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**GUNS**  
MAGAZINE

# GUNS

MAGAZINE

**Gen 4 G22**

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**.40 S&W**

## TACTICAL SUPREMACY

- Robinson Arms
- LaRue Tactical

## MOONCLIPPER

S&W PC M625  
**.45 ACP** pg 8

## OPTICS

- Parallax Puzzle
- Swarovski **3-9X**
- Budget-Minded Scopes

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## ON THE COVER

GEN 4

The latest generation  
Glock 22 .40 S&W  
STORY:

Massad Ayoob

PHOTOS:

Joseph R. Novelozo

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It's especially important to understand when using a scope on the littlest rifles.

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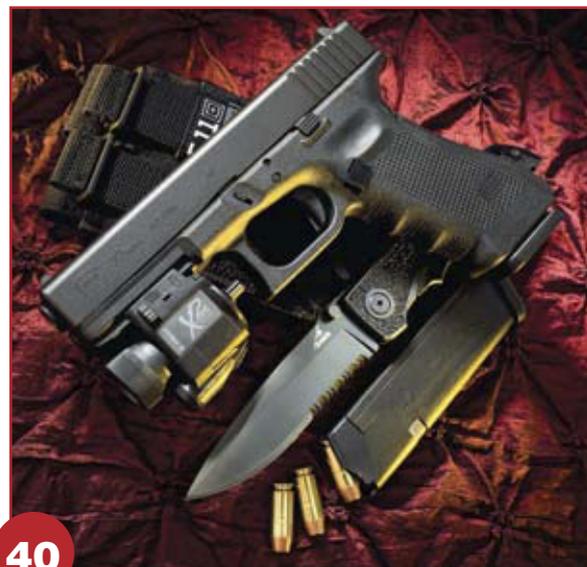
Little differentiated the main combatants' bolt-action rifles during WWII.

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With a handgun. Or is it a "handrifle"?

**MARK HAMPTON****NEW ONLINE EXTRAS ONLY AT  
WWW.GUNSMAGAZINE.COM!****FEATURE:  
.22 LR CONVERSION**

BY JOHN TAFFIN

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GUNS MAGAZINE  
JUNE 2010

# CROSSFIRE

## LETTERS TO GUNS

**GUNS Magazine**® welcomes letters to the editor. We reserve the right to edit all published letters for clarity and length. Due to the volume of mail, we are unable to individually answer your letters or e-mail. In sending a letter to *GUNS Magazine*, you agree to provide Publisher's Development Corp. such copyright as is required for publishing and redistributing the contents of your letter in any format. Send your letters to *Crossfire, GUNS Magazine*, 12345 World Trade Dr., San Diego, CA 92128; [www.gunsmagazine.com](http://www.gunsmagazine.com); e-mail: [ed@gunsmagazine.com](mailto:ed@gunsmagazine.com)

### Duke Wrong?

I always enjoy Mike Venturino's articles. The article "Guns of the Indian Wars" is very informative, unfortunately the educated archaeologist gets an "A" for doing their work in the field but an "F" on their homework. I have also seen their program on the History Channel, same problem.

The battlefield can't be checked for cartridge cases and reveal what Indians had and where the 7th Cavalry was because on June 25, 1886 (10th anniversary) the US Army formed a skirmish line and did a firing reenactment on the battle site. Also, in 1909 William Selig made a film on the battlefield site. So unless a date is stamped on all those cases there is no way of telling where the cases came from. This info is from the book *The Peacemakers* by R. L. Wilson, page 352. This is a very good book if you can find it and the pictures are outstanding.

Doug Martin  
Tonto Basin, Arizona

*The US Army used inside primed cases made of copper until 1881. After that they were outside primed of brass. The archaeologists know exactly what they are doing. They have even been able to match cases to specific weapons by their primer marks with help from the Nebraska State Police forensics lab and even place exactly on the battlefield where that weapon was fired.—Duke Venturino*

### Likes Connor

I had decided to let my subscription to *GUNS* expire. No problem with the magazine. It's just that I am getting a bit older, money is tighter, and as my primary shooting interest is handguns, I thought my subscription to *American Handgunner* would suffice. I received my last issue (May) and as I read Connors column "Since This is For May" I realized this article alone—as are many of Connors articles—worth the price of the subscription. I would

have hated to miss that one. So as they say "keep up the great work." Thank you John Connor.

Thank you *GUNS Magazine* to have the courage to allow John the freedom of voice to write articles such as this.

Charlie Smith  
via e-mail

### Dislikes Connor

I read *GUNS Magazine* for the interesting articles on guns. So I wonder how you ever approved the John Connor "Odd Angry Shot" article in the May 2010 issue? What does this have to do with shooting? Poorly composed rants like this have no place in your magazine.

Gary Maxwell  
via e-mail

### Hunting AR

I read in the March edition John Taffin's article on AR-style rifles. John made some great points regarding the utility of a semi-auto for hunting and it made me think of California and their ban on evil black guns. As a hunter who does it as a means to get meat in the fridge and not as a sport, you may rest assured I use every advantage allowed by law. An AR rifle with good optics such as an ACOG would be an outstanding choice for hunting deer or varmint in the forested areas where most game is engaged inside 300 hundred yards.

However this opinion seems to be at odds with some of the old guard of hunting who are of the opinion if it isn't a bolt action in .308 or .30-06 you aren't using the correct equipment and those new fangled ARs are for posers. This saddens me, as this only serves the purpose of the radical gun control crowd. If we can't get our fellow armed citizens on board, how can we hope to reverse the unconstitutional laws in effect today?

Joseph D'Andrea  
Ohio



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# HANDGUNS

• MASSAD AYOOB •  
• PHOTOS: GAIL PEPIN •

## THE MOONCLIPPER

### Competing with the Smith & Wesson Model 625 Performance Center .45 ACP Revolver.

**T**he Model 625 S&W, a stainless steel 6-shot N-frame, is the latest evolution of the 1917 military revolvers designed to use rimless .45 ACP cartridges, loaded multiply in 3-shot metal clips. With today's full-moon (6-shot) clips, they're so fast to reload they dominated the first several years of IDPA Stock Service Revolver competition so totally the organization had to create a separate Enhanced Service Revolver (ESR) division for them so folks with ordinary sixguns would stand a chance of winning.

Long before IDPA, however, seasoned wheelgunners had realized these revolvers kicked soft for their power, and served as a fun "garbage disposal" for .45 ACP reloads too blunted to feed, or too light to cycle in their autoloaders.

The latest variation, introduced at the SHOT Show this year, comes from the Performance Center. It features an IDPA-legal 4" barrel, tapered for faster handling and lighter than the standard full-underlug 625. A removable fiber optic front sight is part of the package. It also comes with a brightly multi-colored (garish or daring, depending on taste) version of Jerry Miculek's smooth, slim stocks. These are slightly flatter on the sides than the usual Miculek style. Finally, there is the famous Performance Center action job, complete with integral trigger stop.

Trigger pulls were remarkably consistent on my Lyman digital gauge from Brownells, in both DA and SA. Double action averaged 9.16 pounds, and single action, 4.08 pounds. Both felt lighter because the trigger stroke was so smooth, and the release was so clean. The tapered hammer spur got a little sharp on the thumb, but this 4" gun is really geared for double-action, combat-style shooting, so who cares? Springy moon clips create a bit of a headspace problem, and it's the rare gunsmith who can get a 625's DA pull lighter than this and still bust hard primers with 100 percent reliability.

A tad more than 700 rounds went through this test gun, much of it fast-loading Remington-UMC generic 230-grain FMJ "hardball." Primer hits were uniformly centered and deep, and reliability was 100 percent. From

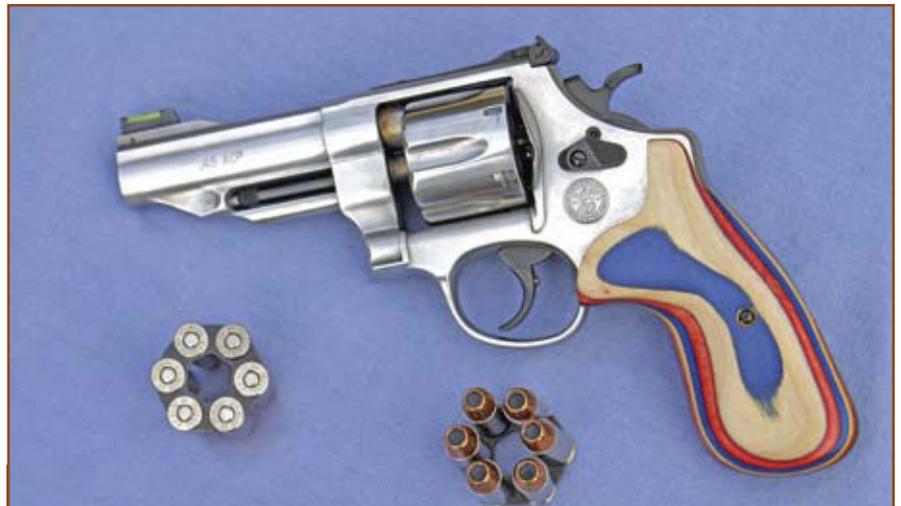
the 25-yard benchrest, the UMC ball delivered a 5-shot group in the shape of a circle a little bigger than a moon clip. It measured 2", so uniform that the best three hits were 1.9" apart. At a registered IDPA match, the mandatory chronograph recorded 848 fps for each of two shots with this stuff out of the test gun. Power factor in IDPA is velocity times bullet weight, which must equal 165,000 in ESR. This load from this revolver hit 195,040—leaving no doubt.

#### Accurate

For a carry load, Black Hills 230-grain JHP put all five in 1.85", and the best three in .65". Federal Gold Medal Match 185-grain jacketed semi-wadcutter, a light bull's-eye load, was slightly tighter for all five with 1.55", and tied the Black Hills with 0.65" for best three. Black

PERFORMANCE CENTER 625	
MAKER:	SMITH & WESSON
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OVERALL LENGTH:	10.5"
WEIGHT:	42 ounces
FINISH:	Satin stainless
SIGHTS:	Adjustable rear, interchangeable fiber optic front
GRIPS:	Slenderized Miculek style
PRICE:	\$1,185

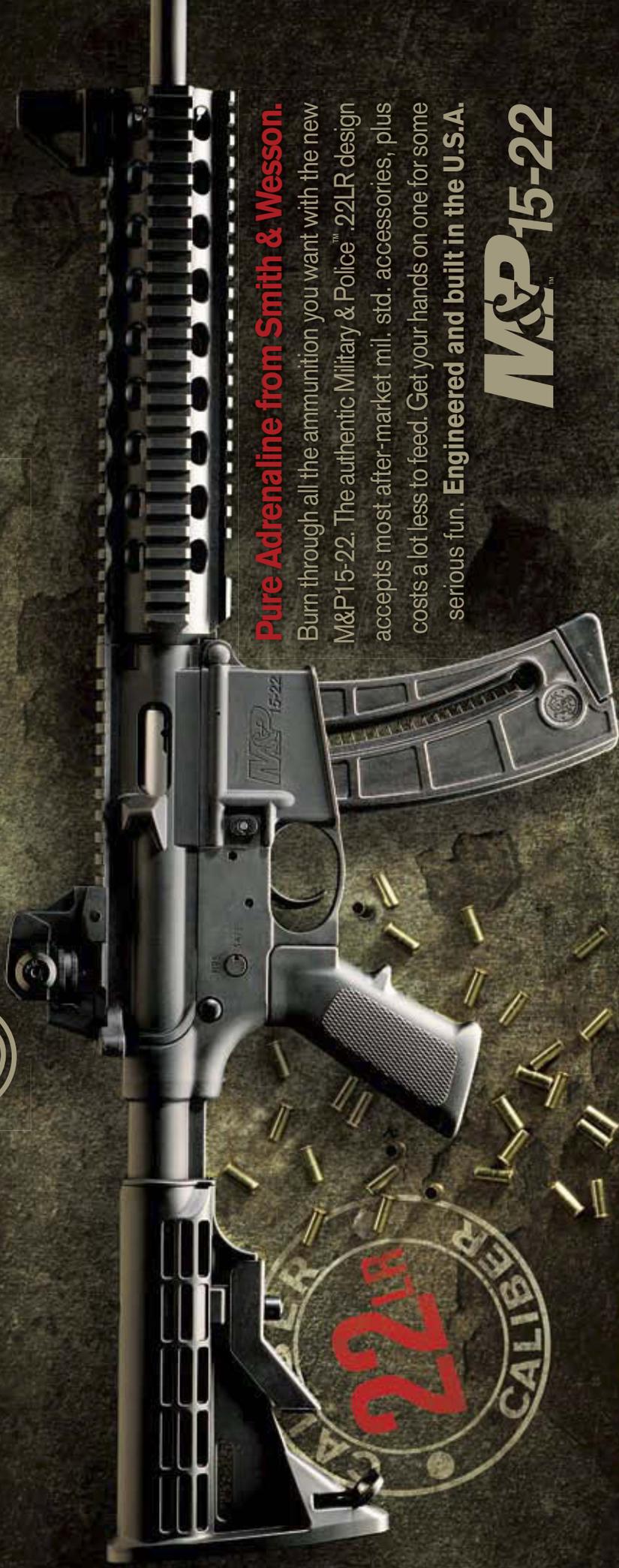
Hills, Federal Gold Medal and S&W are all famous for accuracy, and the best three measurements take enough human error out of the bench test to show this is clearly a target-grade revolver with the right ammunition. Since I had sighted in with the fiber optic to hit center at that distance, and the bright green dot sits below the top edge of the Patridge sight, which I used for accuracy testing



*The S&W Performance Center 625 is the newest iteration of .45 ACP revolver and is a magnificent moonclipper, according to Ayoub.*



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**KICK BRASS**

## PC 625 SHINES AT SUNSHINE GAMES

A few weeks after shooting the Florida State IDPA Championship with the test gun, I ran the PC 625 in the Florida State Sunshine Games IDPA match and the little beast won the top revolver score for me. By then, I had roundbutt K-frame Pachmayr Compac grips on it, yes, they fit, and counterintuitively, their broad shape at the web of the hand soaks up more recoil than you'd think. With my 230-grain Rem-UMC .45 hardball (845 fps on the match chronograph, roughly 194,350 power factor when you only need 165,000), "kick" was still no problem at all.



Range officer has his feet on ground (above), Mas is firing from "swaying suspension bridge," but the PC 625 delivers top revolver score. Mas shoots from standing with PC625 (below) at Sunshine Games.



Well-conceived stages had us shooting strong-hand only, weak-hand only, and we shot 2-hand from replicated "bouncing truck beds." In Stage 10, we were running-while-gunning and shooting at fast-swinging targets while "swinging" ourselves on a replicated suspension bridge straight out of *Indiana Jones and the Temple of Doom*, though there wasn't as far to drop if you fell off. A reload was included on Stage 10, and the PC 625 and its moon clips let a decrepit old man earn a score on that stage up there with the Enhanced Service Pistol Masters firing fast-loading, (yes, there was a reload required) short-trigger-pull, 9mm single-action autos.

I think I really, really like this PC 625, and I don't think it's going back to Smith & Wesson.

GUNS



Mas placed 1st Master at the IDPA Florida State Championship in the Enhanced Service Revolver Division with the S&W Performance Center 625 (above). Mas rolls the sweet double-action trigger of the PC 625 (below) during Florida State Championships. In keeping with the stage theme, it's a gun to bet on.



index, groups went slightly low from the bench.

I took the Performance Center test gun, a Blade-Tech holster and the Rem-UMC ammo to the 2010 Florida State IDPA Championships, splendidly run for the second consecutive year by Wyoming Antelope Club in Clearwater. The green fiber optic showed up great in all the close, sometimes dimly lit stages, though it made precision work a little harder on some 35-yard shots. (The front sight on this model can be quickly changed out by the owner.) Chamfered chamber edges made speedloads smooth.

The gun and ammo worked perfectly. I couldn't catch Gary Cuttitta, who won the state champion title in ESR, but came in second in the division and got

First Master as a consolation prize. It wasn't the gun's fault; I was delighted with how the Performance Center 625 worked, particularly with only six days with it before the match. I will probably buy it. All I changed was slapping on some Pachmayrs because the stocks it came with just didn't fit my hands. All in all, the Performance Center 625 was a magnificent "moonclipper." S&W's PC team has their act together!

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# GUNSMITHING

• HAMILTON S. BOWEN •

## A FEW TRICKS OF THE TRADE

Little ways to make life at the workbench easier.

**A**fter spending 25+ years in the trenches, like any sentient person would, many of the little tricks and shortcuts I've learned can save lots of time and treasure, to say nothing of eyes and limbs. From time to time, as my long-suffering editor permits, I'll share those that occur and might be of value to gunsmiths, (or any kind of smith, for that matter) amateur and professional alike.

One of the things I enjoy most about visiting fellow craftsmen in their shops is seeing how they handle simple little problems and procedures, shamelessly stealing any tricks of the trade. Useful wisdom is out there for the taking.

Masking tape is among the many humble household items I use around my workbench on an hourly basis. There is a roll permanently hung on the back of my bench vise. Here are a few of the endless uses:

1.) Masking threads and polished surfaces on parts going into the bead blaster. Like when re-matting the rib on a S&W barrel.

2.) Protecting surfaces of parts I don't want marred when in a vise.



*The white spots on this cylinder ratchet are the high places, which were dragging and causing function problems.*

3.) Laying out lines for rough-out filing.

4.) Wrapping fingers, which are starting to blister from filing. Plus, wadding up a piece of paper towel under a wrap of masking tape and, voila, the perfect bandage for minor wounds not requiring stitches and ought to be kept clean until day's end. Bleeding on the floor is OK, on the gun isn't.

I also go through Q-tips like popcorn. There is always some corner or recess that needs swabbing out. They are also very handy for applying liquid solder flux in controlled fashion.

Dykem is a liquid confection in a can found in machine shops all over the planet used ostensibly for temporary scribed lines and layout markings on metal. It is also a wonderful aid for fitting parts and numerous other shop procedures. When you hear of some English gunmaker in the employ of some hoary old gunmaking firm hunched over a vice nibbling away at a part with a file, then "smoking" it, then filing some more, he is simply marking a high spot on a part or trying to isolate a point of contact in the course of fitting. Much like using inletting black when stockmaking. If you don't want to crank up the ol' smudge pot, Dykem is a nice substitute (albeit thicker and not



*Office and household wares get put to work on many workbenches.*

so precise in information yielded) for simple fitting projects. Except for one thing....

Some of us couldn't sign our names with a fountain pen without covering ourselves in ink from head to toe. Same with Dykem. It is messy and can leave near-permanent stains if misused, which in domestic surroundings can precipitate recriminations. I attended Trinidad Junior College in the late 1970s and spilled a can of this stuff around a vice on one of the workbenches in the shop. Twenty years later, when back teaching in the NRA Summer Gunsmithing Schools program, I could still see faint signs of my inadvertence.

One day, years ago, I happened to be fussing around with something and couldn't lay hands on the Dykem and noticed a "Sharpie" magic marker on my desk and thought, "This looks like Dykem in a stick." Tried it and have used permanent markers for such things ever since. BIC disposable lighters are also excellent sources of smoke. Albeit, slower to deploy than the sharpie and subject to disturbance in even the slightest air currents. The ultra-fine markers with indelible ink are also perfect when I need a fine work mark on a piece of finished steel and don't want to use a scribe, which would damage finishes. Great for centering lettering stencils.

The safety tip of the day: The humble bench grinder is part and parcel of the life in every machine shop,



*Masking tape doing some actual masking. In this case, preparatory to bead blasting the rib.*



*The humble bench grinder may not look like much but can provide real excitement for the unwary if a wheel explodes.*

gunsmith business, NASA assembly shed and garage of Harry Homeowner. Every minute of the day, somewhere, somebody is gnawing away with one on a mower blade, a sight blade or part in a rocket guidance system. Aside from all the obvious things you don't want to do with a bench grinder—like trimming your fingernails—there is one more subtle and often forgotten safety concern.

Grinder wheels of all stripes are hooked up to electric motors, which are capable in amazing rates of acceleration. At speed, the periphery of a grinding wheel is going a bunch of surface miles an hour, which is not the problem. It is the amazingly short amount of time it takes to achieve that velocity. If wheels are not perfectly sound, they can fly apart with impressive violence from centrifugal force and visit considerable harm to operator, bystanders and adjacent property. In theory, you can lightly tap a wheel (at rest) and, if you hear a nice ring instead of a clunk, can assume the wheel is sound. Since my ears ring now all the time in E-flat, that is a thin reed that I am not willing to hang my safety.

The better practice is to simply avoid the radial plane of any wheel when it is running up to speed. This is when a wheel will fail, no matter how musical it is at rest, tapped with a hammer. Stand aside and look the other way when you hit the switch (you do have your goggles on, don't you?). While I have never met a grinding wheel failure in person, a machinist friend told me many years ago, it is an impressive event. Much like a car battery exploding when jump-starting, which I have observed, mercifully detonated by somebody else on their own car. Even now, I treat the wheel's rotational plane much as I do the muzzle of a gun—I can feel them watching me. If someone in the shop cranks one up and I am in the line of fire, I'll step aside and look away.

These little tidbits don't necessarily constitute the wisdom of the ages but might represent a few useful tricks for dogs young and old alike.

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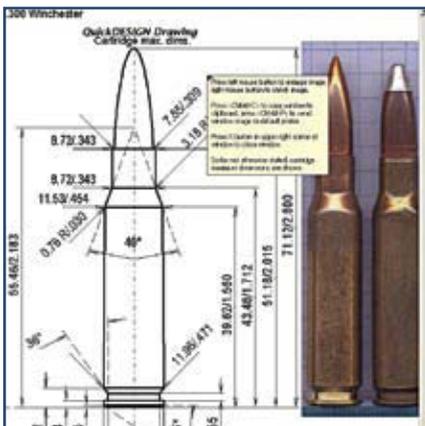
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# HANDLOADING

• JACOB GOTTFREDSON •

## QUICKLOAD

This computer program may prove to be one of the handloader's best friends.



By simply clicking on a small icon included on the main page, the cartridge you are interested in is shown. Both a photograph and a dimensioned schematic are made available.

**Q**uickLOAD is an interior ballistics program, and the exhaustive nature of the software is a bit of a jaw dropper. The programmer told me he had worked on it for three years, and I don't doubt that for a minute. It is complete with almost every bullet, powder and cartridge configuration made. From pull-down menus, the user inputs bullet, powder, charge, cartridge, overall length, seating depth, barrel length, etc. Hit the calculate button, and the program gives you percent of case filled, velocity, pressure, amount of powder burned, ballistic efficiency and other data. But it's only the beginning.

