both short rifles and carbines in addition to full-length rifles. Their barrel lengths differed a mere 3 inches: 21.25 to 18.25 inches in the same order. And their weights varied only from 7.90 to 7.50 pounds. All Model 1895 stocks had a straight grip and wide steel buttplate, but the short models had sling swivels on the stocks' left for ease of carrying across a soldier's back. Besides length, a difference between full rifles and both shorter versions was a straight bolt handle on the rifle and a turned-down one on the other two.

Sights were an open rear of the flip-up ladder type and a front sight consisting of a blade set in a dovetailed base. As is also usual for military rifles of this era, the sights were wildly optimistic, being elevation adjustable to 2,000 meters for rifles and 1,400 meters for the shorter versions.

Obviously the Chilean Model 1895 predated Mauser's dramatic strengthening of their actions in the Model 1898 version, so today's shooters need to use the proper ammunition and/or handload accordingly. However, all were made by the Ludwig Lowe factory in Berlin (It later became DWM) and so were made with fine craftsmanship, meaning if their bores are still in good shape they will likely shoot nicely with both cast and jacketed bullets.

Because Peter Paul Mauser decided to improve his bolt-action rifle design with a third locking lug and improved metallurgy, many nations already equipped with the earlier versions decided to switch to rifles based on the Model 1898 action. For Chile this was their Model 1912. Interestingly they switched from German manufacture to Austrian, namely the *Osterrereichetsche Waffensfabriks-Gesellschaft* of Steyr. Instead of saying that mouthful, most sources just call the Model 1912 as the "Steyr."

Model 1912's are beautiful rifles. Their actions were left in the white while the rest of their metal is blued. Stocks were revised to have a pistol grip on both full-length rifles



Chile's three basic Mauser rifles include (top to bottom) the Model 1895, Model 1912 and Model 1935. All are 7x57mm.

and short rifles. Yes, again there was a shorter Model 1912 with 21.5-inch barrel instead of the 28.75 length of standard rifles.

There is an oddity about Chilean Model 1912's worth mentioning. By the model's year of acceptance, World War I was about two years in the future. The Austro-Hungarian Empire was one of the instigators of the war and their army was short of all sorts of arms. This led to them taking over Chilean Model 1912 production to use for their own armed forces. According to collector sources, ones proven to have been issued in Europe instead of South America will bring higher prices. The fly in that ointment is there seems to be no identifying marks to denote Austrian issue.

Chile's third 7x57mm rifle is unique. It is actually labeled as a carbine while having the 21.50-inch barrel of the short rifle. It is based on the Mauser Model 1898 action, but this time Chile returned to Germany for manufacture at Mauser-Werke in Oberndorf and carries the Mauser "Banner" logo as used during



Chile's Model 1895 rifles were manufactured by the Lowe factory in Berlin. It later became DWM.



The actions of Chile's Model 1912 rifles were left in the white. They were made at Steyr, Austria.



Chile's Model 1935 was made at Oberndorf in Germany and carried the Mauser "Banner."

the 1930's. The stock is similar to the Model 1912 short rifle, with pistol grip and sling swivels on the stock's left side.

Chilean Model 1935 rifles were made especially for their horse-mounted paramilitary *Carabineros*, which was a sort of border patrol. Supposedly, only about 10,000 were made which makes their going prices nowadays as much as three times the cost of a similar condition Model 1895 and Model 1912. (Duke's Luck was at work again in 2015. I managed to buy two nice Model 1935's in a 6-week period. The first one without having any idea as to exactly what I was getting.) Why the Chilean Government didn't just issue Model 1912 short rifles to *Carabineros* is a mystery. In essence they are identical.

Speaking of prices, good Chilean 7mm Model 1895 and Model 1912 rifles are relatively inexpensive today. Ones with fine bores can be purchased for about half the cost of a current American-made, big-game bolt-action rifle.

They are great fun for cast bullet shooting or competing in informal military rifle matches.



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OPTICAL BRIGHTNESS

Why some scopes work better than others.

Many shooters think optical brightness is totally due to good glass, but other factors affect image brightness. Before examining those factors let's review some optical basics.

Magnification is made possible by lenses bending light, but brightness is affected by how much light passes through each lens. Basic glass is a combination of silicon and oxygen, the two most abundant elements on earth, and the first manufactured lenses (as opposed to "natural" glass shaped into lenses) were basic glass, SiO₂. With basic glass only lens shape causes light to bend, and it doesn't bend much. This is why early riflescopes were very long: There had to be plenty of room between lenses to allow the relatively shallow angles of light rays to magnify.

Eventually it was found slight amounts of other elements made glass denser, increasing its ability to bend light. However, increasing density also increased reflection. Since each lens reflects some light and scopes require several lenses, many early scopes actually resulted in a dimmer image than seen with the naked eye.

COATINGS

During the 1930's optical scientists discovered an extremely thin layer of anti-reflective coating allowed far more light to pass through a lens. Essentially, light reflecting off the lens then reflects off the underside of the coating's external surface, forcing light that would otherwise be lost back through the lens.

The first coatings consisted of a single layer, but light is made of several colors of distinct wavelengths. A single-coated lens only resulted in some wavelengths passing through the lens, while other wave-lengths still bounced off. Eventually several layers were combined, varying slightly in material and thickness to "catch" other colors. The best multi-coated lenses now transmit almost all light, but since each lens still loses a little, scopes with lots of lenses lose more. And some light "scatters" before reaching our eyes due to other factors.

First, lens edges scatter light, partly because they're held inside a circular mount and some light hits the mount, and partly because lens edges must bend light at a steeper angle than light entering near the middle of the lens. The primary job of any magnifying optic is to help us see detail, and image sharpness also contributes to apparent brightness, one reason larger objective lenses provide a brighter, sharper image: In wider lenses there's less edge for the amount of lens surface.

AN "OBJECTIVE" LOOK

A larger objective lens also enhances brightness through a larger exit pupil, the small circle of light seen when we hold



In North America, whitetail hunters are probably most obsessed with scope brightness, because whitetails are often nocturnal. The light on Eileen Clarke and her Texas buck comes from sunrise, but she actually took the buck half an hour before the sun came up (where it is in this photo).

an optic at arm's length and look through the rear lens. The diameter of the exit pupil can be calculated by dividing the diameter of the objective lens by the magnification. When set on 10X, a typical 3-10x40mm riflescope has a 4mm exit pupil ($40 \div 10 = 4$).

The pupil of the human eye contracts in bright light and expands in dim light. Exactly how much depends on the individual and age, but the extremes are as small as 1.5mm and as large as 8mm.

In bright light the image in almost any modern scope appears bright, because the exit pupil is larger than our pupil, providing all the light our eye can use. But if the exit pupil is smaller in dim light than our eye's expanded pupil, our eye receives less light than it can use. The image appears washed-out, with low contrast and color, exactly what occurs in very dim light with a 3-10x40mm scope set on 10X.

Now, we can turn the scope's magnification down, increasing the size of the exit pupil. At 6X, for example, the exit pupil increases to 6.66mm ($40 \div 6$), close to the maximum diameter of an average human pupil. The image will have more color and contrast, so we should be able to see more detail—except that magnification also plays a role in apparent brightness.

We see detail better when closer to an object, in any kind of light, the reason we can tell the difference between 1/2-ton Chevy and Ford pickups across the street even at night. But we can't tell the difference in the two pickups if they're two blocks away, and might not even see them.



Good multi-coated lenses, like these at the Zeiss factory (above), play a major role in perceived brightness, but they're not the only factor. If the diameter of a scope's exit pupil is smaller than your eye's pupil, the image will be lower in contrast and color, both important factors in perceived brightness (below).



Essentially, more magnification brings objects closer, though sometimes at the sacrifice of color and contrast. This is why Europeans (who can often legally hunt in much dimmer light than most Americans) came up with a formula called "twilight factor," combining the factors of objective lens diameter and magnification. But for several reasons, the twilight-factor formula doesn't really work, so I won't bore you with the math. The only pertinent point is magnification plays a role in perceived brightness.

Other factors can scatter light before it reaches our eye, including reflections from the inside of the scope tube itself, the reason better scope manufacturers paint the insides of their scopes a dull black, or include small baffles. Older scopes used wire reticles, and many scopes still do. These barely affect light transmission, but today many scopes have reticles etched on glass. This glass isn't a lens but a thin, flat pane, usually uncoated, so also scatters a little light. If the reticle's illuminated by a tiny light-source inside the scope, that light scatters as well, and the larger and more complex

the reticle, the more light gets scattered.

As a result, illuminated-reticle scopes tend to be slightly dimmer than non-illuminated scopes, particularly wire-reticle scopes. On the other hand, non-illuminated reticles can fade in dim light, and superb optical brightness doesn't help our aim if we can't see the reticle.

The last factor is eye relief. The space behind the ocular (rear) lens and our eye allows more outside light to enter our eye, and longer eye relief results in more stray light. This is why many older European scopes had shorter eye relief, and why the view through binoculars and spotting scopes looks brighter than through riflescopes of the same magnification and objective diameter.

And yes, all these factors also have an effect on binoculars and spotting scopes, including etched reticles inside spotting scopes and rangefinders inside binoculars. Binoculars and spotting scopes often use lenses made of materials that scatter less light, such the fluorite lenses often called ED (extra-low dispersion) glass, and also have prisms to reflect light into very tight angles, allowing shorter tubes for the amount of magnification. But the basic principles are the same.

One factor with zero effect on scope brightness, however, is whether they have a 1-inch or 30mm tube. Many shooters believe 30mm tubes allow more light to "flow" through scopes, but that's an advertising myth.

We can determine if a scope tube is constricting light by measuring the exit pupil: If the exit pupil's smaller than it should be, according to the objective lens/magnification formula, then the tube's limiting light. But this normally happens only at low magnifications, when the exit pupil's larger than 7mm anyway. In reality, the only advantage of a 30mm scope is wider range of elevation and windage adjustment.

Ultimately, however, the real test for your eyes is looking through scopes in dim light, because the size of your eye's pupil and your particular color perception also affect perceived brightness.

Half of John Barsness's dozen books are on firearms and shooting. Modern Hunting Optics was published by Deep Creek Press in 2014, and is available through www.riflesandrecipes.com, P.O. Box 579, Townsend, MT 59644, (406) 521-0273.

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Spent hull near the ejection port, muzzle on target shows controllability of G42 during a Pocket GLOCK Match, Orlando, Florida.

COGNITIVE HANDGUN DISSONANCE

What do you do when the handgun you like best is not the one you shoot best?

Online encyclopedia Wikipedia tells us, "In psychology, cognitive dissonance is the mental stress or discomfort experienced by an individual who holds two or more contradictory beliefs, ideas, or values at the same time, performs an action that is contradictory to one or more beliefs, ideas or values, or is confronted by new information that conflicts with existing beliefs, ideas, or values. Leon Festinger's theory of cognitive dissonance focuses on how humans strive for internal consistency. An individual who experiences inconsistency (dissonance) tends to become psychologically uncomfortable, and is motivated to try to reduce this dissonance—as well as actively avoid situations and information likely to increase it."

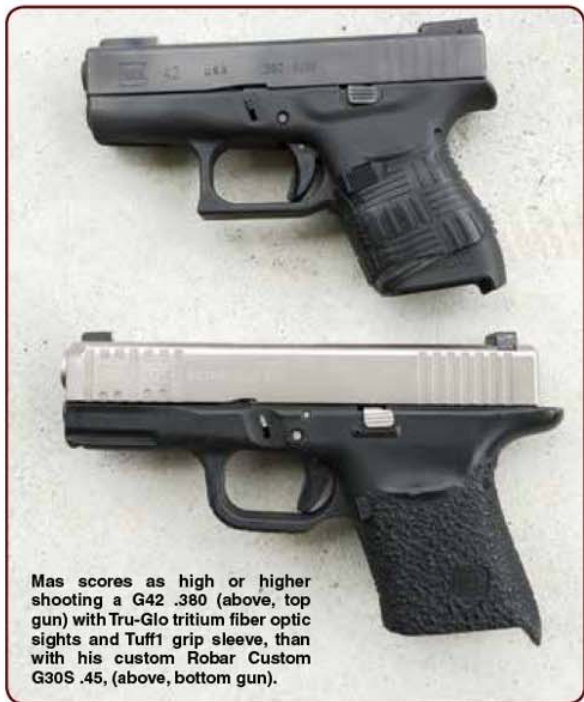
I've been reminded of this the last couple of years in one of my favorite competition shooting venues, the GLOCK Sport Shooting Foundation matches, in which I've consistently turned in my best scores in Pocket category, which began with the tiny G42 .380, and in 2015 was expanded to include the slim little G43 9mm. I tried the G43 in Pocket GLOCK at the Salt Lake City GSSF match in 2015, and didn't do as well with it as I had the previous year with the G42.

Now, ya gotta understand, I'm the guy who said, "Friends don't let friends carry mouse guns." An adult lifetime of studying these things all the way back to the .380 ACP cartridge's introduction circa 1908 (I wasn't there then, I just look like I was, but there are artifacts to study) showed me why the .380 was just too feeble to count on to stop a fight, the occasional success notwithstanding. GLOCK took this into consideration with their GSSF rules: only in

the Pocket GLOCK category is a hit on the plate good enough to count, while in every other category the plate has to be knocked down or you get 10 seconds per plate added to your time. This, I respectfully submit, tells us the .380 is a bit on the iffy side.

But, when five or more matches in a row showed me finishing better with the .380 than with anything else, including the .45 caliber G30 I shot in Major Sub and turned in about the same scores with, and I won two or three guns and a first place Pocket GLOCK overall in Clearwater, Fl., in 2015, I had to ask myself: "Aaaaugggh! What's wrong with me!?"

Let's flash back almost half a century ago, to when I was a



Mas scores as high or higher shooting a G42 .380 (above, top gun) with Tru-Glo tritium fiber optic sights and Tuff1 grip sleeve, than with his custom Robar Custom G30S .45, (above, bottom gun).

fledgling bull's-eye pistol shooter in my late teens. I was there to learn. The 1911 already dominated Centerfire Fire and .45 back then, but there was a fairly even popularity split in the .22 category between the High Standard Supermatic and the Smith & Wesson Model 41. Then (as always, I think) shooting champions were gracious with their advice to newcomers, and I remember asking one of the great champs, "Why did you choose the S&W over the High Standard?" What surprised me most about his answer was the way he said it, as if the question had tormented him and I had been the first to ask him why. "I like the High Standard better," he said, almost desperately. "It fits my hand better. I even like the trigger better. But I shoot better with the Smith!"

And there were others who told me just the opposite. But you know what? When they used the one they shot better instead of the one they just liked better, they won. And there was a lesson there, too.

Back when I shot a lot of PPC matches, the K-Frame Smith & Wesson revolver fit my hand better than the Colt, Ruger or Dan Wesson. But, in 4-inch-barrel service

revolver events, I discovered I shot my Moran Custom Colt Python better than my Smiths, so I went with the Colt, and won several state shoots with it. Pachmayr Presentation grips felt better in my hand than the finger-grooved Hogues cut to the backstrap of the frame, but on the range I learned my scores were just a little bit higher with the latter, so I went to the Hogues, and never had reason to regret it.

We're seeing a lot of momentum today with folks switching from .40 S&W, .357 SIG, and .45 to the milder 9mm, on the grounds that better hits faster with a smaller caliber are better than poorer and/or slower hits with a larger bullet. If that's the case for the individual shooter, the transition to the 9mm makes good sense. Going down to .380 is, however, a different deal. Notice no American police department issues a .380 to patrol officers. A lot of people shoot a .22 better than a centerfire, too, but in perspective, that doesn't make the .22 a better defense gun. As the argument applies in the .380 power range, it's largely a matter of degree.

In my case, I honestly can't say I shoot

the .380 better than the .45 in GSSF. With a stock G30 or G30 SF in the Major Sub division, the same course of fire as Pocket GLOCK (one shot per paper target, seven shots at six steel plates), my .45 scores hover neck and neck with my G42 tallies. However, those scores seem to place higher in Pocket GLOCK. The .380 is actually too small for my hand and I have to grasp it carefully, and differently from other GLOCKS, though when I do my finger is deeper onto the trigger and I have more flesh and bone wrapped around the grip, both of which work well for me. This may be why my two favorite GLOCK .45s have the grips thinned, an early 30 by Rick Devold and a 30S by ROBAR. Alas, so modified, neither is eligible for Major Sub competition.

For now, I'll try to learn the lessons. And seek therapy. Maybe 1,000 rounds of .45 ACP will help me replace the testosterone depleted by finishing higher with a .380 than with a .45.

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A SWINGIN' AFFAIR

There was no shortage of smoothbore surprises at the 2016 SHOT Show.

If the 2016 SHOT Show—held in glitzy Las Vegas—was any indication, the shotgunning world is full of surprises. As always, there were new models of all varieties, mostly minor variations of a theme, but then you can turn down an aisle and unearth a treasure. Here are a few highlights from the recent show.

Benelli, home of the Super Black Eagle, Montefeltro, 828U, Ethos and other elegantly designed and engineered models, really threw us a curve. We haven't had a new shotgun shell in some time, so it was quite a surprise when we picked up Benelli's little wand of a semi-automatic, their 5.3-pound 28-gauge, Ethos, and read "3-inch" on the barrel. That's right—the 28-gauge, long prized as a lightly recoiling field and skeet gauge, has been "magnumized."

Benelli has teamed up with Fiocchi to pull this off. Walking over to the Fiocchi booth, I discovered the Italians are already loading the new shell with two payloads. In Fiocchi's "High Velocity" line, there's a 1-ounce load of No. 5-6-7-1/2-8 shot at 1,300

fps, and in their "Golden Pheasant/Turkey" lineup, there's a 1-1/16 ounce loading of No. 5-6-7-1/2 nickel-plated shot at 1,200 fps.

The question is "Why?" Why take a soft-pushing shell that has endeared itself to hunters and skeet shooters alike, when shot in svelte, lightweight guns and run it on steroids? According to Benelli, the reason is "a 25 percent increase in knockdown power and 20 percent more pellets on target at 35 yards, giving shooters of the new Ethos 28-gauge the extra edge on those bigger—and often spookier—late season birds."

And the extra recoil in a 5.3 pound gun? Benelli has an answer for that, too. The stock features the Benelli Progressive Comfort recoil system consisting of three,

graduated, interlocking buffers that absorb recoil energy progressively based on the nature of the load being shot. Those buffers will supposedly tame the new 3-inch shell.

Benelli has always been an innovative company. It will be interesting to see if this 5.3 pound, 3-inch combo will carve out a successful niche for itself. The price is \$2,199. This year is also the 25th Anniversary of Benelli's Super Black Eagle model. Look for a number of limited edition models including four commemorating the Atlantic, Mississippi, Central and Pacific flyways.

Another brand exuding the Italian mystique is Franchi. Franchi is introducing two new models designed from the ground up to fit a woman. The Affinity Catalyst 12-gauge autoloader and the Instinct Catalyst 12-gauge O/U feature stocks with the drop, cast, pitch and length-of-pull tailored to an average woman's build. No pink colors, no chopped down buttstocks, Franchi's models have been designed and tested to complement women shooters. It's a long-overdue development. Hopefully, both lines will soon be chambered in 20-gauge as well. The price for the autoloader is \$999 and \$1,599 for the O/U.

Mossberg's "Built Rugged. Proudly American." moniker has been enhanced with the introduction of their new 930 Pro-Series of autoloaders. The four models in the "Pro-Series" include Sporting, Waterfowl and a Jerry Miculek competition series. The Pro-Series guns feature boron-nitride-coated gas pistons, piston rings, magazine tubes, hammers and sears, carefully dimensioned and slicked up shell stops, bolt slides and elevators and drop-adjustable stocks. The Sporting model was designed with the assistance of Gil Ash, owner and professional shooting instructor at the OSP School. It features a carefully dimensioned stock designed for sporting clays competition, extended Briley chokes, a Cerakote finish and HI VIZ TriComp front sights. The price is \$1,029. The "930 Pro-Series" are highly refined, purposely-built autoloaders and classy additions to Mossberg's extensive shotgun line.



Benelli's ETHOS breaks new ground with Fiocchi's also-new 3-inch 28-gauge shell.



Franchi's Instinct Catalyst is tailored to an average woman's build.



Mossberg's Pro Series are classy additions to their extensive shotgun line.




Winchester's SuperX3 Sporting Adjustable (above) and Composite Sporting Carbon Fiber (below) are built to smoke the competition.



Perazzi's display of premium Italian gunmaking is never something to miss at any SHOT Show. Front and center this year was a 12-20-28-.410 set of matched O/U game guns featuring exhibition quality walnut and highly engraved side-plates for a whopping \$373,680.

Remington is celebrating its 200th Anniversary this year with commemorative models of their 870 and 1100 shotguns featuring upgraded wood, engraving motifs and gold inlays. The ultra-low recoiling, 3-inch, V3 autoloader is also making its debut with a choice of either a plain black synthetic stock (\$895) or in Mossy Oak Blades or Break-Up Country camo (\$995).

Winchester showcased two new competition autoloaders: the Super X3 Sporting Adjustable and the Super X3 Composite Sporting Carbon Fiber models. The "adjustable" model sports an adjustable comb, otherwise both models feature nickel-plated receivers, chrome-plated bores, Signature Red Briley bolt handles, bolts releases and magazine caps, drop-out trigger groups, extended Signature Invector-Plus choke tubes, ported Perma-Cote gray barrels, ventilated ribs, Tru-Glo sights and Pachmayr Decelerator recoil pads. The prices are \$1,869.99 and \$1,739.99 respectively.

The shotgunning world's favorite 501(c)(3) charity was there in Vegas as well. The Kids & Clays Foundation began in 1999 to raise money for the Ronald McDonald House Charities by supporting sporting clay and other shotgun events nationwide. To date, \$15 million net has been raised through an average of 20 shooting events each year. The recipients, the 320 Ronald McDonald Houses, are "homes away from home" for families of critically ill children who are receiving treatment at nearby hospitals at little or no cost." Check out the 2016 calendar of Kids & Clays events. There's probably a fundraising shoot close to you. It deserves your support. 

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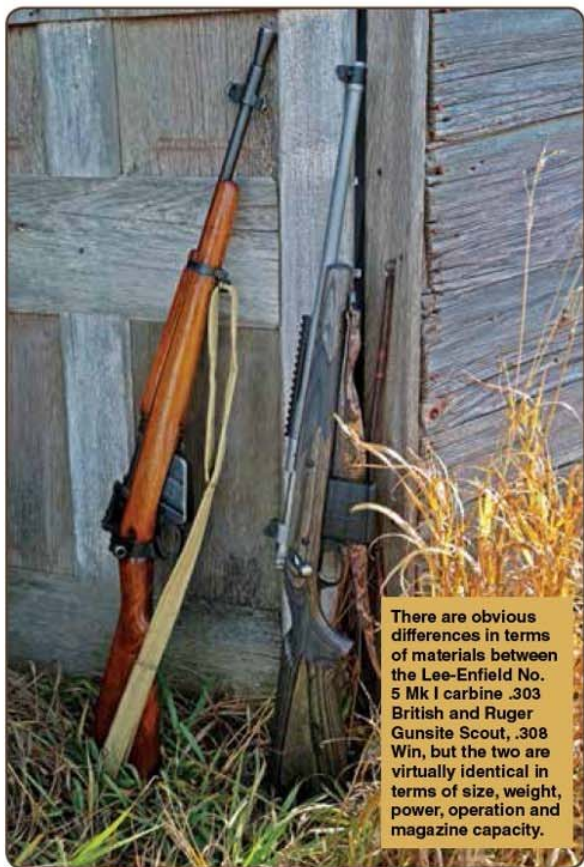
The modern version of the Jungle Carbine is embodied in today's Scout Rifle.

