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MAY 2011

Vol. 57, Number 5, 666th Issue



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Wrong Round?

As a longtime precision machinist I can generally eyeball a difference of several thousandths. Reading "Cast Bullets & WWII Handguns" by Mike Venturino in the December issue, what Mike is calling a 9mm in the top picture on page 58, ain't. And in the middle picture, what he's calling a .380, ain't either. It is a rimmed case. Also in both pictures, the cartridge length is equal. Mike writes some bodacious articles, but I've got to chide him on this faux pax.

Larry D. Petersime
Moncks Corner, S.C.

In the top picture, the caption is incorrect and calls the British .380 MkII revolver cartridge a 9mm. In the bottom picture, the British .380 MkII revolver cartridge is on the other side of the 9mm and the caption is correct. The .380 revolver cartridge is dimensionally the same as our .38 S&W (as used in many old top-break revolvers), but the MkII round uses a heavier bullet. The incorrect captioning is my mistake.—Jeff John

Shoulder Holsters

I carried my own 4" S&W Model 19 for two tours as an Army Helicopter Pilot in Viet Nam in '67 and '69. I had a black custom Lawrence Leather No. 7 shoulder holster that was the envy of gun savvy compatriots. For a brief period on the '69 tour I used a Bianchi X15 to carry the issued 1911 until I was issued a S&W M-10 and could be seen wearing a revolver. I wore the guns over my fatigues and flight suits while on duty. When I went to Qui Nhon off duty we were supposed to check our weapons at the MP station so I took the handgun out of the Shoulder Holster and put it in an IWB holster under my Jungle Fatigue Blouse. Then the MPs were happy because I appeared unable to shoot up the bars and I was happy because I could shoot my way out of them if need be.

Just as an aside, two Viet Nam Vet acquaintances survived their tours because they *did* shoot their way out of bars as a VC came in shooting an AK-47.

They quickly left before the MPs showed up or they would have been busted for having a gun in town!

I used the Lawrence No. 7 in lieu of the issued shoulder holster to carry my National Guard issued S&W M10 during "Summer Camps" for the next 20 plus years until we were issued the M9 Berettas. Then I got the X-15 out of hock for flying duties with the new piece.

I'm glad Mas mentioned the Galco "Holsters for Heroes" program as I've got some NG Shooting Team buddies about to deploy again and the Galco Vertical Shoulder Holsters will make good "Care Packages" for them.

Ed Stanhope
aka Pelican 840 and Flipper 21
Ancient Combatant

NATO Chambers

I recently acquired a barrel for an AR, part of someone else's build and there are no markings on the barrel. As for the chamber, I went to my local dealer for help and was referred to a respected gunsmith. I was told by said gunsmith the problem in years past was with the ammo. That being cases of different sizes. Now everything manufactured is of the same size (.223/5.56) can be fired through any barrel, markings do not matter.

I recall having read in the recent past, throat length, case size, matter a great degree. I don't want to build a rifle only to have it blow up in somebody's face meaning figuratively, literally and legally. What is the read deal?

Romeo E. Caillouette
Farmington Hills, Mich.

Glen Zediker covered chamber issues thoroughly in his "Up on ARs" column in the September 2010 issue. If you don't have the back issue, go to www.gunsmagazine.com and click on the Digital Editions link on the upper toolbar. It will take you to current and archived digital editions. There are two different chamber throat dimensions and 5.56 NATO ammo shouldn't be fired in a .223-chambered barrel.—Editor

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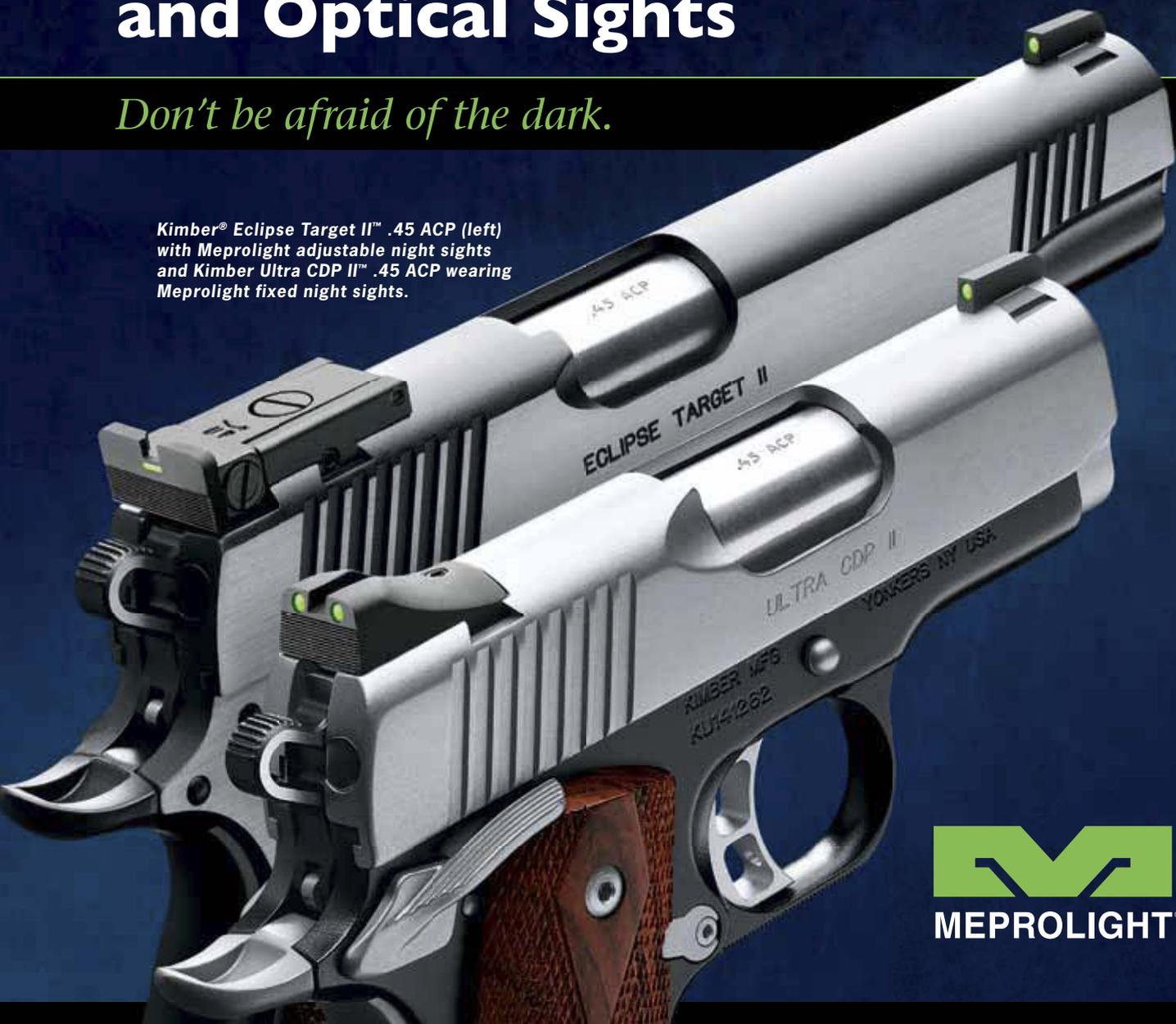


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• CLINT SMITH • PHOTOS: HEIDI SMITH •

DANGER CLOSE

Don't worry about long-range rifle skills until you are master of the first 300 yards before you.