Another pull-down window allows you to look at the result of other powders or best for your rifle, all in a variety of ways. You will soon find yourself spending less time in your favorite reloading manual and, in fact, garner a great deal more information from the

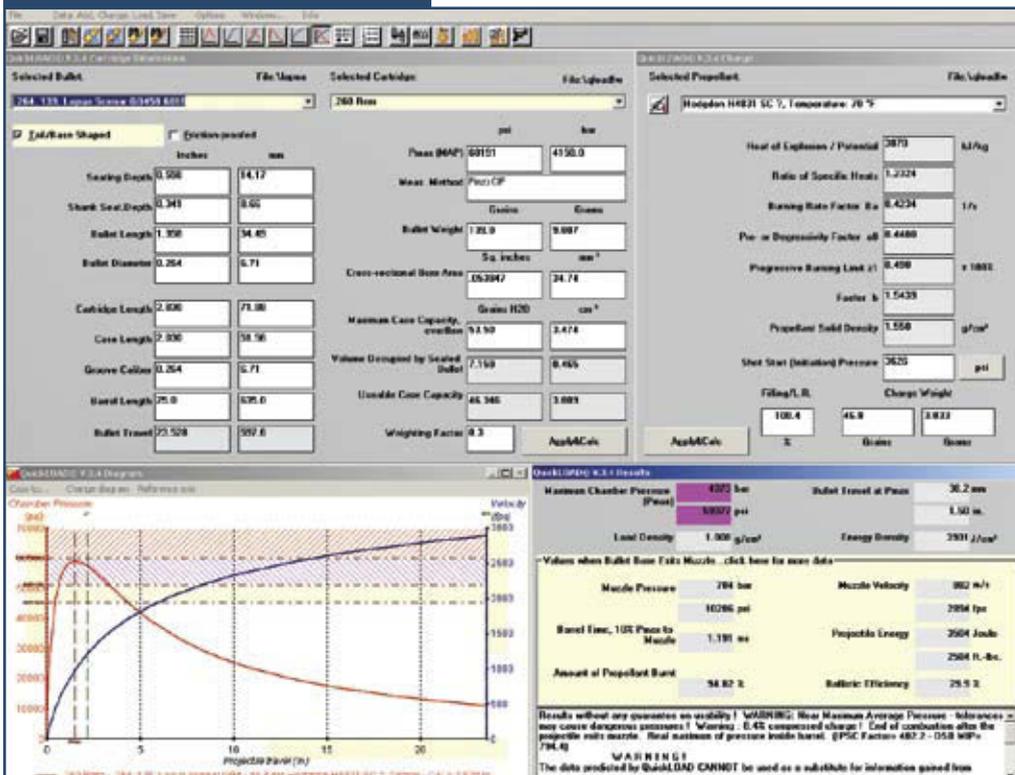
QuickLOAD program. A little common sense, however—and explicit in the QuickLOAD window—says you need to consult the powder manufacturer's loading manual as well.

Graphs are included to tell you pressure vs. velocity, for example. The graphs are reactive to your cursor. Put it on the line and it tells you the pressure vs. velocity at any point.

QuickLOAD has a button to bring up a picture of the cartridge you are working on. Next to the photograph is a schematic of all the applicable dimensions including overall length with a bullet shown loaded.

The program also does the calculations for black powder and pistol enthusiasts. It includes bullets coated with substances like molybdenum disulfide and other frictionless coatings.

Why would you use QuickLOAD instead of just buying an inexpensive reloading manual? One use of the QuickLOAD program answers that immediately. Changing seating depth results in different pressures and velocities. Correct in every instance or not, it informs you changing seating depth affects pressure, sometimes significantly, something loading manuals don't tell you.



The main window allows you to input and adjust the applicable data to produce a load. The program includes a massive amount of component information for most bullet, cartridge and powder manufacturers used in calculating internal ballistics.

```

Cartridge      : .260 Rem
Bullet        : .264, 139, Lapua Scenar G458 6018
Cartridge O.R.L. L6: 2.830 inch or 71.88 mm
Barrel Length : 25.0 inch or 635.0 mm
Powder       : Hodgdon H4831 SC 7, Temperature: 70 °F

Predicted data by increasing and decreasing the given charge,
incremented in steps of 0.823% of nominal charge.
CAUTION: Figures exceed maximum and minimum recommended loads !

```

Step %	Fill. %	Charge Grains	Vel. fps	Energy ft. lbs	Pmax poi	Pmin poi	Prop. Burnt %	E_Time ms
-08.2	99	42.95	2628	2132	44117	9249	90.5	1.362
-07.4	100	43.33	2655	2175	45395	9353	91.0	1.344
-06.6	101	43.72	2681	2218	46722	9455	91.5	1.326
-05.8	102	44.10	2707	2262	48092	9556	91.9	1.309
-04.9	103	44.49	2733	2306	49506	9655	92.4	1.291
-04.1	104	44.87	2760	2351	50969	9751	92.8	1.274
-03.3	105	45.26	2787	2397	52481	9847	93.2	1.257 ! Near Maximum !
-02.5	106	45.64	2813	2443	54046	9940	93.6	1.240 ! Near Maximum !
-01.6	107	46.03	2840	2489	55664	10031	94.1	1.224 ! Near Maximum !
-00.8	107	46.41	2867	2536	57341	10120	94.4	1.207 ! Near Maximum !
+00.0	108	46.80	2894	2584	59077	10206	94.8	1.191 ! Near Maximum !
+00.8	109	47.19	2921	2633	60875	10291	95.2	1.175 ! DANGEROUS LOAD-DO NOT USE!
+01.6	110	47.57	2948	2682	62740	10372	95.6	1.160 ! DANGEROUS LOAD-DO NOT USE!
+02.5	111	47.96	2975	2731	64673	10452	95.9	1.144 ! DANGEROUS LOAD-DO NOT USE!
+03.3	112	48.34	3002	2781	66678	10529	96.2	1.129 ! DANGEROUS LOAD-DO NOT USE!
+04.1	113	48.73	3029	2832	68751	10603	96.6	1.114 ! DANGEROUS LOAD-DO NOT USE!

Once a cartridge is chosen and calculated, you can bring up a table telling you the effects of small variations in powder amount.

Again, this is just the tip of the iceberg. QuickLOAD gives the average handloader an incredible amount of data not found anywhere else, as far as I know. The programmer has done an incredible job. Some of the data is far beyond my knowledge level. I expect many people will feel the same. Yet, there is a great deal of data available for the neophyte as well as the long-time, experienced handloader.

Another SHOT Show has just passed, meaning I have had the program for more than a year. I have used the software to successfully produce several

loads. One was for a Savage F-Class rifle I was evaluating. The rifle is chambered in 6.5x284 and I used QuickLOAD to sort out powders. I had several powders known to be good in the 6.5x284, namely N165, 4831, 4350 and others also popular in that cartridge. The program showed me Hodgdon H1000 might be one of the best. I loaded what it said, and the rifle has now won seven F-Class matches with that load of H1000. I have done the same for my .260 Remington sniper load and H4831sc, a .308, a .338 in 8mm Remington brass of my own design and others. I have begun to rely

```

Cartridge      : .260 Rem
Bullet        : .264, 139, Lapua Scenar G458 6018
Cartridge O.R.L. L6: 2.830 inch or 71.88 mm
Barrel Length : 25.0 inch or 635.0 mm

Predicted Data for Indicated Charges of the Following Powders.

Matching Maximum Pressure: 52664 psi, or 363 MPa
or a maximum loading ratio or filling of 100 %

These calculations refer to your specified settings in QuickLOAD 'Cartridge Dimensions' window.
C A U T I O N : any load listed can result in a powder charge that falls below minimum suggested
load or exceeds maximum suggested loads as presented in current handloading manuals. Understand
that all of the listed powders can be unsuitable for the given combination of cartridge, bullet
and gun. Retail load order can vary, depending upon lot-to-lot powder and component variations.
USE ONLY FOR COMPARISON !

123 loads produced a Loading Ratio below user-defined minimum of 90%. These powders have been shipped.

```

Powder type	Filling/Loading Ratio %	Charge Grains	Charge Grams	Vel. fps	Prop. Burnt %	P max poi	P min poi	E_Time ms
Hodgdon H4350	98.0	41.6	2.70	2831	99.1	52647	9888	1.254 ! Near Maximum
Norxa NRP	97.7	41.3	2.68	2825	99.7	52647	9575	1.271 ! Near Maximum
Beaufort RP19 -approximation	97.8	41.3	2.68	2834	99.6	52647	9573	1.271 ! Near Maximum
Viktavoxi N550	94.8	41.4	2.68	2813	99.7	52647	9678	1.277 ! Near Maximum
EDR 4350	100.0	40.9	2.65	2805	98.4	52252	9665	1.267 ! Near Maximum
Norxa 204	97.4	43.0	2.78	2759	96.2	52647	9797	1.268 ! Near Maximum
Ramshot BigGame	90.8	40.1	2.60	2793	100.0	52647	9193	1.272 ! Near Maximum
NECO Vectra SP 11	91.0	40.1	2.60	2792	100.0	52647	9182	1.273 ! Near Maximum
Beaufort RP4 -approximation	100.0	42.7	2.77	2783	96.0	51773	9745	1.278 ! Near Maximum
Ramshot RB4	100.0	42.7	2.77	2783	96.0	51773	9745	1.278 ! Near Maximum
EDR 4320	90.0	37.8	2.45	2749	100.0	52647	8679	1.278 ! Near Maximum
Svechem S355	92.0	39.5	2.59	2746	100.0	52647	8739	1.294 ! Near Maximum
Rottweil R904	100.0	42.1	2.73	2732	94.6	51040	9355	1.285
Rottweil R907	94.2	39.5	2.56	2731	97.5	52647	9082	1.287 ! Near Maximum
EDR 4007 SSC	91.3	39.5	2.56	2730	97.5	52647	9077	1.287 ! Near Maximum
ARI AR 2208	90.2	37.4	2.42	2726	99.9	52647	8648	1.278 ! Near Maximum
Hodgdon VARGET	90.5	37.4	2.42	2726	99.9	52647	8648	1.278 ! Near Maximum
Hodgdon H4895	90.3	37.3	2.42	2728	100.0	52647	8373	1.279 ! Near Maximum
EDR 4064	91.0	36.7	2.38	2717	99.9	52647	8470	1.284 ! Near Maximum
Viktavoxi N150	97.1	39.2	2.54	2712	100.0	52647	8234	1.292 ! Near Maximum
Viktavoxi N140	93.2	38.3	2.48	2700	100.0	52647	8145	1.288 ! Near Maximum
Accurate 2700	92.4	40.8	2.64	2685	97.3	52647	8573	1.292 ! Near Maximum
Hodgdon Hybrid 1907	100.0	39.9	2.59	2684	99.9	46492	8675	1.341
Viktavoxi N135	93.0	36.0	2.34	2648	100.0	52647	7499	1.307 ! Near Maximum

The program lists other powders that might work in the cartridge based on several of input parameters you're interested in. For example: pressure, velocity, amount the case is filled, etc.

heavily on its results. The windows displayed here are for my .260 Remington with a 139-grain Lapua case and 46.8 grains of H4831sc. Considerable data is displayed for the load, the bullet and the seating depth to fit the .308 magazine in a short Remington action. The program shows in incremental grains of H4831sc the velocity, pressure, energy, percent of case filled, percent of powder burned, barrel time in milliseconds and whether the load is OK, near maximum or dangerous. Another window accessed from the tool bar at the top gives you a number of powders that might be used in this application as well.

### Variables

The power of the QuickLOAD program is its versatility. You can vary powder, seating depth, bullet, etc. to come up with the optimum load for your cartridge. The pressure variations due to seating depth, however, are a bit crude, and the program contains no way to gauge the difference in interior ballistics as a result of different primers. On the other hand, it does contain changes due to temperature. An icon in the propellant window brings up another window allowing you to input and then see the effects of different temperatures. For example, the calculations in the windows shown here are for 70 degrees with a velocity of 2,894 fps. At 95 degrees the velocity is 2,934; at 30 degrees it decreases to 2,825. For a long-range or ultra long-range shooter that is a significant variation.

Included with the program is the external ballistic predictor QuickTARGET, which can take several long-range factors into account to make the external ballistic prediction more accurate. QuickTARGET pulls the data from the last QuickLOAD, or the data can be changed. It can use several drag models, G1, G5, G7, etc., and a custom drag function uses drag coefficient data. Lapua-published Doppler radar test sessions have allowed engineers to create algorithms utilizing both known mathematical ballistic model as well as test-specific, tabular data in unison.

The version tested here is 3.4, is compatible with the Microsoft Vista operating system as well as Microsoft Window 98, 2000 and XP. QuickLOAD/QuickTARGET, now in 3.6 with many new cartridges, sells for \$149.95. Users of older versions of QuickLOADS can upgrade their software by contacting NECO.

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**(800) 451-3550, WWW.NECOS.COM**

# OPTICS

• JOHN BARSNESS •

## SWAROVSKI Z3 3-9X36 High quality meets lightweight.

**T**hese days it seems as if Swarovski scopes have been around forever, yet the Austrian company produced its first riflescopes in 1976. Since then, Swarovski scopes have become the top-selling European scope in the US. This is due partly to their very effective marketing, but no doubt part of their success comes from the company's crystal. Swarovski crystal has been around much longer, since 1895, and is so highly regarded we might imagine the wife of a hunter who wants a Swarovski scope saying, "Swarovski? Cool!"

Swarovski was also the first of the high-end European optics companies to really make an effort to understand the American hunter. During the last half of the 20th century, most German/Austrian scopes were relatively heavy, had first focal-plane reticles and short eye relief. There were reasons for all these features, all tied to hunting methods in Germany and Austria.

### High-Seat Hunting

With the exception of climbing in the Alps for gemse (the small mountain goat Americans know as chamois, if they know it at all), most hunting over there is done from a hochsitz. This means "high seat" in German, and a hochsitz is essentially a version of the treestands American hunters commonly use when waiting for whitetails.

Also, central European hunting traditions allow shooting during much dimmer hours than is generally legal in America. Thus, scopes need to be very bright optically, meaning large lenses,

higher magnification and extra weight. The reticle should to be visible even in dim light. First focal-plane reticles stay the same size relative to the target, so the heavy reticles in Euro-scopes became highly visible at 8X to 10X.

Also, since the biggest central European game is red stag and wild boar, both normally weighing less than 500 pounds, cartridges more powerful than the 8x57 or .30-06 aren't necessary. Short-eye relief isn't a problem, and even helps when shooting in dim light, increasing contrast by minimizing "stray" light between our eye and the scope.

American hunters, on the other hand, mostly hunt in daylight and (at least until treestand hunting became common) typically hike around the countryside, so they prefer lighter scopes. We also often use cartridges larger than the .30-06, especially in the Western US, and Canada when hunting elk, moose and very large bears. We don't like short-eye relief, especially on elk and grizzly rifles chambered for rounds like the .300 Weatherby and .338 Winchester Magnums, and until recently most of us didn't have much use for heavy scopes with coarse reticles that "grow" at higher magnifications.

Most European scope manufacturers didn't get this, so they tried to sell their German-style scopes to American hunters and didn't do so

<b>3-9X36 Z3</b>	
<b>MAKER:</b>	SWAROVSKI OPTIK
	2 SLATER ROAD
	CRANSTON, RI 02920
	(800) 426-3089
	WWW.SWAROVSKIOPTIK.COM
<b>WEIGHT:</b>	12 ounces
<b>LENGTH:</b>	12.1"
<b>TUBE DIAMETER:</b>	1"
<b>FINISH:</b>	Black matte
<b>ADJUSTMENTS:</b>	.25"
<b>RETICLE:</b>	7A, a typical plex-type (others available)
<b>PRICE:</b>	\$1,143.33

well. Perhaps because Swarovski is an Austrian company, and Austria contains a lot of Alps, the Swarovski company decided to make some scopes especially for American hunters who hike around mountains. They are particularly lightweight scopes with second focal-plane reticles and more eye relief.

These lightweight scopes have been around for about half as long as Swarovski has been making scopes, and are now in what might be termed their 3rd generation. In the past few years, variable scopes with a much wider range of magnification have become common, with up to a 6-fold magnification increase in some models. Such scopes, of course, tend to be more expensive than "old fashioned" scopes with a 3-fold range, and not everybody needs or desires a scope that can be turned from 3X to 18X. Swarovski recently started calling their various variables Z6s, Z5s and Z3s, with the Z3s being the most recent version of their lightweight, 1" tube, American-style scopes, with the Z3s being the most "affordable."

### Lightweight Package

I mounted the sample 3-9x36 on a New Ultra Light Arms Model 24 in .30-06, using Talley Lightweight aluminum rings. The scope seemed to be a perfect fit for a high-tech, super-lightweight rifle, plus the NULA's fine accuracy allows a precise test of any scope's adjustments. In addition, a scoped .30-06 weighing less than 6-1/2 pounds recoils hard



At 12 ounces, the Swarovski 3-9x36mm Z3 is a perfect fit on a modern "mountain rifle," such as this 6-1/2-pound New Ultra Light Arms .30-06.



*The Hunting Shack ammo and New Ultra Light Arms rifle were very accurate, a good test for the Swarovski Z3's adjustments.*

enough to test a 3-9X's ruggedness. The ammunition came from The Hunting Shack, a Montana company that loads both military and sporting ammunition, and featured the 168-grain Berger VLD bullet at 2,900 fps. (More and more hunters are discovering how well Berger VLD's work on big game, especially deer-sized animals.) This resulted in just more than 27 foot-pounds of recoil, about what a typical 9-pound .300 Winchester Magnum produces with the standard 180-grain factory load.

The first 100-yard shot landed 3" from the target's bull's-eye, so I clicked the windage and elevation adjustments and the next shot ended up exactly where it was supposed to go, 2" high and dead

center. Two more shots resulted in a 3-shot group measuring .41"

After that I twisted the adjustments to move the next few groups around the target. The Swarovski Z3 worked perfectly except once, when the first shot after an adjustment landed a little low. That shot jarred the vertical adjustment, and the next three shots landed precisely where they should have. This happens occasionally with lightweight scopes, because their adjustment systems can't be as stiff a bigger scope's. Overall, however, the adjustments were both reliable, and moved the reticle precisely .25" at 100 yards, as advertised. The average for all the 3-shot groups was .56", the result of fine ammo fired in a really accurate rifle.

The scope also weighed exactly the advertised 12 ounces on an electronic scale. I did a quick Internet search and could only find one other full-sized 3-9X scope as light, the Leupold VX-2, a good scope but not in quite the same optical class as the Z3.

The advertised eye relief of the 3-9X Z3 is a constant 3.5". When tested with a flashlight it measured 3" at 3X, 3" at 6X and 2.9" at 9X, close enough to be called "constant." Even if not quite as long as advertised, the eye relief proved plenty even on a very light .30-06.

The final test involved looking at an

optics chart, with 10 black-and-white lines that start an inch wide at the top of the chart and shrink to 1/16" at the bottom. This is done at night at 25 yards with the chart lit by a 100-watt bulb, also 25 yards from the chart. As with most variable scopes tested, the Z3 was set on 6X, because 6X provides a large enough exit pupil so the test is of the optics, not exit pupil size or magnification. Scopes are rated by how many lines can be clearly seen. Below a certain point the lines appear gray, like a zebra in the distance. The Z3 rated an excellent seven, the 3/16" line, backing up Swarovski's claim of more than 90-percent light transmission.

Retailing for more than \$1,000, the 3-9x36 Z3 isn't exactly cheap, but many other European-made scopes now run around \$2,000, and I don't know of another hunting scope of any make providing the Z3's combination of superb optics and lightweight. **GUNS**

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# RIFLEMAN

• DAVE ANDERSON •

## DOLLAR STRETCHING

The scope is one place good value can be found.

**Y**ou may have noticed times are tough. One economist predicts below-average economic growth for at least the next 20 years (no wonder economics is called the dismal science). People want value for their money, and fortunately, there are some terrific values in rifles and optics. One way to get the most value in riflescopes is to stick to popular models.

Back in the early 1960s, if a rifleman used a scope at all, it was most likely a fixed 4X. The Weaver K4 was the best value, at around \$45. It was a good scope at a moderate price. Since it sold well, the maker could keep the price low, which helped to sell even more.

The concept of variable power scopes had a lot of appeal, but early variables had their problems. Reticles got thicker at higher powers, and later (with second focal plane reticles), shifting point of impact occurred as magnification changed. They were also

more complicated and more expensive.

Nonetheless, their perceived utility, especially on combination deer/varmint rifles, created a big demand. Manufacturers (notably Redfield) tackled the problems one by one and found solutions. Before long variables were standard, even on big-game rifles.

Today we have variables in so many power ranges it's hard to keep track. The 3-9X range remains the most popular. They may be old hat and not very exciting, but 3-9X scopes are still a useful and versatile tool and, because they are popular, they generally offer the best value.

One way to reduce production costs is to make a lot of identical products and reduce costs per unit. For example, if you have a facility for making riflescopes, property taxes are the same whether you make 1,000 scopes or 50,000. Examples of variable costs would include optical glass, reticles and other materials needed to make up the scope.

If your fixed costs are a million dollars and you only make 1,000 scopes you'll need to get \$1,000 per scope just to cover your fixed expenses (and you're not going to be selling many scopes!). But if you can make 50,000 scopes you'll only need \$20 per scope to cover fixed costs. That leaves a pretty good margin to cover variable costs and still have your product priced competitively.

From the consumer's perspective this means popular, high-volume items are generally the best value. Check prices on the product line of most any scope maker and you'll find the best values in the medium-range variables, the 2-7X and 3-9X models.

It occurs to me (and maybe to you as well) that if a 3-9X variable is a good value, a fixed 4X should be an even better value. It's a bit simpler to make, has fewer components and should therefore



*The Trijicon 3-9X with its illuminated reticle is a fast and versatile sight, shown here on a custom 6.5-06 built on a Mauser 98 action.*



*The Bushnell 3200 3-9X, a nice all-around scope for a versatile rifle such as Weatherby Vanguard 7mm-08 shown here with a youth stock.*



### SR750 Extreme Powder Package

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- Display: 5-1/5 LCD
- Power: 2 x AAA Batteries
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*Dave would happily hunt big game most anywhere in the world with these Ruger 77 Mk IIs. In back is an African model in .375 Ruger, scope a 3-9x40 Trijicon. In foreground is a .300 RCM with Leupold VX-II 3-9x40.*

be more reliable. And it has adequate magnification for big-game hunting.

All of which may be perfectly true but it overlooks one fact, which is fixed-power scopes don't sell very well. Variables have greater perceived utility. Because fixed-power scopes don't sell very well, they don't have the same economies of scale. Prices of 4X scopes are generally not much less than 3-9X models from the same maker.

For example, the Leupold 4X FX-II retails for about the same price as the VX-II 3-9x40. You can make all the arguments you want about the 4X being simpler and tougher. The average hunter laying out his hard-earned money figures by buying the variable he can get a 4X. (Also a 3, 5, 7, 8 and 9X) Not as tough? Maybe not, but it is tough enough. It works. And if it doesn't, Leupold will fix it.

Most shooters figure if they're going to spend the same amount of money they may as well get more versatility. Zeiss used to offer a fixed 4X in their Conquest line. It was a darn nice scope with excellent optics. Problem was, not enough people wanted it. Instead, they bought the 3-9X Conquest and, priced less than \$400, is a heck of a buy.