World War II brought changes to military tactics and firearms. In 1939 a typical battle rifle was a bolt action, 44 inches long and weighing 9 to 10 pounds. With troop movement increasingly by truck, tank, or aircraft, such rifles were cumbersome. The value of semi- and full-automatic fire for shoot-and-manuever tactics and in urban fighting was obvious.

The era of the bolt-action rifle for general military issue was drawing to a close, but there were a couple of last-ditch efforts to adapt it to changing circumstances. One development was a slightly revised version of the Czechoslovakian Vz.33 carbine called the G33/40 (1940-'42) issued primarily to German mountain troops. The second was the Lee-Enfield No. 5 Mk I (1944-'47).

Setting aside the differences between the Lee-Enfield and Mauser designs, the two carbines are remarkably similar. In both cases there were lightening cuts to the receiver barrel lengths of 19 to 20 inches, overall length 39 to 40 inches, and weight of about 7-1/2 pounds. They fired the standard full-power service cartridges of each nation (.303 British and 7.92x57 Mauser).

Neither of these carbines saw more than limited use. Only about 131,000 G33/40 carbines were made. Around 251,000 No. 5 Lee-Enfields were made, including those made between



There are obvious differences in terms of materials between the Lee-Enfield No. 5 Mk I carbine .303 British and Ruger Gunsite Scout, .308 Win, but the two are virtually identical in terms of size, weight, power, operation and magazine capacity.

1946-'47 after WWII had ended. Some No. 5's are said to have been issued to paratroopers and used in Europe. Others went to the Asiatic theatre, primarily Burma.

Subsequently the No. 5 was used during what the British euphemistically called the "Malayan Emergency" a guerilla war conflict in Malaya lasting from 1948 to 1960. Apparently it was in these actions the No. 5 got its unofficial nickname of "Jungle Carbine" (a term never used by the British military).

For military use, these carbines proved an evolutionary dead end. Making the firearms lighter and shorter were good ideas; chambering them to full-power cartridges was not. A 9-1/2-pound .303 recoils plenty hard for soldiers (who for the most part were not shooting enthusiasts), never mind a 7-1/2-pound carbine. Perhaps even worse was the ferocious muzzle blast from the short barrels. Keep in mind, soldiers in those days seldom had ear protection!

But the story doesn't end there. A compact, powerful, accurate, rugged and reliable firearm is a very versatile and useful tool. Maybe not for general military issue, but for the individual rifleman, for sport hunting, or for survival and self-defense against predators while traveling in the wilderness, they seemed ideal.

In the post WWII era, the G33/40 actions were prized by custom gunmakers for

CARBINE COMPARISON

Model:	Lee-Enfield No. 5 Mk I	Ruger Gunsite Scout
Action:	bolt-action, magazine-fed	bolt-action, magazine-fed
Cartridge:	.303 British	.308 Win
Length overall:	39-1/2 inches*	38 inches
Barrel length:	20 inches*	18-1/2 inches
Weight, empty:	7 pounds, 8 ounces	7 pounds, 9 ounces
Capacity:	10	10
Rear sight:	Adjustable receiver	Adjustable receiver
Front sight:	Protected post	Protected post
Trigger:	2 stage	Single stage

Notes: *Includes flash hider measuring 1-1/2 inches



More features of the Lee-Enfield No. 5 Mk I include lift-up sight graduated to 800 yards, hollowed out bolt knob, lightening cuts on bolt body and on receiver. You hear complaints of heavy recoil and "wandering zero," but even with the rather small, hard buttpad, how bad can recoil be with a cartridge less powerful than a .300 Savage in a 7-1/2-pound carbine? Dave thinks both issues result from the ferocious muzzle blast from the short barrel, along with inadequate or no ear protection.



The best features of the Lee Enfield No. 5 live on in the Ruger Gunsite Scout while adding stainless steel construction, a better trigger pull, and most importantly, sighting options such as (clockwise from top) a Nightforce 2.5-10x32 in Leupold rings, EOTech reflex sight, Streamlight white light/laser fitted on a Warne 45-degree base, Leupold 2.5x28 Scout Scope in Warne quick-detachable rings and an adjustable receiver sight.

building light sporting rifles (and still are today, for that matter). The relatively few original G33/40 rifles remaining are highly collectible, far too valuable to cannibalize just for the action.

Lee-Enfields were never much in demand for custom work. On the other hand, if you could do without a scope and with the .303 British cartridge, they served well as inexpensive hunting rifles. Many thousands were sold in the '50's and '60's both in Canada and the US.

Most were cut-down No. 1 or No. 4 rifles, but the "Jungle Carbiners" were the ones everyone wanted. Trouble is, back then they were so darn expensive, costing \$25 while a cut-down No. 1 was only about \$15. It would be a half-century before I finally acquired my own No. 5.

My carbine has an excellent bore, more than adequate power and accuracy, a fast and reliable action, and it balances and handles beautifully. As with all Lee-Enfields it is incredibly tough and durable. Action components are simple, large,

and robust. The sear and its spring, for example, look more like parts for a Jeep than for a rifle. But I gotta have a scope...

Fortunately there are several alternatives sharing the No. 5's virtues, while adding sighting options and cartridge choices. Examples include the Ruger Gunsite Scout, Savage Scout, Steyr Scout, and Tikka CTR.

It's too bad the one feature most associated with Jeff Cooper's "Scout" concept, the forward-mounted scope, is one of the least important. If you dislike such scopes, just don't use one. All these rifles accept a conventional receiver-mounted scope.

If the rail on the barrel offends you just take it off. Personally I like the rail, as it permits additional sighting options at the modest cost of 1-1/2 ounces of weight.

The Ruger shown here is one I bought at a local gunshop. It's a bit unusual in having an 18-1/2-inch barrel and no muzzlebrake. The store must have needed some quick cash to pay the light bill as several guns were discounted 35 percent. I paid less for the Ruger than

for my No. 5. Though made 70 years apart it is amazing how similar they are (see chart).

The Ruger fires a more readily available cartridge, and has the options of stainless-steel construction and laminate or synthetic stocks. Barrels are threaded for a muzzle-brake or suppressor.

The Lee-Enfield can be rapidly reloaded using 5-round "stripper clips", which are also a convenient method of carrying spare cartridges. The No. 5 also has shorter bolt lift and bolt throw, though these are hardly decisive advantages.

The Ruger's decisive advantage is its sighting options. The supplied iron sights are very good. The receiver has the usual Ruger integral bases, plus there is a barrel-mounted Picatinny rail. I've enjoyed setting it up in various ways: with a Leupold 2.5x28 Scout Scope in Warne QD rings, a Nightforce NXS 2.5-10x32 in Leupold 30mm rings, an EoTech reflex sight on the rail, a Streamlight white light/laser on a Warne 45-degree base attached to the rail plus, of course, the factory iron sights.

For carrying the rifle in your hand, the 10-shot magazine may get in the way. Ruger sells both 3-shot and 5-shot magazines, which would be more convenient. With the .308 cartridge I like the weight of the laminate stock, but if you prefer, the synthetic stock saves about a pound of weight.

There's also a 5.56/.223 version. I wouldn't mind seeing a couple more cartridge options, such as the .243 Win, 260 Rem, and 6.5 Creedmoor—all with 1:8-inch twists. Even better, how about Ruger gets together with the good people at Hornady and persuades them to produce the 6mm Creedmoor, already a fairly popular wildcat, as a factory round.

Then build the Gunsite Scout with synthetic stock, stainless steel, 19- to 20-inch barrel without a muzzlebrake, perhaps a bit lighter contour (or fluted?) if it can be done while retaining the Picatinny rail. Weight should be around 6-1/4 to 6-1/2 pounds with iron sights.

Twist could be 1:8, or the same 1:7.7 used on the Ruger Precision Rifle .243, for use with the slippery 105- to 115-grain bullets. All the virtues of the carbine, along with lighter weight, moderate recoil, excellent downrange retained velocity and resistance to wind drift.

I think it would be a pretty neat little carbine. Not as cool as my old No. 5 Mk I, of course.

REVERSE EVOLUTION

The son of the .41 Magnum—the .41 Special—is for handloaders only.

One of our best sixgun cartridges is the .41 Magnum, however for some reason it has never received the attention it should have. It is almost treated as being illegitimate. There may be a very good reason for this as the .357 Magnum and the .44 Magnum followed a natural path from their ancestors while the .41 Magnum seemed to show up on the doorstep like an orphan in a basket. It has been treated like a redheaded stepchild for the past 50 years except for those very savvy sixgunners who can see it for the great cartridge it is.

If we look at ancestral heritage, everything was as it should be with both the .357 and .44 Magnum cartridges having ancestors they could look back to at the beginning of the cartridge era. Then came the .41 Magnum.

There was no .41 Special. Several experimenters came very close. In the 1920's, at least 10 years before the advent of the .357 Magnum, gunsmith Cyril "Pop" Eimer was offering the .40 Eimer Special from his Joplin, Missouri, gun shop. Eimer started with Colt Single Actions in either .38-40 or .41 Long Colt. These were chosen as they normally had 0.403-inch barrels and it only required a new cylinder for his wildcat.

The .40 Eimer Special, also known as the .401 Eimer, was made by shortening .401 Winchester or .30-40 Krag rifle brass to 1.25 inches and loaded with 200-grain bullets. At the time "Fitz" (John Henry FitzGerald, "Mr. Colt") tried to interest his company in chambering the Colt SAA and New Service in Eimer's .40 but to no avail.

Two well-known names to handloaders who use cast bullets and study the past, Gordon Boser and Ray Thompson worked with the .40 caliber in the 1930's and '40's. Boser was a Springfield, New York, gunsmith whose favorite sixgun cartridge, as so many others at the time, was the .44 Special, however he wanted more than the Colt Single Action offered with this chambering. Using .401 Winchester brass trimmed to 1-7/32-inch, he designed his own bullet, a 195-grain semi-wadcutter offered by Lyman as 401452.

In 1932, Fred Moore (who was the Colt factory superintendent) chambered the Colt Official Police for the .41 Colt Special using 210-grain bullets around 1,150 fps. Remington even supplied the ammunition and, although they would've had a jump of three years on the Smith & Wesson .357 Magnum, Colt declined to offer the .41 Colt Special.

The .41 Magnum came about in 1964 mainly at the urgings of Bill Jordan and Elmer Keith along with Skeeter Skelton (who



Single Action .41's in John's collection include (top right clockwise) a Bowen Ruger Flat-Top, Bowen Colt Single Action, Gallagher Single-Six 5-shooter, Gallagher Lightweight Ruger Three-Screw, and Reeder produced Perfect Packin' Pistol.

said he was just along for the ride with the other two.) The .41 Magnum was supposed to be the perfect cartridge for law enforcement, however the guns were too large and the cartridge too powerful. It did not become the latest rage for police use, however, outdoorsman and handgunners in the know accepted it readily. In fact, during the early 1970's, when .44 Magnums were almost impossible to get thanks to *Dirty Harry*, many sixgunners gravitated to the .41 Magnum.

I first met Hamilton Bowen in the mid-1980's and I don't know which one of us came up with the idea (probably him), but as far as I know we were the first to go with a .41 Special. I do know in 1987 I shot the first .41 Special in a Bowen Security Six at the Shootists Holiday. At the time Hamilton had never worked on Colt Single Actions so I supplied two 2nd Generation Colts for his experimenting. One came back as an 8-1/2-inch .32-20 with S&W adjustable sights while the other was a 5-1/2-inch .41 Special with standard sights and an unfluted custom cylinder. Both proved superbly accurate.

Where was I going to get the ammunition? I certainly wouldn't find any at the local gun shop or anywhere else. This was strictly a handloader's proposition. There was no ammunition, no brass, however, brass was easy. Standard .41 Magnum brass was simply trimmed to .44 Special length with no inside neck reaming required. Bullets were very easy. Most standard cast or jacketed .41 Magnum bullets work just fine in the .41 Special.

Over the years the .41 Special has gained a very small bit of legitimacy in several ways. It is listed in *Cartridges of the World* using my loading data and there have been at least two runs of .41 Special brass with the proper headstamp. One is marked Starline and the other is "QUAL CART"

for Quality Cartridge. Today Starline currently offers .41 brass in their lineup.

Reloading dies for the .41 Special are no problem as RCBS .41 Magnum dies work perfectly—well almost. I have found it necessary to take some material off the bottom of the crimping die so it will work properly with a shorter case. If you can't find .41 Special brass, only two things are necessary: trim .41 Magnum brass to the proper length and do the same with the crimping die. That makes the .41 Special about as simple as a wildcat sixgun cartridge can be.

As mentioned, as far as I know Hamilton Bowen was the first sixgunsmith to build a .41 Special. In addition to my original Colt Single Action he also converted a Ruger .357 Magnum Three-Screw Flat-Top to a beautifully finished blued/case hardened .41 Special as well as a Smith & Wesson Model 586 which is now a 4-inch double-action .41 Special. John Gallagher has come up with the smallest .41 Special by turning a Ruger Single-Six .22 into a 5-shot .41. Gallagher also rescued a disaster from another gunsmith and turned it into a 4-inch lightweight .41. Even though it will accept .41 Magnum cartridges, I have never used it with full-house .41 Magnum loads as with .41 Specials it performs just fine for me. I have found most .41 Magnum sixguns shoot very well with .41 Specials and are whole lot more pleasant to shoot.

Gary Reeder is the first to offer a production Perfect Packin' Pistol. Gary says it has been a while since he premiered a new series, but here it is, so it is altogether appropriate the first

production Perfect Packin' Pistol from Gary is chambered in .41 Special.

Being a straight-walled pistol cartridge, the .41 Special is just as easy to load as the whole list of other well-appreciated sixgun cartridges. For powders I go with the same propellants I normally use for the .44 Special, namely Unique, Universal, 2400, IMR 4227, and AA9. The goal is not to turn the .41 Special into a .41 Magnum which we already have, but rather to load it at the same levels we normally use for the .44 Special which is from 900 fps to about 1,100 fps. The same Keith or Keith-style bullets, which work in the .41 Magnum are certainly apropos to the .41 Special. The two I use the most are the Lyman 410459KT (which Keith did not

approve of) and the Hensley & Gibbs 210KT which he definitely preferred.

Jacketed bullets, of course, abound though not as many as for the .44's. Favorites include the Sierra 170 JHC and 210 JHC, the Hornady 210 JHP, and most assuredly the bullet, which is no longer available and for which I covet the last few remaining ones I have, being the Speer 200 SWC-HP. This bullet is one of the earlier Speer designs and features a lead core in a copper cup rather than the conventional jacketed style. At one time Speer offered these in .38, .41, and .44. Apparently we have become too modernized for these to be offered anymore. This is unfortunate as these were excellent bullets for both Specials and Magnums.

All of the .41 Special sixguns can be classified as strong sixguns able to handle all of my .41 Special loads using 200- to 220-grain bullets over 7.0 grains of Unique or Universal, 12.5 grains of 2400 or AA No. 9, and 14.5 grains of IMR4227 *except* I do not go over 6.0 grains of Unique with the Oregon Trail 215 SWC in the Gallagher Ruger .41 Special Single-Six. This gives me just over 800 fps which is plenty in this little 5-shot sixgun. Dropping down to 5.0 grains results in just under 700 fps and a very tight group of 1 inch for four shots at 20 yards.

BOWEN CLASSIC ARMS, P.O. Box 67, Louisville, TN 37777, (865) 984-3583, www.bowen-classicarms.com, **JOHN GALLAGHER**, 3923 Bird Farm Rd., Jasper, AL 35503, (205) 388-6425, **REEDER CUSTOM GUNS**, 2601 E. 7th Avenue, Flagstaff, AZ 86004, (928) 527-4100, www.reeder-customguns.com

.41 SPECIAL HANDLOADED AMMO PERFORMANCE

BULLET (BRAND, BULLET WEIGHT, TYPE)	POWDER (BRAND)	CHARGE (GRAINS WEIGHT)	VELOCITY (FPS)	GROUP SIZE (INCHES)
H&G 210 KT	IMR 4227	14.5	1,082	1-3/8
H&G 210KT	Universal	7.0	1,000	1-3/8
LYMAN 410459KT	2400	12.5	1,065	1-1/4
LYMAN 410459KT	IMR 4227	14.5	928	1-1/8
LYMAN 410459KT	Universal	7.0	1,025	1-3/8
OREGON TRAIL 215 SWC	2400	12.5	977	1-3/8
OREGON TRAIL 215 SWC	AA 9	12.5	1,061	1-5/8
HORNADY 210 JHP	IMR 4227	14.5	1,083	1-3/8
SIERRA 170 JHC	2400	12.5	996	1-1/2
SIERRA 210 JHC	2400	12.5	1,003	1-1/8
SIERRA 170 JHC	AA 9	12.5	1,041	1-1/2
SIERRA 210 JHC	AA 9	12.5	1,048	1-1/8
SIERRA 210 JHC	IMR 4227	14.5	919	1-5/8

Notes: Groups the product of 5 shot at 20 yards. Chronograph screens set at 10 feet from muzzle. Firearm barrel length 5-1/2 inches. CCI 300 primers used in Starline brass.



These two Hamilton Bowen Custom revolvers in .41 Special are a Colt Single Action and Ruger Flat-Top. They shoot quite well and quite pleasantly.

FIRST LOVE

Seeing the world
with a sleek,
hot Italian

I was a corn-fed backwoods American kid who had not gotten far outside of my hometown. I had plenty of homegrown experience, mind you, but it was the foreign strangeness combined with the unfamiliar sensuous curves that initially caught my eye. In short order I was smitten and we were inseparable. We shared a sleeping bag under many a starlit night and travelled the world together, taking in the sights and savoring exotic locales. The inevitable danger and mystery only deepened our bond. I thought it would last forever but, alas, it was I who cheated first. In short order something younger and hotter caught my eye and I moved on. However, no matter where I went after that, or with whom, I always held a soft spot for that first little Italian.

The bond between a soldier and his weapon is an almost mystical thing. On the surface the gun is simply a very specialized tool, not altogether dissimilar from a flashlight or spanner wrench. However, the nature of the relationship runs much deeper. A friend who landed on Omaha Beach on the afternoon of June 6th, 1944, carried an M1 throughout his service in Europe. He told me the M1 Carbine was a Carbine, the M1 Thompson was a Thompson, and the gun

we all erroneously call the Garand was the only *real* M1. He explained that for an entire year there was not a moment when some part of his anatomy was not touching his M1. You take it with you to the latrine, to the chow hall, and to church. You sleep and shave with it. You'd shower with it if you ever got a shower.

Another friend once killed a man with his 1911 in a pathetic little drama that played out in a nameless burned-out hamlet in France in 1944. My buddy was faster than his German counterpart and as such lived to tell the tale. The telling was always filled with melancholia. Movie depictions notwithstanding, normal people are not really wired to take human life. Such stuff will change a man.

I fondly remember when we transitioned from the old standby 1911A1 to the newfangled Beretta M9. Our 1911 pistols all dated back to the Second World War and had inevitably been through the rebuild process a time or three. They rattled when you shook them and the sights were comically small. Recoil was a handful, but this was a manly gun for a manly time. When limited to ball ammunition, there was literally nothing more effective on the planet.

Much of my infatuation with the Beretta stemmed from a single movie. The Mel Gibson cop classic *Lethal Weapon* introduced me to the high-capacity double-action/single-action auto. Despite the fact Gibson's Detective Martin Riggs never seemed to use a holster, his gun shot preternaturally straight, or perhaps because of these things, most of us simply had to have our own high-capacity Wonder-9 handguns. I bought mine early on for an exorbitant sum and was pleased to own it.

NATURAL HISTORY

The original handgun trials during the early '80's were rife with controversy. We stood poised to adopt a combat handgun not invented in the United States and such a thing was not lightly done. At the end of the contest two guns prevailed, the Sig P226 and the Beretta M9. The Beretta took the day. But the Navy SEALs, who never seemed quite as constrained by budgetary restrictions as the rest of us, opted for the SIG.

A soldier's individual weapon is his most intimate personal possession. More than any other piece of equipment, this device is his security blanket, badge of authority, and insurance policy.



Our early love affair with the M9 was not without its hiccups. The gun developed a distracting tendency for the back of the slide to break off at high round counts with catastrophic results. A little steel disk affixed to the frame as a mid-production fix ensured were this to happen at least nobody would get hurt.

The Beretta M9 was indeed state of the art at the time. The magazine held 15 rounds, the safety included a decocker, and the gun came to pieces with nary a fuss. It always seemed adequately reliable to me and I liked the way it rode in my hand. The barrels on ours were chrome-plated and when we were in nasty places we kept a yellow earplug in the muzzle to keep out the crud. I can't say I ever explored whether this was a good idea or not.

The open slide design was said to improve reliability but I never quite bought into that myself. I have carried and fired an awful lot of very reliable handguns with enclosed slides. However, it was indeed a fast gun to run.

The pistol and a brace of spare magazines gave us 46 rounds on tap, but you could squirt through those rounds awfully quickly if you weren't careful. A friend wounded in Mogadishu, Somalia, ended up with his pistol as well as that of his copilot when he was surrounded by skinnies, the universal derogatory epithet everybody used for the nihilistic Somali teenagers hopped up on khat who did the dirty work for the local warlords. My buddy burned through the two pistols with their single magazines in two vigorous bursts, striking but a single Bad Guy as near as he could tell. A bit of divine intervention kept him from becoming somebody's victim, but that is a story for another day.

In short order we became inured to foreign weapons in our arms rooms such that it didn't seem like such a big deal. Our handguns were Italian, our squad automatic weapons were Belgian, and a few of the M16A2's I bumped into had FN on the magwell. We import our clothes, our cars, and our Happy Meal toys. I suppose foreign weapons were inevitable.

TRIGGER TIME

The M9 remains one of my favorite 9mm handguns. The grip feels familiar and comfortable and I can work the controls without conscious thought. I have never been able to hit to precisely the same point of aim in both double action and single action modes but that is likely my fault. I should always practice more. Nevertheless, I can land those 9mm ball rounds pretty much where I want them even when rushed or sweaty.

Recoil is piddly and magazine changes are smooth to the point of tedium. You can't deactivate the weapon just by pushing on it from the front and the gun is not so wide I couldn't carry it underneath my clothes when I needed to.



These two handguns armed United States military forces for more than a century. Each weapon was the product of an entirely different process and an entirely different era. Together they have armed generations of American soldiers. The Beretta M9 (left) heralded a new era in American military small arms. For the first time in modern history, the US Armed Services adopted a primary weapon not domestically designed. While the 9mm ball round has been maligned and the M9 has vociferous detractors, it has in general been a reliable and effective combat weapon. The classic 1911A1 .45 ACP pistol (right) sprang from the fertile mind of the inimitable John Moses Browning, a visionary gun maker born five years before the American Civil War. Standard issue for more than 70 years, the 1911 still remains the most prolific and customized handgun design in history.

The combination of myriad internal safety mechanisms with the slide-mounted hammer-drop device means the M9 simply will not shoot unless you allow it to. I shared a sleeping bag with mine many times and never worried I would roll over and shoot my kneecaps off.

The M1911A1 .45 is a much more masculine gun, although my groups were never quite as tight as they were with the subsequent smaller caliber weapon. I once watched an unfortunate young stud at Fort Benning slip during a timed weapons competition and fire his recoil spring plunger into the stratosphere. The 15 minutes he spent looking for the errant piece in nearby tall grass did indeed count against him. However, I have a friend who shot a man three times in the chest with his M9 and went on to develop a friendship with the unfortunate Iraqi after he recovered. I am not so certain there would be such a happy ending if my buddy had wielded that classic slab-sided icon designed by John Moses Browning, himself born five years before the American Civil War.

THANKS FOR THE MEMORIES

I recall the familiar mass of my M9 underneath my uniform when it did not seem appropriate to keep the thing in plain sight. I carried mine in a low-ride abseiling thigh rig back when no one else did because it kept the gun clear of the seat armor when I flew helicopters. This practice earned me derision from more than a few of my Infantry comrades who had a greater affection for uniformity than utility. Considering literally everybody carries this way nowadays, I do sometimes wish I could say "I told you so."