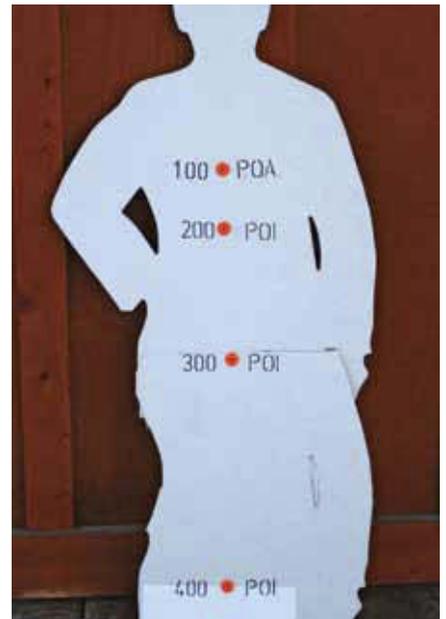
Worldwide but especially in America, the current rage is long-range rifle shooting. There are of course people who have been shooting rifles at long range for some time, but some of the newer people are going bonkers trying to address what rifle, caliber, ammo and scope to choose. Some of these folks armed with theoretical information not limited to or about spin-drifted-Coriolis-affected-cosine-angled shooting are creating a magnitude of silliness never before seen by the likes of the shooting community—ever.

With no disrespect intended or implied, I can tell you personally one aspect of this entire current rifle and long-range shooting gig is that some of these new shooters are creating the largest list of excuses ever composed since the inception of firearms prefaced by, "I didn't hit the target because...."

In reality, there are a couple of defensive rifle skills that could be useful and require minimum excuses. So instead of spin-drifted-Coriolis-

cosine stuff, try this:

One thing I would do if I had one of these fancy rifles for defense is to understand and be able to apply the rifle to a man-size threat under duress, without a bunch of knob twisting at the danger-close range. The danger-close distance equates to a nominal 300 yards, because most calibers including the more prolific 5.56, 7.62x39, .308 and the like, all have reasonably consistent patterns in



This target shows nominal points of impact for a sight hold when zeroed at 100 yards. Calibers like the 5.56, 7.62x39 and .308 are very consistent to this placement of projectiles as a general rule.

relationship to bullet drop.

This noted, the 300-yard range is important because if the threat's muzzle was just pointed in your direction and fired a nominal 300-yards away, the projectile doesn't fall off more than about 14" off the line of sight. The threat doesn't have to be good if they just point and pull the trigger and the possibility of hitting you is pretty good. An average measurement from crotch to head is 36" so the target dimensions fall well inside the 14" range. By simply moving back to 400 yards, the projectile's trajectory then falls a nominal 30" or more. In addition, add in the wind issue and the shooter might require a little more knowledge to stay on target.

First off, with a baseline .308 as an example, if the rifle is zeroed at 100 yards and fired, the bullet will drop a nominal 4" at 200 yards and 14" at 300. It is critical and we need to know that held on a fully exposed man-size threat the projectile will strike the torso—someplace.

However, wind alone at 400 yards can carry a projectile clear of the target



Examples of rifles and calibers that only require a basic 100-yard zero for hits to stay on a torso target out to 300 yards include (from left to right) the M14/M1A .308, AR-15/M4 5.56 and AK-47 type in 7.62x39.

without much effort. So, a rifleman should own the ground from 0 to 300 yards and pretty much will if applying a decent sight picture and a clean trigger-break.

Please remember all of this is subject to target exposure. If the threat got behind cover or concealment and now the exposed target is a 6" area of a head, that 300-yard 14" drop will make a difference. Bluntly, all shooting is precision shooting and yet some surgical shooting skills need to be acquired. If the threat seeks cover and becomes a partial target, it becomes a different ball game. So a threat in the open standing out to 300 yards acquired with a hold on and squeeze should provide a resolution, yet a partial target now requires a rifle shooter who understands what the bullet drop is.

Why?

Because what little I know of fighting, the threat will not stand around—all of the stupid ones are already dead. Finding the threat target, getting on the target, hitting the target and preparing to leave—are probably all good ideas—and you need to be trained up to apply such in a matter of seconds not minutes.

A good foundation of basic



Here is a target exposed at 300 yards (above). A decent hold and trigger press will get the hit. Also note the small partial target on the hard left behind the log cover. To hit the small target, the shooter had better understand their rifle and the ballistic curve to be able to get on target. This single exposed target (below) at 300 yards is 12" wide and 24" tall and you can see Mil-Dot placement. Even at this range with a 100-yard zero, a sight picture on the target center will put a hit on the lower part of the fully-exposed target.



marksmanship skills and a basic knowledge of your rifle and your caliber are big steps towards that first round hit. Dialing distance is easy—it's the wind on whatever the range. If rifleman could control the area in front of them it would be a dangerous world. Learn to control the 300-yard danger-close range first and then learn and work to dominate the rest of what you can see.

No matter how you read or take to heart these paragraphs, the concept of shooting the rifle, the ability to shoot and teaching yourself or having competent help to acquire rifle skills is a good thing. Sniping is cool but remember: *historically in this country in 200+/- years after every war we have ended or exited, we dump the schools, the skills and the people.* Sniping is not considered all that cool by the masses but that's OK, the masses are not excited today by anyone who excels at anything.

So be good with a rifle, work to be better, work on fundamentals—and most importantly—don't outsmart yourself with all the wizard stuff. You want to learn to shoot at range or shoot in the wind? Go lay down and shoot in the wind. It is a starting point. Mostly you should just simply own 0 to 300 yards. It is now noted this is my opinion. **GUNS**

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RIMFIRES

• HOLT BODINSON •

ISSC'S HYBRID COMBAT PISTOL

A great plinker for all polymer-frame pistol fans.

If you like the look and feel of the modern, squared off, polymer and steel combat pistol, you're going to enjoy shooting ISSC's new rimfire hybrid. It's not a direct clone of any single, defensive centerfire pistol but generates a general aura of a S&W M&P, HK, Glock, Springfield Armory XD or Walther. In fact when the initial model of ISSC's M22 hit the street, Glock brought their legal mallet down and sued the company for trade dress infringement arguing its appearance was too similar to a Glock. The suit was settled out of court.

Let's just say, "The M22 is stylish and contemporary." Being a rimfire it's also cheap to shoot, and retailing for \$299.95, it's definitely within the means of most pocketbooks. This new kid on the block is well worth looking at as a serious trainer or as a great little fun gun.

ISSC's M22 has an intriguing pedigree. One of the captivating rimfire pistols of the last few years has been Walther's P22. Designed as a polymer framed, 3/4-scale understudy to the larger, centerfire P99, the P22 also featured an external hammer rather than an internal, spring driven, striker. Available in a variety of styles and finishes, the P22 received a big "wow" when it arrived on dealers'

shelves sporting a factory-installed laser sight. It was judged by our local pistolers to be a "real cool pistol."

Well, the man who designed the P22, Wolfram Kriegleder, has struck out on his own, formed his own company "International Shooting and Security Consultants (ISSC)," in Ried, Austria, and is the designer and maker of the new M22, which is turning out to be a "real cool pistol" as well. The design of the M22 is very sophisticated indeed.

Comparing its overall size to something handy and familiar, I found the M22 comes closest to the dimensions of my Glock 19. That's saying a lot when it comes to a rimfire auto. Like the Glock 19, the M22 has



The M22 performed best with CCI Mini-Mag.

manly but moderate dimensions. I particularly appreciate its hand-filling, full-size grip of sufficient length from the base of the triggerguard to the end of the butt, so your hand isn't sucking air under the magazine.

The M22 has some heft to it as well, which is ideal in a rimfire understudy. When fully loaded with 10 rounds, it weighed in at 24 ounces on my Sunbeam scale.