Price aside, I like mid-range variables on hunting rifles. I am aware it's all trendy and sophisticated to use fixed 3X and 4X scopes. That aside, one of my favorite hunting scopes is the 2.5-8x36 Leupold. I like it because it is about the size and weight of a 4X but provides more magnification. The advice I've read for years is to keep variables at their lowest power, only cranking it up if a long shot is necessary.

I do the opposite. I keep my 2.5-8X scopes set at 8X. The only time I crank them down to 2.5X is for still-hunting in heavy brush where shots may come at ranges measured in feet. The infatuation for low-power scopes is a holdover from the days when scopes had critical eye relief, rifles were stocked for iron sights and most hunters didn't shoot much.

When electronic shot timers became available I did a lot of experimenting, seeing how fast I could place an accurate

shot at different ranges and at different scope magnifications. Even at 100 yards I was faster with the scope set at 8X than at 4X, and as range increased the advantage increased. I won't prescribe for others, but I know for a fact I can shoot faster and more accurately with scopes set at higher powers.

What about running game, or shots at close range? Well, what about them? Last fall I killed a forkhorn whitetail buck with one high-lung shot. He was running at about 3/4 speed in pursuit of a doe. The scope was a 6X Swarovski on a .284 rifle, the range about 30 yards.

On a 2008 Namibian plains-game hunt the scope was a Zeiss 3.5-10X Conquest. Every shot I took, from 70 yards to 406 yards, was with the scope at 10X. That included a gemsbok at about 140 yards, running hard at about a 45-degree angle. The bullet angled through, smashing the opposite shoulder. The result was one of the more spectacular wrecks I've seen.

The only time I turned the scope down was in some heavy brush, looking for a kudu. The professional hunter, not wanting to talk with the kudu nearby, reached over to turn the scope down, then nodded approvingly when he saw I had done so already. We never did see the kudu, and as soon as we got out of the brush I cranked the scope back to 10X.

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# SHOTGUNNER

• HOLT BODINSON •

## SMOOTHBORE SHOOTER'S WINDFALL Neat, new shotgunning stuff for 2010.

**O**ther than in competition-quality guns, we shotgunners haven't received much support when it comes to the triggers in our sporting guns. It's been sort of "take-it-or-leave-it." Well, maybe not that bad. We do have screw-in choke tubes now, and more and more makers are giving us stock shims and replaceable buttpads to more precisely fit our gun to our frame. But triggers?

Just think what the industry has done for the rifle shooters. It did take Savage with their breakthrough "AccuTrigger" to shake up the industry too long kowtowed by its in-house attorneys when the subject of consumer adjustable triggers was broached. Now we have not only the AccuTrigger, but also Winchester's MOA Trigger System and Remington's X-Mark Pro Adjustable Trigger. All of them are great triggers providing crisp, clean, light trigger pulls, but the companies didn't carry the improvements over into their shotgun lines.

### Mossberg LPA

That's why I was really taken aback when I walked into the Mossberg exhibit at the 2010 SHOT Show. Racked up on their display board were several Model 500 pump gun variants sporting some intriguing looking triggers. In fact, the triggers looked like AccuTriggers mounted in Mossberg guns and yes, they were adjustable.

Mossberg calls their new adjustable trigger the "LPA" standing for "Lightening Pump Action Adjustable Trigger System." It delivers a crisp, creep-free pull and is user adjustable to less than 3 pounds, which is simply remarkable in a moderately priced sporting gun. It's available this year in select Model 500 pump guns including turkey, Slugster and combination models.

### Timney Fix

Thinking the adjustable-triggers-for-shotguns fever just might catch on industry wide, I discovered another shotgun trigger breakthrough in the Timney Triggers booth. Calling it the

"870 Trigger Fix," Timney is now able to supply a kit consisting of an adjustable sear and three different weight sear springs to replace the factory sear and spring in the Remington Model 870 trigger group to achieve a light, creep-free pull. If you would like to review the installation directions, go to Timney's website.

Do you know how many Model 870s are out there waiting for a better trigger? I asked Jessica Kallam of Remington that question, and the answer was 10,245,594! Timney may have hit the jackpot at \$89.95 per 870 Trigger Fix.

I'm very keen on LaserLyte products. They're well designed and moderately priced. Recently, I've been working with their Laser Trainer. Designed specifically for handguns with barrels at least 3" long, the Laser Trainer is inserted into the bore and held in place by an expanding arbor. When you dry

**Do you know how many Model 870s are out there waiting for a better trigger? I asked Jessica Kallam of Remington that question recently. The answer was 10,245,594!**

fire the handgun, the laser is triggered by the sound of the falling hammer or firing pin and projects a red dot onto the target for 100 milliseconds. It's a great tool for honing your handgunning skills, and one day it dawned on me that just possibly it could improve my shotgunning as well.

One of the personal challenges many shooters face is mastering lightweight, smallbores, like the .410 and 28 gauge, on crossing and quartering targets. We



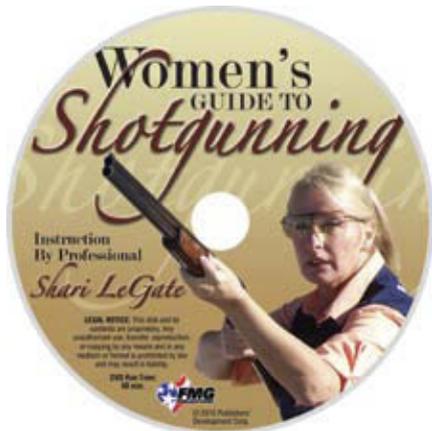
*LaserLyte's Laser Trainer can be a unique and useful tool for mastering the .410.*

tend to be too aggressive with a light gun and either break the rhythm of our swing because we're swinging too fast or simply swing too far ahead of the target and loose the lead entirely.

One of the greatest practice routines to smooth out your gun mounting and improve the rhythm of your swing is the "flashlight drill" developed by Gil Ash of the OSP Shooting School. The limitation of the routine is it is based entirely on fitting a Mini Maglite into the bore of a 12-gauge gun.

The gun that most often gives us a struggle is a not a 12-gauge. It's more likely a .410. Its bore won't take a Maglite, but fitted with its .350-.434 expandable arbor, LaserLyte's Laser Trainer fit nicely inside a tube of my Winchester Quail Special 410 O/U.

I hoped the Laser Trainer would pulse when I dry fired the .410. It would not. However, with a change in batteries, the Laser Trainer can be turned on to a constant beam mode. It was the perfect solution for carrying out the "flashlight



Everyone can learn something valuable from Shari LeGate's new video.

drill" with a smallbore.

The drill itself has two parts—mounting and swinging. To improve your mount, stand in the middle of a slightly darkened room and select a point on the wall as a target. I like to use blue masking tape as an aiming point since I can paste it at any height to replicate a bird. With your gun in the ready position, place the laser beam on the target and try to keep the beam on the target as you mount your gun. At first, the beam will probably bobble off target but with practice, you'll be able to smooth out your mount so the laser

stays dead on.

The second part of the drill consists of using the seams formed by the wall and ceiling connecting the corners of the room. The seams become the flight paths of birds or clays and the corners become the break points. Starting at alternate corners will give you a left-to-right and a right-to-left shot.

Starting at one corner with the gun in the ready position, track the seam with the beam and mount the gun to take the shot at the corner break point. Did the beam track the seam throughout your mount or did it bobble above or below? With practice, your left-to-right and right-to-left mounts will smooth out and that beam will seem like it's glued to the seam.

Frankly, most of us could use the Laser Trainer for both shotgunning and handgunning improvement. It's a good investment for only \$79.95, and I'm hoping LaserLyte will design a Laser Trainer specifically for us shotgun buffs.

### Shari's DVD

Shari LeGate's *Women's Guide to Shotgunning* is offered exclusively through our website "FMG Publications Store" and is a brand new DVD featuring Olympic and World Cup class champion shooter, Shari LeGate, who

after retiring from active competition served as the Executive Director of the Women's Shooting Sports Foundation.

Everyone, not just women, could learn something from LeGate's perky, enthusiastic and clear presentations covering gun types, gauges, accessories, eye dominance, gun fit, positioning, gun mount and all the shotgun games we like to play. Well worth owning and watching. There is even a free introduction to the DVD on our website. Go to: [www.fmgstore.stores.yahoo.net](http://www.fmgstore.stores.yahoo.net) and click on "Books and Videos." It's \$24.95.

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# MONTANA MUSINGS

• MIKE "DUKE" VENTURINO • PHOTOS: YVONNE VENTURINO

## THE GENERAL OFFICER'S COLT MODEL 1903 This one was issued to an exceptional man.

**O**ne of my long unfulfilled firearms desires was to try out one of the little Colt Model 1903 Pocket Pistols. Recently my desire was satisfied, but never in my wildest dreams had I thought my first shots through one would be with the General Officer's version.

Here's the scoop... it was long practice of the US Army and US Air Force (and may still be for all I know) that when an officer was promoted to general, he was issued a Colt Model 1903 as a badge of rank. He could pick of these little semiautos of .32 ACP or .380 ACP (Model 1908 then) as caliber. They came with 3.75" barrels and weighed 24 ounces. Over the decades those issued to generals could have had blue or Parkerized finishes, checkered walnut grips and may or may not have been marked "United States Property."

Now, here's how I came to have

such a pistol briefly in my possession. At Montana gun shows I first met and then became friends with a gent named Bill Smart. During one conversation he mentioned as a young fellow he had lived in Japan. Curious, I asked how that came about. He told me his father had been a general in the Air Force and stationed there. He said he had his father's Colt 1903, and I was welcome to have Yvonne photograph it and even shoot it if I desired. Brother did I!

But there was more. Knowing how happy I had been a few years ago to have flown in a restored World War II B-17,



*Gen. Smart achieved 4-star rank in 1963.*



*Gen. Jacob E. Smart's General Officer's Colt Model 1903 .32 ACP pistol (above), and the shoulder holster in which he wore it. Some, but not all General Officers' Colt Model 1903 pistols were marked this way (below) and some, but not all had the Parkerized finish.*



Bill told me his father had been a B-17 pilot, had been shot down over Europe and spent time as a POW in Germany. Bill also said he had a private manuscript his father had written for his children and grandchildren about his experience. Also, Bill said he had other papers, some of them originally classified about his father's career. Would I like to read them? Brother would I!

Gen. Jacob E. Smart lived an amazing life. Starting out in a family of modest means in South Carolina, he earned an appointment to West Point in 1927. Fascinated at an early age with aviation, after graduation he joined what was then called the US Army Air Corps. In WWII Smart served on the staff of Gen. H.H. "Hap" Arnold, the head of the then designated US Army Air Force. One of the letters in Gen. Smart's papers was by Gen. Arnold, mentioning how he reluctantly allowed then Col. Smart to transfer to combat duty. He was sent to Italy to take command of the 97th Bomb Group, which was heavily engaged in attacking Germany's armament factories throughout southern and central Europe.

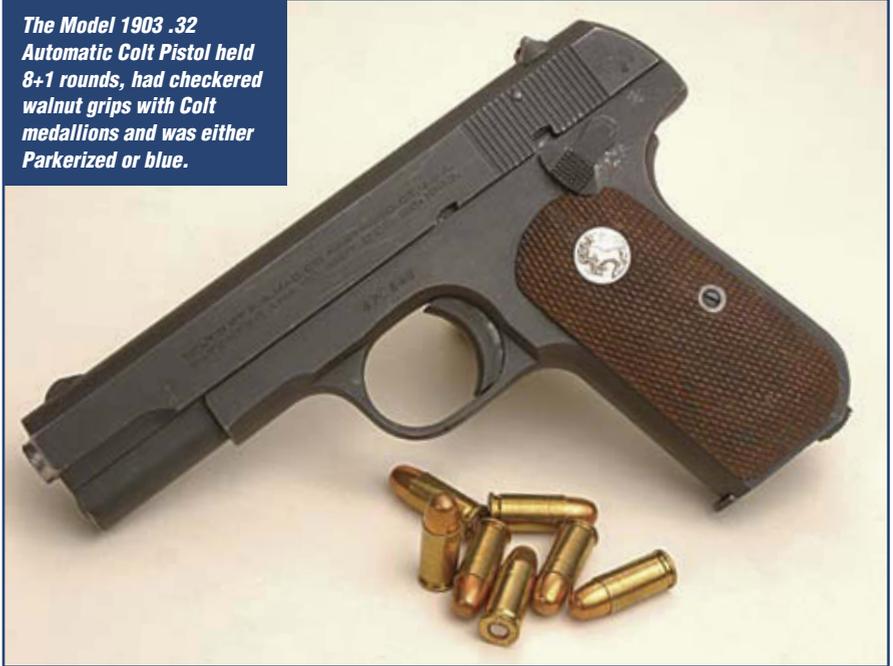
Col. Smart liked to lead from the front. On May 10th 1944 he was flying as his group's lead pilot on what was

supposed to be his last combat mission. He was slated to move on to higher command responsibilities. In the last seconds of his group's bomb-run over a factory producing ME109 fighter planes in Weiner Neustadt, Austria, Col. Smart's B-17 took a direct hit from a heavy caliber anti-aircraft gun. As with most B-17 pilots and crewmen Col. Smart, as a rule, did not wear his parachute continuously. However, in his reminisces he writes the first volley from those anti-aircraft guns had burst so close he thought it wise to take his 'chute from under his seat and clip it onto his harness.

Bare moments later his B-17 received that direct hit. Witnesses in other B-17s in the formation said in their after-action reports Col. Smart's plane was blown into pieces and it was very doubtful if anyone could have survived. Three men did. Col. Smart and his co-pilot Maj. Homer Hill were blown clear of the airplane by the explosion. Col. Smart regained his senses as he was free falling from more than 20,000'. He was wounded and dazed but finally managed to get his parachute deployed. Likewise with Maj. Hill. Also, miraculously the tail gunner, Sgt. Alvey J. Carter rode the falling tail section of the B-17 down for several thousand feet before he too took to his parachute. All three men ended in German captivity. The other seven B-17 crewmen perished in the explosion.

Col. Smart spent about two months

**The Model 1903 .32 Automatic Colt Pistol held 8+1 rounds, had checkered walnut grips with Colt medallions and was either Parkerized or blue.**



in Austrian and German hospitals being treated for his many wounds. He was interrogated by both German military officers and Gestapo agents, but never tortured or given drugs. For that he was grateful because as a former member of Gen. Arnold's staff, he knew the exact date and location of the D-Day landings scheduled for less than a month after he was shot down. After recovering from his wounds, Col. Smart was incarcerated

in a German POW camp until freed by American forces on April 29, 1945.

Because all the survivors of Col. Smart's B-17 were not able to deploy their parachutes until having fallen to lower altitudes, witnesses in other planes felt no one survived the explosion. Therefore, his family and the USAAF's hierarchy had no knowledge he was alive until notified by the International Red Cross a few months later.

The following is an excerpt from a letter by Gen. Arnold dated May 17, 1944 to Gen. Jacob L. Devers, Deputy Commander in Chief of the Mediterranean Theater of Operations. "It was a terrible tragedy when Colonel Smart was lost. He was an outstanding man. I had brought him to Washington a couple of years ago, put him on my personal staff, and I agreed very reluctantly to his going for duty with a combat unit. I never saw anyone so pleased as he was when that decision was made. His loss is one of the tragedies that we must face in war. Unfortunately the Air Forces has so many such men—one after another. Fortunately some of them have later turned up in German prison camps. I have such hopes for Jake Smart, but I must admit they are rather faint hopes."

Jacob E. Smart stayed in the military after WWII, was promoted to Brigadier General (one star) in 1950 and gained his fourth general's star on Aug. 1, 1963. He served in high US Air Force command positions around the world, retiring in 1966. He passed away in 2006 at age 97.

I feel honored and privileged to have read these many documents by him and about him, and even to have fired Gen. Smart's personal Colt pistol.

**GUNS**



**Gen. Smart wearing his Colt Model 1903 .32 in a shoulder holster during the war in Korea (1950-1953).**

## ROBINSON SPEAKS

A conversation with the innovator of the Robinson XCR.

**T**he market place is flooded with variations of standard rifle designs modified or otherwise altered. All in all, this is not necessarily a bad thing; why should we re-invent a working wheel? In all of this, there are still some real innovators. Robinson Armament's XCR rifle is one of those few. Using tested systems and altering them as needed, mixed with a strong dose of innovation, Robinson has created a strong user-friendly rifle system for personal-defense.

I have been fortunate to have in-depth conversions with the very knowledgeable Alex Robinson, manager of Robinson Armament. These personal contacts have not only allowed me to gain a better insight into what was in mind when his XCR was put together, but also get a glimpse of the future, as his rifles grow and morph into an even more effective and efficient rifle. Here I'll share this often-rare insight into the maker's vision.

### CLINT SMITH

"Stocks and length of pull are a big deal to me because I see many people not shoot well because the rifle does not fit well. I noticed the XCR stock changes easily and fits well. Was it planned this way?"

### ALEX ROBINSON

"The rifle has a 13" length of pull but we have a new 12", which is my personal favorite. There is also an adjustable stock under development. As you know the stocks easily change over with one main screw."

### CS

"My rifle has a light 16" barrel. Are there other choices?"

### AR

"One of the strongest points of the XCR system is it is modular and the barrel change out is very simple. There are heavy barrels in 16" and 18.5" and a new fluted barrel is in the works."

### CS

"Regarding the controls, why is the charging handle location changed to the left side?"

### AR

"The charging handle is non-reciprocating and is placed well below the rail mounting. Many other rifles have the charging handle placed so the operation can be interrupted by whatever equipment is mounted on the rifle and rail system. Location of the handle is a big deal because the operator must be able to get to the piece to load, unload and to clear jams, which are few and far between. The location of our XCR charging handle could trace its lineage to



*The gas system is adjustable to accommodate ammunition variations as well as a suppressor. The heavyweight barrel (above) is also available for this very modular rifle. The side-mounted charging handle (below) is in a good location for practical work.*



the BAR (Browning Automatic Rifle)."

### CS

"Tell me about the bolt catch."

### AR

"The bolt catch is also a big deal to us and the style and placement of the bolt catch on the XCR allows for the fastest magazine change of any rifle out there."

### CS

"I notice the XCR profile is very thin. Is this good?"

### AR

"The AR/M16, as well as many of the new rifles, have plastic buttstocks, which are fat. From a rest, fat stocks are fine. When used in field application the thin stock is better because it mounts better and allows eye access to the sights better as there is a natural alignment.

"We feel in a gunfight seconds count, so if the rifle mounts better and quicker, that is a good thing. The XCR forearm even with 1913 rails all around still has a slim cross section. Many of our clients



*The Robinson XCR is dressed up with a few extras for a big workout at the range. Note the non-reciprocating charging handle is on the left side.*

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*A small part of the total XCR modular system includes barrel, caliber and stock options as part of the total package.*



*A high-quality rear iron sight is provided on the XCR. The lever sticking out left and below the sight is depressed to open the action for cleaning and service.*



*The heavy duty side-folding stock system is probably one of the strongest on the market. It folds to the right.*



*The bolt release is ambidextrous. A large hex head is the screw (in front of the hinge on the lower) holds the barrel in place. This screw is removed for barrel changes.*

understand the advantages of the XCR being built the way it is.”

**CS**

“One of my favorite subjects is reliability. How is the XCR?”

**AR**

“With a few exceptions, the XCR differs from all the other black rifles on the market because it is not based on the Stoner/Johnson multiple-lug bolt. Working with the AK-47-type rifles, alongside the Stoner-type bolts, we believe the Stoner has flaws. The flaws are poor feeding, poor extraction and poor ejection. We solved these problems by using a Kalashnikov-based bolt that has excellent feeding, extraction and ejection. The XCR extraction/ejection is robust. If XCR owners want to shoot steel-cased ammo in the XCR we tell them to go right ahead!”

**CS**

“My next favorite subject is durability. What about it with the XCR?”

**AR**

“The AK-type system is the strongest out there. The XCR 3-lug bolt and extractor are extremely durable. We do not experience lugs sheering off and breaks in the cam hole like you find in the Stoner bolt. The XCR extractor does not rely on the spring to contact the cartridge rim during extraction, so our extractor and spring does not wear out.”

**CS**

“OK, a sore spot with many in the industry, I always question the rant about the piston AR rifles. What do you think?”

**AR**

“The XCR op rod is very durable. Many AR manufacturers have added piston drives to their rifles. One problem is the Stoner was never designed for a piston drive. There is not enough room to do it properly so the pistons are often small and simply can’t take the punishment.”

**CS**

“What people mean when they claim a gun has ‘combat accuracy’ is an arguable point. What is your feeling

about accuracy and the XCR?”

**AR**

“The XCR has a fully floated barrel and now a great trigger. The barrel pocket in the receiver is machined parallel with the rail and this is very important. Our new “Enhanced Trigger” is designed for extended heavy use and a good trigger helps accuracy. The XCR’s accuracy is similar to good AR-15’s. We have never made a “match” XCR with a match-grade barrel. Most of our customers feel the XCR is accurate enough for its purposes, that being about 1 to 1.5 MOA at 100 yards. I’m sure we could get .5 MOA if we used match barrels, but this has not been a priority. The XCR versions made up in 7.62x39mm and 6.8 SPC are also very accurate.”

**CS**

“When I personally looked at the XCR to start with, one major point of interest was the modular potential of the rifle. How is that working out?”

**AR**

“The XCR is the most modular rifle built to date. We now offer three calibers and have three upper receiver lengths in the standard, mini and micro. The standard upper can accept barrels from 11" to 18.6". The mini version can accept barrels from 9" and up. There is now an XCR pistol as well.

“To change the caliber, you only need to change the barrel, bolt, magazine and the brass deflector. This change only takes minutes. The only odd thing might be we do not use AK mags for the 7.62x39 even though they are reliable, but in their original design they are not that good ergonomically.

“We use C-Products LLC’s 30-round 7.62 magazines and they work very well for us. By using AR magazines—even for the 7.62x39 caliber—we keep the controls like in loading, unloading and closing the bolt in the same spot. This location can be critical in a fight because every second counts.”

**CS**

“Alex, thank you for your time and willingness to discuss your XCR rifle. Personally I like my standard XCR rifle very much, thanks for building it! I wish you continued success with your great rifle.”

*This turned out to be a great interview with a gentleman who believes in his product. He works constantly to improve and upgrade it to be the best rifle it can be.*

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• HOLT BODINSON •

## DOC'S LITTLE CARBINE The Model 1863 Maynard.



**T**he biographical references to Dr. Edward Maynard read like Mark Twain's *A Connecticut Yankee in King Arthur's Court*. Maynard was not only an internationally distinguished oral surgeon practicing in Washington, DC, but he was also a prolific inventor of firearms, firearm systems and ammunition, holding 23 firearm-related patents during his lifetime.