I snuggled up with mine in a snow cave and openly carried it into a commercial airliner when we took a charter on a deployment to some wretched spot or other. I cradled it in the dark and kept it close when I might have otherwise relinquished everything else. A soldier's weapon is his friend, his companion, his security blanket, his insurance policy, and his badge of authority. Like that first car or that first kiss, the first time you carry a gun for real, it is almost surreal. Memories are made of such as this.

WORLD WAR SUPPLY, P.O. Box 72, Ada, MI 49301,
(616) 682-6039, www.worldwarssupply.com

EASY SHOOTIN' COMPACTS

Springfield Armory Range Officer in 9mm and .45 ACP.

The genius of John Browning can be seen not only by the fact his basic 1911 design is still going strong after more than a century, but also because so many things have been done to it and continue to be. It has been chopped, channeled, expanded, downsized, chambered in everything from .22 to .50 and shows no signs of slowing down. Today some of the finest and most innovative 1911's are coming out of Springfield Armory.

A few years back Springfield Armory took their basic 1911, added match-grade barrels, excellent adjustable sights, left off all useless frills, and the result was a 1911 which could be used as a competition pistol right out-of-the-box. They called it the Range Officer.

Thousands of folks carry a 1911 on a daily basis. For me least, the 1911 is just about the upper-level for a concealed pistol. Yes, it is certainly more comforting than *comfortable*. Now Springfield Armory has addressed

this situation by turning the Range Officer into an easier to pack and conceal 1911. Available in both .45 ACP and 9mm, the Range Officer Compact Model basically is a shorter Commander slide mated up with and Officers Model grip frame. The result is a much smaller and easier to conceal pistol. Barrel length for concealment is not nearly as important as the grip frame. With this smaller grip frame there is much less chance of the butt of the pistol printing on a jacket or shirt.

Since it is called the Range Officer Compact Model, you might think it would simply be a Range Officer, which has been shrunk to a smaller size. This is not the case as changes have been made both externally and internally. The most noticeable change, of course, is the shorter slide and shorter barrel, which now measures 4 inches, and the much smaller grip frame. Since the frame is smaller it was necessary to also down-size the magazines with the result these .45 ACP and 9mm Compact Models hold 6 and 8 rounds respectively making them 7- and 9-round capacity pistols.

The fully adjustable competition-style sights of the full-size Range Officer have been

RANGE OFFICER COMPACT

MAKER: Springfield Armory, 420 West Main St., Geneseo, IL 61254, (800) 680-6866, www.gunsmagazine.com/index

ACTION TYPE: Semi-automatic, **CALIBER:** .45 ACP, 9mm (both tested), **CAPACITY:** 6+1 (.45), 8+1 (9mm), **BARREL LENGTH:** 4.0 inches, **OVERALL LENGTH:** 7.6, **WEIGHT:** 30 ounces, **FINISH:** Blue slide, anodized frame, **SIGHTS:** White dot rear sight, red fiber-optic front sight, **GRIPS:** Slim checkered rosewood, **PRICE:** \$977

replaced with sights more conducive to concealed carry. These self-defense sights are composed of a low profile "combat" rear in a dovetail which can be adjusted for windage, while the front sight, also in a dovetail, is a red fiber optic. The square notch of the rear sight has a white dot on each side so these sights pick up very quickly, even in low light.

Looking inside we find more than just the reduced capacity of the magazine. The Compact Model has a full-length guide rod instead of a bushing. Since there is no bushing, the stainless steel barrels of the Compact Models are tapered at the muzzle for a tighter fit in the slide. The forged lightweight alloy frame is matched up with a steel slide which are of the same material and precision as those found in their Trophy Match 1911.

The barrels on the Compact Model are also of a bull barrel configuration, which helps to put a little more weight at the front end of the pistol. The beavertail grip safety has a memory bump, the flat main-spring housing is checkered making for a secure grip, and the trigger is the light-weight style and extended. Trigger pulls on both the .45 ACP and 9mm Compact Models are smooth and creep free and seem lighter than the measured 4-3/4 pounds. The thumb safety on the left side is striated for positive operation. The standard-style magazine release is the on the left side and operates very positively.

Hammers on both models are Commander-style and, when cocked, fit in a groove in the top of the beavertail

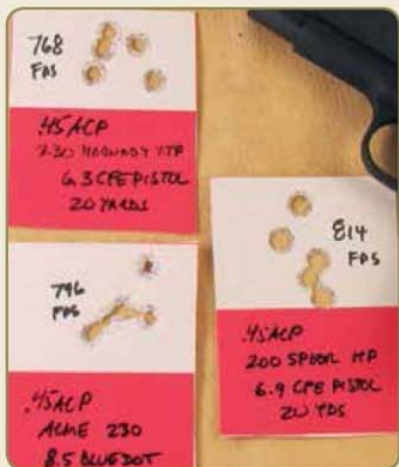


Instead of a bushing the Range Officer Compact Model has a tapered stainless steel bull barrel and a full-length guide rod.

so there is no chance of your hand being pinched. The slides have slanted serrations below the rear sight for easy manipulation. The two versions, .45 ACP and 9mm, are virtually indistinguishable at first glance, however each is marked on the left side of the slide with the designation: "COMPACT CAL .45" or "COMPACT CAL 9MM."

Normally the first thing I do with any sixgun or semi-automatic is check the quality, size, and fit of the grip panels, which normally results in my changing them. It is almost impossible for me not to change grips or grip panels on every sixgun or semi-automatic I have. I do have possible replacements, however the grip panels on the Compact Models are well carried out. They are slim, which aids their concealability. They also fit well and are of the double diamond checkered variety, adding to security when shooting. Possible replacements I have are smooth wood but in this case I prefer the checkering. Material used in their construction is cocobolo. Each panel has the Springfield Armory logo in the center and the words "RO COMPACT" along the bottom backside of each panel.

As with other Springfield Armory pistols the Compact Models come in an exceptionally sturdy, lockable padded case which not only holds the pistol in a padded cut-out, but also an extra magazine, a bristle brush, a Springfield Armory polymer holster, and a polymer magazine scabbard to hold two magazines. Each Compact Model comes with



The .45 ACP Range Officer Compact Model shot very well with a variety of factory ammo (HPR shown, left) and handloads.

9MM HANDLOADED AMMO PERFORMANCE

BULLET (BRAND, BULLET WEIGHT, TYPE)	POWDER (BRAND)	CHARGE (GRAINS WEIGHT)	VELOCITY (FPS)	GROUP SIZE (INCHES)
Acme Hi Tek-Coated 115	Blue Dot	7.0	1,091	1
Acme Hi Tek-Coated 124	Blue Dot	6.5	1,061	1-1/4
Acme Hi Tek-Coated 147	Blue Dot	6.0	957	1-1/4
Hornady 115 XTP-JHP	CFE Pistol	5.7	1,244	1
Rainier 124 JHP	CFE Pistol	5.3	1,130	5/8

Notes: Groups the product of 5 shots at 20 yards. Chronograph screens set 10 feet from the muzzle. CCI 500 primers used in mixed brass.

.45 ACP HANDLOADED AMMO PERFORMANCE

BULLET (BRAND, BULLET WEIGHT, TYPE)	POWDER (BRAND)	CHARGE (GRAINS WEIGHT)	VELOCITY (FPS)	GROUP SIZE (INCHES)
Acme Hi Tek-Coated 200 SWC	Blue Dot	9.0	870	2
Acme Hi Tek-Coated 230 RN	Blue Dot	8.5	796	1-1/2
Hornady 230 XTP	CFE Pistol	6.3	768	1
Speer 200 JHP	CFE Pistol	6.9	814	1-1/2

Notes: Groups the product of 5 shots at 20 yards. Chronograph screens set 10 feet from the muzzle. CCI 300 primers used in mixed brass.

two magazines, so if the scabbard is going to be used an extra magazine or more should be ordered from Springfield Armory. The magazines for the .45 are blue while the 9mm versions are stainless steel. Also included in the case is a "refill" for the fiber optic front sight.

Both of these pistols performed flawlessly with factory loads and handloads. With the .45 I test-fired nine different loads and I had so much fun with the 9mm I fired more than two dozen, again both factory and handloads. This was also my first time to try some new bullets from Acme Bullet Company. These are Hi-Tek Coated bullets and have a red color which make them look like lipstick when they are loaded in brass cases. With both of these pistols weighing approximately 30 ounces, I expected the .45 ACP Compact Model to exhibit the most recoil and also talk to me more than a full-size 1911. It did, however it was easily manageable. My best shooting factory loads turned out to be HPR's 185 and 230-grain JHP. The Liberty Civil Defense 78-grain bullet with a huge hollowpoint clocked out at over 1,850 fps and was frighteningly destructive on gallon jugs of water. My most accurate reload was the Hornady 230-grain XTP loaded over CFE Pistol powder which resulted in 1-inch groups at 20 yards.

The .45 ACP was fired with all loads at 20 yards, however I moved into a more reasonable self-defense distance of 7 yards for all loads from the 9mm. It showed a real propensity were placing



These targets fired with the 9mm Range Officer Compact Model show good accuracy with both handloads and factory ammunition.

the five shots in very small groups at this distance with many of the groups being below 1-inch. I especially had excellent results with my handloads with the Acme red-coated bullets all shooting exceptionally well and the Rainier

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9MM FACTORY AMMO PERFORMANCE

LOAD (BRAND, BULLET WEIGHT, TYPE)	VELOCITY (FPS)	GROUP SIZE (INCHES)
American Eagle 115 FMJ	1,143	1
Black Hills 115 FMJ	1,081	1-1/2
Black Hills 115 JHP +P	1,234	1-1/8
Black Hills 115 JHP-EXP	902	1-1/8
Black Hills 147 FMJ	981	1-3/8
CCI 124 JSP	1,093	2
CCI 115 TMJ	1,156	1-3/8
Herter's 115 FMJ	1,112	1
Hornady 124 RN	1,106	1-5/8
Hornady 115 RN	1,127	1-1/4
Hornady 100 FMJ	1,165	1
Hornady 124 FMJ	1,104	1-5/8
HPR 115 JHP	1,104	3/4
Liberty Civil Defense 50 JHP	2,021	1-1/2
Remington 115 MC	1,092	7/8
Remington 115 JHP	1,080	1-1/4
Sellier & Bellot 115 FMJ	1,177	1-1/4
Speer 115 GD-JHP	1,138	1-3/8
Speer 115 TMJ	1,189	1-3/8
Speer 124 GD-JHP	1,130	3/4
Speer 147 GD-JHP	928	1-3/8
Wilson 125 JHP	1,090	1
Winchester 115 JHP	1,107	1-1/8

NOTES: Groups the product of 5 shots at 7 yards.
Chronograph screens set 10 feet from the muzzle.

.45 ACP FACTORY AMMO PERFORMANCE

LOAD (BRAND, BULLET WEIGHT, TYPE)	VELOCITY (FPS)	GROUP SIZE (INCHES)
Black Hills 185 JHP	909	1-3/4
HPR 185 JHP	903	1-3/8
HPR 230 JHP	811	1-3/8
Liberty Civil Defense 78 JHP	1,855	1-1/2
Remington 230 FMJ	785	1-3/4

NOTES: Groups the product of 5 shots at 20 yards.
Chronograph screens set 10 feet from the muzzle.

124-grain JHP and CFE Pistol turning in the tightest group with five shots in 5/8 inch. I also tried the Liberty Civil Defense 9mm load, this time a 50-grain hollow-point which clocks out at an astounding 2,000+ fps and is totally devastating on gallon jugs of water. Again, all the test

results are in the accompanying chart.

Both of these Range Officer Compact Models perform so well I am faced with a dilemma... namely, which one should I choose? Long ago I learned in a situation like this there were three words that matter: "Buy 'Em Both!"

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REMINGTON'S RADICAL 600 AND 660 CARBINES

Rakish style and synthetic materials shocked American riflemen of the 1960's.

The era was called the "radical '60's." Not only were our politics in ferment, but something radical was going on in Iliion, New York. It were as if the engineers at Remington decided to throw out the rule book and try something new with modern materials and manufacturing processes. What flowed from Iliion during the decade of the '60's at a breathtaking pace were radical firearm designs like the Nylon 22's, the XP-100 pistol and the Model 600 and 660 carbines. The models even shared common design features like a "shark fin" front sight, and in the case of the XP-100 and the 600/660 carbines, the same basic action with a "dog-leg" bolt handle.

At the time, I was working for the New York State Department of Conservation and happened one day to drop by Russ Carpenter's gun shop in the mid-Hudson region. Carpenter wrote gun reviews from time-to-time, and there in his used gun rack was a Model 600 in .350 Remington Magnum with a price tag of \$150.

If there ever were a controversial rifle, the Model 600 Magnum has to rate close to the top of the list. Gunwriters of the day crucified it. "It's ugly." "The dog-leg bolt handle is non-functional." "The bolt release is impossible to reach." "The bottom metal is plastic." "Who ever heard of putting a ventilated rib on a rifle?" And the most universal gripe of all, "It kicks too much!"



With its extra loop, the unique Ching sling is both a carry and a shooting sling. This is from Andy's Leather, and an extra swivel stud must be installed.

But to me it was love at first sight. I had to own it. It cost me the sporterized Springfield I was carrying in the truck that day plus some loot, but I walked out of there with that Model 600. To this day it remains one of my favorite big-game rifles.

My big-game hunting at the time was relegated to the deer and black bears of the Adirondacks. The Model 600 proved to be an ideal woods rifle—light, handy, powerful, and with its beech and walnut laminated stock, weatherproof and stable. The recoil lug was even factory bedded in a polymer compound.

The Model 600's short, slim, free-floated, 18.5-inch barrel was perfect when you had to crawl through dense mats of young hemlock and spruce while tracking a bear in the snow. When it rained or snowed, the little carbine was compact enough to fit up under your slicker. It was fast to get into action, and the .350 Rem Mag cartridge proved time and time again to be a magnificent 1-shot killer in the field.

Being a .35-caliber case with an excellent expansion ratio, the .350 RM permits you to shoot a shorter barreled, compact gun



Remington's Model 600 and 660 carbines proved to be light, handy, powerful and accurate.

without seriously sacrificing performance. Remington initially offered two loadings—a 200-grain Core-Lokt at 2,775 fps, and a 250-grain Core-Lokt at 2,410 fps. For deer, antelope, sheep, caribou, black bear and elk, the 200 grain, either as factory loaded or handloaded, leaves nothing to be desired in terms of terminal performance.

In my Model 600 the 200-grain factory load generates 2,718 fps and the now obsolete 250-grain loading, 2,406 fps. Either will hold 1.25 inches for three shots at 100 yards, and the trajectory of the 200-grain loading is flat. With a sight setting of 2 inches high at 100 yards, the Model 600 is zeroed at 200 yards and only -9.8 inches low at 300.

The overall history of the Model 600 is interesting. The standard Model 600 was produced from 1964-1967 and was chambered for the .222, .223 (rare), 6mm Rem, .243 Win, .308 Win and .35 Rem. It weighed 5.5 pounds and approximately 80,944 were produced. The Model 600 Magnum was chambered for the 6.5 Rem Mag and the .350 Rem Mag. It weighed 6.5 pounds and only 13,142 were made by the end of December 1967.

In 1968, Remington reintroduced both models under the Model 660 label, but there were some changes in the new models. Gone were those objectionable, nylon, ventilated ribs and shark fin front sights. Barrel lengths were increased to 20 inches. Both the standard and the magnum models were given black forearm tips and black pistol grip caps accented with white line spacers. The .35 Rem chambering was dropped. Otherwise, the models pretty much soldiered on unchanged until the Model 660 line was discontinued in December 1970. During that 2-year period, 45,332 standard models and 5,204 magnum models were produced.

The Model 660 pictured in the article is chambered in .243 Win. It's my go-to coyote-calling rifle. The only upgrade I've added to the 660 is a Ching sling swivel stud mounted 2 inches forward of the end of the bottom metal—an accessory for which I am forever indebted to Jeff Cooper.

THE "CHING" SLING

Cooper was drawn to the Model 600/660 during the development of the "Scout" rifle. In fact, it almost fulfilled his criteria right out-of-the-box. The Ching sling he promoted simply enhances the utility of the little Remington or any rifle for that matter. It's worthy of a few words.

The Ching sling was developed by Gunsite instructor, Eric Ching. In essence, it combines the features of a normal carry sling with an additional shooting sling loop. In use, you simply thrust your arm through the additional loop and put tension on the upper arm as you take a shot offhand or move into a more stable shooting position. The shooting loop locks your position up tightly. It's 100-percent better than trying to use the carry sling as a hasty sling.

The Ching sling is made by Andy's Leather, and if you don't want to bother with mounting a 3rd sling stud on your stock, Andy has designed the Rhodesian sling which accomplishes the same end using just the two, conventional, sling swivel points. I use both designs.

The end of the story of the Model 600/660 Remington is the Mohawk Model 600, produced from 1972-1979 as a discount priced carbine. I once saw racks of them in a



The Model 600 action (above) was derived from Remington's radical XP-100 pistol, and had the strange looking forward bent bolt. The Model 600 morphed into the Model 660 (below) beginning in 1968. While the Model 660 shares the same action with the 600, the Model 660 carbine was aesthetically improved and looked more like a conventional rifle.



gunshop priced at \$79.50 each. The Mohawk, chambered in .222, 6mm Rem, .243 Win and .308, reverted to an 18.5-inch barrel and a plain wood stock without a forearm tip or pistol grip cap. The receiver and barrel were roll marked "Mohawk," and the model sported a gold-plated trigger. Approximately 97,594 Mohawks were produced over the 7-year period.

From 2003-2006, Remington briefly offered a heavier rifle form of the Model 600/660 Magnum carbine. Called the Model 673 "Guide Gun," it was built around the Model Seven action with a 22-inch, ventilated rib barrel, beeper laminated stock and chambered for the .300 Rem SA Ultra Mag, .350 Rem Mag, 6.5 Rem Mag, .308 Win and .243 Win.

Well, maybe that's not truly the end of the 600/660 story. The Model Seven with a conventional bolt handle pretty much picked up the 600/660 slack starting in 1983 as Remington's answer for a lightweight, compact, short-action carbine.

In any model format, Remington's unique bolt-action carbines are some of the finest hunting rifles ever made, and they were made to be carried.

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Remington: America's Oldest Gunmaker. The Official Authorized History of the Remington Arms Company, by Roy Marcot. Hardcover, 312 pages. ©1999. \$150 from A&J Arms Booksellers, 4731 E. Cooper St., Tucson, AZ 85711. (520) 512-1065 www.ajarmsbooksellers.com

Questions & Answers

With Jeff John

WADS OVER POWDER

Q: I am loading 240-grain lead semi-wadcutters over 6.3 grains Unique for my Rossi Model 720 3-inch barrel .44 Special and I notice unburned grains of powder after firing. The cases are less than half full of powder. Would it help burn all the powder if I inserted wads cut out of polystyrene foam meat trays until the wad touches the powder? Would use of the wads give higher velocity to the bullets? Is the use of wads in small loads a good subject for a reloading article?

*Bill Olasz
via e-mail*

A: Unburnt powder is a nuisance, and can get under the extractor star preventing the cylinder from closing on a recharge. The use of wads in pistol ammo is unwise nonetheless. Since most ammo will go nose down into the box, you risk the wad displacing and becoming an obstruction during transportation. All pistol powders are designed to be used in these large cases

without filler. Alliant Unique and Bullseye remain two of my favorite powders for handguns, and the reformulations make them cleaner burning. Newer powders such as Hodgdon Clays and TiteGroup among others burn cleanly and efficiently leaving little residue.

.327 FEDERAL RIFLE

Q: Can you help me out in acquiring a rifle in .327 Federal Magnum cartridge? Is there anything like that around, and if not, why not? I have the Ruger pistol in the .327, and would like a rifle to match.

*R. Mulligan
via e-mail*

Q: Sorry, there isn't one at this time. It would be a custom proposition and would likely cost upwards of \$3,000 by the time the dust settles, and there are few platforms suitable for the conversion. Marlin made the perfect candidate in the Model 94 in .32 H&R Mag some 15 or 20 years ago, and the prices for those are so

high, I hesitate to suggest it as a suitable host gun. It would likely be the cheapest way still, since the bolt and magazine are already ".32 Friendly."

There does seem to be quite a bit of interest in a rifle in .327 (you're not the first to ask), but the factories making suitable host guns are few, and none have taken on the idea. Hopefully, the idea will catch on, and we'll see a rifle sometime in the future. It seems like a great idea for a Ruger bolt-action or Marlin lever-action rifle. Lipsey's (the distributor behind the .44 Special Blackhawk among others) has discussed with Ruger the chambering of a bolt action Model 77 in .327, but it requires a newly engineered magazine. E-mail them with your desires: info@lipseys.com and put "Model 77/327" in the subject line.

LIPSEY'S, P.O. Box 83280, Baton Rouge, LA 70884, www.lipseys.com

Got a burning question to ask the editor? Contact him at: E-mail: ed@gunsmagazine.com or postal at: GUNS Q&A, 12345 World Trade Dr., San Diego, CA 92128. Due to the volume of mail received, GUNS cannot offer a personal reply.