Fine Detailing

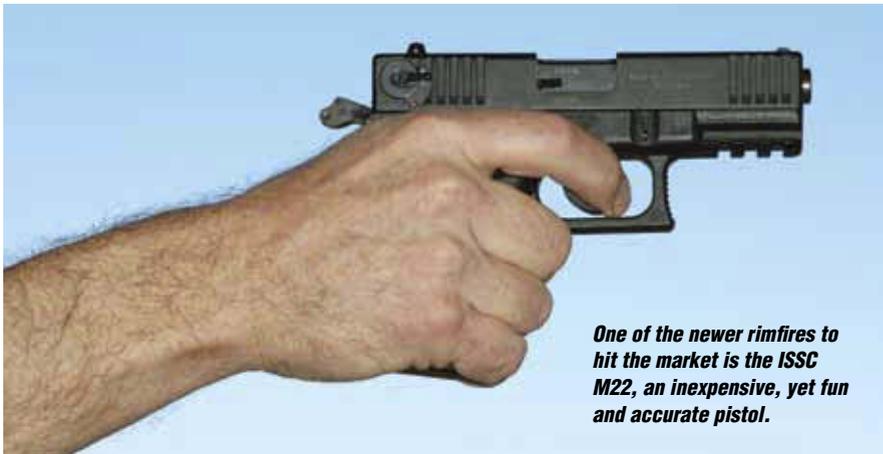
One of the marvelous features of polymer-framed handguns is fine details can be molded into a frame to enhance handling. The grip of the M22 incorporates some great bells and whistles, and it's ambidextrous.

The front of the grip sports three, checkered gripping pads separated by "memory" ridges that position your hand naturally to the axis of the gun. The back of the grip is fully checkered with an intricate and good feeling pattern that locks the web of your hand in place. The sides of the grip incorporate pebble-textured panels, and just above those panels is a dished out shelf to comfortably position your thumb. The angle of the grip itself is just right to line up the sights naturally.

The front of the triggerguard is slightly concave and checkered for those who like to use it for their 2-hand hold, and the front of the frame incorporates a full accessory rail for lights or lasers.

Just imagine the time and cost of all this exceptional detailing if it had to be machined by conventional means!

The M22 sports a full 4" match barrel made by the prominent Lothar



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RIMFIRES



The M22 (above) came closest in dimensions to Holt's Glock 19 (above, top). Fieldstripping the M22 (below) for cleaning takes seconds.



Walther Company. The metal slide is 6-1/2" long, giving the shooter a usable 5-1/2" sight radius. The front sight is a squared white post, interchangeable for elevation adjustments, while the rear sight is outlined in white and is screw adjustable for windage. It's a clean, uncluttered sight picture with lots of visual space around the front post.

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.22 Long Rifle
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The company states their modern trigger is set for 4 pounds. The trigger on my sample gun measured out closer to 6 pounds on a Lyman electronic scale with no discernable creep and a very short take-up. This was a pleasant surprise because the single-action, M22 trigger is simply releasing an external hammer and not cocking an internal striker.

And safeties? The M22 has more than John Browning's M1911. There are five safeties to be exact, and they work independently of each other. There's a loaded chamber indicator, an ambidextrous safety/decocker lever, a trigger lock, a firing-pin safety and a magazine safety.

The loaded chamber indicator is simply a slot in the upper part of the slide that permits you to see a small sliver of the case rim. It's not useful. If you really need to visually inspect the chamber and intend to keep shooting, decock the hammer and pull the slide back just enough to see whether there's a round in the chamber or not.

The ambidextrous safety/decocker lever works great. It drops the hammer safely on a loaded or unloaded chamber, requiring the shooter to manually cock the hammer of this single-action auto before firing.

The trigger lock is a screw in the trigger shoe that can be toggled back and forth between "S" (safe) and "F" (fire). When on "S," the trigger is locked in place and can't be pulled.

The firing-pin safety blocks the firing pin from falling unless the trigger is pulled. It prevents a discharge if the pistol is accidentally dropped and the hammer is released.

Finally, without the 10-shot magazine in place, the trigger is locked and can't be depressed. I really like the redundancy of safety features in this auto, particularly when the gun is in the hands of novice shooters.

The instructions recommend the owner run 200 rounds of High Speed Long Rifle through the blowback pistol to break it in, specifically recommending CCI Mini-Mag and Blazer. After the break-in period, the owner is urged to clean and lightly oil the gun and to polish the feed ramp.

The M22 definitely feeds on high speed ammunition, and it definitely favors CCI Mini-Mag for accuracy and flawless functioning, producing 1-1/2" to 2" 5-shot groups at 25 yards. Don't even bother with another brand. The next best grouping was produced by Remington HVRN but the spread averaged 3". Winchester Power-Point, which I like a lot, produced one or two failures-to-feed in every 10 rounds. Winchester's bulk "555" brand, PMC Sidewinder and target rounds like



Despite some visual styling resembling the Glock, the M22 is a single-action auto with an external hammer.



The M22 features a Picatinny-type rail for mounting lasers and lights. Note the Glock-like takedown catch just behind and above the triggerguard bow.



Turning the trigger safety to "S" converts the trigger into an immovable object.

RWS Target and Federal UltraMatch failed to extract and eject. Stick with CCI Mini-Mag.

In what I consider one of the most ingenious marketing moves, ISSC is now sponsoring 3-stage M22 postal matches which the M22 scores will be transmitted by the shooters to ISSC via Twitter, Facebook, e-mail or fax. Full details and descriptive videos are available at www.issc-austria.com/matches.

For cleaning, the M22 can be fieldstripped in seconds. Unload the gun. Cock the hammer. Depress the Glock-looking take-down levers on both sides of the frame. Retract the slide until it disengages from the frame and ease the slide up and forward off the frame.

Other than the slightly heavier-than-spec trigger on the unit I tested, I like everything about the M22 as a contemporary-styled, safe, slick handling, rimfire auto. Available with a 4" or 5-1/2" compensated barrel in black, 2-tone, desert camo or blue finish, ISSC's M22 is an excellent value as an understudy for a similar proportioned centerfire, for acing ISSC's modern postal matches or simply as a fun gun plinker. **GUNS**

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RIFLEMAN

• DAVE ANDERSON •

A NICE ERA

The beginning of the 21st century was a boon for shooters.

My favorite rifle acquisitions of the past decade are probably a mid-1950s Winchester 70 Featherweight .30-06 and a late '40s Savage 99R .250-3000 in near-new condition. I like guns from the post-WWII through early '60s era, mostly because I grew up then and those were the guns I wanted but couldn't afford.

The first decade of the 21st century hasn't been so bad though. Here are a few items not available in 2000, which I'm glad made their appearance.

There has been considerable development in what are sometimes called "monometal" bullets. Barnes X and XLC bullets always shot well in my rifles, though some shooters had concerns about accuracy and copper fouling. The TSX bullet seems to have resolved both concerns. The TTSX adds a very sharp plastic tip enhancing ballistic coefficient. Both have excellent

reputations for accuracy.

I've shot around 40 or 50 big-game animals with TSX/TTSX bullets in the last five years or so, ranging in size from pronghorn antelope to zebra and wildebeest, all with outstanding results. The Hornady GMX bullet gives excellent accuracy every time I've tried it, though I haven't fired it as of yet at anything but paper.

It's been a great decade for optics, both in terms of sheer performance and in value delivered for your money. The reintroduced Redfield scopes are



Savage gave shooters a quality trigger pull on a reasonably priced rifle, and other manufacturers have followed suit. Maybe 7- or 8-pound factory triggers have gone the way of impressed checkering. If so, hooray!

an incredible value. I suspect Leupold is following the economic model used by Henry Ford with the Model T: price it below your full production cost and count on volume to eventually reduce fixed costs per scope sold. In my view, the Redfield is the most scope for the least money ever offered.