His most familiar invention was the Maynard Tape Primer system, which substituted a pawl-fed roll of paper caps for standard percussion caps. Patented in 1845 and adopted by the US Government for the Model 1855 Springfield rifle-musket, the tape primer system earned Maynard both fame and fortune, although under combat conditions the system proved less than satisfactory and was subsequently abandoned with the adoption of the Model 1861 Springfield.

### The Carbine

While his tape priming system wasn't a hit during the Civil War, his cavalry carbine was. Patented in 1851, Maynard's basic firearm design is a study in simplicity, flexibility and quality. As a single-shot model, the Maynard proved to be an excellent and well-liked 50-caliber cavalry carbine. Unlike most of the competing designs of the Civil War, the Maynard line survived after the war and flourished for another 30 years.

Dr. Maynard was an

inventor, not a manufacturer. In 1894, production was contracted out to the Massachusetts Arms Company of Chicopee Falls, Mass.

The Maynard action is notable for being exceedingly compact, for having a short, fast lock time and for a finely adjusted trigger. It was always made from the finest imported Norwegian iron. No common malleable iron in a Maynard! Hence, it was a tough action.

Swinging the triggerguard/lever down, opens the action affording ample access for loading or extracting a round. The Model 1863 cavalry carbine did not have an extractor. Maynard compensated for this deficiency with a large, rimmed cases and scalloped breech to make plucking out the fired case a snap.

What set the Maynard especially apart from its contemporaries was by simply removing the lever and the barrel trunnion screws, the barrel and lever could be removed and replaced with another of a different caliber (rifle or shotgun), length or weight. It wasn't a marketing factor in the cavalry carbine, but it was in the sporting and



At 50 yards, full-power .50 Maynard loads can cut 1" and reduced loads produced 3" groups.

MODEL 1863 CARBINE	
MAKER:	MASSACHUSETTS ARMS CO. CHICOPEE FALLS, MASS.
ACTION TYPE:	Break-open
CALIBER:	.50 Maynard
CAPACITY:	1
BARREL LENGTH:	20"
OVERALL LENGTH:	36-7/8"
WEIGHT:	5 pounds, 13 ounces
FINISH:	Blue and color case-hardened
SIGHTS:	Multiple leaf rear, blade front
STOCK:	Walnut
PRICE:	\$800-\$2,500, 8th Edition, Flayderman's Guide

(9th Edition, Flayderman's Guide now available from F+W Publications, 700 E. State St., Iola, WI 54990, 800/258-0929, [www.gundigeststore.com](http://www.gundigeststore.com))

target lines with many elegant cased sets featuring three or more different barrels serial numbered to the receiver.

While a small number of early model 50-caliber Maynard carbines fitted with tape primer systems and tang sights were in the hands of the Union and Confederate armies during the first year of the war, the Massachusetts Arms factory burned down (possibly arson) in 1861, and production of the Maynard carbine didn't pick back up again until 1864.

From June, 1864 to May, 1865, the Union purchased 20,002 Model 1863 carbines at a cost of \$489,399 and roughly 2,157,000 percussion-fired, 50-caliber cartridges for the sum of \$72,207.



Maynard's cavalry carbine (above) weighed a scant 5 pounds, 13 ounces. No fore-end wood was provided. Removing two screws allowed the soldier to detach the sideplate (below, left) and clean the action. The hammer of the 1860 Maynard (below, middle) is offset to the right, making the sights visible. The carbine sports typical Civil War musket sights (below, right) graduated from 100 to 300 yards.



The Model 1863 carbine, called the Second Model, was a little wand of a 50-caliber gun. Weighing only 5 pounds, 13 ounces with a 20" barrel and an overall length of 36-7/8", the cavalry model dispensed with the earlier tape primer system, patch box and tang sight. In their place were a standard, musket cap-size nipple and a multiple leaf rear sight, optimistically calibrated for 100, 300 and 500 yards. The richly blued barrel was not supplied with a fore-end. The barrel itself was the fore-end. The action was color case-hardened and was fitted on the left side with the standard cavalry bar and sling swivel ring.

The left side of the receiver was stamped with the inscription:

EDWARD MAYNARD.  
PATENTEE.  
MAY 27. 1851.  
DEC. 6. 1859.

The right side read:  
MANUFACTURED BY  
MASS. ARMS CO.  
CHICOPEE FALLS.

The 50-caliber, 1863 Maynard fired a 343-grain bullet (.518" to .520" in diameter) powered up by 40 grains of FFg black powder. The Maynard brass case was 1.20" long and was fabricated from a piece of brass tubing and a 3/4"-diameter sheet-brass rim soldered together. In the center of the base rim was a tiny flash hole, measuring .038" in original cases and .031" in currently manufactured cases.

Yes, currently manufactured cases are available for the Maynard. They're lathe turned from brass bar stock and available in both 50 and 36 caliber. The cases, a copy of the original Maynard loading (seating) tool and the proper Maynard nipple wrench are available from S&S

Firearms. If it's in good condition, by all means shoot that Maynard!

Since Rapine Bullet Moulds went out of business, the off-the-shelf moulds closest to the Maynard's requirements are Lodgewood Mfg.'s special order .518", 354-grain Lee mould and the RCBS/Hodgdon .520" adjustable weight mould. Neither mould design is a copy of the original Maynard bullet, but the projectiles they throw work fine.

S&S Firearms offers two types of turned cases. One has a capacity of about 35 to 37 grains, while the other is a reduced capacity case holding 20 to 22 grains. I load them with 35 grains and 20 grains, of FFFg powder respectively, followed by a 50-caliber, Walters brand over-powder vegetable fiber wad and an SPG-lubed Lee .518", 354-grain bullet. The bullet is seated in the case with S&S's brass copy of an original Maynard hand-seating die. It's a simple case to load.

The carbine sights are "musket coarse" with a sighting radius of only 16-3/4". The Maynard hammer is actually bent on an offset to the right, so the sights are visible. From a rest at 50 yards, I can generate a 3-shot group of 1" with the full-power load and 3" with the reduced capacity case. Recoil is exceedingly mild.

Immediately following the end of the war, Maynard converted unused percussion actions into sporting rifles. This was called the Model of 1865 and is pictured here as a cased set in caliber .35-30 Maynard. Subsequently, the Maynard design made an easy transition from using a percussion cap-fired brass cartridge to modern fixed ammunition and was considered a highly desirable target and sporting rifle from 1870 through the 1890s.

With Maynard's death in 1891, the company went into a slow decline and ceased production altogether when its competitor, the J. Stevens Arms and Tool, acquired and then dissolved Massachusetts Arms in 1894.

The Maynard carbine is simply a pleasurable shooting experience—light, handy and simple. I can understand why it proved so popular on the battlefield. Fortunately, produced in the closing months of the war, many Maynard carbines have survived in relatively good shape, plus we once again have the tools to keep them humming.

The Doctor's design had a remarkable run of 41 years, which is a testament to the man, his vision, his design and most certainly to his business acumen. **GUNS**

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# OUT *of the* BOX™

• JACOB GOTTFREDSON •

## MORE THAN JUST STEEL PLATES LaRue Tactical's Stealth Sniper AR-15.

**M**ark LaRue seems to have dedicated his company primarily to the gents who practice Close Quarter Battle (CQB), but holds an affinity to snipers. To wit: I first met Mark LaRue several years ago at a sniper match. I noted he was an enthusiastic, almost intense fellow with an infectious energy about him.

All I knew about his company was I had been using his Steel Tactical Targets for several years, having learned his steel targets are much superior to paper or other media for both practice and conducting matches at long range.

To evaluate the LaRue Tactical Stealth Sniper System AR, I installed the LT upper on a DPMS lower. It took about one minute. Another item in the package was Magpul Ladder Rail Protectors, made to protect the rail lugs from damage. I appreciated the fact they make holding the handguard easier on my hands. Also included was a Magpul CTR Mil-Spec Stock, which adjusts like the original CAR, but its locking-lever friction locks the stock to the buffer tube to prevent wobble.

The 4-sided handguard allows ample M1913 Picatinny rail for mounting any number of accessories simultaneously such as a light, laser, side-mounted red dot, several styles of optics ready to go with LaRue's QD mounting system and front rail grips, to name a few.

My test AR upper is a flattop version with an 18" barrel and 13.2" handguard. As packaged, you might call it an AR-15 A4 because of the flattop and the ability

to add a carry handle.

LaRue also sent a Harris Bipod adaptor with his QD mounting system for attachment to the rail. In my humble opinion, the adaptor was a smart move, as are the integral quick release sling attachments.

Before mounting a scope, I installed the Troy Industries co-witness sights sold by LaRue. These are the slimmest I have seen and they work very well. Though small enough to sit in reserve without being noticed or a nuisance, the Troys come alive quickly and in tandem are fully adjustable. The locking mechanism is positive and is relieved by pushing a pin on the side of the sight. The spring holding the sight in the upright position is very strong.

I used LaRue's QD Mount LT104-30mm to mount a scope. This fixture is designed with two levers to secure the mount to the rail, one of which incorporates an additional locking mechanism.

The upper assemblies, CNC machined, are improved versions of the current Mil-Spec flattop receiver and are machined from billet 7075-T6 aluminum. The barrel has polygonal

STEALTH UPPER	
<b>MAKER:</b>	LARUE TACTICAL
	850 COUNTY RD. 177
	LEANDER, TX 78641
	(512) 259-1585
	WWW.LARUETACTICAL.COM
<b>UPPER:</b>	CNC machined 7075-T6 aluminum
<b>CALIBER:</b>	5.56 NATO, Wylde chambered, 1:8" twist
<b>BARREL:</b>	12", 16", 18" (tested),
<b>LENGTHS:</b>	20", polygonal rifled
<b>HANDGUARD:</b>	Free-floated, low-profile gasblock and tube
<b>PRICE:</b>	\$1,195
<b>OTHER FEATURES:</b>	Mil-Contract M16 Bolt Carrier Group and charging handle, gas key contact areas precision ground flat for zero gas leakage, max-staked to eliminate vibration-induced failures, QD sling-swivel socket for 2-point slings

rifling with a 1:8" twist in a medium-weight contour made of LW-50 stainless, free-floated and the barrel nut is pinned with a locking anti-slip plate. The barrel has a Wylde chamber in 5.56mm.

Everything about the 5.56 Wylde chamber is slightly larger than the .223 Remington. This would indicate the possibility firing .223 ammo might not be as accurate due to some slop in the larger chamber. However, the LaRue Stealth I tested shot 3/4", 5-round groups as advertised with .223 ammo. Unfortunately, I did not have any 5.56mm ammo to try. The results might have been much better, some say.

The M16 Bolt Carrier Group is Mil-Spec, enhanced to minimize bolt-related failures by surface grinding the gas-key contact areas for zero gas leakage and heavily staking it to eliminate all chances of vibration-induced failures.

### Accuracy

I tested several .223 factory loaded bullet weights at 100 yards, most shooting about 3/4" with the heavier weights of 69 to 75 grains. This



LaRue's Stealth Sniper System upper has been mounted on a DPMS lower. Note the Troy Industries co-witness front sight is in the down position. A 6-24x50mm scope has been added for accuracy testing of the rifle. The Magpul Ladder Rail Protectors are made to protect the rail lugs from damage, but they protect your hands, too.

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## PRIDE/FOWLER SPECIAL OPS COMPACT SIGHT

The PFI sight is a compact red dot built to rigid specifications written by Mickey Fowler and John Pride. The sight has a 3-position switch for on, auto-on, and off. In the auto-on position the Pulse LED adjusts to ambient light. The full-on position allows you to give the LED full power so you can see it in bright, sunny conditions and still hit the target.

The battery can be changed from the top of the unit through a trap door without having to remove the sight. Aluminum bases are available to mount the sight to many handguns, rifles and shotguns.

To evaluate the SOPSC-2 sight, I mounted it on the scope at a 45-degree angle counterclockwise from top-dead center. My objective was to be able to see the sight with my left eye while in position to see the scope's reticle. A little fidgeting and I had it.

After sighting in the scope, I put the crosshair of the scope's reticle on the center of the target at 100 yards in such a way the reticle would stay in place. I then



*Jacob installed the Pride/Fowler Special Ops Red Dot Compact Sight (above) at a 45-degree angle on the scope body. Note the accessory protective wings. The Pride/Fowler red dot sight has been positioned so the left eye sees it (below), while the right eye sees the scope's reticle. This is looking at the 100-yard backers with the camera zoomed, which makes the dot seem slightly larger than when viewed with the naked eye. You can use the red dot sight in conjunction with a scope for extremely close-quarter shots.*



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OVERALL LENGTH: 1-7/8"

RED DOT: 5 MOA Pulse LED

WEIGHT: .93 ounces

BATTERY: 1x1632

PRICE: \$390, (Wing  
mount extra)

began sighting in the red dot on the PFI sight. It took a few minutes because each adjustment screw moves the dot both horizontally and vertically when the sight is mounted at an angle. With a bit of effort, I had the red dot in the center of the target as well as the scope's reticle. I shot five rounds using the red dot, hitting the bull each time. The group measured 2". I was very pleased with that at 100 yards.

While I'm not recommending the 45 degree setup, it was interesting because the red dot, when on, was superimposed on the scope's reticle. The winged mount protects the sight. The entire sight system is very rugged and of high quality. **GUNS**

particular rifle began to perk up with bullets weighting 40- to 60-grains. Moving out to 400, the rifle continued to shoot at or under MOA consistently, and the smaller bullet weights reduced the groups.

Approximately 200 rounds were fired prior to cleaning either the bolt carrier system or the barrel. I did not see any significant reduction in accuracy. While 200 rounds is certainly not indicative of the rifle's ability to sustain extended fire without malfunction, it did continue to fire without any noticeable problems.

Five of us then put the LaRue through its paces, shooting at one of his steel targets at 200, 300 and 400 yards. We shot approximately 150 rounds. The

groups were good. One of the shooters turned to me and commented there hadn't been one miss. It dawned on me he was right. One hundred fifty rounds by five shooters and not a single miss.

What is LaRue Tactical's claim-to-fame over any of the multitude of AR's now being produced? I have come to know Mark as an enthusiastic perfectionist whose interest centers on the ability to accessorize. His uppers are designed to do so without failure, with professionals in mind. His AR's are not toy look-alikes, but are manufactured to deliver top performance. Mark LaRue's company offers a great deal of the more popular add-ons with innovative mounting systems. **GUNS**

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## QUESTIONS & ANSWERS

• JEFF JOHN •

### Q: The .32 Colt

I have a question about the various old .32 cartridges. I know the .32 S&W Long is basically the same as the .32 Colt New Police, but what about the other .32 Colt cartridges? I recently found a Marlin lever action marked “.32 Long Colt.” My references only state some single actions were chambered for .32 Colt and some were chambered for .32 S&W. Could you please let me know what the differences are?

Ed Galley  
via e-mail

**A:** The .32 Colt (both Short and Long) used an outside-lubricated heel-based bullet (sort of like a large .22) when first developed. The .32 S&W and .32 S&W Long use a bullet of similar diameter, but the case is of larger diameter so the bullet can be seated with the grease grooves inside the case. The .32 Colt has a nominal head diameter of .318", while the .32 S&W and .32 S&W Long have a nominal head diameter of .337" (according to *2nd Edition Ammo Encyclopedia* by Michael Bussard, available from Blue Book Publications, 8009 34th Avenue South, Suite 175, Minneapolis, MN 55425, 800/877-4867, [www.bluebookinc.com](http://www.bluebookinc.com)). The two are not interchangeable.

In the late 1890s, .32 Colt ammunition was loaded with a smaller diameter hollow-base bullet seated within the case. An early Marlin catalog notes the Model 1892 fires either .32 Short or Long Rimfire or .32 Colt Short or Long centerfire and came with both rimfire and centerfire firing pins. If you were thinking of purchasing the Marlin, it would be prudent to determine which firing pin it has or if it comes with both.

The only current load I'm aware of is loaded by Winchester, stock number X32SCP. The .32 Short Colt is loaded with an 80-grain bullet at a nominal 745 fps. As noted in the July's Q&A, Brazilian-made .32 RF, both Long and Short, were imported in the 1990s by Navy Arms, but it is becoming scarce—and expensive.

GUNS

### QUESTIONS AND ANSWERS

Due to the volume of mail received, GUNS cannot offer a personal reply. Please e-mail your question to [ed@gunsmagazine.com](mailto:ed@gunsmagazine.com) or snail mail to: GUNS Q&A, 12345 World Trade Drive, San Diego, CA 92128

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# THE PARALLAX MYSTERY

IT'S ESPECIALLY IMPORTANT TO UNDERSTAND WHEN USING A SCOPE ON THE LITTLEST RIFLES.

**John Barsness**

**E**ver since Sir Isaac Newton attached a telescope to a rifle most shooters have been somewhat confused by parallax. It's especially a problem when we want to put a scope on a rimfire or air rifle.

Parallax is defined in my Random House edition of *Webster's Unabridged Dictionary* as "the apparent displacement of an observed object due to a change in position of the observer." An easy demonstration of parallax can even be performed by the average couch potato. Look across the room at a stationary object, say the remote control you left beside the TV, where it isn't doing you any good. Hold up your hand and, making a circle with the thumb and forefinger, look through the circle at the remote. Now, holding your hand still, turn your head back and forth, as if firmly telling your teenage daughter that no, she can't go on spring break in Daytona Beach. The TV remote will apparently move back and forth in inside the finger-circle. That's parallax.

In a riflescope, parallax occurs when

the image of the target isn't focused in exactly the same plane as the reticle. Sometimes this will be obvious, because the reticle looks fuzzy, but sometimes the reticle will appear sharp while some parallax exists. To see if your scope is affected, place the rifle on a steady rest with the reticle resting on a target. Then, without touching the rifle move your eye around behind the scope. If the reticle apparently "moves" as your eye moves, then parallax is present—and we might not hit what we're aiming at, even if we aim steadily and squeeze the trigger very carefully.

Once a shooter starts testing scopes for parallax, it becomes obvious there's at least a little bit of parallax present most of the time. This is because our target isn't always precisely the same distance away—even if it is, atmospheric conditions change. Atmosphere acts as an additional lens in any optical system, so even if we always shoot at 100 yards, on some days we'll have to tweak the scope to eliminate parallax.

Also, higher magnification makes parallax worse, the reason any riflescope with magnification more than 10X usually has some means of easy parallax correction, whether an adjustable



Choosing the correct scope for a rimfire rifle results in more accurate shooting at any range. The CZ .17 HMR (right, top rifle) has a 3-9X Burris Fullfield II designed for centerfire rifles, while the CZ .22 Long Rifle (right, bottom rifle) has a Burris Compact with adjustable objective for shooting at closer ranges.



objective lens or the focus knob found on the left side of many of today's scopes. Higher magnification tends to increase parallax because focus is more critical with higher-power optics.

The most extreme example I've seen was a 5-15X Zeiss scope a friend mounted on a custom varmint rifle. We were shooting prairie dogs one day and he really wanted me to try this marvelous combination. I shot the rifle a few times at 150 to 200 yards and it worked well, but after those shots, the prairie dogs in the vicinity were either defunct or very shy. There were a few dogs still visible at 300 and 400 yards, so I cranked the scope up to 15X and started shooting at them—and couldn't hit a thing.

Finally I grew suspicious and rested the rifle firmly on my daypack, then looked through the scope, moving my head around behind the ocular lens. The dang thing had more than 1' of parallax at 350 yards! It might seem Zeiss would be aware of parallax, since the company was one of the pioneers of optics, but in general German hunters almost never shoot past 250 yards, and even more rarely at small rodents, so it took awhile for the company to adapt their scopes to the American hunting market, one reason that particular scope disappeared rather quickly from their lineup.

Parallax can also be a problem at close ranges as well. Though some rimfire shooters push the limits of the .22 Long Rifle, 100 yards is usually a very long shot and 50 yards is much more common. A typical 3-9X big-game scope will often have considerable parallax at ranges much less than 100 yards, especially when cranked all the way up. When shooting at paper targets, this is enough to make us think there's something wrong with our super-accurate .22. It's also enough to miss a small animal, whether the head of an edible cottontail or all of an inedible prairie dog.

In fact, parallax is one reason many hunters believe .22 rimfires are relatively inaccurate. (Target shooters know this isn't so.) As recently as the 1970s most scopes for .22 rifles were relatively cheap and some were truly terrible. The first scoped .22 I ever shot, back in 1964, had a 3/4"-tubed scope and its crosshairs didn't remain centered in the field of view. The rifle belonged to a college student who rented the



*An accurate air rifle and parallax-adjustable scope (above) make winters more tolerable. Barsness used this 12X Sightron as his test scope (below) for assessing the accuracy of shorter-range rimfires, such the .22 Long Rifle barrel on this Thompson-Center Encore.*



basement apartment in my parents' house. Even then I was a far-gone rifle loony, so he would sometimes take me along when he went plinking. His pride and joy was a lever-action .22 equipped with that cheap scope, and even then I was astounded to find the crosshairs in the lower left-hand quadrant of the field of view.

Such scopes usually came complete with integral mounts to fit the dovetail slots on top of .22 rifles, so there was no way to tweak the mounts if everything didn't line up correctly. In those days a lot of cheap .22s had scopes with the crosshairs canted noticeably, because the action dovetails and scope mounts weren't precisely machined.

It wasn't until the original Kimber company in Oregon started making their nice hunting .22s in 1979 that quite a few hunters started putting centerfire scopes on their .22s. Even then, however, the full potential of the rifles was often unknown due to parallax problems at shorter ranges, the reason today's shooters often mount big centerfire scopes on their .22s. Bigger scopes have some sort of parallax

adjustment, allowing us to precisely tune out parallax at 50 yards, the most common sight-in distance for standard .22s.

My primary .22, for instance, is a Kimber, though one made by the New York version of the company. Sadly, these rifles are also discontinued, but they were even more accurate than the Oregon Kimbers. The scope on mine is a Cabela's Premium 4-12X, and with Remington-Eley Match EPS ammo the rifle will consistently put five shots into about .3" at 50 yards, but it wouldn't shoot nearly that well without a scope precisely adjustable for parallax. My wife Eileen's Anschutz Model 54 shoots similarly with a Nikon 3.3-10X Monarch UCC. The elevation adjustments on both the Cabela's and Nikon scopes also work precisely enough for rimfire silhouette shooting.

It isn't absolutely necessary to have a parallax-adjustable scope on a .22 Long Rifle or a .17 Mach 2. Several companies make scopes set up to be parallax-free at 50 to 75 yards. The .17 Mach 2 carbine barrel for my Thompson-Center G2 Contender, for instance, has a 3-9X T/C Hawken scope with the parallax set for closer muzzleloader ranges, so it works on the little rifle as well. Another good but inexpensive .22 scope is Weaver's 2.5-7X Rimfire model, set to eliminate parallax at 75 yards. These scopes usually cost somewhat less than parallax-adjustable scopes, and if you're mostly going to be shooting small animals at less than 100 yards, they work quite well.