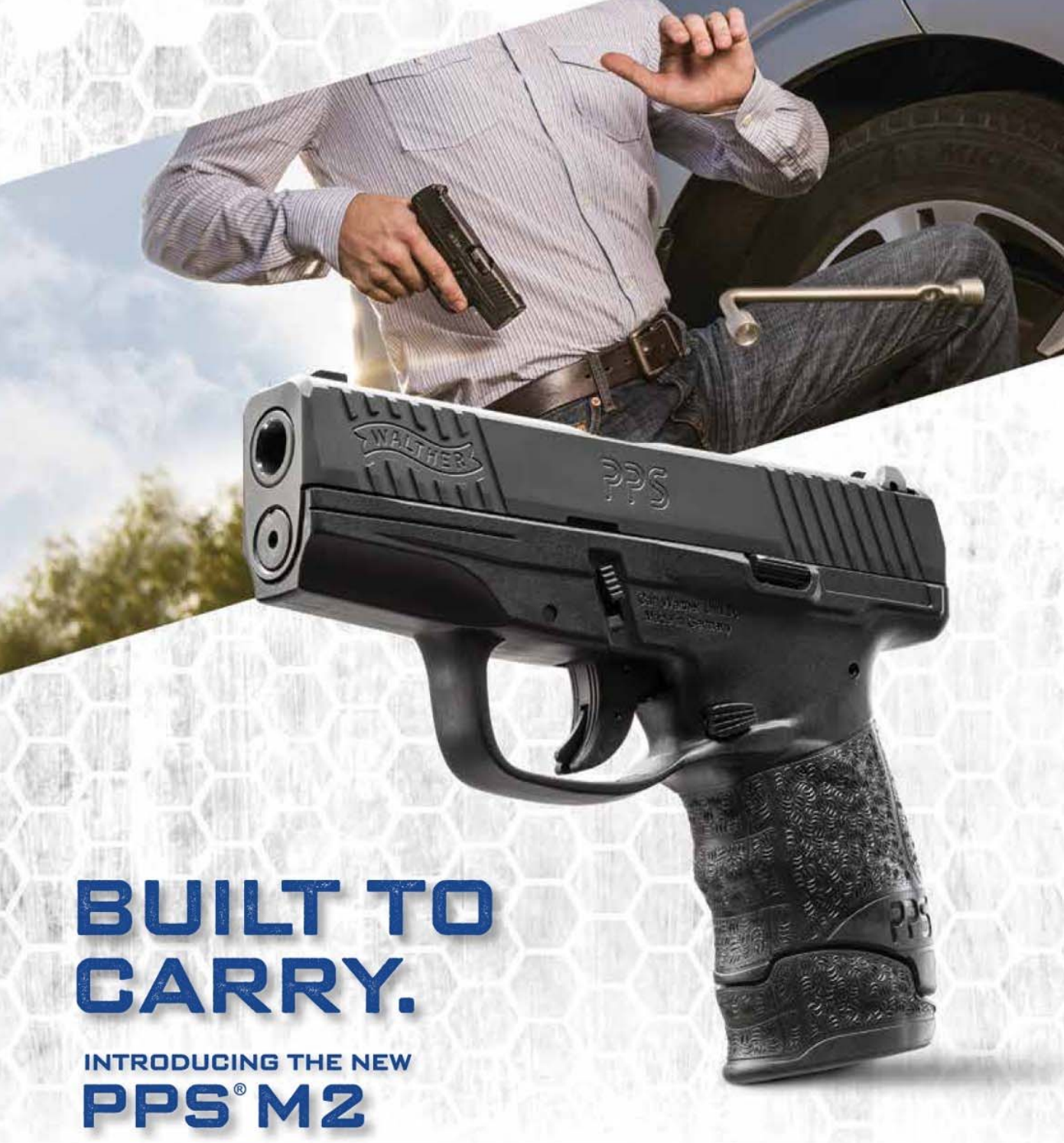
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WINCHESTER MODEL 1907.351

ONE OF OUR FIRST SELF-LOADING CENTERFIRE RIFLES WAS A SURPRISINGLY POTENT BLOWBACK

MIKE "DUKE" VENTURINO
PHOTOS: YVONNE VENTURINO

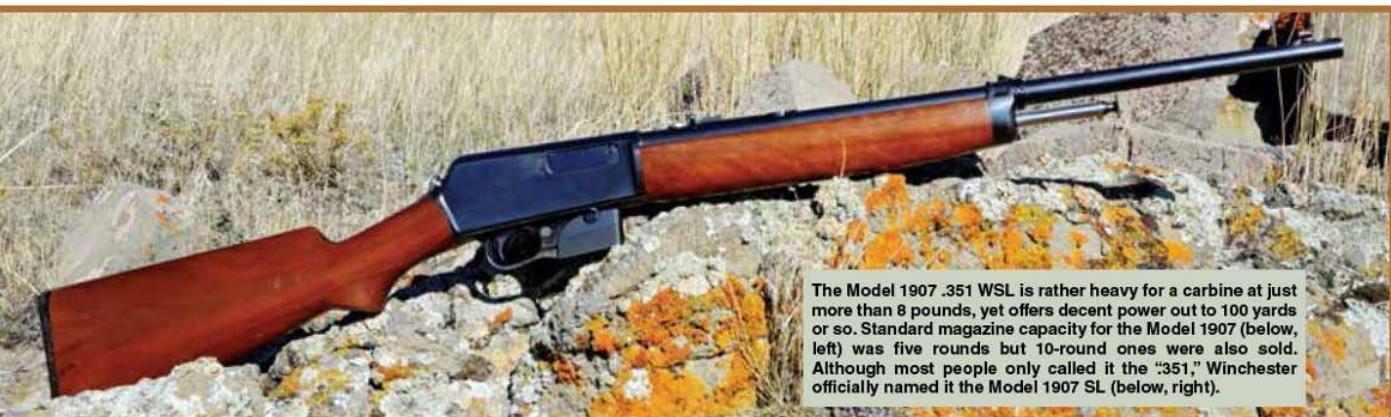
It is truly a shame gun-haters don't read firearms periodicals. Then at least they might understand what it is they fear so much. Take for instance their phobia of "automatics with bullet clips." They are actually "semi-automatics" or "autoloaders" and they have "magazines for cartridges," which are not "bullet clips."

But this fact would shake them to their roots: semi-autos with detachable magazines *are old news*. In fact Winchester began introducing them as early as 1905 and in 1907 began cataloging one that stayed on the market for 50 years! It was used to arm many police departments and prison guards, one was there in Louisiana that day flinging bullets at Bonnie and Clyde when they died in their car and several thousand served as "assault rifles."

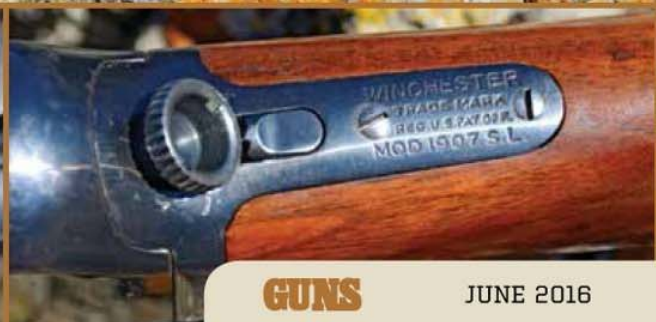
Yes that is true. The French bought thousands of 1907 rifles and millions of rounds of their unique ammunition with which to fight Germans in World War I. Yet it is most likely if not perfectly provable the vast majority of Winchester Model 1907's were used for ordinary deer hunting. Standard magazines for the .351 held five rounds but Winchester also offered ones of 10-round capacity. I'd bet the French and law enforcement organizations bought most of the 10-round magazines. They certainly are not common today for I tried to buy one myself but rejected paying their going prices of \$175 to \$200.

Model 1907's would have been fine deer hunting because the limitations of their iron sights suited the range and power of its cartridge. Its chambering was referred to as "unique." The .351 Winchester Self-Loading most certainly was unique. To the best of my knowledge every other American .35 caliber rifle cartridge produced before or since carried 0.357- or 0.358-inch bullets. The .351 WSL actually used 0.351-inch bullets. Nominally they weighed 180 grains, were usually jacketed softpoints and were propelled from the 20-inch barrel of the Model 1907 at about 1,800 fps.

Since the sights on Model 1907's consisted of a blade front with open rear, its practical range was about 150 yards. Ideal (Later Lyman) tang sights were sold for them but wouldn't



The Model 1907 .351 WSL is rather heavy for a carbine at just more than 8 pounds, yet offers decent power out to 100 yards or so. Standard magazine capacity for the Model 1907 (below, left) was five rounds but 10-round ones were also sold. Although most people only called it the "351," Winchester officially named it the Model 1907 SL (below, right).



SL

have caused them to reach out appreciably further. The front sight would blot out most deer at greater distances.

My desk dictionary defines a carbine as a short, light rifle. That presents a conundrum in reference to Winchester's Model 1907. With its 20-inch barrel it most certainly is short. On the other hand nobody would call it light. At over 8 pounds it weighed about as much as any bolt-action sporting rifle of its era.

Why? Because unlike later semi-autos it did not rely on gas bled away from powder gas to cycle its action. Instead it used a direct blowback type of function as with .22 semi-auto rifles and handguns. To keep the blown-back breechblock from severely damaging the Model 1907 frame it had to be heavy. Likewise, the frame itself had to be sturdy. The result was a short, heavy rifle and not a true carbine.

After acquiring a very nice condition Model 1907 along with 38 rounds of old Remington factory loads, I devoted myself to gathering up loading tools, components and load data and then shooting it. Devoted is a good word to use there because none of those things mentioned were easily obtained. That's with the exception of reloading dies. An email to Redding had a set here quickly.

Next I needed cartridge cases. I thought I had some. Not! Every one of the old factory loads split on firing. Usable cases can be formed from some others with a mite of work and know-how. Why bother? A firm over in South Dakota formerly known as Jamison and now Caltech actually catalogs properly headstamped and ready to load .351 WSL brass. I bought 150 rounds. Nominal case length is 1.38 inches and case form is considered semi-rimmed. I measured several of my cases. Rim diameter is 0.407 inch and case body ahead of the extractor groove is 0.375 inch. That makes the case a bit more than semi-rimmed to me.

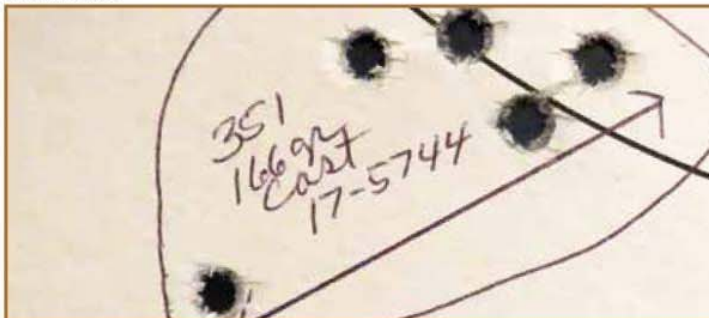
Bullets came from three sources. My friends at Buffalo Arms over in Idaho offer a full-metal jacketed (FMJ) 0.351-inch diameter bullet weighing 181 grains. Some of the same weight and FMJ style were also found on an Internet auction site. Their maker is unknown to me.

While perusing Buffalo Arms website, I also checked their list of bullet molds for one suitable. No luck but at least they had custom made 0.352 inch lube-sizing dies available. I also checked Lyman, RCBS and Redding/SAECO mold lists. No luck. Then I found an outfit in Salt Lake City called Accurate Molds and visited their website. They indeed offered the exact mold I needed: roundnose/flatpoint taking regular .38/.357 gas checks and weighing nominally 175 grains. They offer their molds with cavities cut in aluminum, brass and iron. I'm an iron sort of guy and that double cavity mold was nothing short of perfection. Once at proper temperature it dropped two good bullets with each pour. Mine weighed only 166 grains because they were cast of very hard Linotype alloy.

Finally, the last loading item needed was information. That was the hardest to get. None of today's manuals even mention .351 WSL. I actually did find it listed in a 1927 vintage *Lyman Handbook* but that did little good because none of the powders mentioned therein still exist. Finally in the back of *Lyman Handbook 45* from the mid-'60's I found a little data under their section for "Obsolete and Semi-Obsolete Calibers." Listed were charges for Unique, IMR4227 and 2400.



A Remington factory .351 WSL softpoint load (left) compared with Duke's handloads consisting of a 181-grain FMJ bullet of unknown make and its loaded round, a Buffalo Arms 181-grain FMJ bullet and loaded round and Duke's own 166-grain cast bullet from custom Accurate Mold and loaded round.



Duke's cast bullets gave the best results in his Winchester Model 1907 .351 WSL. This 100-yard group is 2-3/4 inches.

Lyman Shell Holder Number 15

Firearm Used
Barrel Length
Twist
Groove Diameter

NOTE: To insure positive functioning of the action, loads must be worked up to near maximum.

348 caliber gas checks are used with cast bullet edge.

At best our test accuracy with this cartridge as fair. Best overall results were obtained with cast bullet

180 Grain Jacketed				171 Grain Cast (w/Gas)			
Sup. Starting Velocity	Max. Velocity	Grains	F.P.S.	Sup. Starting Velocity	Max. Velocity	Grains	F.P.S.
10.0	1501	11.0	1587	10.0	1501	11.0	1587

Powder
Grains
F.P.S.

The only viable source of reloading data Duke discovered was in an old *Lyman Reloading Handbook No. 45*. Note the split cases Duke got by shooting the old factory ammo that came with the rifle.

In my rifle Unique would not give reliable functioning, I had no 2400 and could find none in this component-starved time. Groups with IMR4227 were lousy. Then my brain kicked into gear when it dawned on me that one of my all-time favorite propellants with cast bullets is Accurate's 5744 and its burning rate is very close to 2400 and IMR4227. It worked beautifully with the Accurate Molds' gas check design. Groups at 100 yards were about 2 to 3 inches for five shots. Velocities ran in the 1,650 to 1,700 fps range. I settled on a charge of 17.0 grains of 5744 as my most accurate. It was also 100 percent reliable.

So if you hear some numbskull rattling on about how dangerous these "new automatics" are and how they should be outlawed, just ask them why Winchester Model 1907's have not been considered "dangerous" for over a century. They will do anything an AR or AK will do except look ugly.

ACCURATE MOLDS, P.O. Box 315, Salt Lake City, UT 84110,
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BRAVO

THE BCM RECCE KEYMOD 18 HAS DOWNRANGE CAPABILITIES TO BURN.

MIKE CUMPSTON
PHOTOS: TAKASHI SATO

It was late December 2015 when I had the good fortune to team up with Stan Jarosz—one of our top service rifle competitors—to check out Bravo Company's BCM RECCE KeyMod 18, along with Meopta's top-of-the-line ZD 4-16x44 tactical scope.

By virtue of his part-time work behind the counter at Cabela's, Stan's finger is on the pulse of the gun market. Gun sales are brisk, particularly in regard to AR's. The overwhelming motivation appears to be personal—and family—defense in a climate of perceived instability and unrest. Basic M4-type carbines are quite popular but, as always, a substantial percentage of buyers are interested in high-end equipment designed and vetted for critical use. And long-range shooting (300 yards and beyond) is generating real interest.

Bravo Company USA is a top-of-the line marketer of AR-15 components both bearing the proprietary BCM logo and accessories from other top-tier suppliers. Complete Bravo Company weapons systems range from AR pistols and fully accessorized tactical carbines to competition-ready match

rifles and intermediate-range special purpose rifles like the RECCE KeyMod 18. When equipped with a suitable sight, this model is ideal for designated marksman applications as well as competitive events.

Features include a BCM Gunfighter compensator ahead of a stainless 18-inch SS410 barrel of 0.75-inch diameter. The twist rate is 1:8. The 15-inch key-mod handguard is made of lightweight aluminum/magnesium alloy coupled with Picatinny rails for sight and accessory mounting. The top rail and the rail over the action are mounted—fore and aft—with BCM folding battle sights.

The BCM lower has a crisp, single-stage 5.5-pound trigger. The adjustable stock features a positive indexing system that prevents stock collapse from contact with various shooting supports. It includes a minimalist vertical fore-grip, large enough to enhance control but short enough for use with various rests or field positions.

The Meopta ZD4-16x44 is designed to take full advantage of the capabilities of the .223/5.56 round and to survive in a range of field conditions. The reticle is a fine center crosshair above mil-dots calibrated at approximately 200 to 500 meters.

The target turrets address windage and elevation with 1/4-minute increments out to an advertised 800 meters with front objective parallax correction. A left-side turret controls reticle illumination intensity—enhancing the precise crosshair for less-than-ideal lighting. Ours is mounted via the excellent 30mm Leupold AR 1-piece mount.



For This AR



RECCE KEYMOD 18

MAKER: Bravo Company USA, Inc.,
P.O. Box 341, Hartland,
WI 53029, (262) 367-0989

TYPE: Direct-gas impingement semi-
auto, **CALIBER:** 5.56/.223, **CAPACITY:**
30, **BARREL LENGTH:** 18 inches, **OVERALL**
LENGTH: 34.24 to 37 inches, **WEIGHT:** 7
pounds, 7 ounces, **SIGHTS:** BCM folding
battle sights, **TRIGGER:** BCM Combat
(5.5 pounds), **STOCK:** BCM Gunfighter
adjustable, **HANDGUARD:** 15-inch BCM
KeyMod, **PRICE:** \$1,599

ZD 4-16X44

MAKER: Meopta USA, Inc.,
50 Davids Dr., Hauppauge,
NY 11788, (800) 828-8928

MAGNIFICATION: 4X-16X, **FIELD OF VIEW (LOOM):**
8.5 meters (4X), 2.4 meters (16X), **EYE**
RELIEF: 3.15 inches, **OBJECTIVE DIAMETER:**
44mm (parallax adjustable), **BODY**
DIAMETER: 30mm, **WEIGHT:** 26.4 ounces,
LENGTH: 15.16 inches, **ADJUSTMENTS:** 1/4
MOA, **RETICLE:** Crosshair with mil-dots
graduated from 200-500 yards,
illuminated, **PRICE:** \$1,379.99,
www.gunsmagazine.com/index

BRAVO

For This

AR



THE BCM RECCE
KEYMOD 18
HAS DOWNRANGE
CAPABILITIES
TO BURN.

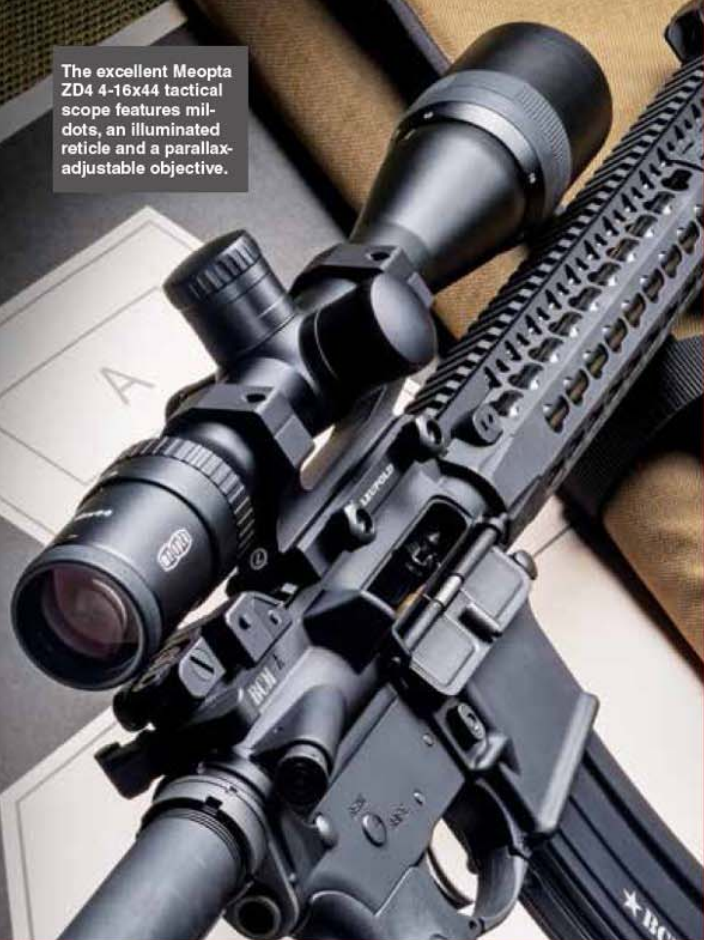


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GUNS[®]

MAGAZINE

The excellent Meopta ZD4 4-16x44 tactical scope features mil-dots, an illuminated reticle and a parallax-adjustable objective.



Stan Jarosz shoots the Bravo RECCE at extended range. Accurate range estimation and a good eye for wind direction are needed. High-performance ammunition from Black Hills, Wilson Combat and Hornady produced a number of MOA and smaller groups. The same sight settings were useful with the 69- and 75-grain loads out to 500 yards. Photo: Mike Cumpston

The rifle, coupled with the Meopta scope appeared at first glance to be equal to the demands of the elite military special operations groups that have been customers for Bravo Company systems. Our range work confirmed this.

For accuracy testing, we used a Caldwell Lead Sled on a steady bench at 100 and 200 yards. Our ammo selection included only one 50-grain load—Hornady's Full Boar loaded with a flat-based hollowpoint bullet rather than the GMX configuration used in heavier bullets within the Full Boar line.

Of primary interest were the 69-grain Sierra MatchKings



This Hornady Full Boar 50-grain bullet is a flat-based hollowpoint. The heavier bullets in the Full Boar line use the new lead-free GMX copper bullet with heat-resistant plastic tip. Photo: Mike Cumpston



BCM is highly regarded for top-tier AR components as well as weapons systems.



These 100-yard groups were shot from Caldwell Lead Sled. The loads are Hornady Superformance 75-grain HPBT and Black Hills 69-grain MatchKing. Photo: Mike Cumpston



The rails are fitted—fore and aft—with folding BCM battle sights.



This spectacular 0.65-inch, 5-shot group was shot with the 69-grain Wilson Combat Load. Wilson's proprietary rifle and pistol ammunition is very consistent and accurate. Photo: Mike Cumpston



This group was shot at 487 yards with the Hornady 75-grain Superformance load. The lateral dispersion was a product of variable wind, while the vertical measurement was about one-half MOA. This load is a standard for competition as well as tactical uses and produced very fine groups at all ranges. Photo: Mike Cumpston

as loaded by Black Hills and Wilson Combat (producing velocities of 2,617 fps and 2,688 respectively). These two gave us groups of 1.05-inch and 0.65-inch at 100 yards. Hornady's 75-grain BTHP Superformance load (2,758 fps) gave us a 0.75-inch 5-shot group.

Both Black Hills and Hornady have built solid reputations for competition and tactical ammo. Their respective loads shot to the same sight setting with zero at 100 yards, and again at 200 with six, 1/4-minutes of elevation correction. My fairly casual 200-yard groups were well under one MOA and Stan got several MOA groups at the same distance with the Black Hills load. Groups with the 75-grain Hornady were a bit smaller, with one in the 1/2-MOA range. The 69-grain Wilson Combat load scored the best 100-yard group at 0.65 inch.

We derived downrange performance with the Hornady online calculator, adjusting the sight height to 2.6 inches and inputting standard deviations provided by Black Hills and Hornady. The 50-grain Full Boar load (BC 0.215, velocity 3,065 fps) had no energy advantage over the slower, heavier projectiles from the muzzle and lost all velocity advantage before the 300-yard mark. Of interest to precision shooters, the 69-grain loads remained at over Mach 1 out to 700 yards. The 75-grain Superformance load stayed over 1,120 fps mark out to almost 1,000 yards.

STAN'S PLACE

We did the extended-range shooting at Stan's facility near Crawford, Texas. His primary range extends 1,000 yards with shooting positions at several known distances. The range is within hearing distance of thunderous blasts from the Space-X rocket facility. It's also a couple of miles from Cindy Sheehan's Crawford "Peace House" where, during the Bush Administration, there were a number of protest marches and similar rallies.

Stan was helping junior shooters prepare for Camp Perry on the day of a scheduled march and treated Ms. Sheehan and her followers to some discomfort from all the noise. Various law enforcement agencies came to the range to see what was going on, some pretty happy with the protestors' consternation. One frantic marcher declared the downrange windsocks were flags "of a country unfriendly to the United States!"

Mud from heavy rains made shooting from 300 yards high risk for getting stuck, so we moved to 400 after setting up the portable bench and bag apparatus. We had clear conditions in early morning—40 degrees with no mirage at maximum magnification and a variable wind of about 5 mph. Referring to the Hornady Calculator for the Black Hills 69-grain Match ammo, which included a "Come-Up" value in MOA, Stan doped the wind precisely and the calculated elevation adjustment landed the first shots on target, a few inches low. So we quickly corrected to zero. Range compensation with the elevation turret was easily accomplished at known ranges. When he shot "for record" on a B27 target, the left to right wind speed had kicked up enough to move the 1-MOA

5-round group a few inches to the right. Several groups at 400 yards confirmed the tendency of this Black Hills load to produce groups of under MOA to slightly over. The Hornady 75-grain load—in accord with the calculated trajectory—hit 6 or 7 inches higher with the same sight setting.

The 5.5-pound single-stage trigger proved completely suitable for our rested shooting. The weight gave good control with a crisp break. There was no danger of an unintended bump-fire sometimes a problem with light match triggers and a shooter who applies maximum finesse to his release. Stan was impressed with the trigger as well as the clarity and adjustment integrity of the Meopta scope—high praise indeed coming from somebody with Stan's qualifications.


.223 FACTORY AMMUNITION PERFORMANCE COMPARISON

LOAD (BRAND, BULLET WEIGHT, TYPE)	VELOCITY (FPS)	ENERGY (FT-LBS)	GROUP (INCHES)
BLACK HILLS 69 MK	2,617	1,049	1.05
WILSON COMBAT 69 MK	2,688	1,107	0.65
HORNADY 75 SPF MATCH	2,758	1,267	0.75
HORNADY 75 BTHP	2,590	1,117	1.2
HORNADY 50 FBHP	3,069	1,046	1.2

Note: Accuracy results from 5-shot groups at 100 yards.

Backing up to 500-yards—standard training distance for the Squad Designated Marksman program Stan and a cadre of top service rifle competitors developed for the Army—we left the windage the same and consulted the tables, predicting the probable drop from the 400-yard zero. Using the top of the head portion of the B27 target, Stan placed a well-centered group just below the X-ring. The Black Hills load landed in a group less than 1-minute tall with about 9 inches of horizontal spread owing to gusting wind—the cluster well contained in the torso of the target.