At a somewhat higher price point the Leupold VX-3, Minox and Zeiss Conquest scopes likewise deliver terrific performance for their cost. New

The sunset of the Assault Weapons Bill in 2004 released a pent-up demand for so-called "black rifles." Shooters who previously had only casual interest in such rifles soon discovered they are accurate, reliable, tough as nails and a lot of fun to shoot. They are today's modern sporting rifle.



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names such as Vortex and Sightron are earning solid reputations. The Trijicon scopes with fiber-optic lighted reticles, excellent glass and tough construction are outstanding hunting scopes.

Developments in binoculars are equally impressive. It seems at every price point, your money buys more performance than ever. The top-line Minox binoculars of recent years are right up there with such fabled names as Leica, Swarovski and Zeiss while their mid-priced models offer exceptional value.

The Tikka T3 was one of the biggest success stories of the past decade. Nicely made, with a very good trigger and smooth action, the T3 quickly earned a reputation for accuracy. It was an especially good buy in the early part of the decade when the US dollar was relatively high yet still provides good value.

Maybe as a result of the current economy, there are currently some outstanding values in hunting rifles. One of the very best is the synthetic-stocked version of the Weatherby Vanguard, available in many popular cartridges including two Weatherby magnums, .257 and .300.

The Ruger 77 Hawkeye Compact Magnum is a personal favorite of the past decade. It handles beautifully, functions reliably and shoots accurately. The .300 RCM cartridge delivers plenty of power in a compact case which feeds and functions well in the short, handy rifles.

I like the concept so much I want a 7mm version. (Just what the world needs, right? Another 7mm, like we don't have nearly enough now.) It's not so much the cartridge I'm enamored with as the rifle/cartridge combo. Think of a fast-handling, well-balanced rifle, under 40" long and weighing 8 pounds or so, launching those long Hornady 162-grain A-Max bullets at, say, 3,000 fps, or maybe 140 TTSXs at 3,200. If Ruger doesn't do it (considering the lukewarm reception of the 7mm SAUM and WSM they likely won't) I may have to rebarrel one of my .300s.

Conventional wisdom said we would never again have decent triggers on factory rifles, only 6- or 8-pound, lawsuit-safe triggers. Savage came out with the AccuTrigger in 2002 and proved conventional wisdom wrong. Subsequently Weatherby began tuning the Vanguard trigger to a crisper pull, and Browning, Remington, Ruger and Winchester began offering redesigned, improved triggers. Most can still stand tweaking for us trigger fussy budgets but they are much better, and they prove history doesn't always have to move in one direction.



Two examples of the performance available at moderate cost. The Remington 700 SPS (above) offers all the performance of a legendary name with a less-expensive matte finish. Current Redfield Revolution scopes by Leupold, made in the USA and with Leupold's unsurpassed warranty, are perhaps the most scope for the least cost Dave has ever seen. Minox recently began making riflescopes (below), designed in Germany and assembled in the US. Optics are terrific, tracking reliable and repeatable. Outstanding value.



Speaking of which, the sunset of the misnamed "Assault Weapons Bill" was a major reversal for gun banners, who had confidently assumed a simple process of picking off one group at a time: small, easily concealable handguns, high-capacity firearms, black rifles, .50 BMG rifles, "sniper rifles" (i.e., any hunting rifle with a scope). Shooters have discovered the amazing accuracy of AR-style rifles. New cartridges (.204 Ruger, 6.5 Grendel, 6.8 SPC) have made them far more versatile.

Never met a cartridge I hated, but of the latest crop, three have earned a place in my "starting rotation": the .204 Ruger, .300 RCM and .375 Ruger. The .204 combines the trajectory of the .220 Swift with the barrel life and reloading economy of the .223 Rem. The .300 and .375 don't offer anything ballistically we didn't already have, but do so in rifles I find appealing, the

Ruger Compact Magnum and African/Alaskan models.

Hornady was involved with Ruger in developing all three, not to mention cartridges developed for (among others) Marlin and Thompson/Center; the LeverEvolution line; Superperformance ammunition; the .17 HMR; TAP ammunition; classic cartridges (9.3x62, 9.3x74R, .416 Rigby and others). This is by no means the complete list, along with innovations in handgun ammunition. Hornady has come up with some mighty fine ideas in the last decade.

I'll never stop using my pre-'64 Winchester 70 Featherweights, but look closer and you may find a Trijicon, Redfield, Minox or Conquest scope on top, and the cartridges in the magazine will likely be loaded with Barnes TTSX bullets. I may even learn to love synthetics and stainless steel someday!

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MONTANA MUSINGS

• MIKE "DUKE" VENTURINO • PHOTOS: YVONNE VENTURINO •

OTHER REASONS FOR BUYING GUNS

And good reasons, too.

Have you ever bought a gun for some other reason besides wanting to shoot it? I have done so, several times. Of course, many guns are bought and put away as "investments." I even did that many years ago with a matched pair of Colt SAA .44 Specials. Once when sitting with a group of fellows enjoying a cool brew after a long day of cowboy action shooting, one guy said, "Someday I want to get a pair of Colt's with consecutive serial numbers and then get them really gussied up with engraving and ivory grips." At that I raised my hand. We made a deal and I actually made a little profit on those guns.

That was rare. Most of the time I buy guns for shooting, but there have been a few instances where there were other reasons. For instance, twice I have bought guns just to get the ammunition that was being sold with them. Once at a gun show I spotted a British Webley Mk VI .455 revolver, but really got excited to see that with it was a 12-round box of Canadian-made military ammo dated 1943. What a great photo prop! I already had a Mk VI Webley so I tried to just buy

the box of ammo. No deal; the owner wouldn't consider it. So I bought the gun and got the box with it. Actually, back at home after comparing the two handguns, I decided the new one was better and so I sold the old one.

Sweetens The Pot

More recently a fellow offered me a Hungarian Model 95 carbine in the odd 8x56mm rimmed chambering. I already owned one and was about to pass on his when he added that the



Duke had to buy a Webley Mk VI .455 revolver just to get this box of original 1943-dated military cartridges (above) so they could be used as photo props. In order to get this wooden case (below) with all the accessories in it, Duke also had to buy the revolver in it. He then replaced it with his better quality one already on hand.



price included 65, 10-round packets of original 1939-dated military loads. They were still in their original 5-round clips, still in their 10-round cardboard boxes and all were still in their original wooden packing crate. I jumped all over that deal!

Another time I bought a rifle just to get its stock. It was a zany looking thing. Someone had laminated all sorts of bits and pieces of maple and walnut together and then whittled a varmint-style stock out of it. This was at another gun show and my first reaction was, "Just how homely can you get?" By the end of the day I just had to have it. The barreled action in it was a still military issue US Model 1903A3, which was a far cry from a varmint rifle. Again its owner wouldn't comply with my request to just buy the stock, so I bought the entire rifle. Its barreled action was sold and I had my gunsmith build it into a top-notch .25-06 varmint. Like so many other guns, it was sent down the road but it's one of the few I've thought back on.



Duke needed a set of grips like these for another vintage Smith & Wesson revolver and also the original holster for Model 1917 revolvers. So he bought an S&W Model 1917 that came with both items and then gave the gun itself to a friend.

The Internet has opened up all sorts of possibilities for finding good things; especially the little stuff you normally wouldn't encounter in gun stores or even at gun shows. Once I bought a revolver just to get its grips and the holster that came with it. Some time prior, I found a Smith & Wesson Heavy Duty .38-44 that factory lettered to 1931. It was in beautiful condition except for one thing. It had been fitted with a pair of modern rubber grips. As shipped its grips had been rather small, checkered and with a fancy S&W monogram. They're very difficult to come by.