*Big-game scopes often have too much parallax at ranges less than 100 yards for accurate shooting at small game and varmints.*



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THE PARALLAX MYSTERY

Once we step up to longer-range rimfire rounds, however, the need for parallax-adjustable scopes disappears. Both the .22 Magnum and the .17 HMR are more than adequate hunting rounds at 100 yards and, with the right scope, out to 150 to 200 yards. This means a standard centerfire scope works fine because they come out of the factory pretty much parallax-free at those ranges. Both cartridges are hunting rounds, not target rounds, so also benefit from multi-point reticles allowing quick compensation for extended ranges. Both my CZ 452 .17 HMR and my Marlin 882 .22 Magnum are mounted with 3-9X Burris Fullfield II's with Ballistic Plex reticles, a scope I see often on the smaller "rodent rifles" of my friends here in Montana.

Things get a little more complicated, however, when scoping air rifles. First, air rifles are normally used at ranges less than 50 yards, and often down to 10 yards. Most centerfire scopes won't



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## Does It Matter?

Usually parallax doesn't affect our shooting all that much, the reason relatively few shooters are aware of its effects. There are four reasons for this:

1) Most scopes are corrected at the factory to be parallax free at 100 to 150 yards, about the range most of us usually shoot. Even if there's some parallax, it's so small it doesn't cause much problem.

2) If we place our eye precisely behind the center of the scope, there isn't any parallax, because there isn't any "change in the position of the observer." Our eye tends to seek this center, because that's where we see the full field of view.

3) Even if parallax does cause a shot to go slightly astray, we blame it on something else, such as wind, a defective bullet or the Coriolis effect. (The flier obviously couldn't be due to our shooting.)

4) Often we're shooting at an object large enough that some parallax doesn't matter. A bull moose would be a good example.

However, certain conditions exaggerate parallax, and one is when we shoot little rifles, whether rimfire or air rifles. This is because little rifles are often shot at ranges less than the "standard" 100 to 150 yards, and at very small targets.



**Scopes for air rifles must be able to eliminate parallax at ranges as short as 10 yards, the distance this target was made.**



**The 4-12X Cabela's scope on this Kimber .22 makes really tiny 50-yard groups possible. (The high flier in the group on the right is due to the Coriolis effect—not parallax or any fault of the shooter.)**

focus that closely—and many centerfire scopes also won't stay together when shot on some air rifles. Compressed-air and CO<sub>2</sub> rifles recoil even less than a rimfire rifle, so the only problem is correcting for parallax at 10 or 25 yards. But spring-air rifles (commonly known as “springers”) are incredibly hard on scopes. The spring and piston inside the rifle not only causes considerable recoil, but when the piston reaches the end of its travels, it rebounds slightly, creating a dual-direction recoil that can shake apart a scope that will work fine on a .375 H&H.

As a result, the problem of mounting a scope on an accurate springer is two-fold. First, is the scope tough enough to take the abuse? Several companies claim their scopes are all tough enough for spring-air rifles, including Burris and Leupold. However, being tough isn't quite enough because a springer scope must also be parallax-adjustable down to 10 yards. The Hawke company, which now imports a wide variety of optics (including one of the best \$350 binoculars available) first got a foothold in the US market with its very good springer scopes. Hawke is a British-based company, and air rifles are popular in both Great Britain and Europe, providing a quiet alternative for both target shooting, small-game hunting and varmint shooting in countries where “powder rifles” are more difficult to own and use.

The scope on my own springer, a Gamo Hunter Extreme .22, is a Gamo 3-9X scope specifically designed for the task, and so far it's held up very well. I often shoot it inside my workshop,

which by happy coincidence measures 10 yards from corner to corner. This makes deep winter in Montana a little easier to tolerate.

To focus the scope at 10 yards it has to be set on 3X. This may seem too low to shooters used to using much more powerful scopes, but magnification is relative to distance. A 3X scope at 10 yards is equivalent to using a 30X scope at 100 yards, providing a high level of precision, one reason my Gamo is capable of putting all of its shots with certain projectiles into one hole at 10 yards.

The same principle applies to rimfire scopes used at 50 yards. One of the scopes in my collection is a 12X Sightron with a dot reticle and adjustable objective, specifically designed for rimfire use. It usually functions as my test scope for shorter-range rimfire rifles, whether they're chambered for the .22 Long Rifle or the .17 Mach 2, not just because the optics and dot make for very precise aiming at 50 yards, but because 12X at 50 yards is equivalent to 24X at 100 yards.

With a little understanding of that old devil parallax, shooting little rifles can be just as precise and productive as shooting “real” rifles.

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# GEN 4

**THE LATEST GENERATION GLOCK 22 .40 S&W GOES BEYOND A NEW GRIP TREATMENT, IN SEVERAL WAYS.**

**Massad Ayoob**

**Photos: Joseph R. Novelozo**

**T**he manufacturer's motto—"Glock Perfection"—upon review, could have been better phrased "Quest For Perfection." Glock has applied several evolutionary changes to their trend-setting, super-popular handgun in the last 30 years. The most noticeable alterations have been in the shape of the grip-frame.

The first Glock 17, later to be dubbed "Generation 1," had a flat frontstrap and a light cobblestone effect today's collectors often refer to as "the smooth grip." Gen 2 had a coarse, "grenade grip" checkering molded in, still with the flat front. In the Gen 3, fingergrooves were added to the frontstrap. When that configuration gained a light rail molded into the dust cover at the front of the frame, it became known as "Gen 3.5."

Last year saw the introduction of the RTF (Rough Textured Finish), which was in essence, a stippling of little

polymer nubbins the company calls "polymids." The RTF2 has been a big hit in law enforcement circles. Since it was obviously the next evolution in Glock grip-frame design, many of us called it colloquially "Generation 4." I did so myself in an article on the RTF2 in *American Handgunner*.

However, as publication of that issue loomed, Glock announced their new "Gen 4" model and, after all, Glock Inc. gets to define the terminology. My correction got to *American Handgunner* too late, so please accept my apologies

for referring to the RTF2 as the "4th Generation."

The Gen 4 pistol debuted in the Glock 22 .40 S&W and Glock 17 9mm Luger, the full-size service pistol formats. The most striking change is found in, yes, the grip-frame. Cognizant how interchangeable backstraps of different sizes (pioneered by Walther back in the '90s and copied by nearly every other mainstream maker) had become as popular as light rails, Glock knew it was time to install them. They offer three sizes, and unlike most of the competition, the "size small" is actually integral to the pistol frame itself.

This configuration brings the backstrap closer to the trigger, and measurably narrows the girth of the grip-frame. This allows the web of the hand to get deeper under the rear tang of the frame, and permits the trigger finger to get deeper into the triggerguard. Essentially, it gets a bit more finger onto the trigger. Back when Gaston Glock and his team originally designed the pistol, their research indicated the majority of auto pistol shooters were taught to engage the trigger with the pad of the index finger. Accordingly, the gun was "dimensioned" to allow the average adult male hand to reach that spot with the index finger naturally, while keeping the barrel of the pistol in line with the long bones of the forearm.

Some people with shorter than average fingers found this compromised the fit of the Glock in their hands. Some others, me included, preferred to get more finger onto the trigger, often making contact with the palmar surface of the distal joint, to get more leverage to pull a relatively firm trigger straight back. While Glock's 3.5-pound connector actually requires about 4.5 pounds of pressure from the center of the trigger, the company has long emphasized it is only for recreational shooting.

The standard Glock trigger-pull weight is 5.5 pounds, and at the request





**Designed for sub compacts, the Insight X2 is also at home on the Gen 4 Glock and delivers 40 lumens of light from the xenon bulb. The knife is a Gerber Icon Clip Folder with serrated edge blade. The Gen 4 (inset) comes with two extra backstraps to extend the grip for larger hands.**

of many police departments, Glock also offers trigger systems from roughly 8 pounds to, in the NY-2 variation (“New York Trigger Plus”), nearly 12 pounds. Pull weights in these ranges are more “shootable” if you can get your finger deeper into the triggerguard, and the Gen 4, out of the box, allows this.

The two backstrap adapters are attached by driving out the pin at the back of the frame (listed by Glock in the owner’s manual as the Trigger Housing Pin), pressing the adapter into place, and securing it by returning the pin. The smaller of these adapters is in effect the medium size and, for humongous hands, the large size extends even farther back.

While the Gen 4 has a subdued version of the RTF 2’s grip stippling, it does not have that gun’s curved slide serration pattern. Serrations are “standard vertical” as on older Glocks.

The G22 was built for service, not match shooting, and is nowhere near the most accurate pistol in the Glock catalog. At 25 yards, hand held from an MTM rest on a concrete bench, I shot the test sample (5.5-pound connector, standard S-type trigger spring) in 5-shot

sequences with ammo representing the three most popular bullet weights in .40 S&W. All kept their groups within the often-quoted standard of “acceptable service pistol accuracy” of 4” at 25 yards. All kept their best four out of five hits in less than 2-1/2”.

The 165-grain bullets are popular in .40, and the mild American Eagle load with full metal jacket is among the best over-the-counter loads you can get in this caliber for practice or match shooting, not to mention an affordable price. The softest kicking round of the test, this Federal product put five shots in 3.85” center to center, with the best four in 2.35” and the best three in 2.10”. The latter measurement generally factors out enough unnoticed human error to be a good predictor of what the same combination of gun and ammo should do for all five shots from a machine rest. All measurements were to the nearest .05”.

The 180-grain subsonic is the “original” .40 S&W load and still probably the most popular, here represented by MagTech Gold jacketed hollowpoint. This was the most accurate of the test, putting all five bullets 2.70”



**As is customary with today’s pistols, an accessory rail is provided on the bottom of the frame.**

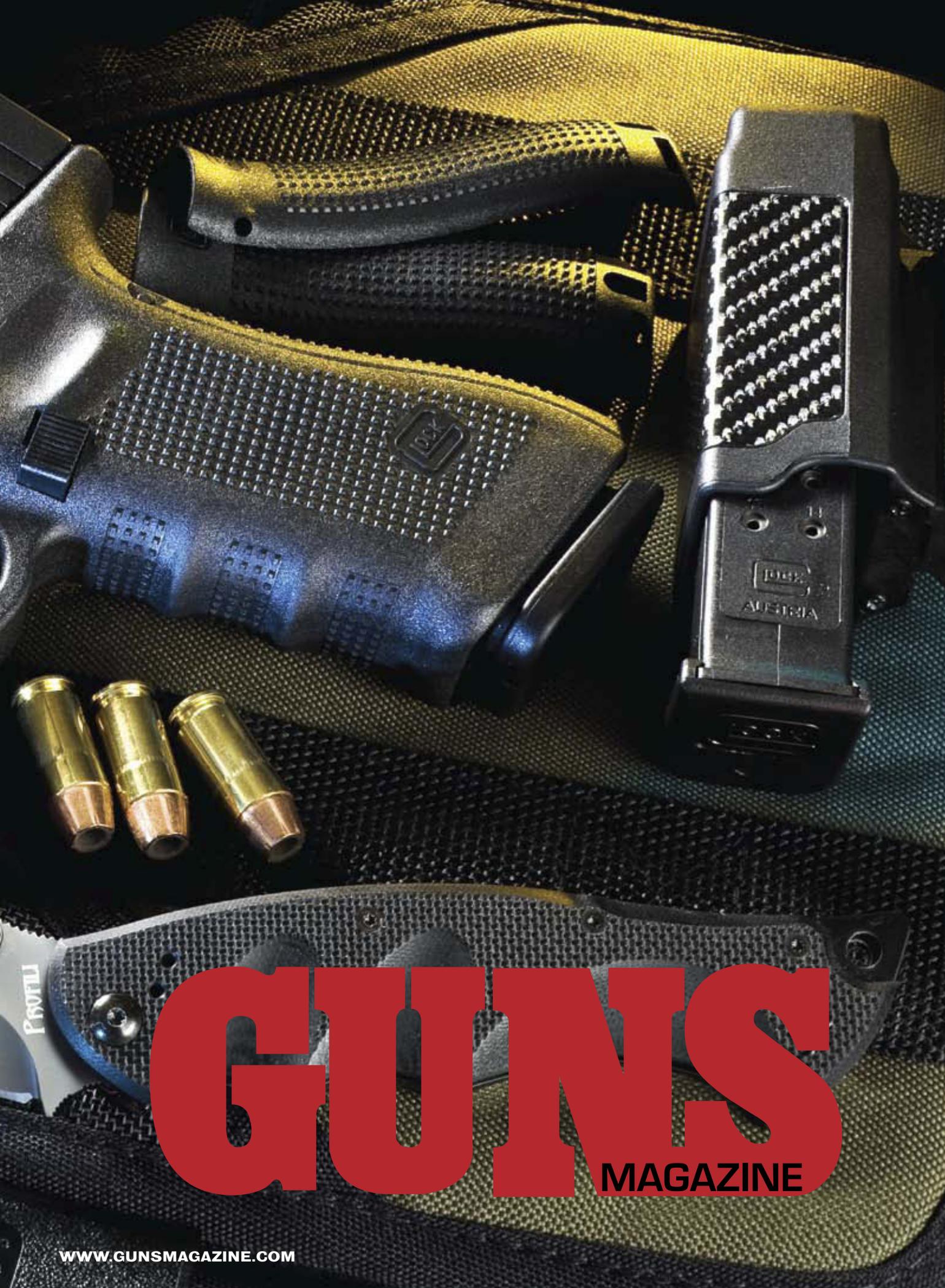
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# GEN 4

GLOCK 22  
.40 S&W



*Shown with the Gen 4 Glock is a Blade-Tech Profili 5" Closed Liner Lock knife and the extra mag is in a BLACKHAWK! CQC single mag clip-on mag pouch.*



# GUNS

MAGAZINE



The arrows (above) show flying brass from the last three rapid shots from the Gen 4 G22 with full power .40 S&W loads. The pistol is still on target as it goes to slidelock in Mas' hands. The petite Gail Pepin (below), who stands only 5', demonstrates the controllability of Gen 4 G22. Bottom arrow shows a plate spinning to right on the Dueling Tree at 15 yards, upper arrow shows ejected .40 case. Note the muzzle orientation at that moment.



apart, center to center, just as all other such measurements were taken. The best four of those five clustered in 1.85", and the best three, in 1.30".

High velocity 155-grain bullets at 1,200 fps kick butt in .40 S&W and were represented here by the Winchester Silvertip hollowpoint. I've seen a number of these dug out of quickly-stopped human opponents. All mushroomed dramatically and quickly terminated the encounters in question. From the Gen 4 Glock, the Silvertip delivered 3.15" for five shots, 2.45" for the best four, and 1.55" for the best three.

Another feature of the Gen 4 service-size Glock is the double captive recoil spring design proved so successful since the mid-1990s with the subcompact "baby Glock." Because the Gen 4 frame had to be hollowed out more to accept this new design, it is not interchangeable into older generation Glock 22s. Stronger recoil springs tend to soften the "kick" felt by the shooter.

This is, of course, a subjective perception. I spoke with a senior firearms instructor from a federal agency, which issues the standard Glock 22 pistol. They had just sent a Gen 4 G22 out among six instructors to see what they thought of it. He told me three of the test teams found the new gun distinctly softer with the same issue service ammo and the other

three didn't notice much difference.

At my end, four of us tested the Glock 22 Gen 4: seasoned firearms instructor Herman Gunter, III; IDPA 5-Gun Master Jon Strayer; Florida State Woman IDPA Champion Gail Pepin and myself. Shooting it side-by-side with a standard Gen 3.5 Glock 22, all four of us could feel and even see a difference, which favored the Gen 4.

How do you "see" the difference? Stand bolt upright and fire one-handed in the old-fashioned NRA bull's-eye

#### GENERATION 4 G22

**MAKER: GLOCK INC.**  
**6000 HIGHLANDS PKWY.**  
**SMYRNA, GA 30082**

**(770) 432-1202, WWW.GLOCK.COM**

**ACTION TYPE:** Semiauto, safe action

**CALIBER:** .40 S&W (tested),  
 9x19mm

**CAPACITY:** 15 + 1

**BARREL LENGTH:** 4.5"

**OVERALL LENGTH:** 7.32"

**WEIGHT:** 23 ounces

**FINISH:** Tenifer

**SIGHTS:** Fixed, white dot front/  
 white frame rear

**GRIPS:** Polymer frame, 2  
 backstrap inserts

**PRICE:** \$649

pistol position. One-handed is not the most efficient way to control a fighting handgun, but if the arm is relaxed, the degree to which the gun rides up can be recorded on film, since the arm will tend to stay at the height of recoil until consciously pulled back down. In this case, the same shooter's arm holding the older G22 rose several degrees higher than the same arm firing the same 180-grain .40 S&W service loads through the G22 Gen 4. We can see why 7 out of 10 testers felt the Gen 4 "kicked less."

The stronger recoil spring requires distinctly more pressure to retract the slide. However, while it was noticeable, we did not find it objectionable, not even the petite Ms. Pepin, who stands only 5' tall. The G22 Gen 4 benefits from 20 years experience building these pistols, along with the vast beta testing data accumulated, as the Glock 22 became the single-most popular police sidearm in the USA. The magazines come with the latest followers and strong springs. Ms. Pepin did resort to the Glock-provided magazine loading tool.

All these features combined to make a most reliably functioning pistol. With four people firing almost 500 rounds through this specimen, the Gen 4 Glock experienced zero malfunctions.

The Gen 4s enlarged magazine release button is easier to reach and is reversible. Switched to the right side of the gun, it will be a boon not only to southpaw shooters, but also to righties who find it faster to use a finger than a thumb to eject a mag during a speed reload. The new mags, which allow right or left release, will work in older Glock's of the same caliber, and older mags will work in the new guns, but if the mag release stays on the left, since old mags won't secure with a Gen 4 converted to right-side mag release.

The Gen 4 comes with its own version of the RTF grip treatment, more muted than the RTF2. It locks very well into the palm. Roughened grips can be a concern in concealed carry, so to test for that, I packed the test gun for a couple of days. The first day was with the excellent FIN Kydex belt scabbard, under an EOTAC fatigue jacket. No bulge, no discomfort, no snagging of grip on garment. The second day was next to bare skin under an untucked polo shirt, using a Galco Royal Guard inside-the-waistband holster. It was more comfortable than an



*The new double captive recoil spring in the Gen 4 G22 slide (left) shows how much larger the new unit is compared to the standard style at right.*



*Note identical slide serration pattern of Gen 3.5 Glock 22 (left) compared to the Gen 4 version. More obvious changes are the size of the Gen 4's reversible mag catch and the pin for the interchangeable backstrap at the top of the grip.*

RTF2 when tight against bare skin, and much more popular than the common expedient of skateboard tape, but there was still some minor discomfort. If I was going to carry a Gen 4 frequently against bare skin, I'd sand down the polymids on the body side. It's the ones on the outside, facing the palm of the drawing/firing hand, that do the real work of securing the pistol more snugly in the shooter's grasp.

I used the Gen 4 test pistol in an IDPA match in February, 2010 in Jacksonville, Florida. It drew smoothly out of the FIN holster, and reloads from a Safariland mag pouch were equally slick. All carried well on a Wilderness/EOTAC belt. All shooting in that particular event was strong-hand/two-hand, and 80 percent of it was from concealment. The test gun had Glock's standard white dot front/white frame rear sights, which don't work for me nearly as well as the company's own optional night sights. The pointing characteristics were not noticeably different from the standard Glock's I've used for decades, and were excellent, but it took me an instant to verify sight picture every time the gun

came on target. The better trigger reach on the Gen 4 was a positive thing. When the proverbial smoke had cleared, I came in 5th out of a 100 competitors, and the gun had functioned fine. I'll take that.

Coming with three magazines in the box, this pistol is a good value. It definitely shoots softer in most folks' perception with snappy .40 S&W ammo, and sits more securely in the hand, and gets more finger onto the trigger. It seems to "fit more hands better" in the perception of our test team, all of whom own, carry, and shoot multiple Glock's. Generation 4 is a welcomed and natural evolution in the Glock product line.

GUNS would like to thank Herman Gunter III of III Sales in Live Oak, Florida, for the loan of his G22 for the cover photography.—Editor

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# CONTEMPORARIES

## LITTLE DIFFERENTIATED THE MAIN COMBATANTS BOLT-ACTION RIFLES DURING WWII.

**Mike "Duke" Venturino**  
**Photos: Yvonne Venturino**

**D**uring the intense study I've been devoting to World War II firearms these past few years, I've come to one conclusion concerning three combatant nations' bolt-action battle rifles: The German's K98k, the United States Model 1903 (and its derivative Model 1903A3) and the Japanese Type 99 differ more in detail than in substance.

If that perhaps sounds like an odd statement, here's what I think. We American shooters hold the '03 "Springfield" in near reverence, with the wartime remodeled '03A3 at a well respected but less stellar level. Similarly the German's K98k is just a few notches down in American riflemen's estimation. Its action is considered exemplary, even though the finished rifle itself is not as esteemed as our domestic "Springfield." Then we get to the Japanese Type 99, often mistakenly called the "Arisaka." About the only WWII military weapons from

any nation more despised by American shooters are Italian ones.

Shooter's attitudes aside, the fact remains these three rifles are very similar in size and operation. All three are manually operated turn bolts. All three have internal magazines of 5-round capacity fed with either single rounds or by means of 5-round stripper clips. All three have nominal weights within a fraction of each other and all three have barrel lengths and overall lengths differing only slightly. The Germans' K98k's barrel is the shortest at 23.62" and the Japanese Type 99's barrel is longest at 25.85". The US Model 1903 Springfield is shortest overall at 43.21" and again the Type 99 is longest at 45.25". (All figures are nominal and gathered from the book *Military Rifles Of Two World Wars* by John Walters.)

These three military bolt actions ought to be so similar because the Springfield and the Arisaka were copied from Peter Paul Mauser's basic Model 1898 design. The '98's action features a very strong claw extractor, a rotating knob on the rear of the bolt as safety and the firing pin cocks as the bolt is opened. That same sentence is still true if it starts with "The basic Springfield Model 1903 features...." In fact, the

United States government had to pay Peter Paul Mauser a great sum of money because the '03 infringed upon his patents.

Japanese Col. Arisaka changed a few things when he began borrowing from Mauser's basic '98 early in the 20th Century. A large knurled cap was put at the rear of the bolt. Instead of flipping a knob from one side to the other with your fingers as with the Mauser '98 and '03 Springfield, the Arisaka safety was pressed with the palm of your hand and rotated. With all three rifle models, if the safety is engaged, the bolt is locked.

However, here's another difference. The German and American rifles' safety knobs can be put straight up allowing the bolt to be operated for unloading the magazine safely because the trigger is disengaged. The Type 99 does not have that feature. Also, for some reason the Japanese Arisaka did not favor the cock-on opening feature of the Mauser 98. The Japanese Type 99 cocks on closing the bolt.

One non-Mauser feature American ordnance officers added to the '03 Springfield is the magazine cutoff device on the left rear of the receiver. When flipped down, the bolt does not come rearward enough to pick up rounds from the magazine. Instead, the rifle can be used as a single-shot while the full magazine is retained. Flipping the cutoff device up allows the bolt to come rearward a tad more and the rounds in the magazine are fed normally. If the cutoff lever is put in its mid-position, it allows the bolt to be withdrawn.