A few yards closer, there was an iron silhouette, about the same size as the B27. It was freshly painted black with a 10- or 12-inch white center. We figured aiming at the top of the head would drop the 69-grain bullet into the center white and the 75-grain Hornady would hit a bit higher. I chose the Hornady round and centered the crosshair on the top of the head. The wind gusts spread my 5-round string out 8 inches wide, but about 1/2-minute tall a few inches over the center white. In perfectly calm conditions the group probably would have been 2-1/2 inches or less.

Our final impressions on the BCM RECCE KeyMod 18? It's a flawlessly executed amalgam of the high quality parts Bravo Company USA supplies to individual consumers and other high-end AR makers. The Meopta scope very effectively exploits the capabilities of the rifle, as well as the accuracy and downrange potential of the .223/5.56 cartridge. 

The Micro MIDAS TOUCH

**BROWNING'S ULTRA-COMPACT
X-BOLT VARIANT IN 7MM-08
HAS THE REACH FOR
WIDE-OPEN WYOMING.**

MARK HAMPTON

My wife was excited when she found out both of us drew antelope tags in Wyoming. She has previously been deer hunting with a T/C Encore in .260 Remington—and has punched several tags with it. So I was a bit surprised when she said, “I want to try a new gun for this hunt.”

Really? The wheels started rolling. Even though she had taken antelope in the past with the .260, I reminded her long-range opportunities would very well be possible. She understood and wanted a rifle suitable for hunting wide-open country. She was also adamant about recoil: “I don’t want a gun that will knock my head off and I want

it to fit me!” With these marching orders, I begin looking for options. Well, I helped her search for possibilities and there were a few good choices. After reviewing several prospects, she decided on Browning’s X-Bolt Micro Midas in 7mm-08.

Once a woman has made up her mind—well, I simply placed an order for

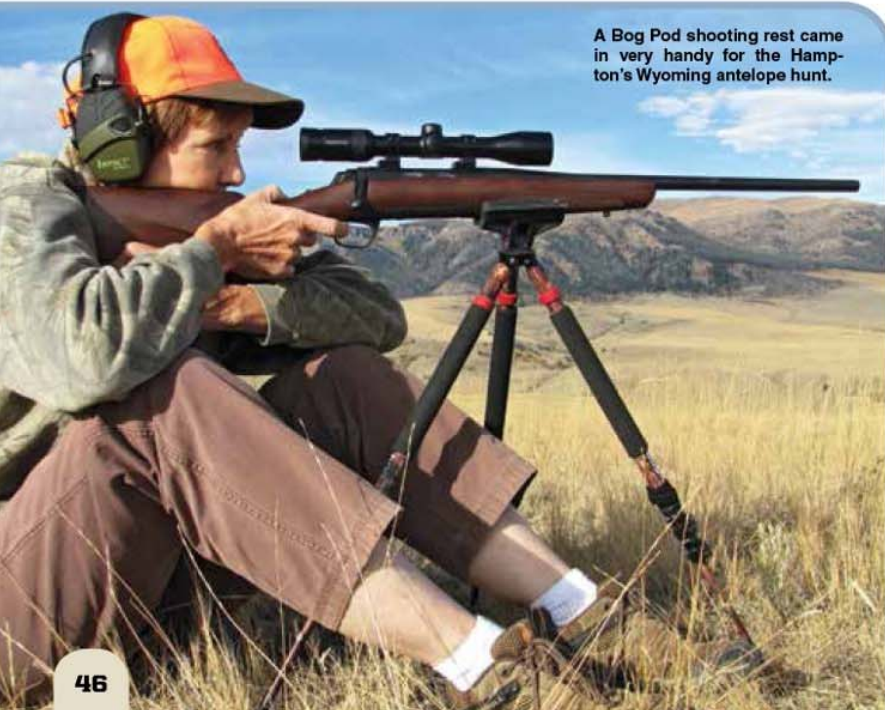
the Browning. The compact Micro Midas is designed for smaller shooters—it’s got a shorter stock and 20-inch sporter barrel. Many consider this an ideal gun for younger shooters and some women. The 12-1/2-inch length of pull in a nice looking walnut stock fits smaller-framed shooters well.

The rifle also comes with Browning’s ultra-soft Inflex Technology recoil pad which uses directional deflection to pull the stock down and away from the shooter’s face helping to reduce felt recoil. This is a real asset while shooting from the bench. The rifle weighs a touch over 6 pounds unscoped—ideal for carrying on long hikes across the prairie. I believe my wife chose this gun because it looks good but there were several attributes she overlooked—and would soon come to appreciate.

For starters, the short 60-degree bolt lift is one of the first things I noticed when cycling the action. The bolt is machined from solid steel bar stock with three locking lugs. When you work the bolt, you can do so very quickly in a smooth, effortless motion—and the scope never interferes with the lift. For quick follow-up shots, this is a most welcome asset.

The short-action Browning has an overall length of 38-1/8 inches and balances nicely. The detachable rotary magazine holds four rounds and is constructed from a tough, lightweight polymer. This magazine is designed to stop forward movement of the cartridge by contacting the shoulder of the case instead of the tip of the bullet. Basically, it will feed cartridges directly in line with the bolt face. The magazine does not stagger rounds like many others and sits flush with the bottom of the rifle. The magazine release is very user-friendly and you can easily remove the magazine with one hand. Spare magazines are available and it’s not a bad idea to carry an extra in your coat pocket in some situations.

A Bog Pod shooting rest came in very handy for the Hampton’s Wyoming antelope hunt.





Karen zeroes in from the bench. Although the 7mm-08 is a fairly sedate cartridge, it makes its presence known in a lightweight rifle.

X-BOLT MICRO MIDAS

MAKER: Browning, One Browning Place, Morgan, UT 84050, (801) 876-2711

ACTION TYPE: Turnbolt repeater, **CALIBER:** 7mm-08 Rem., **CAPACITY:** 4, **BARREL LENGTH:** 20 inches, **OVERALL LENGTH:** 38-1/8 inches, **WEIGHT:** 6 pounds, 1 ounce, **FINISH:** Matte blue, **SIGHTS:** None (drilled and tapped for scope mounts), **STOCK:** Black walnut, **PRICE:** \$859.99

Z3 VARIABLE

MAKER: Swarovski Optik, 2 Slater Rd., Cranston, RI 02920 (800) 426-3089, www.gunsmagazine.com/index

MAGNIFICATION: 3X-9X, **OBJECTIVE DIAMETER:** 36mm, **EYE RELIEF:** 3-1/2 inches, **INTERNAL ADJUSTMENT RANGE:** 58 inches elevation & windage (100 yards), **CLICK VALUE:** 1/4 inch, **TUBE DIAMETER:** 1 inch, **WEIGHT:** 12 ounces, **OVERALL LENGTH:** 12.1 inches, **RETICLE:** Plex, **PRICE:** \$866,

www.gunsmagazine.com/index

The free-floating matte-blued barrel is bedded in the front and rear of the action. The button-rifled barrel wears a recessed muzzle crown and comes with a 1:9-1/2-inch twist in 7mm-08. Other available calibers for the Micro Midas include .22-250 Rem., .243 Win., .270 WSM, .300 WSM, and .308 Win—all in 20-inch barrel lengths.

It's not uncommon to find out-of-the-box rifles with trigger pulls beyond what I can tolerate. This usually equates to a trip the gunsmith for a trigger job—adding more cash to the initial investment. However, the X-Bolt Feather Trigger in the Browning was a welcome item. This trigger is screw-adjustable from 3 to 5 pounds and factory pre-set around 3-1/2. The trigger broke clean with no creep and negligible overtravel. An alloy trigger housing contains all the hard-chromed steel components. A classy gold buck-head logo is engraved underneath the triggerguard—with the trigger itself being gold plated.

We mounted a Swarovski Z3 3-9X variable in Browning's X-Lock mounting system—which features 4 screws per base (replacing the original 2-screw system). Swarovski's Z3 is not only a great scope but fits this rifle perfectly—it was a first-rate optic for our upcoming speed-goat hunt.

The top-tang safety is located directly behind the bolt's cocking indicator, allowing you to engage it without removing your hand from the stock. You can also verify the position of the safety without losing your sight picture down-range. The bolt unlock button atop the base of the bolt handle works on the same principal as a 3-position safety, allowing you to cycle the bolt with the safety engaged. This feature is designed so the safety blocks the trigger sear and incorporates a firing pin block—a

Karen took her buck at 150 yards with a single shot. The 7mm-08—and Browning's X-Bolt Micro Midas—proved an ideal combination for the hunt.



most welcome feature as it allows you to unload cartridges with the safety engaged.

Overall fit and finish were superb—this is a sleek, good-looking rifle incorporating many practical features appreciated on a hunting gun. We procured some ammunition in the form of Hornady's American Whitetail 139-grain InterLock, their Superformance 139-grain GMX, and Federal's Fusion 140-grain softpoint—then headed to the range.

Even before Karen fired her first shot, she told me, "Boy! I like this scope." This was pretty much my first indication we'd end up buying it. The clarity and brightness is tops and provides crisp contrast for hunting situations. After several rounds downrange, Karen also commented on the smooth and painless bolt cycling. The X-Bolt maintained acceptable accuracy with all three brands of ammo although it



This 3-shot, 100-yard group (above) with Hornady's American Whitetail 139-grain InterLock load was fired before final sight adjustment.



The rifle's detachable rotary magazine (above) holds four rounds.



The little Browning features an easily accessible tang safety (above) and an equally easy to reach bolt unlock button (below) which allows for unloading with the safety on.



leaned slightly toward Hornady's American Whitetail. This load averaged 2,733 fps and would be making the journey to Wyoming in hopes of connecting with an antelope.

Even though the 7mm-08 offers mild recoil, in this lightweight rifle you know when it goes off—especially from sandbags off the bench. Karen didn't have any objection to it, but I got her a PAST Recoil Shield from Caldwell just to avoid any potential problems. She's a little recoil sensitive and I certainly didn't want her to develop a flinch. Once we started practicing from Bog-Pod shooting sticks, life was good and we were issue free.

Karen managed to produce respectable groups at 100 yards well inside 2 inches. Since she would be shooting game with this rifle, I wanted her to do all the sight-in work. I tend to hold the rifle much differently than she does and our points of impact seldom agree. After several shooting sessions involving targets and steel out to 300 yards, Karen felt prepared to tackle the wide-open spaces.

TO THE FIELD

Pronghorn are an iconic symbol of the American West. They provide challenging hunting opportunities and delicious tablefare. Karen and I both love hunting them. If you're in a good area, you normally see several animals a day. The weather is usually pleasant, although we got several inches of snow on our last hunt. You never know what weather conditions will be in Wyoming, but this time we were in for mild temperatures in the 70's.

We both had buck tags in our pocket thanks to Larry and Stephanie Altimus. This couple runs Hunter Application Service and provides assistance on drawing tags in all western states along with proving invaluable information. They provided invaluable assistance on this hunt and we've become good friends.

Karen would get first crack at a buck this morning. It's not unusual to glass a

lot of open country when searching for a decent one. When we finally spotted a group, one lone buck was trying his best to keep an eye on all of his girlfriends. Taking advantage of the small ridges and valleys, we managed to sneak within 200 yards. Unfortunately, the entire herd disappeared over a hill before we could get set up. As we worked our way over to the last ridge, Karen said, "I could carry this gun all day long."

As we peeked over the crest, the antelope were only 150 yards away, and never knew we were there. Karen got situated—resting the Browning on Bog-Pod sticks. The buck was moving around in an attempt to keep his harem in check. When he stopped momentarily, Karen was already peering through the scope. At the shot, the entire bunch disappeared immediately over the hill. But the buck didn't make it past 50 yards, and Karen had punched her Wyoming antelope tag. Hornady's factory ammo had worked like a charm in the Browning. Karen was thrilled, which means I'll be writing the company a check for the rifle.

Although the X-Bolt Micro Midas is ideal for smaller framed shooters, there are many other X-Bolt variations available—ranging from varmint and target models to all sort of specialized big-game rigs. Barrel lengths vary from 20 to 28 inches in both blue and stainless. The X-Bolt line covers 20 different calibers from .204 Ruger all the way up to .375 H&H. Stock options include camo patterns, walnut, composites with textured gripping surfaces, even pink colors, high gloss AAA maple, left-hand versions, thumbhole, laminate satin finishes, Dura-Touch Armor coating, well—you get the picture. There's an X-Bolt for every flavor of hunting imaginable to suit any taste. The only problem I see is choosing only one!

HORNADY, P.O. Box 1848, Grand Island, NE 68803, (308) 382-1390, www.gunsmagazine.com/index, **HUNTER APPLICATION SERVICE**, 781 N. Central Road, Pearce, AZ 85625, (888) 824-7748, Hunterapplicationservice.com



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THE BUSHCRAFTERS' EDGE

SCANDINAVIAN DESIGNS ONCE DOMINATED, BUT NOW THE DOOR IS WIDE OPEN.

PAT COVERT

The time for the outdoorsman to explore Bushcraft knives has never been better. Originally somewhat stiffly rooted in Scandinavian-style knives designed primarily for woodcraft, this survival-rooted genre has loosened up as its followers have become more diverse. Much of the whole Bushcraft philosophy of self-reliance in the wild revolves around the knife, and while history is loaded with example of knives suited to the genre, never has it been more focused.

One of the early forerunners of Bushcrafting was Horace Kephart, an American outdoorsman who wrote extensively about camping in the wild in the late 1890's and early 1900's. Kephart even designed what he believed to be the perfect knife for woodcrafting. Another influence was Lofty Wiseman who wrote *The SAS Survival Handbook* in 1986 and other survival books to follow. Some consider him the godfather of Bushcraft.

Also in the 1980's two other outdoorsmen—Les Hiddins of Australia and Mors Kochanski of Canada—would plant the seeds of the current Bushcraft movement, and more recently Englishman Ray Mears has become a guru of the genre. Mears has written books and produced scads of television series and documentaries on outdoors survival and he has been followed by a bevy of others including Chris Caine, Dave Canterbury, Ron Hood (deceased) with wife Karen, Cody Lundin, Les Stroud, Hawke and Bear Grylls.

Bushcraft knives typically have a blade 4.0 to 4.5 inches in length with an ample handle designed to avoid hot spots during hard use. Most—but not all—feature full-tang construction with handle scales of wood or Micarta very common. Some makers put a divot in the handle to accommodate a bow drill for firemaking. High carbon blade steel, such as 1095 or O-1, is very common for ease of sharpening in the bush and the blade requires a hard 90-degree spine for sparking a firesteel. Belt mount sheaths of leather for the purebreds and Kydex for

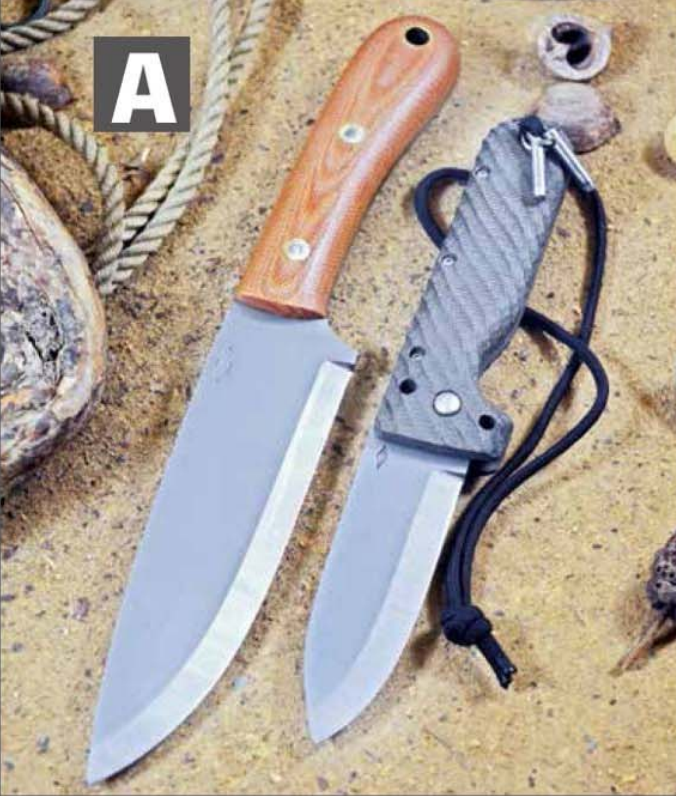
the practical are most common, but sideways mount “scout” version are becoming more popular. Often sheaths will have a fire-steel loop for keeping ferrocerium fire starters handy. While the Bushcraft knife is versatile enough to handle a wide variety of field chores, it's primary duty is to carve, shave, and split wood while also serving duty for food prep and eating.

Early on in the modern Bushcraft period, which began to take root approximately 10-years ago, Scandinavian or “Scandi” style knives such as the Finnish Puukko ruled the roost, and they are still popular today. This is primarily due to Kochanski's and Mears' influence on the movement. Both have used and endorsed Swedish Mora (Morakniv) knives at some point in their careers and went on to design custom versions of the Scandi knife with personal touches of their own. In addition, Cody Lundin used a Mora Classic in most episodes of the popular television series *Dual Survival* during his term as co-survivalist.

Scandinavian knives were purposely designed as woodcraft and fishing knives, two huge industries in the northernmost countries of Europe. These knives have blades with a shallow grind generically referred to as a “zero grind” because the edge terminates in a V shape with no secondary bevel.

There are Scandinavian knives aplenty out there for purists. Aside from Morakniv, who rule the roost with extremely affordable fare, companies such as Helle, Kellam, and Marttiini offer a wide range of Scandi knives for all budgets, plus there are a slew of custom knifemakers and companies representing the industry in Scandinavian countries. Spyderco, never one to shy away from a challenge, offers an extremely well made Puukko designed in collaboration with noted custom knifemaker Pekka Tuominen of Lapland. There are two models available, one with an exquisite Ironwood handle and a second, less expensive version in brown sandblasted G10.

Around 2007 small companies and a handful of custom knifemakers took the lead in producing Bushcraft knives in the US as the genre was gaining a secure footing domestically. Outfits like Blind Horse Knives (now Battle Horse Knives), Habilus Bush Tools, Fiddleback Forge, and L.T. Wright Knives are now common names among Bushcraft fans. Once it became obvious Bushcraft was here to stay, manufacturers joined the party adding even more credence and exposure to the fray. Spyderco, Benchmade, TOPS Knives, Böker, and Columbia River Knife & Tool (CRKT) have all produced Bushcraft specific knives with Scandi grinds, although many use a “modified” version with a fine secondary bevel along the lead edge in lieu of the zero grind. Some knifemakers, such as Bob Dozier, use a very shallow



[A] Two from the Battle Horse clan include (left) the Scout Platoon designed by Dan Coppins for Dave Canterbury, and their cutting-edge Tree Frog Bushcraft folder (right). Note the steel pins at top used to secure the blade once employed. **[B]** Two modern takes on the modern Bushcraft knife, both in high carbon steels in full tang design include (top) the Columbia River Knife & Tool Saker model in Walnut scales and 1075 steel, and (bottom) the Dozier Knives Bushcraft knife in Burlwood and D2 steel. **[C]** Alternative blade grinds have become widely embraced among Bushcrafters in recent years. The Spyderco Proficient (top) sports a full flat grind in state-of-the-art S90V stainless steel, and (bottom) the popular Fallkniven F1 model in laminate VG10 stainless steel. **[D]** Two Bushcraft knives geared for skinning game are both in 1095 high carbon steel. The TOPS Scandi Woodsman drop point (top) has a deep Scandi grind. The ESEE JG3 model (bottom) has a flat-ground, drop-point blade.

hollow grind instead of the typical V-grind. Needless to say, the Scandinavian influence played a huge role in jumpstarting the Bushcraft movement both here and abroad.

As with any knife genre, diversity gains steam as the movement grows. For proof, look no further than the tactical knife category and how it has morphed into many sub-categories through the years. It was only a matter of time before the Kephart knife was re-discovered and made its way into Bushcraft offerings.

The Kephart knife was a radical departure from the Scandi style. It had a full, flat V-grind all the way to the spine and a “broomstick” style handle, which incorporated a small guard. The wider angle and deeper belly of the blade makes it an excellent slicer and shaver while the handle guard works well for finger protection. The Kephart has been accurately reproduced by Condor Tool & Knife with the aid of survival expert Joe Flowers, a noted member of the Brothers of Bushcraft and owner of Bushcraft Global expeditions.

It wasn't long before the companies and knifemakers specializing in Bushcraft knives began offering a flat-ground blade as an option, and some designed Kephart-style handles. The Battle Horse Woodsman Pro and L.T. Wright Genesis models are thoroughly modern takeoffs of the style. Spyderco's Proficient is essentially their Bushcraft model handle with a flat-ground blade. Spyderco Special Projects Coordinator Michael Janich explains, “With regard to Bushcraft and the edge geometry paradigm shift, our Proficient model follows that exact theme and then some. Like our original Bushcraft design, the Proficient was designed with the help of Chris

Claycomb and Bushcraft UK. However, unlike the original, which used traditional O-1 tool steel and a Scandi grind, the Proficient (originally nicknamed the “NASA Bushcraft”) takes the Bushcraft concept high-tech, with CPM S90V blade steel, a full-flat grind, and solid carbon fiber handles.”

Perhaps the biggest departure from the Bushcraft norm is the TOPS Dave Canterbury designed Pathfinder School Knife. With its very pointy double-ground blade and double-guard handle this knife could easily serve as a self-defense sticker.

In a feature on Battle Horse Knives in the March-April issue of *American Handgunner* founder Dan Coppins informed readers, “The V-shaped Scandi grind is our most popular for Bushcrafting and woodworking because the knife is ground to zero—there is no secondary bevel. It works great for traps, triggers, or any other fine detailed carving. The full-flat grind

is what we suggest for our hunters who will be processing game. This is the thinnest grind we offer so it is great for slicing meat and other soft materials. We also offer a saber grind for something in between—it's our all-purpose grind. With a saber grind you can do a little bit of everything. We also offer a hollow grind, chisel grind, and convex grind when asked."

A fourth grind with a small but avid following is the "convex grind." Think of it as an outwardly curved version of the V-grind. Both Fallkniven and Bark River Knives offer this edge on much of the fare and it is known for its edge retention.

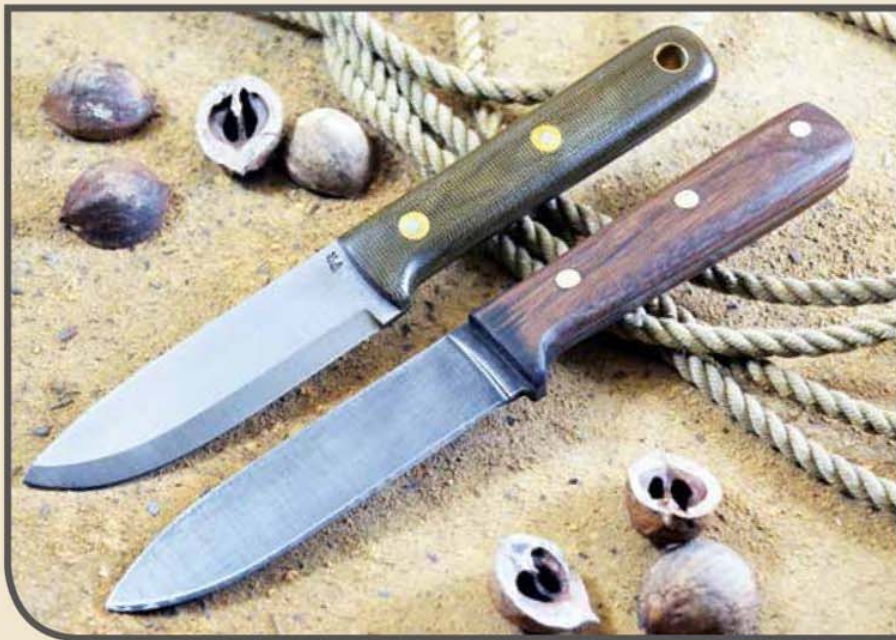
While standard formula Bushcraft knives are great for a wide variety of chores, some prefer a larger camp knife for preparing food for groups or tackling larger chores such as chopping small trees for shelter building. A knife with a 4- to 4.5-inch blade doesn't have the heft and blade length for really chowing down on wood unless it has extremely thick blade steel in the neighborhood of a 1/4-inch, but add an inch or two and the equation changes drastically. Chopping becomes much easier. The net effect of Bushcrafters opening up to new ideas in blade and handle styles broadened the appeal of the knives to a broader base. The saber grind found its way into the fray and is now a common offering.