Get A Grip

Browsing Internet auction websites one evening, I saw a S&W US Model 1917 .45 ACP revolver complete with original issue military holster. One thing wasn't original to it. Instead of the plain walnut grips the US Army would have issued it with, it carried a set of the slim, checkered, monogrammed grips just as I needed for my .38-44. I bought it and sure enough its grips fit the other S&W perfectly. So did its holster fit my Colt US Model 1917.

Back in the late 1970s and early 1980s, Colt put out an entire array



Duke already owned a Hungarian Model 95 8x56mmR rifle but bought this one in order to get the 650 rounds of original ammunition with it.

of what have come to be called the Second Generation of their original percussion revolvers. There are 10 basic handguns in the assortment plus several minor variations thereof. Also Colt marketed an entire line of accessories for these guns from bullet moulds to shoulder stocks to presentation boxes.

Along the way I purchased a basic sample of each model and have them in a wall display in my gun vault. (They also get shot occasionally.) However, all of mine came in the ordinary black cardboard, foam-lined Colt boxes. Therefore, once at a gun store my attention was drawn to another one of these Second Generation Colt cap-and-ball revolvers. It was the Model

1851 .36 Navy and it was sitting in a walnut presentation case complete with brass bullet mould, powder flask and even a package of caps marked "made in England." All those accouterments were brand new.

The problem was that the '51 Navy in the box was well worn and somewhat abused. The one back home in my case was pristine and also had some of the best color case hardening I'd seen on these Second Generation Colt percussion revolvers. No problem: I bought the boxed one, and then traded the revolver off to a gunsmith who could repair the abuse. My prettier Navy .36 seldom sees the inside of that box but when it does, the set makes a great photo prop. **GUNS**

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HANDGUNS

• MASSAD AYOUB •

CARRYING THE 1911 And other large pistols.

As we continue to celebrate the centennial year of that quintessential American pistol, the 1911, there are probably more of us carrying them—legally concealed, and even in police duty holsters—than ever. It is said the legendary Texas Rangers picked up on the utility of the 1911 and began packing them as soon as they could get their hands on them, and it's a popular gun with the Rangers to this day.

In the Roaring '20s and in what historian John Toland called "the Dillinger Days" of the 1930s, Colt's 1911 was popular on both sides of the law. John Dillinger was packing two Colt .45 Autos in twin shoulder holsters during the infamous Little Bohemia shootout. Pretty Boy Floyd was likewise armed with a brace of Colt .45 Autos on the day of his death. Baby Face Nelson had the identical gun in .38 Super in his shoulder holster when he was mortally wounded in a shootout with the Feds, and Dillinger accomplice Homer van Meter allegedly died with a 1911 Colt Super in his hand when St. Paul police shot him down.

Many on the right side of the law carried 1911s during that period, too. Agent Charles Winstead, the man who killed Dillinger, wrote in his report that he used a Government .45 Auto to bring down Public Enemy Number One. When famed Texas Ranger Frank Hamer led the police task force that killed Bonnie Parker and Clyde Barrow, Hamer used a semi-auto Remington Model 8 .35 Rem rifle backed up by his trademark

Colt Single Action .45 revolver and a Colt .38 Super Auto, according to Hamer's son.

Shoulder holsters were a popular concealment option back then, though many plainclothes wearers just shoved the big Colt into their waistbands. It rode there comfortably because of the 1911's thin, flat profile. The Rangers, wearing theirs openly, tended toward tooled-leather belt scabbards.

The renaissance of the 1911 .45 came in the 1950s and '60s, led by Jeff Cooper. The typical concealment handgun then, for cops and armed citizens alike, was the "snub-nose .38" revolver. Cooper and his followers dramatically demonstrated that the reliable, fast-reloading 8-shot .45 was a far better gunfighting tool than a short-barrel, slow-loading 5- or 6-shot .38... and they demonstrated that it could be carried with both comfort and concealment. A huge help in this regard was the Summer Special holster; designed by California narcotics officer Bruce Nelson, made and marketed by Milt Sparks and endorsed by Cooper and many others.

With a reinforced mouth that allowed easy reholstering, this became the defining inside-the-waistband (IWB) holster



A full-size 5" 1911-A1 Springfield Armory .45 rides tight and close in the classic Bianchi X15 shoulder holster.



The size of the gun matters and we have many options such as these S&W 1911 .45s including (from top) barrel lengths of 5", 4.25" and 3".

for big pistols in general and the 1911 in particular. In the decades following, many more fine, effective IWBs have come along, but the Summer Special remains totally practical and hugely popular to this day. With a forward tilt, and worn behind the strong-side hip, this carry minimized the bulge of a full-size 1911's grip frame. Today, strong-side hip has become by far the most popular carry position for the concealed 1911.

More "Carryable" Models

The downsizing of the 1911 began circa 1950 with Colt's Commander, lightened from 39.5 to 26.5 ounces unloaded weight with an aluminum frame and barrel shortened from 5" to 4.25". Later decades would see the 1911 shortened even more, by Army armorers and such private pistolsmiths as Armand Swenson, George Sheldon and more. Colt in the 1980s brought out the Officer's ACP in 3.5" barrel, and later, the 3" Defender incorporating Bill Laughridge's design tweaks.

Jeff Cooper himself appreciated the portability of the lightweight Commander. When I had back problems in the late '80s and early '90s,



Two approaches to "butt reduction" with full-size 1911 .45 carry guns include (above, left) Ed Brown's Bobtail and full cartridge capacity and the Colt CCO (above, right) with shorter butt and 1-round less. Bruce Nelson's Summer Special (below), rendered here by Milt Sparks and shown with Taurus PT1911 .45, was a "paradigm changer" for comfortable concealed carry.



I switched to the LW Commander even for uniformed patrol and it helped, though when I healed up, I was comfortable with all steel again. I was not alone in that; Clint Smith continues to carry full-size all-steel 1911s in the Summer Special, and Jeff Cooper carried the same well into his 80s, usually in a Yaqui Slide.

Carried IWB, the 1911's biggest bulge point is its butt. The Officers-size guns were shorter in that dimension, sacrificing one round in cartridge capacity. In the late '90s, Colt brought out their CCO, a lightweight Officers frame with a Commander-length barrel slide assembly. It created a cult following, and although Colt no longer makes it, the concept lives in such 1911s as the Nighthawk T3 and the S&W Compact ES.

Ed Brown developed his Bobtail treatment of the full-frame 1911 to keep ammo capacity, rounding off the lower rear corner, the worst bulge point. This also gives a very pleasing feel to most hands. I carried mine extensively cross-country during 2010, and came to appreciate both its improved concealment and its good shooting characteristics even more.

The lessons we've learned about carrying full-size autos concealed on a constant basis have made us better armed. From the beginning, it was the 1911 pistol that inspired each of those significant leaps forward in concealed handgun comfort, discretion and efficiency.

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UPON ARs

• GLEN ZEDIKER •

DON'T GET ROLLED AR-15s are pretty much pinned together, so learn to install them correctly.

Assemblies ranging from the gas tube to magazine catch, bolt stop, bolt components, forward assist, sight parts and more are secured using roll pins. I'm not trying to talk anyone into banging on their AR-15, but there certainly may be times when a part replacement is in order, and something really simple, like replacing a bolt catch with something from the aftermarket, requires little more than a small collection of tools and a little insight into the process.