Conversely, the Mauser '98 design will not allow the extractor to snap into the chambered case's extractor groove unless it



**Duke's handloads for the calibers used in the German K98k, Japanese Type 99, and US Model 1903 Springfield include (from left) 8mm Mauser 195-grain Hornady spire point, 7.7mm Japanese 180-grain Sierra spitzer and .30-06 155-grain Hornady Amax.**



**The original military loads for the rifles discussed in this article include (from left) German 8mm, Japanese 7.7mm and American .30-06. The German and American cartridges are both dated 1943. The Japanese round has no date.**



**Duke shooting the K98K from his shooting house.**

comes from the magazine. However, a reader recently passed a tip on to me about this fact. If the extractor is pressed firmly in its middle with a finger there is enough flex in it so its claw will snap into a chambered case's groove. The Type 99 Arisaka allows dropped in rounds to chamber as easily as the '03 Springfield.

The beginnings of these three similar rifle models are interesting. The Germans adopted the Mauser '98 in 1898 and in WWI used a version named Gewehr 98 or G98, a long rifle with barrel length slightly over 29". When Nazi Germany began rearming in the 1930s they remodeled G98s to have the shorter barrel length mentioned earlier. Then they named it the Karabiner or K98k. The second "k" stands for the final alteration settled on by the German military for standard issue.

During WWII K98ks were built in no less than 10 factories in Germany proper and also in Belgium, Czechoslovakia and Austria. Another interesting fact is K98ks were not marked by the manufacturer's name but collectively were given a bewildering array of codes. These consisted of numbers, letters or combinations thereof. For instance, my 1937 vintage K98k is marked S/147 for the firm of JP Sauer & Sohn of Suhl, Germany. A full list of codes and K98k manufacturers can be found in the book, *Mauser Military Rifles Of The World* by Robert W. D. Ball.

It is noteworthy to point out the Germans in 1935 copied the Americans by making the new K98k virtually identical in size and weight to the '03 Springfield.

### **M1903 And M1903A4**

In addition to production at the government-owned Springfield Armory in Massachusetts Prior to World War II, US Model 1903s had also been made by the government-owned Rock Island Arsenal in Illinois. Then in 1941 the US Government contracted with Remington Arms Company to again produce '03s. American doctrine was to stamp military rifles with the name of the manufacturer so identical US Model 1903s can be found marked Springfield, Rock Island or Remington.

To facilitate production, Remington's engineers developed many manufacturing shortcuts to the '03 resulting in the US Model 1903A3. (A3 means alteration number three) Among other things was the incorporation of stamped parts instead of machined ones plus a nifty, easily adjustable peep sight. In his book *The Springfield 1903 Rifle*, Lt. Col. William Brophy states the manufacturing changes caused over 6 pounds less steel per rifle to end up on the factory floors. Remington and the



*The contemporary bolt-action rifles (above) used in WWII include the German K98k 8x57mm, US Model 1903 Springfield .30-06 and Japanese Type 99 7.7x58mm. All three of the rifles discussed in this article were meant to be loaded by means of 5-round stripper clips (below) as shown with the Japanese Type 99.*



# SIGHTS



The Model 1905 rear sight was standard for the US Model 1903 Springfield during its period of use.



During WWII Remington Arms Company engineers redesigned the rear sight for M1903 Springfields and came up with this peep sight version for M1903A3s.



The Germans fitted the K98k with an open rear sight graduated to 2,000 meters and mated with an inverted "V" front sight.



The Japanese put a peep sight on their Type 99 but placed it far out on the barrel where an open rear sight would normally be, thus decreasing its usability significantly.



This is the initial sight the Japanese fitted to their Type 99s. The "wings" are for judging lead when firing at low flying aircraft.

typewriter manufacturer Smith-Corona were the only makers of US Model 1903A3s.

For those naysayers who think the M1 Garand was America's universal WWII battle rifle, you are wrong. Most ground combat engaged in by American troops through 1942 saw the GIs or Marines armed with '03 Springfields. And pictures dated as late as 1945 show '03A3s in combat.

## The Type 99

The Japanese Type 99 was newest of the three rifles discussed here. The 99 in the Japanese designation had nothing to do with 1899. According to John Walters' earlier mentioned book it stood for the 2,599th year of the Japanese Empire. Regardless, it came about in 1939 after the Japanese had been battling in China. They determined from combat their current 6.5mm cartridge was too small, so they wanted to upgrade to 7.7mm. Simultaneously, the Type 38 rifle was also upgraded.

Essentially its action remained the same but barrel length was shortened by about 6" and a new sight adopted. Also, somebody figured a light wire monopod attached to the front barrel band would be helpful. (As evidence of their "helpfulness" Japanese soldiers almost universally dismounted and tossed them.) Also according to Walters' book, Type 99s were produced at six facilities both in Japan and Korea, and it was produced right until their surrender in September 1945. Various symbols denote location of manufacture and those more in the know than I am have told me my Type 99 was made at the Imperial Kokura Arsenal in 1941.

One reason Type 99s, and to a lesser extent K98ks, have gotten a bad rap is their respective nations were in dire straits toward the end of WWII. They necessarily had to cheapen their rifles due to material and manpower shortages. The results were some extremely crude military weapons. Collectors call these rifles "last ditch" and some are not even safe to shoot. Conversely, both countries' pre-war rifles are very nicely made.

The main differences between '03, '03A3s, K98ks and Type 99s in regards to shooting are the sights and the calibers. Germans are famous for their manufacturing quality, but not so much for common sense regarding rifle sights. K98ks had an open sight located far out on the barrel. It is elevation adjustable to 2,000 meters. There is no provision for windage. Front sight is a tapered post. In 1941 the Germans got smart and developed a "designated marksman's" rifle by putting a tiny 1.5X telescope above the rear sight. It does improve the shootability of the K98k immensely. What they were not smart about was then pressing such low power, scope equipped rifles into service for snipers.

## Sorry Peeps

By 1939 peep sights were commonly recognized as a superior military rear sight so the Japanese copied the idea for the Type 99, but some bright light of a Japanese ordnance officer decided the peep sight should also be way out on the barrel. It has graduations to 1,500 yards. Peep sights should be near the shooter's eye for fast and accurate shooting. Out on the barrel the shooter's eye must first find the peep sight and then search for the front one. To confuse the matter more, the Japanese also put rather straight protective wings on either side of the front sight.

When doing fast firing or in low light it is easy to pick up one of those wings in the peep sight, consequently shooting far left or right of the intended target. Then to make matters worse, they put folding "wings" on either side of the peep sight to help in judging lead when shooting at low flying aircraft traveling at 300 mph. The "wings" were a waste of steel and merely something else to hang up on vegetation in the jungles where they fought so much of WWII.

The original '03 Springfield had a barrel-mounted open sight graduated to 2,700 yards and also finely adjustable for windage. Front sight was a thin blade. The rear sight could be flipped up exposing a peep aperture once raised to the 200-yard

### DUKE'S FAVORITE HANDLOADS

BULLET (BRAND, BULLET WEIGHT, TYPE)	POWDER (BRAND)	CHARGE (GRAINS WEIGHT)	VELOCITY & STANDARD DEVIATION (FPS)
<b>.30-06 (.308")</b>			
HORNADY 155 AMAX	Varget	48.0	2,703 & 33
<b>7.7X58MM (.311")</b>			
SIERRA 180 SPITZER	IMR4350	50.0	2,425 & 19
<b>8X57MM (.323")</b>			
HORNADY 195 SPIRE POINT	Varget	48.0	2,560 & 64

Notes: All loads used CCI 200 Standard Large Rifle primers.

8x57mm brass: Remington, 7.7mm Japanese brass: Norma, and .30-06 brass: Hornady.

All chronograph figures are for five rounds taken with PACT Model IV Timer/Chronograph with start screen at approximately 6'.

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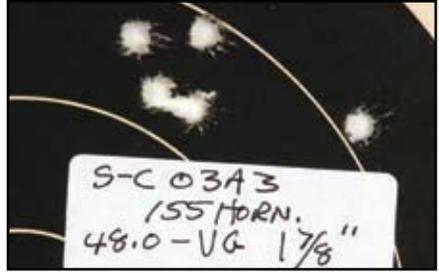
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CONTEMPORARIES



Despite Duke's best efforts he had not been able to get his Japanese Type 99, 7.7mm to shoot groups better than this.



Duke's Smith-Corona made Model 1903A3 often fires groups like this with his handloads.

mark. It took Remington's engineers to finally get the sight thing right with the '03A3. It is a peep easily adjustable for both windage and elevation and can be raised only to a much more realistic 800 yards.

The calibers of these three rifles are similar but different. They all use the same case head first used with the 8mm Mauser. However, they differ by case length and bullet size. The load chart will give their lengths and nominal bullet diameters. In WWII, the standard infantry load for the .30-06 was a 150-grain FMJ at 2,700 fps, for the 8mm Mauser it was a 198-grain FMJ at 2,500 fps, and for the 7.7mm it was a 179-grain FMJ at 2,400 fps. (Velocity figures differ by sources. These are approximations.)

To close, I'd like to give my opinions of these rifles. At age 61 shooting accurately with open sights is becoming difficult, so I prefer the rear mounted peep sight of the US Model 1903A3. Also I've had fitted a 3X Leatherwood scope on an '03, which has turned it into my all-time favorite WWII military rifle in regards to actual shooting. Several years back I bought one of those German K98ks fitted with 1.5X Zf41 scope. The original scope is too cloudy to use, so I bought a Numrich Arms reproduction. Now I can shoot that rifle darn accurately out to 300 yards.

Back in 1941/1945, whether in the hands of the German "Landser," the American "GI" or Japanese "hetai" their turn bolt, infantry rifles were almost exactly comparable. A soldier trained in the use of his country's bolt action battle rifle could easily pick up one of his opponents' on the battlefield and go right to work.



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# GRAND SLAM REALIZED

WITH A HANDGUN. OR IS IT A “HANDRIFLE”?



*This Rocky Mountain bighorn was 10-years old and completed Mark's quest for the grand slam of North American sheep. One shot was taken from 190 yards with factory .308 Winchester Ballistic Supreme 150-grain ammo in the MOA Maximum.*

## Mark Hampton

**W**e spotted two rams lying underneath a huge boulder at least 500 yards above the trail. We rode until our horses were out of sight of the rams, dismounted and made a plan. After putting all of our gear in the backpacks, we slowly climbed the mountain toward the sheep. We worked our way behind a ridge to not expose ourselves to the rams. The altitude was taxing my lungs and my legs were already sore from the previous five days of mountain climbing. The wind was also a factor, as it kept swirling and changing directions.

I couldn't help but wonder if the rams had caught our scent and departed. That's exactly what happened two days ago. When we finally reached the top, I cursed the 40-pound pack as I searched for the rangefinder. Larry peeked over the top and luckily the rams were still bedded. After a quick look through the spotting

scope, a total of six rams were enjoying an afternoon nap—190 yards away. I carefully placed a small sandbag on top of a rock and slid my gun into position.

All the rams were facing directly away from us except one—this one older ram seemed like he was almost staring at us. Larry whispered, “The one facing us is

the one we want.” I looked through the scope and observed the ram lying behind a log with only the top portion of his shoulders exposed. To make things more difficult, a limb protruding from the log covered more vitals leaving a small V to shoot through. A very small window of opportunity for shot placement. Larry suggested we wait until the ram stood up. So, we waited, and we waited, and we waited some more as the afternoon drifted on.

I was hunting Rocky Mountain bighorn sheep in Wyoming. It was a special hunt for me not only for the privilege and opportunity to hunt a bighorn, but I also needed this ram to complete the “Grand Slam” of North American sheep. Not that I hunt to fulfill some status symbol or anything remotely similar, but this was more of a personal

goal. To make things more challenging, I was using a handgun. There are not many people crazy enough to pursue a magnificent game animal like a bighorn sheep with a handgun, but I have never been accused of playing with a full deck.

I considered several handguns for this hunt and finally ended up taking an MOA Maximum. One reason I chose this gun is because I had never taken any big game with its unique falling block design. The MOA is a single-shot and this one is chambered for .308 Winchester. The receiver is constructed of stainless steel and is extremely strong. Receivers are drilled and tapped for a ringed scope mount. The heavy Douglas barrel with a slight taper was 16" long including the muzzlebrake. MOA manufactures their own baffle-style muzzlebrake effective at both eliminating muzzle rise and perceived recoil.

Barrels are available in different lengths and configuration. I personally lean toward heavier barrels for more stability in shooting from a variety of positions or platforms. However, the extra weight is not your friend on a sheep hunt when climbing steep mountains everyday. The barrel is free floating, which aids in consistent accuracy regardless of conditions or temperature. Barrels can be interchangeable once they are fitted from the factory, with a wide variety of chambering possible. MOA barrels are threaded, like a bolt gun, and must be headspaced to the individual gun. I have a .223 barrel for my frame, in addition the .308 Winchester barrel, and it shoots Black Hills 50-grain V-Max ammunition with prairie dog accuracy. A wide, benchrest-type fore-end was installed, which made shooting from a rest more stable.

This handgun is extremely safe. The manual transfer bar, a unique device in itself, must be in the "safe" position to load and unload the firearm. Only after cocking the hammer, can the transfer bar be engaged by pushing the transfer bar button in the downward position. To the first-time shooter, this may seem a bit "busy," but after shooting the gun several times and becoming familiar

**The MOA has an interchangeable barrel capability once fitted from the factory. Mark's MOA has an additional .223 barrel that's just the ticket for a prairie dog town.**



**A spotting scope can save the hunter many miles of climbing. Larry Altimus spends countless hours looking through this valuable tool.**



**Good optics are a must when sheep hunting. Hours upon hours are spent behind the glass searching for game.**

with the operation, it can be loaded, fired and unloaded quicker than you can imagine. Since I do a lot of deer hunting inside elevated deer blinds, in all sorts of inclement weather, the safety factor provided is a welcomed feature.

This handgun was very popular back when silhouette shooting was going strong. The MOA Maximum is responsible for many championships in the silhouette game. This alone is an indicator of its accuracy potential. Obviously it comes with factory equipped precision adjustable sights if you so desire. The walnut grips are smooth on the single-action style design. The grips are comfortable and fit my hands well. Between the muzzlebrake and the smooth grips, lengthy shooting sessions with the .308 Winchester is relatively painless.

Carrying a large, scoped handgun can be troublesome and uncomfortable. Recently I have been using a custom holster made by QuietHide. I spoke with the owner David Jansen, and twisted his arm into making a backpack-style rig for large, single-shot handguns. This is one of the most comfortable ways to carry a large handgun I have experienced. Even when tough hunting conditions are encountered with long days in the field, this rig is nice. For this particular hunt, I had to carry a large backpack in order to carry all of my equipment for a sheep hunt, plus have enough room to pack out the animal. So I just wrapped up the

MOA in a raincoat and stuffed it into the pack—simple yet effective.

### Big-game Cartridge

The .308 Winchester is one of my favorite big-game cartridges and it works well in shorter tubes. I was using 150-grain, Winchester factory Ballistic Supreme ammunition. Multiple trips to the range proved the MOA took a liking to this load. I had the handgun sighted-in 3" high at 100 yards. This put the gun shooting almost dead-on at 200 yards. At 300 yards, the first bar of the ballistic plex reticle in the Burris scope was right on the money. I shoot 9" steel targets on our farm and have these are located from 150 out to 400 yards. Before the hunt I shot enough to give me confidence in shooting out to 300 yards, if necessary. Obviously, I want to be much closer, like 30' or so, but when mountain hunting, you can bet on the possibility of long-range opportunities.

Another feature I like on the MOA is the adjustable trigger. I get a bit annoyed when laying down my hard-earned cash for a new handgun if I have to send it off to a competent gunsmith for a trigger job. The trigger on my MOA is set around 2 pounds and breaks clean and consistent. All MOA shooters I have spoken with are very satisfied with these triggers, regardless of application. A good trigger is a must for me and of paramount importance when accuracy is demanded.



**Sheep are not the only creatures living in remote country.**

The MOA is essentially a custom gun for no more than a factory price. Richard Mertz, owner of MOA, is a consummate machinist and innovator. This is not a large company by any means. Basically, Richard is a 1-man show and builds these guns one at a time. Building guns is not the only endeavor Rich accomplishes in his shop, but it is his passion and pride.

I arrived in Wyoming with a sheep tag in my pocket. I knew the MOA could do its job if I could hold up my end of the deal. I would be hunting with Larry Altimus and Bo Morgan, both experienced sheep hunters. Actually, that's an understatement. Larry has personally been on 92 successful sheep hunts. He has taken the grand slam along with a few other fine sheep and has guided many hunters. If that doesn't impress you, he has been on 60 successful mountain goat hunts. He is no stranger to climbing mountains! The first day we located six rams on a distant mountain. Larry felt like we could drive around the backside of the mountain, climb up from the other side and be above the sheep by

late afternoon. Sounded like a good plan to me. As we made it to the other side of the mountain, three hunters on horses were already way ahead of us. As luck would have it, they spooked the sheep and it was game over.

The next day it snowed. The conditions made it impossible to glass for sheep. The following day Larry decided to stick with our day one plan. We left when it was barely light enough to see and started climbing. Between the foot of snow and the altitude, it was a good workout. Around noon we finally made it to the top. The wind was gusting at more than 40 mph and made glassing for sheep seem out of the question. Larry and Bo managed to locate 13 rams in one bunch, but they were so far away. I figured we would run out of daylight before reaching them. With nothing better to do, we took off toward the rams, getting further and further away from our starting point.

Late in the afternoon the rams were spotted in a huge bowl. When we tried to close the distance and get within



**This backpack-style holster was made by QuietHide. It is extremely comfortable when miles of country are covered, regardless of whether it's in the mountains or the jungle.**

shooting range, the rams caught our scent, thanks to the swirling wind, and disappeared. At this point we had to get off the mountain before bedtime. We hiked to the nearest trail and luckily, Larry's wife picked us up. It was one of those days sheep hunters define as "extreme." I was just hoping there wouldn't be too many more of them!

On day six we decided to saddle up some horses and ride up the Greybull River to check out several drainages. With all the snow we had received, some of the sheep were coming down to lower elevations. That's when we spotted the rams lying beneath the huge rock formation.

After waiting for what seemed an eternity for the rams to get up and start feeding, Larry asked me, "Do you think you can make the shot?" With a rock-solid rest and the Burris scope cranked up to 10X, I felt somewhat confident. As the crosshairs settled on the rams' vitals, the hammer fell and the ram rolled over not knowing what hit him. Larry slapped me on my back with sincere congratulations. It was a moment of jubilation. A memorable hunt I will never forget.

Would I hunt with the MOA again? No question about it. This single-shot handgun was once popular in the silhouette game and it can be equally successful in the hunting arena. If I could wave a magic wand I would prefer an ejector instead of the extractor. The extractor is very positive and the .308 cartridges fall right out, but an ejector would be a nice feature if possible. Another part I would change is more area on the top portion of the frame so the scope mount would fit entirely and not protrude in mid-air, over the barrel.



**Mark (above, right) and guide Larry Altimus waded through the knee-deep snow searching for sheep. The MOA Maximum (below) is a unique falling block action both accurate and dependable. Mark's MOA is chambered in .308 Winchester and topped with a Burris 3-12X Long Eye Relief scope.**



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(307) 283-3030, WWW.MOAGUNS.COM

**ACTION TYPE:** Falling block

**CALIBER:** .308 Winchester  
(tested many others)

**CAPACITY:** 1

**BARREL LENGTH:** 16"

**OVERALL LENGTH:** 22"

**WEIGHT:** 5 pounds, 3 ounces

**FINISH:** Stainless

**SIGHTS:** None, mount provided

**GRIPS:** Walnut

**PRICE:** \$937

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**MAGNIFICATION:** 3X-12X

**OBJECTIVE**

**DIAMETER:** 32mm

**EYE RELIEF:** 10" to 19" (3X),  
10" to 12.5" (12X)

**INTERNAL**

**ADJ. RANGE:** 28" elevation,  
windage at 100 yards

**CLICK VALUE:** 1/8"

**TUBE DIAMETER:** 1"

**WEIGHT:** 16 ounces

**OVERALL LENGTH:** 10.8"

**RETICLE:** Ballistic Plex

**PRICE:** \$656

The mount is rock-solid and there is no issue with it except appearance. The fore-end has room for improvement, and I believe the development is underway. These are minor things and in no way are they mentioned to be detrimental. I will definitely be using the MOA on future hunts.

Richard Mertz also organizes long-range shoot that are really a blast. Shooters encounter targets at 500, 750 and 1,000 yards. Yes, all targets are shot with handguns. You have got to see it to believe it. 

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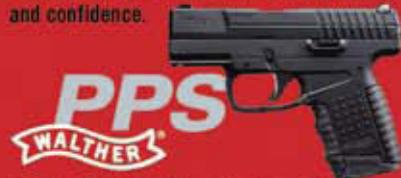


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# VIEWS NEWS AND REVIEWS

## RIGHTS WATCH

• DAVID CODREA •

### HATRIOT GAMES

For gun rights advocates, the high-profile media coverage accompanying the arrests of the so-called Hutaree "militia" shortly before Easter provided a club we could predict would be used against us. Absolutely, as people committed to lawful and peaceable activism, we view the alleged plot—to lure a police officer to a violent death and then kill mourners at the resulting funeral in the hopes of touching off a civil war—as a cowardly act of terrorism committed not by patriots, but by domestic enemies.

Questions do remain—as they should. Among these are the roles of government informants and infiltrators embedded among the Hutaree—including one who reportedly passed himself off as an explosives specialist.

Regardless, a fact that became immediately apparent was that this tiny group was shunned by area militia groups, and by no means representative of gun owners who understand and revere the Founders' concept of the Constitutional citizen militia. Also immediately apparent—political opponents of the right to keep and bear arms would use the opportunity to tar us all with the brush of being extremists and haters.

They did not disappoint. The Orwellian-named Freedom States Alliance, as committed a group of gungrabbers as we face, was quick to seize the day and target their favorite bogeyman.

"[T]hese 'weekend warriors' are acting out the very ideology and rhetoric by the NRA and gun lobby," they claimed. "Suddenly, their extreme ideology and rhetoric doesn't look so appealing."

That they produced no supporting evidence to corroborate such nonsense is understandable. The NRA's position could not be clearer in this regard. From Article III, Section 1 of the Association bylaws:

"No individual who is a member of, and no organization composed in whole or in part of individuals who are members of, any organization or group having its purpose the overthrow by force and violence of the Government of the United States or any of its political subdivision shall be eligible for membership."

No matter. Thom Mannard of the Illinois Council Against Handgun Violence was quick to propose a "fix" we just knew was coming.