Popular survivalist Ron Hood, who passed away unexpectedly several years ago, designed several fixed-blades for Buck Knives. The smallest, the Buck Ron Hood Punk, had a blade 5.6 inches in length—well beyond the standard Bushcraft knife dimensions. Dave Canterbury's PLSK Scout Knife, originally designed by Dan Coppins of Blind Horse Knives and available from Battle Horse as the Scout Platoon, has a gracefully curved 5.5-inch drop-point blade ideal for tougher chores. Håbilus Bush Tools' Nessmuk, 9.5 inches overall with a very wide 4-inch blade, is another large knife geared for bigger tasks such as shelter building and is just as comfortable butchering large game and preparing victuals for large groups.

Speaking of food prep, the CRKT HCK1 (designed by Karen Hood after her husband's passing) is specifically made for such. At 11 inches overall with a 6.13-inch Cerakote 1095 carbon steel blade, the HCK1 sports a thinner than normal blade geared for slicing and dicing meat and potatoes in the wild. One the other side of the spectrum, smaller Bushcraft knives have gained acceptance as well. TOPS Knives' Scandi Woodsman and Trekker models, along with ESEE's James Gibson designed RG3, are geared toward Bushcrafters who desire a shorter, curvier drop-point blade more adept at skinning game. There are many other smaller knives available from the major players.



Bushcraft knives find their roots in Scandinavian designs. Here (above, top knife) is the Fallkniven Swedish Knife with a Curly Birch handle and 3G laminate powder steel, and (above, bottom knife) the Spyderco Puukko with modern G10 handle and premium S30V stainless steel. Note both are of hidden tang design. Outdoorsman Horace Kephart's influence on Bushcraft knives can't be understated. Two renditions here include (below, top to bottom) the Blind Horse Maverick Colt and Condor Kephart model (with blade stripped and patina added) designed by outdoor adventurer Joe Flowers.



As mentioned above, most Bushcraft knives are made using high-carbon steels often referred to as "tool steels." This includes fare like 1095, 1075, A1 and O-1 steels. O-1 has the exceptional ability to throw sparks off a flint nodule. These rust more easily than stainless so require more frequent cleaning and oiling, but many Bushcrafters believe it's worth it because they can be sharpened in the wild much easier—even using a rock if a sharpener is not available. Many of the newer, more exotic stainless steels require a diamond or ceramic sharpener because they are harder and tougher than stone. Forget or lose your stone and you're up the proverbial creek without a paddle.

Tool steels take a gray patina easily (just like granddad's old Case pocketknife) and

some like the visual effect, and the surface coating itself helps protect the blade from rust. In fact, they'll often force a patina on the raw steel using vinegar or citrus juice to hasten the effect. Several manufacturers, such as TOPS and ESEE, apply powdercoats to their steel to cut down on corrosion.

More corrosion resistant steels are gaining acceptance among Bushcraft users. D2 high chromium steel—not quite stainless but darn close—and exotic Crucible S30V stainless steel are two examples of current offerings of several Bushcraft knife providers.

As you can see, Bushcraft knives have become quite diverse, but where does the genre go from here? First and foremost it has been dominated by fixed-blade knives



As Bushcraft knives go, these are big 'uns. The CRKT Karen Hood-designed HCK1 (left) is primarily designed for food prep. The Habilis Bush Tools Nessmuk (right) is a multi-purpose fixer, which can handle many large chores.

due in most part because these knives take a beating folding knives—with their multiple moving parts—typically can't. This could change. Indeed, Battle Horse Knives has a design dubbed the Tree Frog, which is made for such abuse. Stainless steel drop pins, which go through the handle and blade, make for a rock solid lock-up which can withstand extreme abuse such as batoning. TOPS Knives will soon release a folder version of their popular heavy duty B.O.B. Fieldcraft model, and for fine work Spyderco offers a folding model of the their Puukko, the Nilakka. Could these knives portend more Bushcraft folders to come?

It's true fixed-blades are simpler in construction, but there's always room for improvement for them as well in such areas as design, metallurgy, and handle materials. There's one more factor in Bushcraft's favor. It is youth driven and therefore has the energy and fresh insight to continue to grow—a huge intangible in its favor. Where will the movement go from here? Stay tuned!

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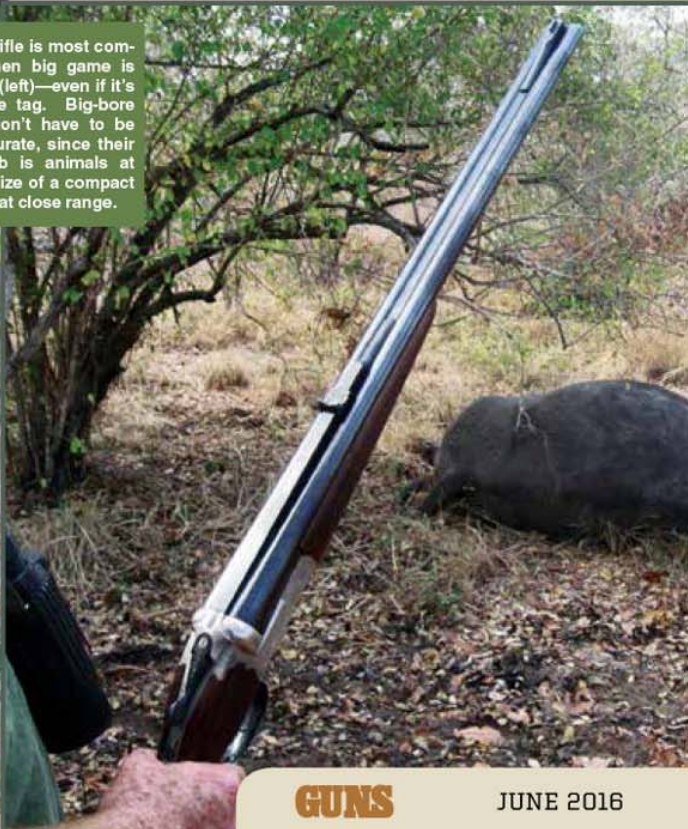
MAKE IT A DOUBLE

JOHN BARSNESS

HAVING TWO QUICK,
RELIABLE SHOTS
ON TAP CAN SAVE
YOUR BACON.

Two barrels were the first and most practical solution to a quick repeat shot from muzzleloading rifles, the reason some (but by no means all) the big-bore muzzleloaders used on dangerous game in Africa and India were double rifles providing a quick second shot in case the first didn't stop a lion, tiger, buffalo or elephant. Back then the term "big bore" meant a really *big* bore, measured by the "gauge" method shotgunners remain familiar with today—though in the 19th century the term "bore" was used for rifles and, often, even for shotguns.

A double rifle is most comforting when big game is this close (left)—even if it's not on the tag. Big-bore doubles don't have to be super-accurate, since their normal job is animals at least the size of a compact car (right) at close range.





A few elephant hunters used 2-bores, firing a 1/2-pound lead ball approximately 1-1/3 inches in diameter, but a pair of such huge barrels made a double 2-bore very heavy and unwieldy.

With the appearance of cylindrical bullets, practical yet powerful doubles could be made considerably slimmer. In Sir Samuel Baker's 1854 book *The Rifle and Hound In Ceylon*, Baker mentions using 1/4-pound bullets in his 15-pound, 10-gauge doubles when hunting water buffalo.

The development of self-contained metallic cartridges made repeating actions practical, so a second barrel wasn't

needed for an extra shot—at least for most hunting. But hunters after the very largest game still preferred doubles, because lever-action repeaters were mechanically limited to cartridges no more than 3 inches long, such as the black powder .50-110 and smokeless .405 Winchester. Probably the most popular British smokeless cartridge for doubles was the .450 Nitro Express 3-1/4 inch—and that's the length of the case itself, not the almost 4-inch cartridge. A few others exceeded 4 inches long.

Bolt-action cartridges could be longer and more powerful, but a bolt couldn't fire two shots as fast as a double. A practiced hunter could fire an aimed second shot quicker than any manual repeating rifle, though for three or more shots a repeater was obviously superior. Some hunters, the British in particular, got around the problem by using two doubles, one in the hands

Many doubles are chambered for "normal" cartridges, such as this over/under .30-40 Krag built on a Ruger Red Label 20-gauge frame. Even some commercial doubles come with a set of shotgun barrels, increasing versatility. There's something comforting (below) in the big holes in your African professional hunter's double when hunting Cape buffalo. This one's a .470 Nitro-Express.



of a gunbearer right behind them—at least theoretically. Early African hunting tales often mentioned gunbearers fleeing during an animal's charge, rather than handing bwana his third and fourth shots. Doubles also found favor in Europe for driven game, particularly the tough and occasionally dangerous wild boar. Two quick shots were often all a hunter could fire as a boar or red stag ran across a clearing.

Many hunters also considered doubles more reliable when hunting far beyond the nearest gunsmith, because doubles were in effect two single-shots, with separate triggers,

hammers, and extractors. Break any of those on a repeater and the rifle would be useless until repaired, but a double could still be used as a single-shot.

Of course, a class distinction also existed among some hunters, not always limited to the British, who looked down on repeating rifles as “unsporting” mechanical contrivances. They might be good enough for uncultured Americans, but not for a truly refined hunter.

The big problem with double rifles has always been getting both barrels to shoot to the same place. This wasn't a problem with double-barreled shotguns, because a few inches doesn't matter with shot patterns, though even double shotguns don't have barrels precisely parallel to each other, because recoil tends to kick each barrel away from the other. But bullets from a double rifle must land very close to each other.

Obviously, big-bore doubles are intended for use on huge animals at close range, but many hunters use doubles on more normal-sized animals, especially in Europe. Even with well-made doubles, point-of-impact can vary noticeably with bullet weight or velocity, the reason a typical double is “regulated” for a single load. Regulating is normally done before the barrels are permanently connected, by shooting one particular load at a target, then adjusting the barrels to bring the shots together.

My friend Karl Heckman is a now-retired gunsmith who, thanks to considerable training in Europe, could perform jobs not normally tackled by average American gunsmiths, among them rebarreling double shotguns and rifles, and even re-regulating older double rifles. I once asked Karl how much he charged for regulating doubles.

He shrugged. “The time varies considerably depending on the rifle, so I can't charge a flat fee. Instead I charge by the hour, plus ammunition, because big-bore British ammo often costs several bucks a shot.”

“WHAT WOULD BE AVERAGE?”

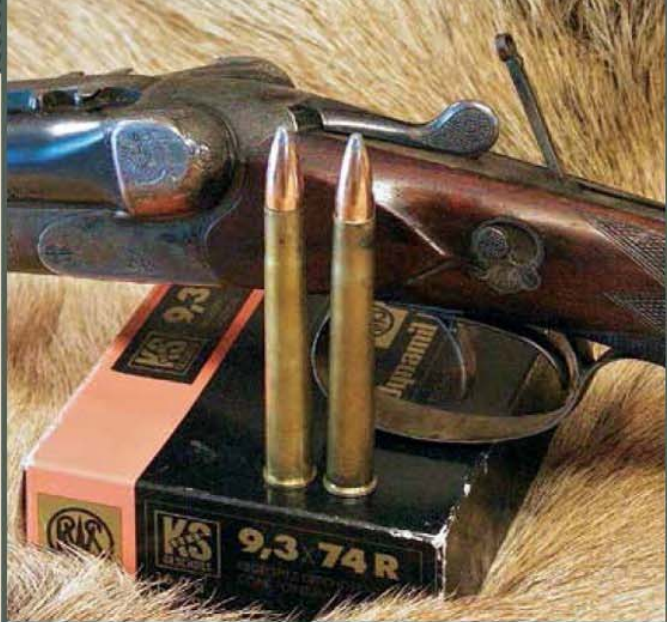
“Anywhere up to \$10,000, and sometimes even more. Most customers who want a double rebarreled or re-regulated don't really care, because they're spending at least a hundred grand on African hunting every year anyway, and really want to use that particular rifle, usually an old British double.”

I've shot several British doubles up to .600 Nitro-Express, but the one I fooled with the most was a Manton in .450/400 Nitro Express 3-inch (the .450 Nitro Express necked down), loaned by my friend Tim Crawford to semi-reproduce the Theodore Roosevelt safari of 1909-10. Of course I couldn't stay out on safari for almost a year, as Roosevelt did, but could approximate Roosevelt's battery of a big double, Model 1905 Winchester in .405, and a “little Springfield,” a 1903 I'd remodeled into an iron-sighted sporter.

Tim hadn't yet had a chance to work up a handload with the Manton, but had some new Bell brass and 400-grain Woodleigh bullets, both expanding and full metal jacket. After some research I decided to try H4831 powder. The range work was done at 50 yards, which would probably be long range for Cape buffalo in the jess-bush of Zimbabwe.

As with all rifle handloading, the basic double-rifle technique is to start with a relatively mild powder charge and work up, but with doubles we're not looking for “pressure signs” or tiny groups. Instead we're hoping to get two barrels shooting to the same place. With too-light powder charges, a side-by-side places bullets from the right barrel to the right of point-of-aim, and bullets from the left barrel to the left, while too much powder results in the barrels “cross-firing.” Like Goldilocks, we want “just right.”

My starting load of 80.0 grains resulted in bullets so far apart they didn't hit a typing-paper-sized target at 50 yards. Another grain of powder resulted in bullet holes 5-6 inches apart on paper, and 82.0 grains hit paydirt, with “pairs” of bullets landing within a couple inches of each other—and right



Barsness's “big” double is a medium-bore, a pre-World War II German rifle in 9.3x74R (above). Luckily, it's one of the most ammo-tolerant doubles he's fired, even shooting factory ammunition reasonably well (below).



at the top of the front bead, which doesn't always happen with older doubles loaded with newer powders.

Four-shot groups (two from each barrel), using both soft and solid 400-grain bullets, measured around 3 inches. Velocity averaged around 2,150 fps, just about the original velocity listed for the cartridge. To a modern whitetail sniper this may seem pretty pitiful accuracy, but African double-rifle game starts with animals the size of a compact car and goes up.

Unfortunately, my flight left Montana on 9/11/2001 and I only made it to Salt Lake City, where passengers weren't allowed to retrieve their checked baggage. My wife Eileen drove down from Montana to pick me up, but the Manton took a slow journey around the US before arriving at my house a week later. There wasn't a speck of rust, even after spending a day or two in such humid places as Atlanta, and I started breathing again.

A while later Tim offered to sell me the Manton, but I



Eventually Barsness discovered the Ruger .30-40 would only consistently put bullets from both barrels close together when the top barrel was fired first. One modern trend is mounting a lightweight reflex sight on big-bore doubles, which usually doesn't affect regulation. This one's on an old Austrian .500 Nitro-Express owned (and still used) by a Tanzanian professional hunter.



declined, and have passed on several other bigger-bore British doubles, because even a bargain price would pay for one of my typical safaris. But the experience did convince me that smaller doubles would be fun for some hunting in North America.

The first came through Karl Heckman, who sold guns on consignment in his shop. (Eileen and I were both frequent buyers, but those are other stories.) He called one day about an older German side-by-side in 9.3x74R, a cartridge pushing a .366-caliber, 286-grain bullet at very similar velocity to the 2,400 fps of 300-grain bullets from the .375 "Flanged," the rimmed version of the .375 H&H. When he mentioned the price I said, "Sold!"

German (and Austrian) doubles are very high quality, though they don't have as much cachet among African hunters as British doubles. Mine was made by Thieme-Schlegelmilch, a German company which went under during World War II, and is considerably lighter than many larger-bore doubles,

weighing an ounce over 8 pounds. Like many German rifles, it has some clever extra features, such as a flip-up aperture sight in a slot on the tang, and each of the twin triggers is single-set: Push them forward until they click, and the pulls drop from around 4-1/2 pounds to under a pound.

Working up a load was even easier than for the Manton, with 65.0 grains of H4350 doing the job with every 286-grain bullet tried—and the inexpensive 270-grain Speer lands right in the same place with 64.0 grains. It's also more accurate than the Manton, with two pairs at 50 yards going into 2 inches. The 9.3x74R is legal in some African countries for dangerous game, though not in others, but so far I've only taken deer around home.

SCOPE WOES

The rifle was built with integral bases for scope mounts, though the scope was long-gone. The bases aren't for the typical German "claw" mounts, but dovetails that obviously accommodated rings attached by cross-bolts. After working up the handloads, I filed a pair of detachable Talley steel rings to fit the bases, and mounted a 3X Leupold, whereupon the rifle started grouping the 270-grain Speers well apart at 50 yards.

This is common with double rifles, because they're not only sensitive to ammo but weight and balance changes. Even adding a recoil pad sometimes "deregulates" a double, and a scope usually will. However, one of the latest double-rifle trends (if anything about doubles can be called trendy) is mounting a small reflex sight, light enough not to affect regulation. On a safari in Tanzania one of my professional hunters used one on his old Austrian .500 Nitro Express.

This sensitivity can also apply to the same load at different temperatures, one reason old British ammunition loaded with heat-sensitive Cordite often also came in a "tropical" version, because standard ammunition cross-fired in hot weather. The opposite often happens in cold weather, with pairs spreading, the reason some modern addicts who hunt with doubles in North America use temperature-resistant Hodgdon Extreme powders in their handloads.

My "little" double is a custom over-under in .30-40 Krag acquired from Tim Crawford. It was built by an unknown gunsmith on a 20-gauge Ruger Red Label frame, and the shotgun barrels also came with the gun. (Quite a few double rifles have been built on shotgun frames, and commercial doubles sometimes come with a set of shotgun barrels.)

Over-under doubles are supposed to be easier to regulate than side-by-sides, because the recoil moves impact up, not sideways and up, and this rifle was also designed for scope use, simplifying sight-in. However, this particular over-under was a real pain until I eventually discovered it only prints both barrels in the same place if the upper barrel is fired first. This quirk also isn't uncommon with side-by-sides, especially since the right barrel's throat is often worn more than the left, due to being fired more often—and this may also result in one barrel shooting higher than the other.

Some relatively inexpensive double rifles come with adjustable barrels, so the shooter can theoretically regulate them to different loads. I say "theoretically" because I've only known a couple people who owned such rifles, and neither was entirely satisfied with the results. But then a lot of double-rifle addicts are never entirely satisfied, especially with factory ammunition, the reason every double-rifle owner I've known is a handloader—with the exception of some African professional hunters who can't legally handload ammunition, or don't have time.

So why would anyone in the 21st century hunt with such squirrely rifles? Unless you're after really big African game—or driven game in a European country where semi-autos aren't legal—there's no real reason except *wanting* to. But then that's true of a lot of guns!

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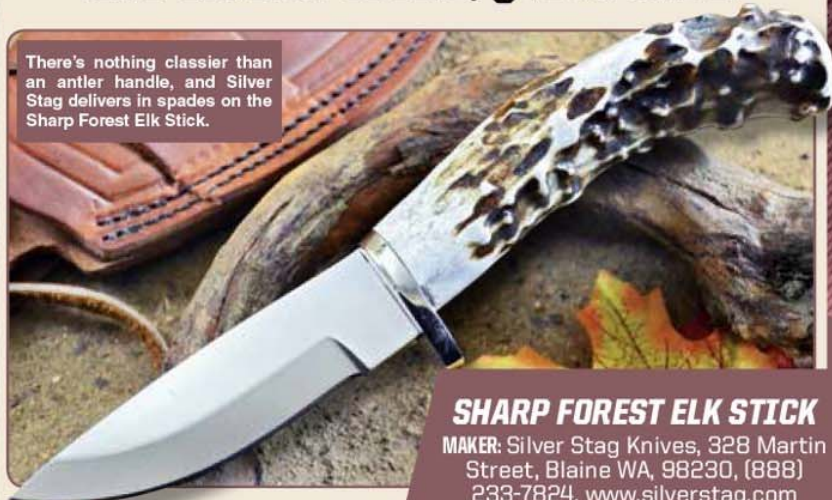
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MAKER: Silver Stag Knives, 328 Martin Street, Blaine WA, 98230, (888) 233-7824, www.silverstag.com

STEEL TYPE: D2 high carbon steel, fine satin finish, **BLADE LENGTH:** 3.6 inches, **OVERALL LENGTH:** 8.5 inches, **WEIGHT:** 5.0 ounces, **HANDLE:** Elk beam, **SHEATH:** Tooled leather with belt or scout carry, **PRICE:** \$121

There are great things to be said for state-of-the-art exotic steels and synthetic handles—but for some knife users only the classic, down-to-earth feel of stag and a time proven basic steel will do, thank you! Long before there was a formal Bushcraft movement (see our article on the genre elsewhere in this issue) there were knives like the Silver Stag Sharp Forest Elk Stick featured here.

Silver Stag Knives of Blaine, Washington, specializes in such cockle-warming earthiness. As the name implies, antler stag handle knives are their focus and they do them in a staggering number of models. The Sharp Forest Elk Stick is 8.5 inches in overall length with a 3.6-inch blade, the perfect size for a dutiful, hidden tang hunting knife for processing game and performing many field chores. The blade is D2 high carbon steel, a favorite among hardcore users

who want a relatively corrosion resistant blade. D2 has a high chromium content easier to sharpen than modern exotics. The blade has a narrow saber grind, deeper than your typical Bushcraft Scandi grind and hollow ground for added slice-ability for skinning. Each knife will vary in appearance due to the difference in bark and figuring from one antler to the next, so every one is unique. Then there's the unmistakably earthy feel of antler in the hand that simply can't be duplicated by any other handle material. A nickel-silver guard protects your digits.

The Sharp Forest Elk Stick comes accompanied by a nicely handmade, tooled leather sheath designed for standard vertical belt carry, plus there's an additional cross-mounted loop for horizontal belt attachment. The price for such luxury is the icing on the cake. At a suggested retail of \$121 the Sharp Forest Elk Stick may just be the best value in a traditional fixed-blade out there!

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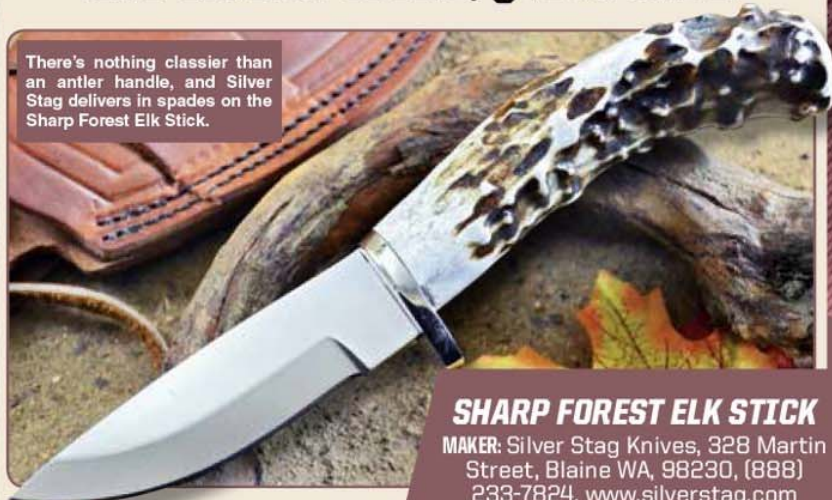
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ARE YOU READY?™

continued from page 60

firearms would be consistent with operational needs.”

That’s the rub. Defense is not just being asked to look at the technology; its politically-motivated brass is being told the commander in chief expects something that can be deployed that will fulfill mission requirements.