A roll pin is a hollow pin with a split. It's oversized to the hole it fits into by about the gap width of the split. It squeezes down as it enters the hole and this tension keeps it in place. They are beveled on their ends but that's often not nearly enough to get one started gracefully, and that is the trick—gracefully or not—of getting one started. Of course there is a specialty tool: a roll-pin punch. Get some. For a basic build, you'll need Nos. 1, 2, 3 and 4.

Polish

The ends of roll pins are often craggy, out of round, or both. These are not precision-made parts. Smooth and polish the ends of every roll pin you install. This doesn't take much effort or time and is a worthwhile step. The easiest thing is to lightly chuck one into a drill and spin it against some emery or a stone. I do both ends but only the entry is necessarily smoothed. Removal is easier when both ends are polished. Steel pins going into aluminum holes make life way harder on the holes than on the pins. I can also tell you that a drop of oil helps and will never diminish the effectiveness of a roll pin. That also reduces any corrosive "sticktion" potentials, meaning they come back out easier.

It doesn't take much effort to drive a roll pin (with a couple of exceptions), but true hits count. They

can bend. Most roll pins are a little shorter than the full span of the hole, so a sano job finishes with the pin ends at equal depths, and that should have each end a tad below flush with the part surface. A roll pin should never protrude above the surface to ensure no snagging potential.

Punch Size

You'll notice there are punches of varying lengths used in the work shown and the shorter ones are a little

easier to operate. The longer ones are necessary for some installations simply because they protrude freely and clearly beyond rifle parts you don't want to accidentally miss-hit with a hammer—or have the larger diameter handle portion in contact with a rifle receiver.

I often chuck up a small punch and polish its outside. They're not all perfect, and sometimes these little imperfections are annoying, if not damaging. This is especially true when using one as a capture punch such that it has to extend fully through the hole set. Same sort of procedure for polishing most anything: spin against emery cloth until the metal is smooth. Likewise, with use they often get a little deformed around their edges, and that's easy enough to true backup with a stone.

If a punch is too small for the pin, it will tend to deform and also expand the pin end. One that's too large may do the same and also won't ultimately enter the pin's hole to seat the pin's end correctly.

Use a brass-headed tap-hammer for punching punches. It has plenty enough power and a slip won't cause undue marring.

I can't tell you much about running a punch you won't learn on your own,



Tap, tap, tap. Start the oiled roll pin using a starter punch. Drive it as far as you can with this tool. Switch to a nibbed-end punch and drive it on home. Protrusion should be equal on both sides, which means it ends up just a little below the surface. Finish with a dab of touch-up paint.

but make sure the end is centered and the punch is in-line with the pin. A "follow-through" sort of strike is usually better than mimicking a woodpecker.

As mentioned, oil pins before installation. It sure makes them seat easier and will in no way affect their holding power.

Oh, and tape. Use masking tape all over the immediate work area. It is not a sign of weakness. Tape the fool out of everything around the installation and it's less likely to need touch up afterward. However, touch up finishes any pinning job and gives it a "factory fresh" appearance. I use a flat-black paint marker from Birchwood Casey. It works wonders.

Last words. Aluminum alloy cracks, or dang sure can, if it's subjected to sharp impacts. Back up the receiver especially on the triggerguard, and also rear-sight windage knob (the screw is easily bent). A piece of wood is all that's needed.

Can you reuse a roll pin? Sure. As long as it's not been unduly damaged from removal. That means the ends are still tapered and the pin is still straight. This probably won't happen with some of the larger pins on the rifle, but something like an ejector pin can be reused without worries.



Get some emery or a hard Arkansas stone to run roll-pin ends over before assembly. The ends are usually rough and irregular. It's easy and makes for easier work when the ends are deburred (above). Assembly is greatly assisted but also disassembly is improved. Just chuck the pin lightly in a drill and run on an angle for a few seconds. Get in the habit of using a capture punch (below), which is simply another, correctly-sized punch, to line up associated holes prior to roll pin installation. Use the roll pin progress to drive the capture punch out.



Consider your sources. I just have to comment on this because it's stupid. I've seen many places on the Internet where folks are showing all about how to install pieces-parts on AR-15s and they suggest a pair of pliers with its jaws coated over with tape to install roll pins. The idea is to press the pin in place. That will bend the pin and no matter how much tape is used mar the opposite point on the rifle part. Just don't do that. Pin punches aren't expensive. Rifle parts can be.

Shameless Plug: The preceding is a specially adapted excerpt from the book The Competitive AR-15: Builders Guide by Glen Zediker and Zediker Publishing. For more information visit www.zediker.com or call (662) 473-6107.

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HANDLOADING

• JOHN BARNES •

THE MYSTERIES OF PRESSURE STANDARDS

How changes in measuring procedures have caused some confusion.

Many handloaders wonder why the pressure standards put forth by the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) vary so much between similar rifle cartridges. In some instances the answer is pretty straightforward and sometimes it's not, but knowing the reasons can help us be safer handloaders, as well as put together consistent home-grown ammunition.

According to SAAMI's website (www.saami.org), the organization was founded in 1926 "at the request of the federal government" as part of the American National Standards Institute. Their mission is "to create and promulgate technical, performance and safety standards in firearms, ammunition and components."

Before SAAMI, different firearms companies used whatever dimensions they wanted for chambers and barrels, and ammunition companies could load rounds to whatever pressures they thought might sell. This could not only cause safety problems, but performance sometimes suffered.

There are actually three distinct SAAMI pressure levels for each cartridge. The first is the maximum average pressure (MAP). Some public handloading data from some companies lists this number, even though it can confuse the average

handloader. Part of the confusion is due to whether the MAP is measured by copper crusher or electronic transducer.

Crusher testing is the older form of pressure measurement, first appearing in the 1860s, long before smokeless powder. In smokeless-powder testing, pressure from the test barrel's chamber crushes a copper cylinder slightly. Measuring the amount of crush results in a reading, expressed as copper units of pressure (CUP).

Electronic transducer testing was developed in the 1920s, but didn't become common in the firearms industry until half a century later. Here, pressure from the test chamber results in an electronic impulse that varies in strength. The result is considered an accurate reflection of actual chamber pressure, so is expressed in pounds per square inch (PSI). Electronic-strain gauge testing is also becoming common, as it doesn't



Strain gauges are used in some modern pressure testing.

require expensive pressure barrels.

No matter the method used, SAAMI pressure tests must be compared to the same equipment's results with SAAMI "reference ammunition," ammo that's been tested in standardized test barrels. Otherwise the readings from crusher, transducer or strain-gauge testing are just numbers, without any real meaning.

Standardization

The industry is moving more toward transducer and strain-gauge testing, partly because a pressure reading immediately shows up on a computer screen, while in the crusher system the copper cylinder must be removed from the test barrel and measured. However, all three systems are still used, partly because some labs have a big collection of crusher barrels.

Some of the confusion among handloaders arises from copper-crusher testing being used exclusively for so many years. The results were originally expressed in PSI, even though there's a significant difference between CUP and actual pressure. The MAP for the .30-06, for instance, is 50,000 CUP and 60,000 PSI. These numbers express the same pressure, but they're obviously different.

In fact, CUP and PSI are so different that there isn't an exact ratio between them, though a fairly complex formula can be used to convert between the two systems. Thus, shooters who started handloading before actual PSI became the common listing sometimes assume that CUP data for the .30-06



SAAMI pressure standards are designed to prevent "accidents" like these: leaky primer, brass flow into the ejector hole of the bolt face and blown primers.

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is pretty wimpy. They start adding powder, even though increasing .30-06 loads much above 50,000 CUP is a bad idea, especially in older rifles.