"Congress and the Obama administration must act to address the terrorism threat enabled by America's weak gun laws. America's safety and security continues to be at grave risk until we ban the sale of all military-style assault weapons, such as AK-47s and .50 caliber sniper rifles...."

Paul Helmke of the Brady Campaign didn't miss a beat, conflating April 19 "Patriots' Day" rallies commemorating the 1775 engagements at Lexington and Concord with celebrations of the Oklahoma City bombing, a theme also pushed by MSNBC's Rachel Maddow, among other media-citizen disarmament allies.

And with no basis whatsoever, and even less relevance, Josh Sugarmann of the Violence Policy Center asked his readers if they "want[ed] to take odds on" Hutaree members also being concealed carry permit holders.

It's an old tactic. If you can't beat 'em, smear 'em. Thus gun owners are portrayed as "anti-government" extremists and racists—and here's a word they've coined that we can count on hearing more of—as hatriots.

Visit David Codrea's online journal "The War on Guns" at [waronguns.blogspot.com](http://waronguns.blogspot.com) or visit [DavidCodrea.com](http://DavidCodrea.com) to read his Examiner column.

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## WEATHERBY ANNOUNCES WINNERS

As winners of Weatherby's online sweepstakes, 20 people in 14 states will receive a SA-08 Synthetic semi-auto shotgun, compliments of Weatherby.

Launched May 15, 2009, the sweepstakes promoted the SA-08 Synthetic and its "as low as" retail price of \$449. The sweepstakes ended January 15, 2010 with a total of 40,658 entries. After a random drawing, Weatherby notified the 20 winners.

Names of all the winners are posted on [www.weatherby.com](http://www.weatherby.com) and [www.weatherbynation.com](http://www.weatherbynation.com), the company's online community of hunting and shooting enthusiasts.

"Congratulations to the winners," Ed Weatherby, company president said. "We hope they enjoy their SA-08 Synthetic and wish them many years of successful shooting with this versatile, reliable shotgun."

Since its introduction in 2009, the Weatherby SA-08 Synthetic semi-auto has become known for its lightweight, trim feel, as well as its exceptional value. The shotgun is available in either 12 or 20 gauge with 26" or 28" barrels. There is also a youth model with a 12-1/2" length of pull and 24" barrel. —*Courtesy Swanson Russell & Assoc.*

## MARLIN CLOSING CONNECTICUT PLANT

Marlin Firearms Co. will be closing its facility in North Haven, Conn. The plant will reportedly close by June 2011 and manufacturing operations will be relocated elsewhere. The 140-year-

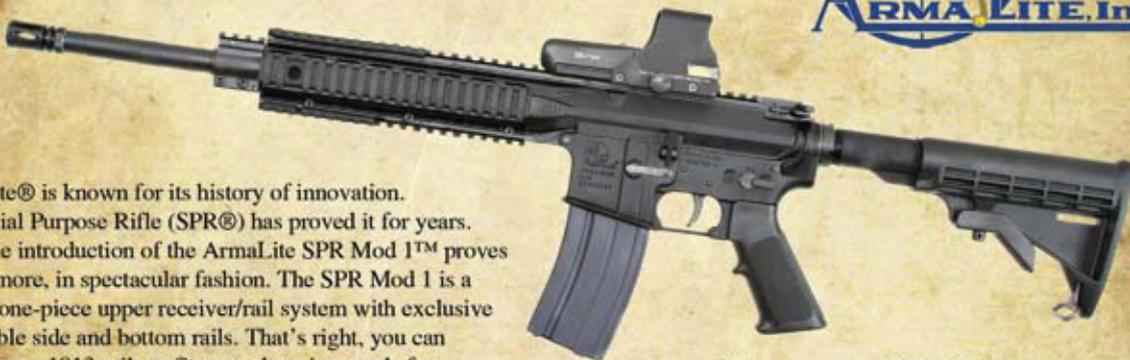
old gun maker began manufacturing firearms in Connecticut in 1870 when John M. Marlin hung out his sign on State Street in New Haven. Today, the company is owned by Remington Arms Co. and is part of the Freedom Group of companies. —*Courtesy NSSF*

## TEAM SAVAGE BREAKS 1,000-YARD RECORD

This list of long-range events Team Savage has won recently is getting almost as long as the distances at which they shoot. They recently added the 2010 F T/R National Championship to that list by taking the team competition in grand fashion. They won both the 600- and 1,000-yard events, establishing a new 1,000-yard record of 778-21X.

Savage Arms sent four representatives to Sacramento: Darrell Buell of Damascus, Oregon; John Weil of Welches, Oregon; Monte Milanuk of Wenatchee, Washington; Stan Pate of Milwaukie,

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Trigger:	Tactical two stage
Length:	35.5" with stock extended, approximately 32" collapsed
Weight:	Approximately 6.5 lbs.
Accuracy:	1.5 - 2.5 MOA

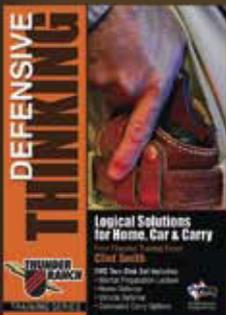
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Oregon. The competition featured some of the best talent and most expensive custom rifles from around the country. But, once again, those expensive custom guns were no match for four skilled marksmen armed with stock Savage Model 12 rifles in .308 Winchester.



**From left: John Weil, Stan Pate, Darrell Buell and Monte Milanuk have won plenty as Team Savage.**

“We continue to be thrilled with the winning results from Team Savage. It says a lot about them and it says a lot about the rifles,” Savage VP of Sales & Marketing Brian Herrick said. “We’re not trying to tell anybody they can just buy a Savage and shoot like Darrell, John, Monte and Stan, but it should be fairly obvious by now that shooting stock Savage rifles isn’t holding these guys back at all.”—*Courtesy Bill Dermody, Savage Arms*

## ATK STATEMENT ON ONCE-FIRED BRASS

In response to concerns over the demilitarization of once-fired brass cartridge cases, ATK issued a statement to clarify its position: “ATK is a strong supporter of our armed forces, the shooting sports industry, 2nd Amendment rights and all of our customers who choose to reload ammunition. In fact, ATK is a leader in the reloading market. A dated brochure and presentation have caused confusion in the marketplace and do not reflect the views of our company and will be immediately withdrawn. As a service to our military customers, we routinely handle demil operations for various munitions and respond to requests from military installations for reclamation and recycling of military items. Each contract is awarded through the military installation’s procurement process. The installations received

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fair value for the brass. ATK fully supports the provision passed by Congress last year to ensure that demilitarized spent brass casings remain available for civilian use.”  
 —*Courtesy NSSF*

## AIRMAN AIDS HEART ATTACK VICTIM

Tech. Sgt. James Harrell Jr. was on his way home from Keesler Air Force Base, Miss., after a shift with the 81st Security Forces Squadron about 5:15 am last March 26. As he traveled west on Pass Road, he turned south onto Rodenberg Avenue—not his normal route home to Gulfport, Miss.

“I can’t explain it... I just decided to turn there,” Harrell, who is assigned to the 908th Airlift Wing at Maxwell Air Force Base, Ala., but is on temporary duty at Keesler AFB, said.

As he approached Irish Hill Drive, he saw something in the eastbound lane—a body. An elderly man who had been walking his dog collapsed in the road. Sgt. Harrell rushed to his aid, while the clerk at a nearby convenience store called 911.

“He wasn’t breathing,” Sgt. Harrell said. “My response was automatic—this man needed help.”

The man’s life depended on the sergeant’s ability to keep him alive for five to seven minutes until emergency medical technicians arrived.

“It was very intense and seemed to take forever,” he said. “When the EMTs got there, he was flat-lined. He’d had a massive heart attack and they had to shock him five times to bring him back.”

The emergency responders took the victim to Biloxi Regional Medical Center in Mississippi and Sgt. Harrell headed for home, emotionally and physically drained by the incident. One thought kept nagging him though—did the man survive?

Later that day while he was in a drug identification class, a call came from the Biloxi Police Department. The stricken man had survived and was in serious but stable condition. The official police report noted the hospital staff said due to Sgt. Harrell’s quick actions, the man would probably recover without any serious consequences.

“My mom is a CPR instructor, and she was very proud of me when



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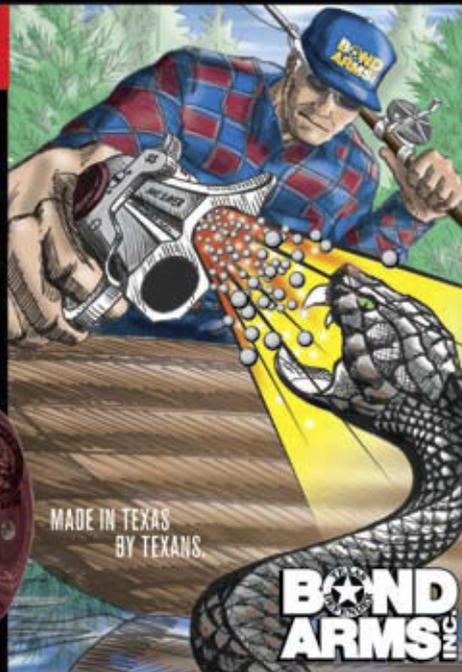
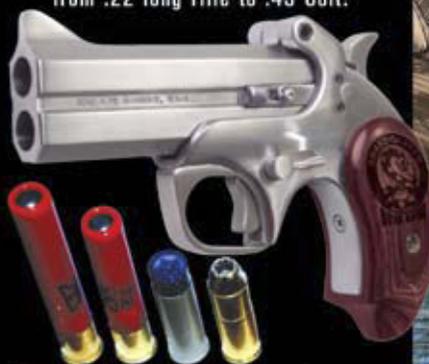
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IEWS NEW AND REVIEWS

I called her," Sgt. Harrell said. "I'm so glad that gentleman survived. It was an incredible experience; knowing you've helped another human being is very rewarding."

Perhaps the greatest reward was the phone call he received from his 10-year-old daughter, Taylor, who lives in Alabama. "Daddy, God sends angels," Taylor insisted. "God sent you to help that man."—Susan Griggs, 81st Training Wing Public Affairs

## SCAR REACHES FINAL MILESTONE

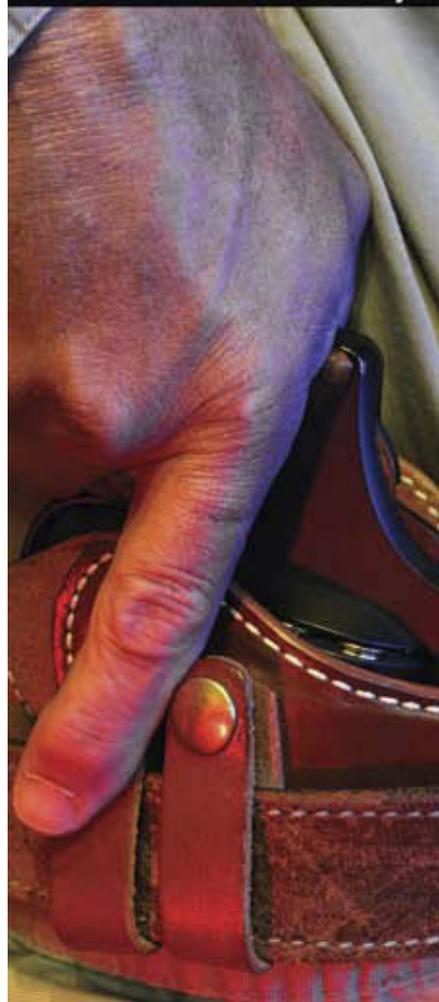
FNH USA, LLC received notification from the USSOCOM Program Executive Office—SOF Warrior (PEO—SW) that the SCAR Acquisition Decision Memorandum (ADM) was approved and signed on April 14, 2010, moving this FN Herstal program into the Milestone C phase. This decision authorizes the production and deployment of the Special Operations Forces (SOF) Combat Assault Rifle (SCAR) MK 16 and MK 17, as well as the Enhanced Grenade Launcher Module (EGLM) MK 13.

Following a worldwide solicitation to the military firearms industry, nine vendors submitted a dozen different designs for a new modular, multi-caliber weapons system. Only the FN SCAR passed all of the Go/No-Go criteria and was unanimously chosen in November 2004 by the selection board composed of senior operators from every SOF component. The SCAR is the first new assault rifle procured by the US Military through a full and open competition since the M16 trials were held in the mid-1960s.

Tests in reliability, accuracy, safety and ergonomics were administered from August 2005 to September 2008 and were conducted in a variety of environments including urban, maritime, jungle and winter/mountain operation scenarios. The SCAR weapons system successfully endured more than two million rounds of ammunition during these trials, therein making it one of the most heavily tested weapons in the history of small arms.

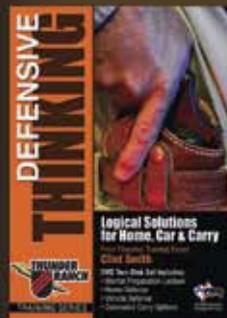
The FN SCAR system consists of two highly adaptable modular rifle platforms and a grenade launcher. Both the MK 16 MOD 05.56mm Special Operations Forces Combat Assault Rifle and the MK 17 MOD 07.62mm Special Operations Forces

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*The MK 17 MOD 0 7.62mm Special Operations Forces Combat Assault Rifle is available with three different barrel lengths optimized for conducting operations in close-quarters combat, standard infantry and longer-range precision-fire roles.*

## SILVER STARS AWARDED

Two pilots serving with the 82nd Combat Aviation Brigade, 82nd Airborne Division, in Kandahar, Afghanistan, earned the Silver Star, the nation's third highest war-time medal for valor.

Secretary of Defense Robert Gates presented the awards to Lt. Col. Mike Morgan, the commander of 1st Squadron, 17th Cavalry Regiment (Task Force Saber), and Chief Warrant Officer James Woolley, a Chinook pilot assigned to 3rd Battalion, 82nd Aviation Regiment (TF Talon), in front of the Talon headquarters on Kandahar Airfield, Afghanistan last March 9.

Morgan earned the recognition for his part in repelling an insurgent ambush directed at a US Army Engineer unit known as Task Force Target Hazards, Open Roadways, or THOR, while they were performing a Route Clearance Patrol. The RCP was sweeping a route west of Kandahar City for improvised explosive devices when they hit

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one. After the blast, the RCP began receiving heavy enemy fire in what they soon realized was an orchestrated ambush.



**Secretary of Defense Robert Gates presents the Silver Star to Lt. Col. Mike Morgan, an OH-58 Kiowa Warrior helicopter pilot, at Kandahar Airfield, Afghanistan. Morgan is the commander of 1st Squadron, 17th Cavalry Regiment, 82nd Combat Aviation Brigade. Photo: Sgt. 1st Class Shannon Wright**

Morgan, air mission commander for a team of two OH-58 Kiowa Warrior helicopters, arrived in

support of the RCP. According to his citation, Morgan repeatedly maneuvered his aircraft between rocket propelled grenade fire and heavy machine gun fire, enabling him to fire on and destroy the enemy positions.

His “quick reaction, skillful employment of his and other attack weapons systems and coordination of multiple aircraft over a target” ultimately led to THOR’s safe withdrawal from the enemy line of fire.

Woolley, also an air mission commander during the operation where he earned the Silver Star, is a CH-47 Chinook helicopter pilot. In November 2009, Woolley and his crew were called for a casualty evacuation mission in Baghdis province, western Afghanistan. As Woolley and his crew approached the pick-up site, his left door gunner reported heavy tracer fire coming at them. Woolley and his co-pilot maneuvered to avoid the rounds.

Once landed, ground troops began loading five wounded Soldiers aboard. Very quickly, the aircraft began taking more enemy fire. With less than a minute on ground, insurgents fired a rocket

propelled grenade at Woolley’s Chinook. The round penetrated the nose, flew between the two pilots, and hit the flight engineer in the back of the head before coming to a rest inside the helicopter—unexploded.

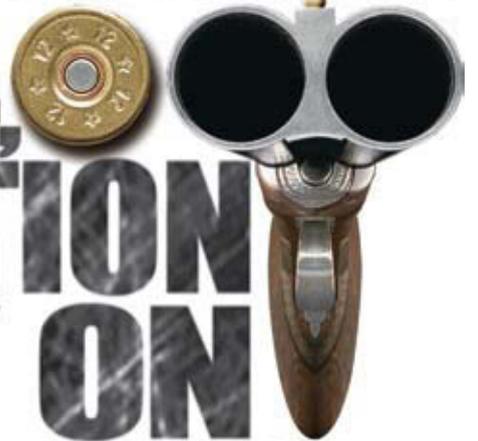
Woolley and his crew continued to take a barrage of enemy fire, but Woolley directed the team to stay on ground until the last patient was loaded. Once the 5th patient was loaded, Woolley led the team out of the hot landing zone and back to a coalition base where the casualties could receive treatment.

After they determined the aircraft was still flyable, Woolley made the decision to conduct a second casualty evacuation of several wounded and dead Afghan National Army soldiers.

“I feel privileged,” Woolley began. “I guess the best way to describe it is I feel the same as I did yesterday, but it is an honor to be recognized. I would’ve done it anyway, but it truly is an honor and a privilege to be wearing this on my chest.”—Sgt. 1st Class Shannon Wright/82nd CAB, 82nd Abn. Div., TF Pegasus PAO

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My 2.25" SP has ridden in vest and pants pockets, an ankle holster, under a sports shirt in a bargain basement horizontal shoulder rig and in various IWB holsters. Seeking the maximum in comfort and accessibility, I decided to check out the polymer Fobus paddle holster. The design originated with the Israeli military and security forces and is minimalist in nature, weighing only

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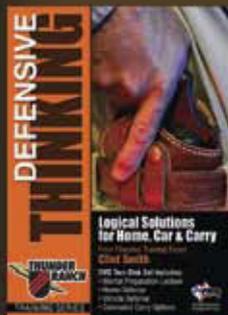


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a couple of ounces and employing a tension-adjustable retention system in place of manually operated thumb breaks or snaps. Fobus has shunned the near-universal temptation to use Phillips or Allen headed screws on the tension mechanism in favor of the vastly more sensible, pedestrian slotted head. Open-ended, the holster will accommodate the full range of SP101 barrel lengths. My revolver hangs 4" below belt line and is well hidden under a variety of lightweight, untucked garments.

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### Clint Smith

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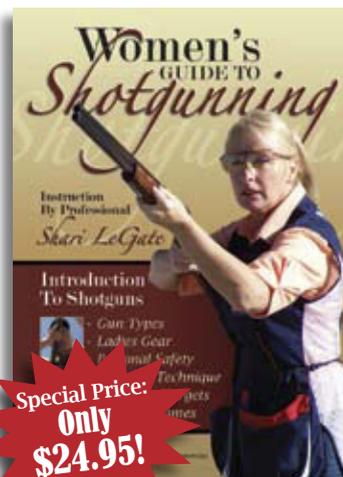
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Nice details include the coupler, which can be personalized and serialized for private individuals or even agencies. If you want a good tool to hold two magazines in place for use with a home or defense rifle this is an excellent piece of equipment. Springer's Firebird is good, solid gear built right.

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## THE BROWN BESS

Jeff John

A new book by Erik Goldstein and Stuart Mowbray titled *The Brown Bess, An Identification and Illustrated Study of Britain's Most Famous Musket* fully illustrates the various model of Land Pattern Brown Bess muskets used from the early 1730 Long Land Musket to the 1809 India Pattern Type 2. The various models are shown complete and disassembled with crisp clear photos defining the internal as well as external markings, parts changes and variations. Since so many of these muskets were in service as military as well as civilian and militia arms, this book helps clarify how original muskets are supposed to look as opposed to ones made as hybrids or parts guns, some of which could have parts mixed, matched or replaced anytime over the last 270-odd years.

While the book's layout seems confusing at first glance, the photos are logically presented and, when used as reference points to identify a particular model, become easy to understand.

Although collecting original 18th century muskets may be beyond many of us, we who shoot the reproductions offered today through firms like Dixie, Navy Arms, Track of the Wolf, The Rifle Shoppe and Military Heritage could use this book to correctly mark and finish

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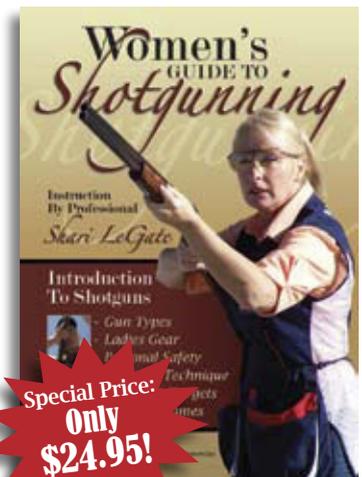
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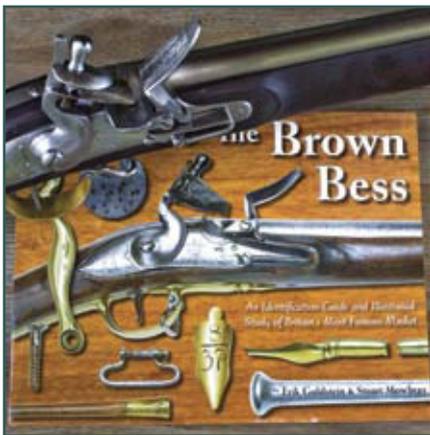
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Jeff used the new book *The Brown Bess, An Identification and Illustrated Study of Britain's Most Famous Musket* to remodel the stock and lock on this Indian-made India Pattern Brown Bess to more closely match the original.

such guns. The musket pictured was purchased through Track of the Wolf and is an Indian-made copy of the "1793 India Pattern, Type 1." I remodeled the stock and the cock as best I could based on pictures from the book. (I have a distinct interest in this particular Pattern as part of a larger story for a future issue.)

While primarily aimed at the collector, this book will prove equally valuable to the re-enactor as well as those who enjoy the early history of firearms.

**THE BROWN BESS,  
AN IDENTIFICATION AND ILLUSTRATED  
STUDY OF BRITAIN'S MOST FAMOUS MUSKET,  
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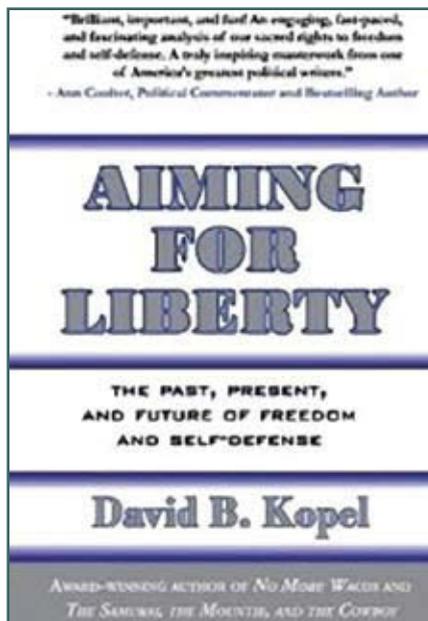
David Codrea

"This book lays out some of the present threats to the Second Amendment and other civil liberties, and remembers the inspiring men and women whose devotion to freedom has made our present liberty possible," writes attorney, activist and prolific author David B. Kopel in his preface to *Aiming for Liberty*, subtitled "The Past, Present and Future of Freedom and Self Defense."