With the presumption being that such technology will reduce “fatal and nonfatal firearm-related injuries,” already lower “in circumstances other than war ... among military members than civilian males aged 18-44,” it would be fair to speculate on injuries going up should Obama get his wish. After all, anything that inhibits a mechanism from functioning as designed by building in extra unnecessary steps demonstrably adds a layer of complexity and increases potential failure points. Real lives and real mission success depend on not doing that. And it’s not exactly like there’s a measurable problem (or any problem at all) with soldiers being disarmed by enemy combatants and killed with their own weapons.

“EVERYTHING ELSE IS JUST MISDIRECTION, SMOKE AND MIRRORS.”

Add the fact that the current state of the art relies on fingerprint scans or RFID, and it seems an open invitation to manifest Murphy’s Law on a catastrophic scale. That is, unless the troops keep their hands immaculate in the field and as long as potential jamming, hacking and EMP complications can be nullified with perfect certainty.

That’s not what Obama has in mind though. Such hamstringing firearms are intended for the civilian market, which will not be offered a choice. Everything else is just misdirection, smoke and mirrors. And it’s not the first time the gun-grabbers have pulled this particular bait-and-switch scam.

The whole reason “smart gun” development began in earnest back in the ‘90’s was ostensibly to provide a solution

continued on page 64

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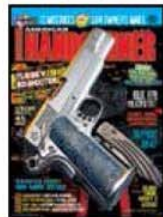
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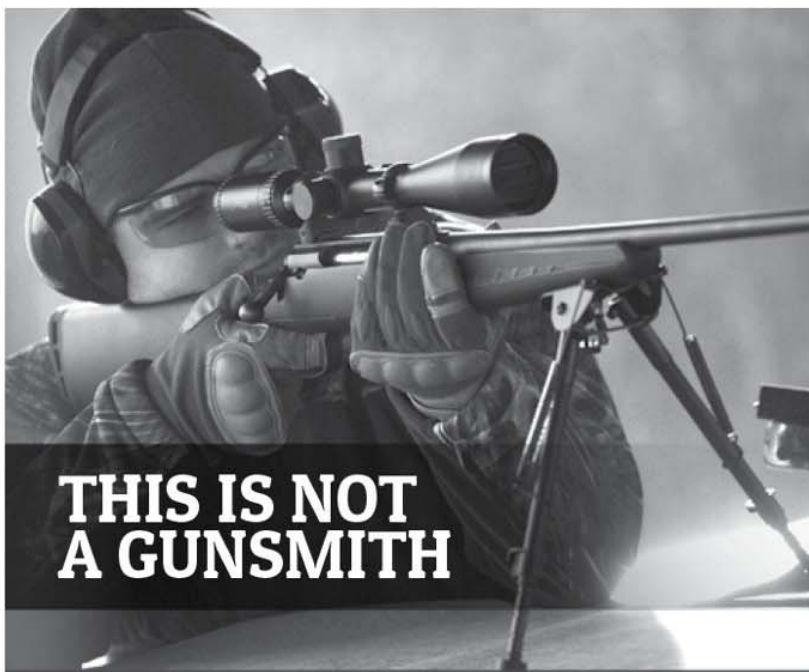
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continued from page 62

to police being killed with their service weapons in "takeaway incidents." Never ones to control their impulses, the gun-grabbers showed their impatient hand with state-level edicts designed to force "smart guns" on you and me while exempting the one group the technology was developed for in the first place. Not that any police union would allow its members lives to be experimented with on the streets—and rightly so. That risk is reserved to lowly "civilians."

But that's why groups like NRA oppose "smart gun" mandates. Their position couldn't be clearer.

"The NRA doesn't oppose the development of 'smart' guns, nor the ability of Americans to voluntarily acquire them," the Association has consistently maintained. "However, NRA opposes any law prohibiting Americans from acquiring or possessing firearms that don't possess 'smart' gun technology."

Naturally, the media ignores that important qualification and is doing its best to make everyone believe otherwise.

"Proponents of 'smart guns' say NRA is the main obstacle," one headline proclaims. "The guns the NRA doesn't want Americans to get," another declares.

As with everything the anti-gunners do, they make their misdirection multi-dimensional. So they not only misrepresent (that's polite for "lie about") the reliability of existing technology, and they not only misstate ("shamelessly lie about") NRA's position, they also misdirect ("desperately lie about") market demand for "smart guns" among existing and prospective gun owners.

Thus we see headlines like "More than half of handgun buyers would consider 'smart' guns: Study," and "New data bucks gun industry claim, finds US majority supports smart guns." Unsurprisingly, we see some that just can't resist getting their digs in, such as "NRA lies smartly exposed: The truth about consumer demand for life-saving smart guns."

What the media was passing off as a "study" was actually an editorial (!) from the Johns Hopkins Bloomberg School of Public Health (yes, that Bloomberg) appearing in the *American Journal of Public Health*. It was written by a group of incentivized gun-ban apparatchiks, Obama fundraisers, and Hillary supporters, not a one with any

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qualifications or credentials in either gun design or defensive gun use. In other words, it was Bloomberg-beholden propaganda that failed to inform survey respondents what the National Shooting Sports Foundation did when it conducted a similar survey that yielded significantly less supportive results: That "such firearms would incorporate biometric or radio frequency identification (RFID) with an activation system that would rely on battery power."

Unsurprisingly, when presented that way, most people said "No thanks."

The curious thing, funny, actually, is that as much as the gun-haters demand imposing "smart guns" on the "free" market, institutional hopophobia has proven as big an impediment as any argument from the "pro gun" side.

Shortly before the SHOT Show in Las Vegas, another huge trade show convened, the Consumer Electronics Show. Omer Kiyani of Sentinel was there to demonstrate his IDENTILOCK fingerprint-scanning "smart gun lock."

"FOR 'PROGRESSIVES,' EVERY DAY REALLY IS OPPOSITE DAY."

The only problem: he wasn't allowed to demonstrate his invention in a forum dedicated to showcasing technological innovations!


"I never did expect that an industry defining exhibit like the consumer electronics show would not allow us to demo our product with a gun, or worse even with an imitation gun," Kiyani told AmmoLand Shooting Sports News. "It's like preventing Google from demoing its Self-Driving Car."

For "progressives," every day really is Opposite Day.

But back to Obama and his executive action, the one that really isn't intended to send troops into harm's way with weapon failure rates equivalent to garage door openers and television remotes: The

military is just being used to funnel some appropriations into developments that can then be showcased for the media in some nonessential but sensationalized functions.

Depending on who wins the presidency look for this nonsense to be rescinded if a Republican is elected, or expanded with a vengeance if Hillary or Bernie grab the brass ring. If that's the case, and note this is being written before it's even determined who the opposing candidates will be, there's one other option that could be tried: Propose a bill requiring that before "smart guns" can be mandated on gun owners, they must be the exclusive weapons assigned to the presidential Secret Service protective detail.

The veto will tell us everything we need to know. 

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NEWS

NAVY DIVERS SEARCH WWII CRASH SITES

Sailors from Mobile Diving and Salvage Unit (MDSU) 1 Company 1-5, embarked USNS Safeguard (T-ARS-50) and began an 80-day mission last January to document World War II aircraft crash sites in waters around Papua, New Guinea.

The Navy divers and Safeguard's crew of civilian mariners are conducting dive operations using a side-scan sonar system to gather information for a potential excavation of a B-24 Liberator that crashed off the coast of Kawa Island.

Additionally, the MDSU team is using their capabilities to search for remains of US airmen at a separate Grumman TBF Avenger crash site in the area. The operations are in support of the Defense POW/MIA Accounting Agency (DPAA).

"The sites are very remote and access to the dive sites is challenging," said Lt. Mark Snyder, MDSU 1 Company 1-5



Navy Divers assigned to Explosive Ordnance Disposal Mobile Unit 11, Mobile Diving Salvage (MDS) 11-7, and an Indonesian Navy diver prepare for dive operations held in support of search and survey operations of the sunken World War II navy vessels USS Houston (CA 30) and HMAS Perth (D29). The data collected by the dive exercise will help the US embassy in Indonesia and Naval Historical Heritage Command catalog the current state of the wrecks. USN photo: Mass Communication Specialist 2nd Class Arthurgwain L. Marquez/Released

officer in charge. "A dive and salvage platform like Safeguard provides us the capability to access sites like these."

Snyder said his team must be self sufficient because of the austere location of the diving sites. It took Safeguard more than a week to arrive on station in

waters near Papua, New Guinea. Once on station, the diving crews used rigid-hulled inflatable boats (RHIB) to access the crash sites.

"We had to rely heavily on our small boats (RHIB) for access to the sites," Snyder said. "My team had to be very

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Navy Divers assigned to Explosive Ordnance Disposal Mobile Unit 11, Mobile Diving Salvage (MDS) 11-7, board a rigid-hull inflatable boat (RHIB) from USNS Safeguard (T-ARS 50) during dive operations. USN photo: Mass Communication Specialist 2nd Class Arthurgwain L. Marquez/Released

proficient in operating and maintaining our RHIBs in order to make the 30-mile round trips from the ship to the dive sites. We were operating in an area with small, acre-sized islands and reefs. It's a very unique location many people do not get to see."

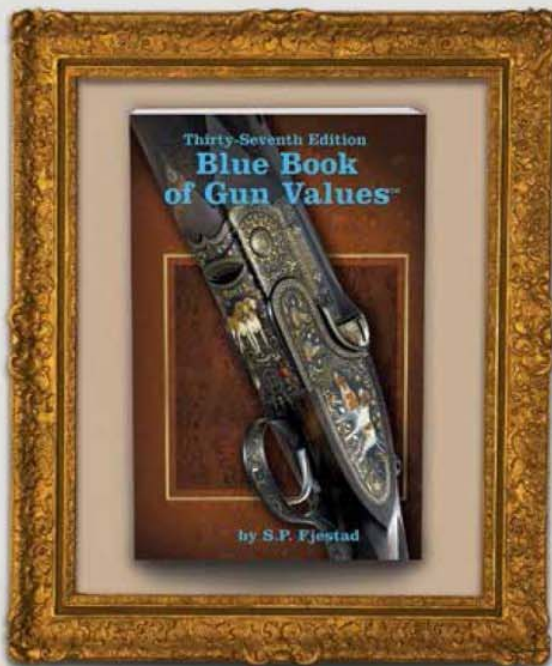
Snyder said the remote location of the dive sites gave his team a greater appreciation for the vast scope of Pacific operations during WWII and the enormous sacrifices made by US service members and their families.

"These types of missions are about

supporting fallen/missing service members and their families and maintaining the precedence that the US is committed to bringing everyone home," said Snyder.

"Our divers are working hard and appreciate the opportunity to put their small boat and diving skills to use in such a unique environment," Snyder added. "It is also very rewarding to know our work could result in the repatriation of a lost service member's remains."

Safeguard is a forward-deployed diving and salvage ship and is part of US 7th Fleet, Task Force 73 (CTF 73). CTF 73 conducts advanced planning, organizes resources, and directly supports the execution of maritime exercises and operations, such as the CARAT exercise series with Bangladesh, Brunei, Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Timor-Leste; the Naval Engagement Activity (NEA) with Vietnam, and the multi-lateral Southeast Asia Cooperation and Training (SEACAT) with Brunei, Indonesia, Malaysia, the Philippines,



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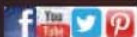


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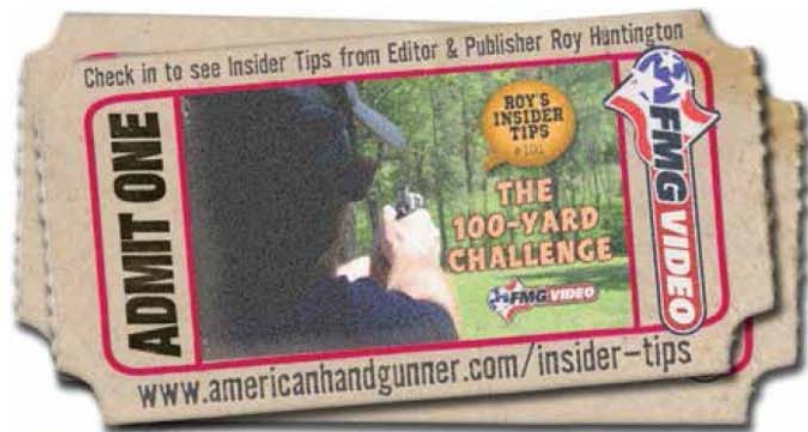


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Singapore and Thailand.—*Mass Communication Specialist 1st Class Micab P. Blechner, CTF 73 Public Affairs*

SIG ARKANSAS AMMO MOVE

SIG Sauer will open a new ammunition-manufacturing facility in Arkansas, adding at least 50 new jobs in the state, according to a *New Hampshire Business Review* story. About a year ago, the New Hampshire-based firearms manufacturer began producing ammunition. "There is nothing negative about New Hampshire," said SIG Sauer's Tom Taylor in the article. "It's just that Arkansas was very, very aggressive."—*Courtesy NSSF*

2016 NSSF RIMFIRE CHALLENGE

The National Shooting Sports Foundation is pleased to announce it has selected Cavern Cove Competition Range in Woodville, Alabama, as the host range of the 2016 NSSF Rimfire Challenge World Championship.

"We have heard nothing but good things about Cavern Cove and the way its staff runs their state match," said NSSF's Tisma Juett, who manages the Rimfire Challenge program. "We are looking forward to them hosting the World Championship and showing everyone what Alabama has to offer the match's competitors and guests."

Now in its third year, NSSF's Rimfire Challenge program provides a way for novice shooters to experience their first competitions via a family-friendly and highly supportive atmosphere. Matches utilize a 2-gun format of .22 LR handguns and rifles, making the Rimfire Challenge an economical sport for new competitors. Focusing on both safety and fun, the competitions are open to all ages and skill levels, with matches hosted on ranges across the nation.

The 2016 Rimfire Challenge World Championship will take place next October 14-16. NSSF will announce the opening of registration for the event later this summer.

For more information on the Rimfire Challenge, how to participate in a Rimfire Challenge event or how to host an event at a local range, visit nssf.org/rimfire.

ABOUT THE RIMFIRE CHALLENGE

Originally developed by Ruger and formerly known as the Ruger Rimfire Challenge, today's Rimfire Challenge is administered by NSSF, the trade association for the firearms, ammunition, hunting and shooting sports industry. Designed to introduce new shooters to the shooting sports in an exciting and family friendly way, Rimfire Challenge matches focus on competition with .22-caliber rifles and pistols. Matches are open to shooters of all ages and shooting experience levels, with events conducted at ranges nationwide.—
Courtesy NSSF

GRAND AMERICAN CONTINUES IN SPARTA

A joint public announcement made last January by the Illinois Department of Natural Resources (IDNR) and the Amateur Trapshooting Association (ATA) assured the nation's target shooting community shooting events scheduled for this summer will continue at the World Shooting and Recreational Complex, Sparta, Illinois.

With 121 trap fields, the massive state-owned shooting complex in Sparta, Illinois, is the largest of its kind and has been the home to the ATA's annual world championship tournament, the Grand American, since it opened in 2006. In 2015, the ATA's premier event spanned 15 days of competition in early August with 4,500 different competitors and an estimated 17,000 attendees from all over the world were on hand. Over 4,000,000 targets were thrown, making the "Grand" the largest clay target event in the world and represents a much needed annual economic impact of approximately \$16 million to a region beset with economic challenges for decades.

It's estimated the direct revenues and tax dollars the complex bring to the area make the facility a breakeven or better proposition for the state. Due to the Illinois state budget impasse, all shooting activity was suspended at the World Shooting Complex beginning

October 1, 2015. While vendors and the on-site restaurant remain open for business, shooting is suspended until a budget deal is brokered between the Republican governor and the Democrat controlled legislature.

Planning for the Grand American by participants and industry begins in the fall of each year. IDNR and ATA officials met recently with the common goal to assure the traditional shooting events would take place at the complex in 2016. The result was a Memorandum of Understanding between the two groups. The MOU stipulates that if target shooting at the Complex is still suspended April 15, 2016, IDNR and ATA officials will meet to negotiate an amendment to the ATA's lease agreement allowing the ATA to use the facility to host and otherwise conduct all shooting and camping activities during the months of June, July and August, 2016. With the MOU in

"...THE ATA'S PREMIER EVENT SPANNED 15 DAYS OF COMPETITION IN EARLY AUGUST WITH 4,500 DIFFERENT COMPETITORS AND AN ESTIMATED 17,000 ATTENDEES..."

place, lodging arrangements, vacation schedules and the thousands of other details encompassed in either participating, attending or hosting these events can move forward.—*Courtesy NSSF*

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Courtesy NSSF

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LASER AMMO SMOKELESS RANGE IN-HOME PISTOL TRAINING

WILL DABBS, MD
PHOTOS: SARAH DABBS

Shooting skills are perishable. When I shoot a lot I shoot well. When I go awhile without launching a few down-range, I have to relearn some things. Considering concealed carry is now at least theoretically possible in most states, this fact translates to an awful lot of folks who need an awful lot of practice with their weapons.

In a perfect world you would live on a farm and able to shoot off your back porch safely and regularly. While we're dreaming, it would be nice if we didn't have to work for a living and radical Muslim terrorists would get real jobs and settle down to become responsible citizens. As none of that is going to happen anytime soon, we need to explore other options.

Nothing is ever quite as good as live ammunition on a safe firing range. However, lots of folks live in cities or built-up areas where range space is either expensive or not available. Under those circumstances a range simulator can be just the ticket to keep muscle memory honed and sharp.

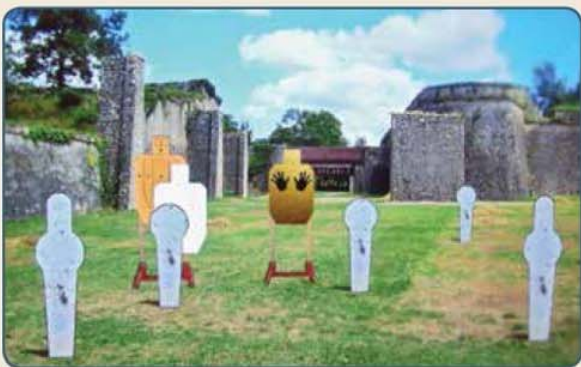
There are actually several components to the Laser Ammo firearms simulator. The Surestrike system is an innovative device that mounts in the bore of your standard handgun, shotgun, or black rifle to transform the weapon into a safe home training tool. A similar device is available for use in Airsoft guns called R.E.A.L. (Recoil-Enhanced Airsoft Laser) and even incorporates simulated recoil. The Smokeless Range, a computerized range simulator, runs on your computer and then projects via a media projector or television. The Open Range upgrade allows you to customize your own range scenarios.

SURESTRIKE

The Surestrike device fits snugly into the chamber of your weapon and includes a component similar to a Snap-Cap engaged by the host weapon's firing pin. This nifty little rig can be configured for various pistol chamberings as well as 12-gauge and .223. The laser uses tiny button cells for power and fires a visible red laser beam every time the firing pin drops. As the Surestrike device remains snugly in the weapon's chamber, the action may be manually cycled repeatedly to recock the firing pin. In handguns with a double-action feature the laser fires with each pull of the trigger.

All components come packed into a zip-up wallet-sized case to help keep track of the tiny bits. A red cap mounts on the end of handgun barrels for safety. The bore-mounted portion of the device is hollow so the red laser beam can pass through unimpeded. The compact, built-in nature of the design allows standard holsters to be used.

The Surestrike system also comes with a series of reflective targets about the size of playing cards. These handy and simple marksmanship aids can be liberally set around your home and then engaged with the laser cartridge installed in your favorite handgun or tactical rifle. Misses go unnoticed and hits render an easily distinguishable flash. I had a ball sneaking around my house with the lights down bouncing laser beams off of these little rascals.



A fairly typical customized shooting scenario (above) built using the Open Range software includes targets in a wide variety of flavors and they perform and respond however you wish. Scenarios are essentially infinitely customizable. The Laser Ammo Judgmental and Marksmanship Training Simulator (below) consists of the Surestrike laser adaptor for the host weapon as well as the Smokeless Range computer marksmanship simulator. The Smokeless Range simulator includes basic marksmanship scenarios. The Open Range allows range parameters to be extensively customized.



The Smokeless Range software package runs through a Windows-based computer and interfaces with a small portable HD camera. You load the software onto his computer and then slaves the video output to a projector or television. I am a bit of a technological Phillistine yet I figured it all out in fairly short order.

Once the software is running smoothly, you set up the compact camera on its included mini-tripod and orient it toward the screen. The device then calibrates itself to make sure the camera can see the screen fully. Once the software and the camera are talking to each other the camera records the splash of the laser dot and registers it as either a hit or a miss.

The system is really designed to be used with a projector system. I used a standard flat screen TV and found the camera would not detect the laser spot. The fix for this is to drape a sheer shower curtain over the television to give the laser spot something off of which to reflect. Thusly configured, the image on the screen is still readily visible and the computer can read the laser splashes just fine.

There are 10 different scenarios built into the Smokeless Range system including fixed targets at various ranges, bouncing cans and jumping bombs, as well as trap shooting and transitional drills. The software provides moving targets as well as speed and tracking exercises. Unlike commercial range facilities, there are no safety restrictions on drawing from concealment or other advanced gun-handling drills.



The Surestrike device converts most any tactical handgun, black rifle, or 12-gauge shotgun into a safe indoor training tool. The device will only fire when the firing pin falls so striker-fired weapons must be manually cycled each shot. Laser Ammo offers airsoft guns configured to fire semi-automatically while also simulating recoil.



The Surestrike laser adaptor is capable of configuring most tactical handguns as well as your favorite 12-gauge shotgun or black rifle to serve as a realistic and safe marksmanship trainer. The little playing card-sized reflective targets allow the Surestrike laser adaptor to be used independently. Misses do not register while hits produce an obvious flash. Will found the simple act of maneuvering around his house engaging these little devices to be good training. In so doing the Surestrike system allows a shooter to draw, move, and shoot dynamically without concern for injury or risk of damage.

The Open Range system is an add-on feature for the Smokeless Range Judgmental Simulator. Using the course editor, the shooter can design and configure personalized range scenarios, placing, moving, and resizing more than 20 pre-loaded targets as desired. Motion components can be added so targets pop up or fall down. Steel target noises can be incorporated to take the ambiguity out of marksmanship. Courses can be built to simulate indoors or outside.

A built-in After Action Review allows the shooter to review shot placement along with reaction and split times. The Open Range keeps the training experience fresh and individualized. You can even let someone else design your

courses so they are unexpected.

Designed by Israeli and American military veterans, the Laser Ammo system is clearly executed by shooters for shooters. The overall effect is a remarkable balance between realism and value. Cheesy video games are cheaper but poor simulators. Top-end military systems do a better job of simulating live weapons but cost as much as my house. The Laser Ammo system strikes a balance.

The system can seem awkward when used in some live weapons. The action must be cycled for each round fired and there is obviously no significant report or recoil. Cycling my action manually did force me to reacquire a proper sight picture with each shot and served as good practice for clearing stoppages. However, where the system really shines is with recoil-equipped Airsoft guns, which perform more like the real deal.

With ammunition expensive and proper range space frequently at a premium, the Laser Ammo Judgmental Simulator is a great safe indoor alternative to live rounds and gun smoke. The system is fairly easy to use and it has basically no incremental cost after its initial purchase. Practice might not actually breed perfection but, with the Laser Ammo simulator, it can at least help keep your gunmanship skills honed and sharp.

LASER AMMO USA, P.O. Box 222017, Great Neck, NY 11022, (516) 858-1262, www.laser-ammo.com

SWISS CLIPS

JEFF JOHN

“Overbuilt” is an oft-paid homage to Swiss small arms, and the K-31 straight pull is no exception. Sturdy, accurate and with a quality not often visited on fine commercial arms, is a hallmark recommending ownership of a K-31 to today’s shooters. Feeding them isn’t problematic with the importation of reasonably-priced 7.5x55 Prvi Partisan—and reloading is no mystery once brass is in hand.