Older rifles are another major reason the MAP varies. The .30-06 is still among the most popular centerfire rifle cartridges in America, more than a century after it was introduced. A bunch of old .30-06 rifles still exist, including well-worn 1895 Winchesters that weren't all that strong to begin with, and "low number" 1903 Springfields that may have brittle actions. So the MAP for the .30-06 remains comparatively low when compared to many other cartridges. Its offspring the .270 Winchester, for instance, has a crusher MAP of 52,000 CUP and a transducer MAP of 65,000 PSI.

The "ancient cartridge" rule also applies to some other rounds, such as the 7x57 and 8x57 Mausers. But some

rifle cartridges have a much lower MAP simply because their brass case isn't very strong. This is why the .22 Hornet is limited to 43,000 CUP—and still doesn't have a PSI rating.

Also, many cartridges were originally designed for actions with less extraction leverage such as levers, pumps and autoloaders. These cartridges have lower MAPs simply to avoid extraction problems, and include older rounds such as the .30-30 and .32 Special, plus modern rounds such as the .280 Remington and .284 Winchester.

However, some cartridges have lower MAPs than similar cartridges because of an even more obscure reason; one that really wasn't defined until transducer pressure testing became common. Transducer testing is able to define smaller variations than crusher testing, especially from shot to shot.

Fine Tuned Test

Once transducer testing became common, it was discovered that some high-pressure rounds designed for bolt actions tended to produce a wider range of pressures between individual rounds. SAAMI testing is done with a minimum of a 10-shot string. Some rounds will normally only vary 3,000 PSI or so during that 10-shot string, while others may vary 5,000 PSI, or even more.

The .243 Winchester, for instance, has a MAP of 60,000 PSI, while the similar 6mm Remington has a MAP of 65,000 PSI. This is because pressures in the .243 will typically vary more during a 10-shot string than they will in the 6mm Remington. Exactly why this happens is something of a mystery, but the variation in individual .243 rounds caused occasional problems for a few years after Winchester developed the cartridge using copper-crusher pressure testing.

This is why .243 factory ballistics were reduced some years after the round was introduced. Even today the .243 is known in ballistics labs as slightly squirrely, especially with heavier bullets. This isn't anything the average handloader will ever notice, but it can be seen on sensitive test equipment.

Obviously, low-end pressure variations aren't any danger to shooters, but the high-end variations can be; the reason they're also part of SAAMI standards. These are expressed as "maximum probable lot mean" (MPLM) and "maximum probable sample mean" (MPSM). The MPLM for the .243 Winchester, for instance, is 61,500 PSI, and the MPSM 63,800.



One of the advantages of electronic testing is the results are immediately read on a computer.

Today's cartridges are developed with transducer testing, so tend to develop more consistent pressures. Note that in the list of pressure standards, all the most recently introduced bolt-action rounds have the same 65,000 MAP, the maximum allowed by SAAMI.

Not Lawyered Up

Many handloaders complain about the "lawyer-proof" data in many of today's loading manuals, and certainly the ever-present American threat of getting sued has had its effect. But the big reason for the lower numbers in today's manuals isn't the legal system, but more precise pressure testing.

Even into the 1960s, loading data in many manuals was developed by "guesstimating" pressure by home-grown indicators that have been proven unreliable. Older manuals often contained data that tested well over 70,000 PSI with modern equipment. This occasionally resulted in brass failures, but more importantly even modern bolt actions will eventually fly apart if consistently subjected to such pressures.

Loading data provided by SAAMI members is not primarily designed to be lawyer-proof. Instead it's designed to be fool-proof, to prevent handloaders from blowing themselves up—especially handloaders who think they know more than laboratory ballisticians.

GUNS

SAAMI PRESSURE STANDARDS, TRANSDUCER. ALL VALUES ARE POUNDS PER SQUARE INCH (PSI)

.222 REM	50,000
.223 REM	55,000
.22-250 REM	65,000
.223 WSSM	65,000
.243 WIN	60,000
6MM REM	65,000
.257 ROBERTS +P	58,000
.25-06 REM	63,000
.260 REM	60,000
6.5X55	45,000
.264 WIN MAG	64,000
.270 WIN	65,000
.270 WSM	65,000
7MM-08 REM	61,000
.284 WIN	56,000
7X57	51,000
7MM WSM	65,000
.280 REM	60,000
7MM REM MAG	61,000
7MM WBY MAG	65,000
7MM STW	65,000
7MM RUM	65,000
7.62X39	45,000
.30-30 WIN	42,000
.300 SAVAGE	47,000
.308 WIN	62,000
.30-06	60,000
.300 SAUM	65,000
.300 WSM	65,000
.300 WIN MAG	64,000
.300 WBY MAG	65,000
.300 RUM	65,000
.303 BRITISH	49,000
8X57	35,000
.338 WIN MAG	64,000
.338 RUM	65,000
.375 H&H	62,000
.375 RUM	65,000
.416 REM MAG	65,000
.45-70	28,000



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They say having a rabbit's foot brings good luck. Explain that to the unlucky bunny that has four of them on the wrong end of a Savage rimfire.

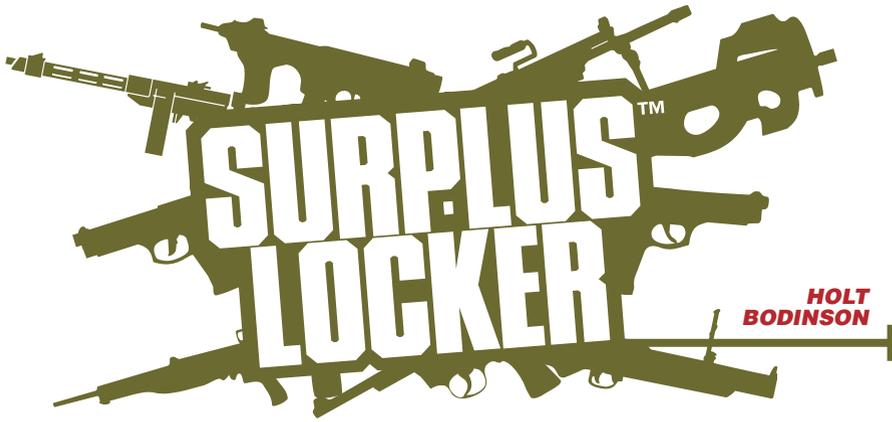


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Savage Arms

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Civil War carbines typically sport a swivel base and ring (above) for cavalry carry. The receiver of the Fifth Model (below) was color case hardened.



GENERAL BURNSIDE'S LITTLE CARBINE

This odd breechloader saw widespread use during our Civil War.

It's the 150th Anniversary of the beginning of American Civil War this year—a war marked by radical innovations in small arms and, in the war's aftermath, the first great market in military surplus arms. This month we'll take a look at one of the Civil War's classic carbines.

He was a Civil War general, the first president of the National Rifle Association, the Governor and later a US Senator from Rhode Island and a successful businessman; but it was his invention, the .54-caliber Burnside carbine, for which Ambrose Everett Burnside will forever be remembered. By the end of the war, approximately 55,000 Burnside carbines had been placed into service. It was judged by the Union cavalry to be one of the best designs fielded. Yet, with the conclusion of the war and the appearance of the self-contained metallic cartridge, the production of the carbine abruptly ceased, and the Burnside Rifle Co. transformed itself into the Rhode Island Locomotive Works.

Graduating from West Point in 1847, Lt. Burnside earned his bars in



At 50 yards, the Burnside still can deliver a respectful level of accuracy.

the Southwest and returned in 1852 to Fort Adams, R.I. with an Apache arrowhead permanently imbedded in his neck. Having been exposed

to Hall breechloaders in the field with their inherent problems of gas leakage between the barrel and breech, Burnside had a design in mind that would seal the barrel/breech joint with a unique cartridge case. He must have been a persuasive lieutenant because by July 1853 the Chief of Ordnance had approved Burnside's request to have a working prototype of his design made by the Springfield Armory.