That's a lot to cover in a 182-page book. Fortunately, we have a knowledgeable guide.

Kopel begins by introducing us to the Heller case, what it accomplished, the flawed dissent, and what the decision means, importantly cautioning us on what it will not do as future gun edicts are enacted and tested.

He then takes us on a dark tour of the not-so-distant past. "Gun Control and Discrimination," gives the essential argument against citizen disarmament, documented straight from the American experience of racist terror and determined resistance by armed civil rights leaders. It is authoritative and powerful enough to change much of the anti-gun perception in communities that all-too-typically embrace "gun control" as a solution without understanding the oppression it enabled. I say without hyperbole that we would be a better, freer nation if this chapter were a part of every high school curriculum.



There's so much more, material I can't possibly cover in this limited space: Kopel explains the anti-gun agenda and the outright deceit employed to advance it. He documents religious perspectives on freedom, what we really need to do to have "safe schools", the threat posed by the United Nations, police abuses, destructive culture, a gallery of noteworthy Americans....

Those of us familiar with the significant scholarly and advocacy contributions Kopel has made to the gun rights dialog will find fresh inspiration. Those of you who aren't: Here's your chance to correct that. Take it. **GUNS**

**AIMING FOR LIBERTY BY DAVID B. KOPEL  
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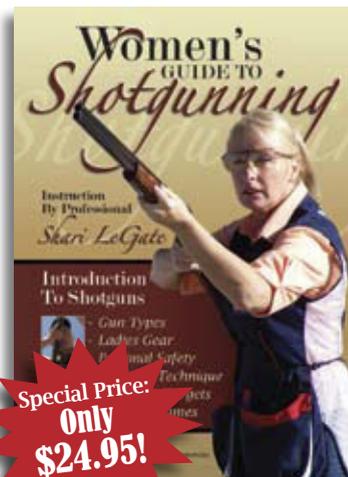
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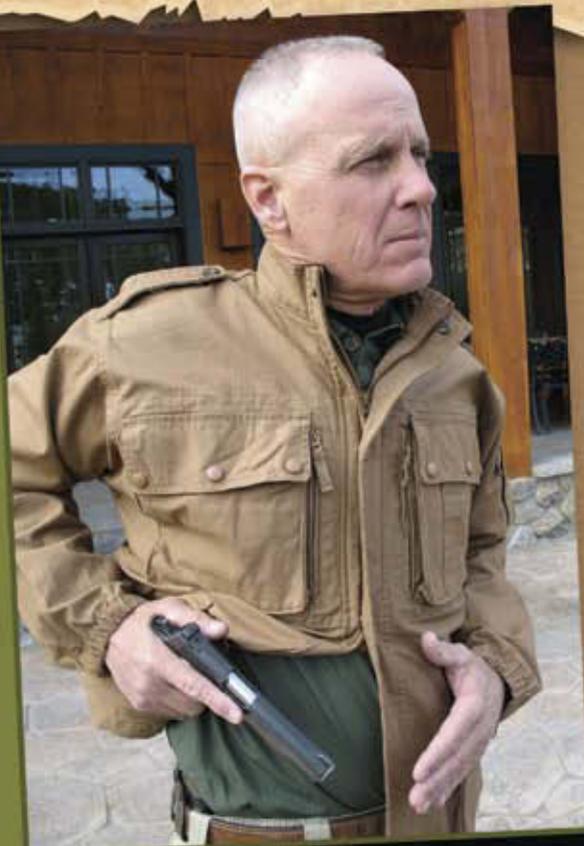
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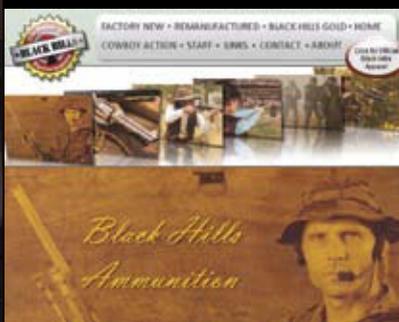
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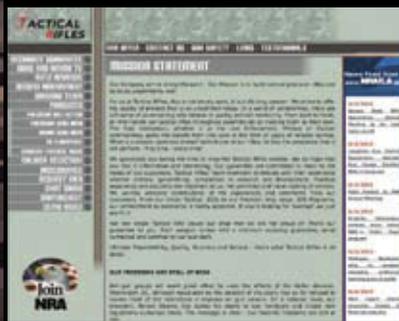
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**CAPACITY:** 10+1

**BARREL LENGTH:** 4"

**OVERALL LENGTH:** 6.85"

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**GRIPS:** Integral polymer

**VALUE:** \$450

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**BLADE LENGTH:** 4"

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**SCALES:** Textured G-10

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# ODD ANGRY SHOT

• JOHN CONNOR •

## PAPER ORPHANS II

Things I meant to say sooner or later.

**R**agged, homeless notes and quotes; vagrant scraps and scribbles pulled from pockets, rifled from rucksacks. I found one in the sweatband of a cap I hadn't worn in years. The poor little word-urchins have nowhere else to go, so....

At an ancient caravanserai on a slickrock Afghanistan road several small convoys stop for cool water, fresh melons and head-calls. Four Marine grunts escort a gray-haired British lady to a concealed point between tall rocks. They check it out, then turn away and stand guard while she answers nature; then walk her to a shaded place.

Fluent in Dari and Pashto, she works for an NGO helping women and girls get back into work and school. "Out of the bourkha and back to life," she smiles. She looks like she's been dragged through a Ghazni gutter and dried with a dust storm. Her convoy has been traveling tandem with some Marines, and at one point they took mortar and small arms fire.

"These boys are so profane!" she says in clipped, proper English. "They curse *incessantly* and play the most devilish pranks on each other! I thought them uncivilized brutes. But then, they are also so gentlemanly; very, very well-mannered toward ladies, you know. And they are *killers*! I saw that when we were ambushed (*"ahm-booshed,"* she said). They were *gleeful* at fighting the Taliban, can you imagine?"

She suddenly flutters, bird-like, "And do you know what they did when the mortar-bombs fell? In an instant," she snapped her fingers, "They shielded me with their bodies! When it was over, I was frantic, I know, and I asked this boy—lovely boy, really—*Why did you do that? You could have been killed! What would your mother think if you'd been killed saving me?*" The lady's eyes went soft and moist.

Blinking tears, she whispered, "He said, 'Ma'am, what do you think my mother would think if I *didn't* protect you?' Oh! There he is!" she chirped and pointed to a nice-lookin' kid walking toward us. A patch stuck on his armor vest read, "JUST POINT AT WHAT YOU WANT \*%#@&\$' DEAD." She



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saw it too and read it aloud, omitting that one word.

"You see," she breathed, "Profane and brutal—and yet, pure and noble. These are the only people I know—the only people I've *ever* known—who would give their lives without hesitation to protect me. I'm sure I don't know what to think. It's all quite complex, I suppose."

"Perhaps," I said, "It's like your countryman, Winston Churchill said: 'The great things, the best things are simple and often expressed in one word: freedom, bravery, sacrifice, faith, mercy'"

"Quite," she murmured, her eyes tearing again and looked away.

### Ink And Dust

A newly-promoted Marine gunnery sergeant's tattoo read, "*If I advance, follow me. If I flee, kill me. If I fall, avenge me!*" He laughed, "Man, when I got that I had no idea—I mean, I was clueless, like, I didn't really understand it; didn't feel it in my blood. I just thought it was cool." Then his smile turned to stone.

"Now, I know" he said. "And y'know, it's OK with me; all of it." He waved toward his troops. "Like, some of these kids got *Death before Dishonor* tattoos before they really knew it, felt it, too. Now *they* know, and I know they get it."

On the edge of a field of opium poppies, 10th Mountain Division soldiers talk about the two greatest sources of terrorist funding: Wahhabi Muslim oil money and drugs—and the fact the world's most profitable market for drugs is the USA.

"Bad enough we pay for terrorism at the gas pump," says a young rifleman, "Even worse—y'know who helps bankroll these bastards? My stupid dooper oldest brother and his dooper friends. *Victimless crimes*, right!" he spat. "How 'bout some death penalties for druggies, huh? They're killin' us, right? Just by proxy, right? Might as well be pullin' the trigger." He spat again. "If we can hunt Taliban here, we oughtta be able to hunt dopers in Illinois, right?"

His pals nodded; old faces on young men, aged with bitter knowledge.

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"Right," they muttered.

An Army infantry captain explains his "Half & Half Theory": "If *half* the members of the US Congress had *half* the courage, common sense, honesty, group-loyalty and appreciation of American ideals my soldiers have, our country would be just fine."

"Y'know, taken individually, they're not rocket scientists or Ph.D.s, but I've listened to 'em talking about politics, the economy; all kinds of issues. And when they've hashed things out, they come up with really solid answers, like, *values-driven* answers. They argue, yeah, but they almost always come to a sensible agreement. They never compromise on principles; just on process. Isn't that what Congress should be doing?"

In Iraq, a 19-year-old soldier has just finished reading a news magazine article claiming troops don't know why they're here; the purpose of their mission in Iraq. Angry, he starts to wad it up, then smoothing it, hands it over.

"Check this crap: *We don't know why we're here?* I'm here to fight against the murdering of innocent people; fighting against tyranny and oppression. First it was Saddam; now it's these mutts. I'm here about freedom. Why America is here, well, I can't be sure of that; not from what the papers say. And what a lot of people back there think about it, I don't care. They're not here, so they don't know."

"You," he said, "You tell 'em I know why I'm here, OK?" And now I have.

## Paid In Sweat And Blood

Back stateside, a tall, muscular young man walks briskly, determinedly down the wide sidewalk, passing dawdlers and browsers, stepping around them with a crisp, "Excuse me; pardon me." His hair is light brown, buzz-cut; his khaki slacks pressed neatly. He moves so well and so quickly people close to him don't notice the right leg of his trousers is bloused at the knee and he walks—and probably *runs*—on a flexible prosthetic. Over the left breast of his black T-shirt a bold star is slashed with white block letters: *VETERAN*. As he walks away, that star decorates the back too, framing the words *FREEDOM ISN'T FREE—I PAID FOR IT*.

I found that T-shirt at [www.rangerup.com](http://www.rangerup.com) and ordered one. If you have served—any service—trigger-puller, company clerk, SEAL or signalman, wing-wiper or fighter jock, in wartime or peace, *you paid, too*. Get one, and if you don't wear it any other time, don it for Veterans' Day, November 11, 2010. Do it to remind "The Other America" of something they'd rather forget; people they don't approve of; concepts they don't understand. I'll be standing with you. Connor *OUT*.

GUNS

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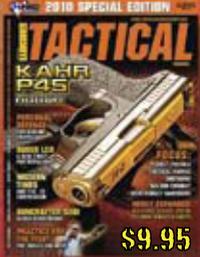
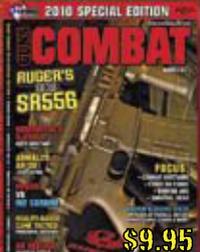
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Casull, and Lew Schafer. Long-range silhouetting was extremely popular in the early 1980s. We started out using .357 and .44 Magnums, however Dan Wesson soon brought out the first of their SuperMags, the .357 with a case approximately .3" longer than the standard .357 Magnum.

### Now At The Top?

As soon as the first .357 SuperMag revolver was available, Schafer acquired one which he re-chambered and re-barreled to his .44 Schafer Ultramag using .444 Marlin brass trimmed to 1.6". With this cartridge, velocities of 200 to 300 fps higher than the standard .44 Magnum could be achieved. Recoil, of course, was substantial even in a 4-pound Dan Wesson. My article on the Schafer Ultramag appeared in the January 1986 issue of this very magazine. It was titled "Is This The Ultimate Magnum?" That article was actually written in late 1983 or early 1984 and the answer was certainly yes! We were wrong about the .44 Magnum being the most powerful, but surely we had now arrived at the top. (This was before I met John Linebaugh and Dick Casull.)

Ruger also offered a version of the .357 SuperMag sixgun, which was their .357 Maximum revolver. Both sixguns used the same ammunition and both sixguns were also superbly accurate at long range. Ruger's version, which was built on a Super Blackhawk with a longer cylinder, would be short-lived. Some writers at the time, who did not understand the concept, tried to make it into a revolver version of the .220 Swift. Instead of using 180- or 200-grain bullets at the muzzle velocities possible with 158-grain bullets in the .357 Magnum, they used lighter bullets at high velocities, which began to erode the topstrap of the Ruger and it was dropped from production. Dan Wesson would go on to offer other Super Mags, .375, .414 and .445. I've shot them all and, in fact, still have my original SuperMag DWs. They are powerful but certainly not very portable. Linebaugh and Casull insisted on both factors in their sixguns.

In the January/February 1985 issue of our sister publication, *American Handgunner*, is the first article I did on John Linebaugh and what he was doing with the .45 Colt in standard-sized sixguns. John proved the .45 Colt could easily outdistance the .44 Magnum in the proper revolver. He did not stop there. First came his .500 Linebaugh using .348 Winchester brass trimmed to approximately 1.4" followed up by his .475 Linebaugh giving .45-70 brass the same treatment. These big sixguns used



**All these big-bore sixguns are not only Perfect Packin' Pistols they are Practical and Portable. They are (from top left, clockwise) the Freedom Arms Model 83s chambered in .475 Linebaugh, .454 Casull, .500 Wyoming Express and John Linebaugh-built .500 Linebaugh.**

bullets in the 370- to 440-grain range at .44 Magnum velocities. Recoil, of course, was substantial. John chambered converted Rugers using 5-shot cylinders and a Bisley Model grip frame was virtually required to handle recoil. Surely, we had reached the top now! I was wrong before, but there is no way to be mistaken this time. Or so I thought.

### Handgun Power's Pinnacle

Using Ruger .357 Maximum sixguns as the base gun and the same brass as used for his .500 and .475 Linebaughs, Linebaugh increased the cartridge length to approximately 1.6" and his truly big bore versions of the SuperMags arrived. These were chambered in custom Ruger .357 Maximums with 5-shot cylinders. Recoil of these sixguns can't be described, it can only be experienced. I will tell you both of these sixguns made me physically ill. It required so much strength and concentration I would fire substantial quantities through both sixguns in the morning and then go to bed for awhile.

I would no longer talk about being at the top of sixgun power, as we had gone way over the top. Several gunsmiths offered custom conversions using John's Linebaugh Longs. Most, if not all, no longer build them as they do not want to test fire them. Smith & Wesson's .500 S&W Magnum is only slightly longer and uses a .500" instead of a .512" bullet, but the result is the same: tremendous power. Even with 40 percent added weight of the Smith & Wesson revolver compared to Linebaugh's sixguns, recoil is still brutal. Smith & Wesson backed up somewhat to give us a .45 SuperMag—the .460 Smith & Wesson Magnum. In a 4-1/2-pound S&W X-Frame recoil is at least manageable.

Dick Casull's experiments with the .45 Colt in the 1950s and 1960s led to the .454 Casull produced by Wayne Baker and Freedom Arms beginning in 1983. I have more experience with the .454 than all the other cartridges above the .44 Magnum combined. I have shot it extensively enough to know it is a magnificent cartridge in the finest single-action revolver to ever exit a factory. It is capable of driving 340-grain bullets at 1,800 fps, however, 260- or 300-grain bullets at 1,500 to 1,600 fps are a whole lot more manageable. Freedom Arms now also offers the .475 Linebaugh and the .500 Wyoming Express, with the latter basically a slightly different version of the .500 Linebaugh. All three of these cartridges are packed into very portable sixguns.

### Doesn't Hurt?

Many writers seem to think they have to say recoil is not bad whenever they write about any of these cartridges. I will tell you recoil with full-house loads is very, very serious. My wrists have paid the penalty over the years with the result being crooked bones with no cartilage. I just received a phone call this week from a fellow who has shot a lot of the really big-bore stuff, and he had so much pain he went to the doctor who discovered he had broken a bone in his thumb.

When the .44 Magnum arrived Elmer Keith only shot 600 rounds the first year. The man was smarter than we even realized. The key to most of life is moderation in all things (I should have heeded this advice more!) and that definitely includes the truly big-bore sixguns. They do not have to be run at top speed at all times. In fact, they are a whole lot more fun loaded down. Relax and enjoy!

**GUNS**

# CAMPFIRE TALES

BY JOHN TAFFIN

## A HALF-CENTURY WITH SIXGUNS: The Really Big Bores.

**T**he year was 1935. In the midst of the 6th year of the Great Depression Smith & Wesson introduced the world's most powerful handgun: the .357 Magnum. It sprang from experiments by Phil Sharpe in conjunction with Col. Doug Wesson of Smith & Wesson in the early 1930s. On a hunting trip together they shot Sharpe's heavy .38 Special loads through several Smith & Wesson .38/44 Outdoorsman sixguns.

Sharpe admits to modifying Keith's 358429 SWC bullet to come up with the Sharpe bullet weighing approximately 150 grains and having 40 percent less bearing surface, enabling it to operate at higher speeds with less pressure. This was the bullet used in the original .357 Magnum loads, which eclipsed

1,500 fps in an 8-3/4"-barreled Smith & Wesson sixgun. In those pre-model number days, it was simply called the .357 Magnum.

Col. Wesson publicized "The World's Most Powerful Revolver" by taking antelope, elk and grizzly bear with it. To put the .357 Magnum of the 1930s in the

proper perspective, we have to realize the .45 Colt and .45 ACP with muzzle velocities around 850 fps were the most powerful big-bore handguns available, and the .44 Special was still factory loaded at around 750 fps. With the .357 Magnum the zenith of sixgun power had been achieved. Sharpe warned against handloaders trying to duplicate factory loads. We had reached the top, and there was simply no way we could ever have a more powerful sixgun. That idea lasted for about two decades. Of course, all during this time, those who handloaded the .44 Special felt they had the real most powerful sixgun.

### The Top?

The .357 Magnum used a bullet of approximately 158 grains with a muzzle velocity of approximately 1,500 fps. In late 1955 the .44 Magnum arrived using a 240-grain bullet at the same muzzle velocity. Surely we had now reached the ultimate apex of sixgun power? The NRA's Major Hatcher likened shooting the .44 Magnum Smith & Wesson to being hit in the palm of the hand with a baseball bat. I was 17 when I shot the .44 Magnum S&W for the first time, and I was totally intimidated by it as well as Ruger's .44 Magnum. It would be a long time with a lot of learning before I felt I could say I had conquered the big .44. Along the way I learned this time we had really reached the top. It would be impossible to physically handle anything more powerful even if it could be built.

In the early 1980s, I met three men who would change my mind about sixgun power, and in fact would have a tremendous effect on sixgunning.

Those three men were John Linebaugh, Dick

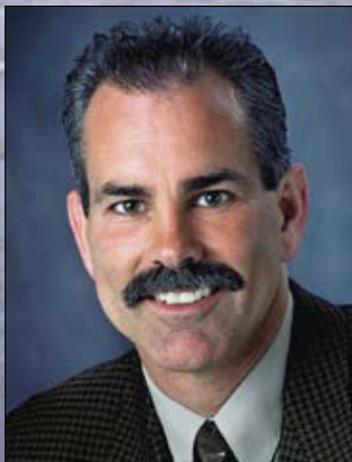


*It is a long, long, long way down the road of sixgun power from the Smith & Wesson .357 Magnum in the center to the .500 and .460 S&W Magnums.*

*continued on page 81*

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Dr. Piazza Has Also Set Aside a **FREE** Holster, Magazine Pouches, Surefire Flashlight, SWAT Belt, Logo'd Stainless Steel Folding Knife, Armorer's Mat, Front Sight Hat, Front Sight Shirt and the Entire Set of 7 Front Sight Dry Practice Training Manuals **ALL FREE OF CHARGE** If You Can Simply Act Fast and Go To: <https://www.frontsight.com/free-gungm.asp>



All Totaled, You Get Over \$4,000 in Amazing Value. It Can ALL Be Yours for Literally Pennies-on-the-Dollar.

It's Easy to Get! Go to:

<https://www.frontsight.com/free-gungm.asp> TODAY!  
Grab **YOUR FREE GUN** Before It's Gone!

For your convenience, registration and delivery of your new Springfield XD pistol will be handled through the Local Federal Firearms Dealer of your choice. So make sure you take advantage of the Millionaire Patriot's generosity before all the guns are spoken for!

Time is Running Out! Thousands Are Already Securing the Professional Training Front Sight Offers and arranging for their **FREE** Gun to Be Shipped to Them!

Find Out **WHY** America's Millionaire Patriot is Willing to Train **YOU** for Pennies-on-the-Dollar and Give **YOU** a **FREE** Springfield Armory XD Tactical Pistol... (I'll give you a hint **WHY**... It's because he can! He leads the US firearms training industry by leaps and bounds and knows that once you attend a course at Front Sight, you will want to come back for more and will tell all your family and friends to come with you!)

What are you waiting for? It's Easy... Just Go To:

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# STI INTERNATIONAL



2010

Firearms at the HIGHEST Level



GP6

Ambi Thumb Safeties

Ergonomic Polymer Grip (Polyamide GF30)



Integrated Tactical Rails

Ambi Slide Stop

Ambi Mag Release

DA/SA Trigger

Caliber: 9x19  
O.A.Length.: 7.9"  
O.A.Weight: 26.1oz



GP6-C

Ambi Thumb Safeties

Adjustable Rear Sight

Ergonomic Polymer Grip (Polyamide GF30)



Integrated Tactical Rails

Fiber Optic Front Sight

Ambi Slide Stop

Ambi Mag Release

DA/SA Trigger

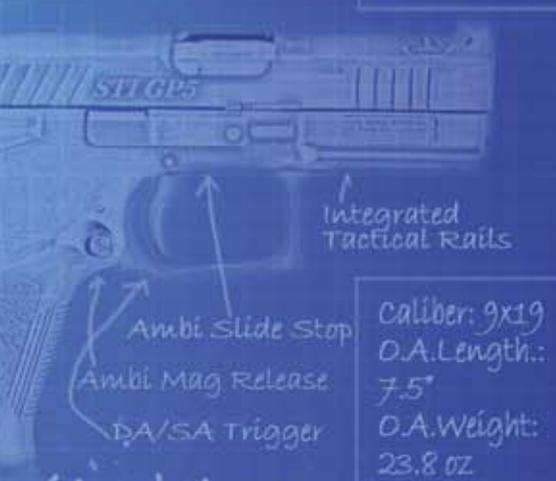
Caliber: 9x19  
O.A.Length.: 7.9"  
O.A.Weight: 26.1oz



GP5

Ambi Thumb Safeties

Ergonomic Polymer Grip (Polyamide GF30)



Integrated Tactical Rails

Ambi Slide Stop

Ambi Mag Release

DA/SA Trigger

Caliber: 9x19  
O.A.Length.: 7.5"  
O.A.Weight: 23.8 oz

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