Accessories like stripper clips are becoming expensive after all these years, and were never meant to be re-used a lot. Made from papier mâché and tin, they appear as overbuilt (if not as long lasting) as the gun and designed to protect bullet bases and noses.

If you’ve recently joined the ranks of K-31 enthusiasts, you’ve just found a



Northridge Int. offers new reusable clips for the Swiss K-31 made from black plastic. The originals, made from papier mâché and tin, are now expensive, scarce and weren’t designed for reuse. The plastic is supple, strong and should last quite some time.

high-quality, fast operating and accurate rifle. Bayonets—as well-made as the gun—are still reasonably priced, but the strange, odd clips have started to go out of sight when you can find them. Northridge International now offers a plastic one reusable almost endlessly. The supple plastic lips open up readily to accept the ammunition, and hold it fairly securely.

My waist-high drop test over carpet caused one round to pop out of the clip every time, but the other five always stayed aboard. I was also able to shake out a cartridge or three if I shook the clip vigorously. With some exceptions, stripper clips for other arms aren’t meant to be “dropped” or “shaken vigorously” and can shed rounds treated thusly, so this isn’t so much criticism as observation.

For shooters of today’s Military Rifle Matches, these clips deliver reliable, repeatable performance for fast reloads. The originals are not designed for reuse, although they are sturdy and able to withstand reuse with proper care, their growing value as a collectible means they are no longer disposables. If these plastic ones ever fail, you can at least replace them. They are, however, not inexpensive at \$24.95 for two. So far, I’ve given the ammo 10 trips through the gun and dropped it onto carpet five times. The ammo easily strips into the magazine—much easier than do the originals—and cartridges are held securely enough in a trip from pouch to gun.

NORTHRIDGE INTERNATIONAL, 23679 Calabasas Rd. #406, Calabasas, CA 91302, (661) 269-2269, www.northridgeinc.com





RED AND GREEN LASERS FOR POCKET PISTOLS

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Crimson Trace is offering a wide selection of laser sights — with red or green lasers — for pocket pistols. The laser sights can be installed on Kimber's Micro and Solos; Smith & Wesson's Bodyguard 380; Ruger's LCP; Bersa's Thunder; GLOCK's Model 42 and 43s; Remington's new RM380; Kahr Arms P380; SIG SAUER P239, Springfield's XD-S and more. Some handguns already have Crimson Trace laser sights pre-installed. These include Kimber, Smith & Wesson, Ruger, Browning, Springfield Armory, Remington, Bersa and Wilson Combat. Crimson Trace laser sights make aiming smaller handguns much easier. For more info: (503) 783-5333, www.gunsmagazine.com/company/

THE BOAR BLASTER CHOKE TUBE

TRULOCK

The Boar Blaster Choke Tube from Trulock is a 4-inch choke tube with a 0.030-inch constriction designed to produce tight 00 and 000 buckshot patterns. Hog hunters will appreciate producing tighter patterns and placing more pellets on target. Made from American-manufactured steel, the Boar Blaster features a forcing cone consisting of five "steps" that constrict its diameter before the shot enters the parallel section of the tube. Trulock tested the Boar Blaster Choke Tube on the range extensively and found it produces tighter patterns at 40 yards with every brand of 00/000 buckshot they tested. For more info: (229) 762-4678, www.gunsmagazine.com/company/trulock-tool-we-inc



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WALKER'S GAME EAR

Walker's Game Ear introduces its new Razor series of ear protection. The "razor" thin, foldable muffs were designed to have a low profile without compromising the hearing protection and amplification properties of the muff. Delivering a noise reduction rating

(NRR) of 23dB, the earmuffs in the Razor series protect your hearing from gun blasts but allow softer extraneous sounds to filter in. Available in several color options, the earmuffs also feature a comfort-fit headband with a metal wire frame. For more info: (972) 606-8866, www.gunsmagazine.com/company/walker-s-game-ear



BÖKER AURORA

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Designed by Jens Anso and manufactured in Solingen, Germany, the Böker Aurora (model 112629) combines elegance with durability. It features a framelock design with titanium liners. The Aurora also has radial milling with two-tone anodizing,

showing a grayish-blue base tone with bronze accents highlighting the ridges. Its 4mm-thick blade is 3.125 inches long and made of 154CM steel. The Böker Aurora weighs 5 ounces, with an overall length of 7.5 inches. For more info: (303) 462-0662, www.gunsmagazine.com/company/boker-usa-inc

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HENRY REPEATING ARMS

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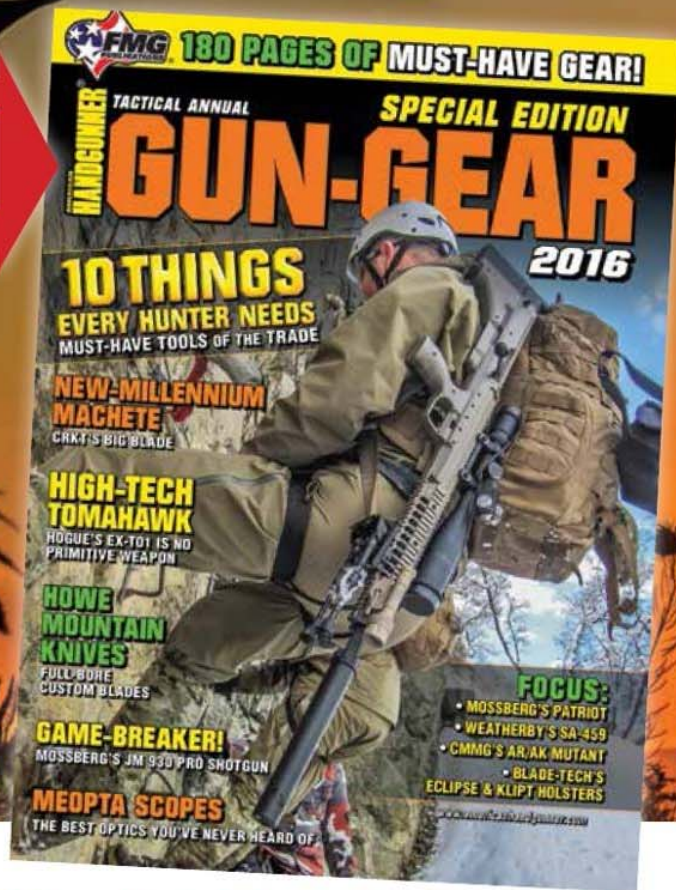
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The main squeeze in the June Gun Giveaway is the GLOCK single stack G43. This 9mm pistol is a newer addition to the GLOCK lineup, with an "ultra" concealable design, a built-in beaver tail and textured grip for easy maneuverability. Its large magazine catch allows for easy loading while its sturdy frame—true to its origins—allow it to withstand whatever rough 'n' tumble action may come its way. Cap it off with 200 rounds of 9mm ammo from DoubleTap and we make sure your new G43 is well fed on your next range date.

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Also included in this month's giveaway are two holsters from DeSantis—the Super Fly Pocket Holster and the Mini Scabbard Holster.

With concealability in mind, the Super Fly Pocket holster was designed with exclusive, sticky rubberized fabric to ensure it remains fixed in place, despite jostling or intense movement, while the removable and reversible outer flap helps further disguise the firearm. For those with a minimalist's heart, the Mini Scabbard Holster has been reduced to the barest of essentials, but still offers a sure grip and a comfortable ride.

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9MM G43

Maker: GLOCK, 6000 Highlands Parkway, Smyrna, GA 30082, (770) 432-1202

Action: Semi-auto, **Caliber:** 9mm, **Capacity:** 6, **Barrel Length:** 3.39 inches, **Value:** \$580

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the passion for the old Colt, led the young gunsmith to do his experimenting with the Single Action in the same way as Elmer Keith two decades earlier.

Casull played with the .44 Special for awhile, but when Winchester brought out solid head .45 Colt cases to replace the old folded head, or "balloon style" brass, the .45 Colt became the main thrust of his experimenting. The Colt Single Action .45 has very thin cylinder walls. To Casull, this meant little or no margin of safety for heavier than standard loads. The old folded head cases, which started the idea that still erroneously persists to this day that .45 Colt brass is weak, had given way to stronger brass, but the guns themselves were still relatively weak.

Casull bulged a number of cylinders because the wall thickness between chambers was simply too thin. As he went further using frame-mounted firing pins to handle the higher pressures, cylinders and top straps blew, and ignition problems developed. A 5-shot cylinder would be necessary to realize the full potential of the .45 Colt cartridge. Five-shot cylinders of 4140 steel were made as large as possible still be able to fit the Colt frame cylinder window.

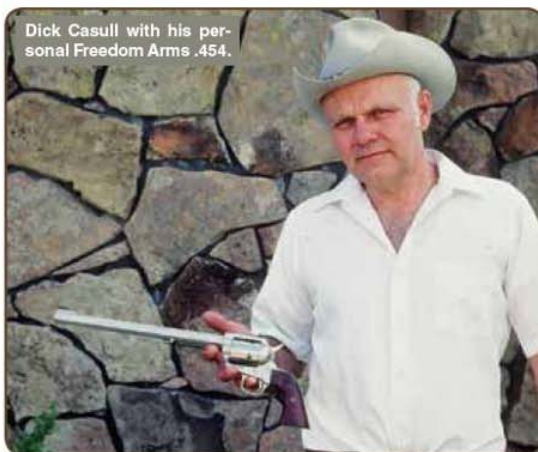
The geometry of the Colt action had to be changed to work as a 5-shooter, and loads utilizing the 250-grain cast bullet attained muzzle velocities of 1,300 fps. This is real close to the performance of the .44 Magnum which would arrive a few years later. Casull, still in his early 20's, wanted more.

Casull fitted his custom cylinders by inserting a bushing in the frame threads and then drilling a pilot hole from the front of the gun for each chamber. This resulted in near-perfect alignment and is known today as line boring. It is used by Freedom Arms with all their revolvers and many custom gunsmiths also do this. He figured out a way to heat treat Colt Single Action frames to 40 Rockwell without warpage.

Using specially-built P.O. Ackley .45 caliber 1:24 twist barrels, the 5-shot Colts were now capable of 1,550 fps with 250-grain bullets. This was 1954 before the advent of the .44 Magnum. The results were gratifying but Casull felt that there was little margin of safety. He wanted power but also adequate safety. By now, .45 Colt primer

pockets were being reamed to accept rifle primers and ignition problems were overcome with duplex and triplex loads. This simply means different powders were layered in the cartridge case. Casull used Bullseye, Unique, and 2400. This was before the availability of H110 and WW296 which make duplex and triplex loads unnecessary.

The Colt Single Action had been taken as far as possible. It is interesting to note Casull made a ".44 Magnum" on a Colt Single Action using a custom heat-treated cylinder and he may have also heat-treated the frame. I have shot this .44 Magnum Colt with full-house .44 Magnum loads and the normally user friendly Colt Single Action grip frame is definitely not something you want to experience through hundreds of heavy .44 Magnum loads.



In the search for more power and above all adequate safety for his .45 Magnum, the answer was a new frame. Starting from scratch, Casull built frames from 4140 steel and now the 5-shot cylinders were from 4150 steel. The .454 Casull, by then labeled the .454 Magnum, became a reality. By this time Casull had achieved 2,000 fps with a 230-grain bullet! During the 1960's a number of .454's were built and also Ruger Super Blackhawks were converted to 5-shot .454 Magnums.

In March 1979 Wayne Baker and Dick Casull got together and began Freedom Arms producing mini .22 revolvers. Four years later, in October 1983, the first factory built 5-shot .454 Casull left the Freedom Arms factory in Wyoming. The .454 Casull revolver was now reality, however it would be several years before it was widely accepted by the general shooting public. In 1985, I called Wayne Baker and found a most


personable man who was willing to trust me with one of his expensive revolvers. He sent me a 10-inch Premier Grade .454 soon outfitted with silhouette sights. I used it for the long-range game, hunting, and also fired thousands of heavy test loads through my first, but not last, .454.

I purchased this test gun and today it remains as tight as the day it left the factory. From the very beginning the Freedom Arms .454 revolver, now known as the Model 83, has been built to the exacting tolerances Casull built into his custom .45 Magnums.

CUSTOM BUILT

Freedom Arms revolvers are hand-fitted from the very beginning by mating one particular cylinder to one particular barrel and frame. Freedom Arms does it the opposite way, that is, they build the best possible revolver their machinery and craftsmen are capable of achieving and then set the price. That price is high, however Freedom Arms makes no apology for it and it is a rare purchaser of a Freedom Arms revolver who would say it is not worth the price. I have yet to find such an individual.

I received my first test gun, a 10-inch .454 from Freedom Arms in 1986, and my first article on the .454 appeared in the pages of *American Handgunner* in the July/August 1987 issue. I had previously had a few freelance articles published by both *American Handgunner* and *GUNS*, however this one was very special. The art department went all out to produce a very attractive reloading data chart using the outlines of the various bullets and from what I have heard from readers this chart was posted in many reloading rooms around the country.

The article resulted in my being hired as a staff writer, doing both features and two columns for each issue of *American Handgunner*. Freedom Arms sixguns are excellent examples of what perfection in a single-action sixgun can be and all have given me much pleasure over the years. I certainly can't take the pounding of hundreds of full-house loads through the .454 as I was able to do in the 1980's, however my first .454 will always have 1st place in my sixgunnin' heart. 

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www.freedomarms.com

CAMPFIRE *Tales*

WITH JOHN TAFFIN

BEFORE THE .44 MAGNUM

Part III: Dick Casull and the .45 Colt

“Here, John, try this one.” Each time Dick Casull spoke those words he handed me another of his special loads for his .454. In 1986 I spent three delightful days at Freedom, Wyoming, visiting with, talking to, and above all, learning from Dick, the firearms genius behind the .454 Casull. We were spending the afternoon running some of his special-purpose loads through his 12-inch octagon barreled .454 Freedom Arms single action. He had claimed 2,350 fps for this gun with his 260-grain cast bullet over a very stiff charge of Winchester 296 ignited by Remington Bench Rest Rifle Primers.

Now, I had no reason to doubt his claims, but I had been experimenting with the .454 for almost a year prior to my journey to Freedom, and the best I could do from my 10-inch was slightly over 2,000 fps and this resulted in stuck cases. That was before I learned a few secrets from Dick about special-purpose loads for the .454. If Dick did manage to come through with his claims, a 260-grain bullet at 2,350 fps would generate muzzle energy of 3,188 ft/lbs—14 percent more than the energy produced by a 150-grain bullet from a .30-06! This from a straight-wall pistol cartridge fired from a 12-inch revolver barrel! The gun was loaded, I nestled the .454 down on the sand bags, got a good grip on the stock, and squeezed the trigger. Recoil was fierce, and as the gun came down out of recoil I checked the velocity reading on my chronograph: 2,344 fps! The next four rounds showed virtually the same reading, and all cases ejected with a tap on the extractor rod. No wonder this load shot through 3/8-inch steel as



These custom Single Actions by Dick Casull include his personal 12-inch Freedom Arms .454 Casull.

Dick had demonstrated the day before and which I was fortunate to capture on videotape.

After trying this load, I did not think there would be anything else left to try. How wrong I was. Now it was time for Dick's big load, a 400-grain cast bullet at 1,600 fps. Compare this with the factory .45-70 with a 405-grain bullet at 1,300 fps from a 32-inch rifle barrel. The recoil of this load proved to be not quite as bad as the first, but it was right up there. The clock again substantiated Dick's claim: 1,606 fps.

60 YEARS IN THE MAKING

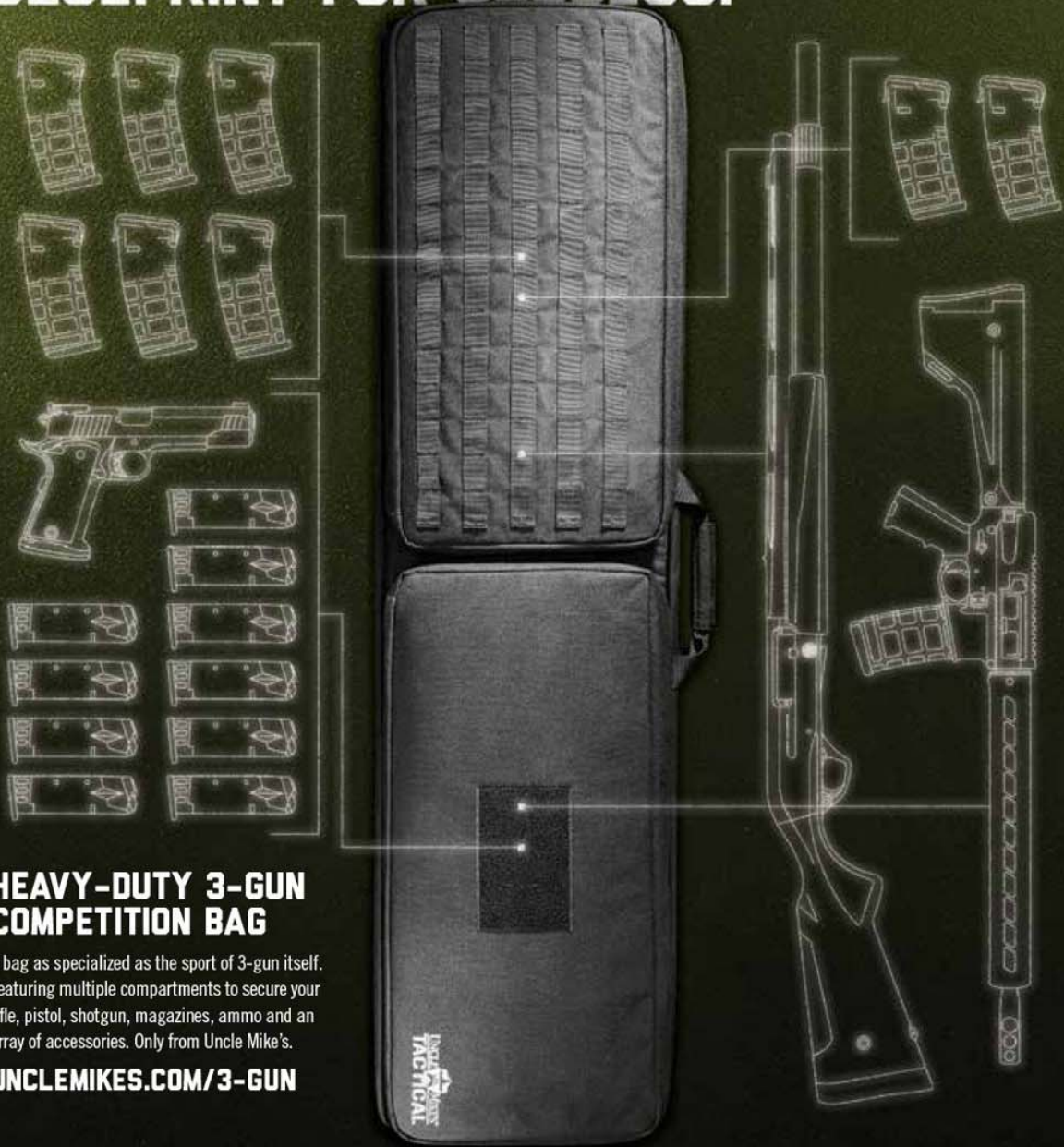
The story of the .454 Casull goes back more than 60 years. Even before the advent of the .44 Magnum, Dick, then a young Salt Lake City, Utah, gunsmith and protégé of P.O. Ackley, came up with his own .44 Magnum. Buying a Colt Single Action Army in poor shape for \$5, Casull went to work polishing and fitting. He made a new 6-shot cylinder and replaced the bolt and base pin with oversized parts with the result being an exceptionally tightfitting sixgun. Just as we saw with John Lachuk in the last installment, Casull made his own brass using .30-40 Krag rifle brass. He was already working on his idea of a .45 Magnum. Like so many sixgunners before him, and especially those from his generation, sixgunsmith Dick Casull had looked upon the Colt Single Action as the best vehicle for not just practical shooting but also for the experimenting.

During the 1950's, many old used, but repairable Colt SAA's were available for \$50, a very reasonable price (and a week's pay for me) in 1956. The economics of the situation combined with

continued on page 81

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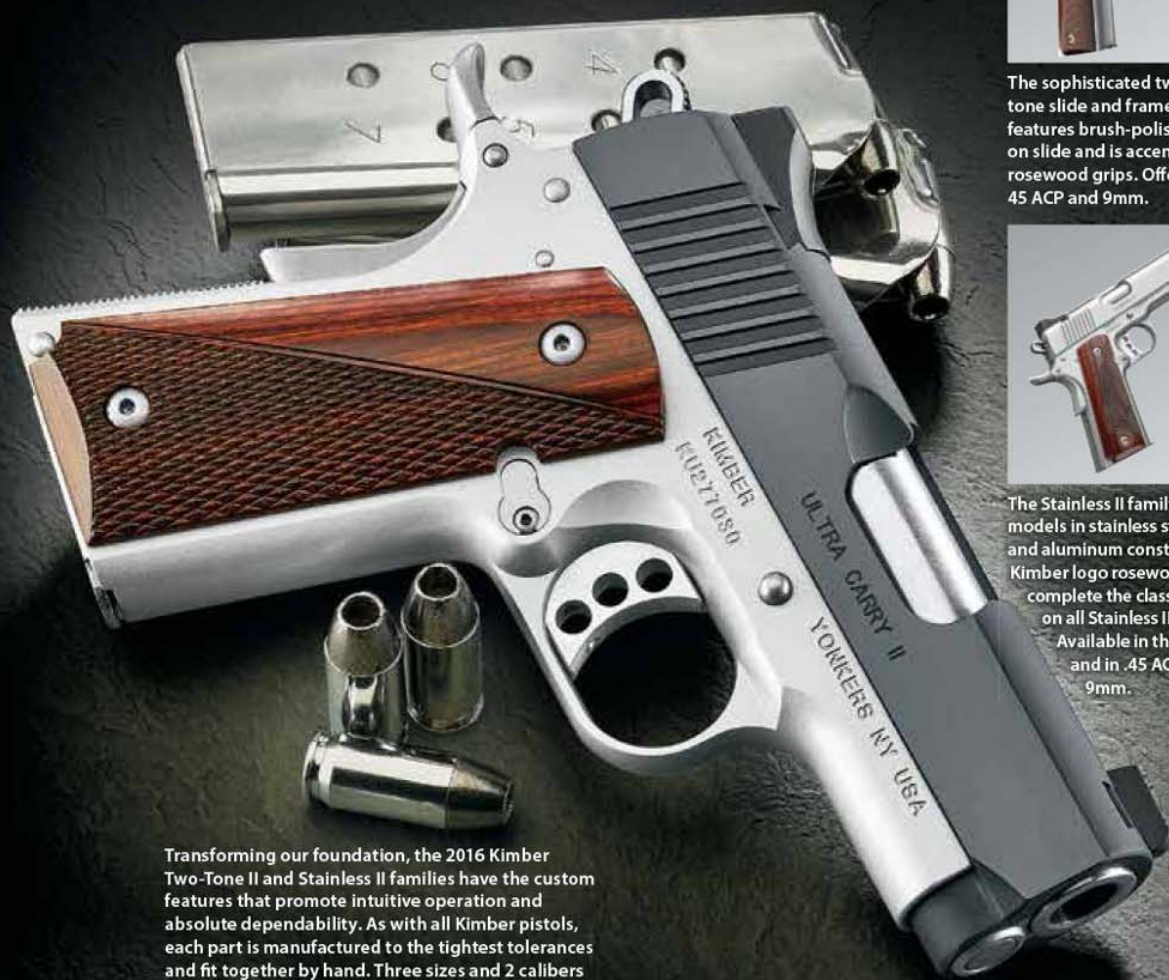
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