Burnside was also a bit of an entrepreneur. With prototype in hand (for which he paid Springfield \$29.19), he resigned his commission the same year, secured financing from his wife's family, and with two partners, one of which was a prominent gunsmith, formed a firearms company in Bristol, R.I., soon to be named the Bristol Firearms Co.

Fortunately for Burnside, the Ordnance Department had been appropriated \$90,000 to buy breechloaders to replace the Hall, and he immediately submitted his design for the government trials. The results written in 1856 by Major Bell



Short, light and handy, the Burnside was a popular and widely used cavalry carbine.

of the Washington Armory stated that "During the firing of 60 rounds, the performance of the piece was entirely satisfactory. A white handkerchief being placed over the joint, showed no escape of fluid between the barrel and chamber nor could any be discovered from any other part, except that which is usual from the vent [nipple]."

On the basis of Bell's report, the Chief of Ordnance ordered 200 more carbines for further testing. The requirements of the contract were that the caliber would be .54, the barrel 22" long, the weight not over 7 pounds, a swivel base and ring incorporated for the cavalry and a Maynard tape priming system. The latter was soon to be eliminated. By this time in 1856, Burnside had also received a US Patent for his design.

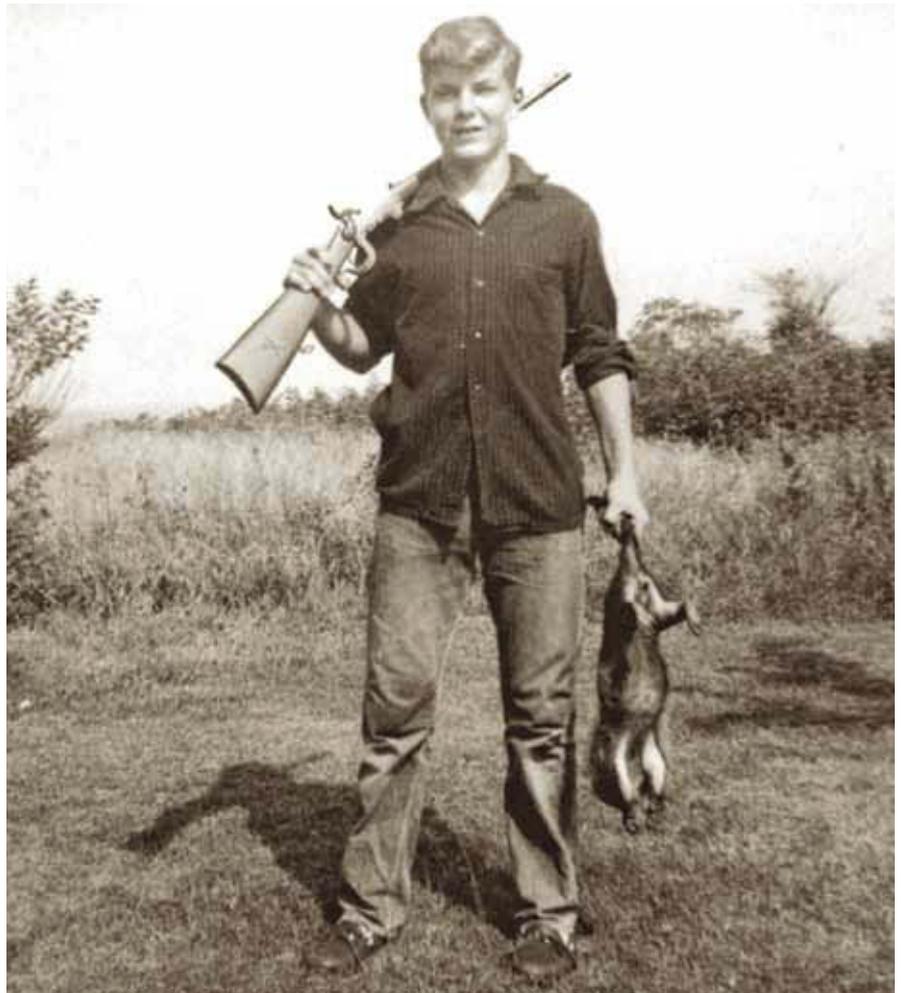
Frustration

The next two years were difficult for Burnside. The company did not have the production capacity to manufacture 200 carbines overnight. In fact, the 200 carbines, labeled the "First Model" were not delivered until 1858, by which time, Burnside had decided to sell his interest and patents to his partners and move on with life.

But the partners persisted and the Burnside design continued to ring up high marks against its competitors in government trial after trial and then came the war. From 1861 to 1865, the Bristol Firearms Co., now renamed the Burnside Rifle Co. and relocated to Providence, R.I., would produce over 53,000 carbines and make \$1,317,610. Burnside himself remained an "investor" in the company but played no active role in it. Living in New York City, he was the treasurer of the Illinois Central Railroad, but as a West Point graduate, was soon recalled to active duty as the commander of the Rhode Island troops.

(And here I must digress. When General Burnside became the Commanding General of the Army of the Potomac, he prohibited whiskey in the ranks and outlawed "camp followers" (err, "ladies of the night"). General Joseph E. Hooker replaced Burnside, reinstated whiskey and "camp followers" who thereafter became known as "hookers." And you thought this story was going to be dry.)

The last Burnside carbines were delivered to the Union on February 13, 1865. These were "Fifth Model" carbines as defined and described by Edward A. Hull in the "Man at Arms Monograph Series" titled *The Burnside Breech Loading Carbines*. Of the approximately 55,000 carbines produced, 44,000 or so were the "Fifth Model," and they were produced in the space of only two



As a teenager (above), Holt used a Burnside effectively for summer 'chuck hunting. Today, it's just as much fun to shoot and is still a pretty darn accurate carbine.



years. The carbine pictured here is the "Fifth Model" and it's by far, the most common we collectors come across. The distinguishing feature of the Fifth Model is a groove milled in the right side of the breechblock mated to a pin screwed into receiver from the same side. As the breechblock is lowered, the pin and groove system ensures the chamber end of the breechblock swivels automatically into a vertical position to facilitate loading a cartridge or extracting a fired case.

Looking at the Burnside carbine, it's similar to most of the Union cavalry carbines. It's short, light, really a very handy firearm and sufficiently accurate for short range skirmishing. The percussion-cap-fired, coned-shaped case looks odd, but it is deceptively subtle. The severe taper of the case insures easy extraction plus the rear of the 2-piece breech block is spring-loaded and pushes forward on the base of the tapered case as the action is opened.

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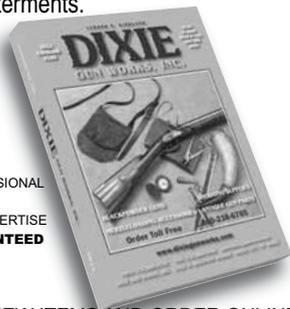
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DISASSEMBLY

1. Remove pivot pin.
 2. Drop lever with attached breech block and remove from frame.
 3. Remove retaining screw and withdraw spring loaded, rear section of breechblock.
 4. Reassemble in reverse order.
- Hint: When replacing the assembled breechblock and lever in the frame, engage the milled track on the right side of the breechblock with the receiver cam pin before trying to replace the pivot pin.



The Burnside can be quickly disassembled and cleaned.

SURPLUS LOCKER

The wedding band-looking “grease chamber” ring at the head of the case held a bit of lubricant as originally loaded. When the action is closed, this portion of the case is positioned into a matching, profiled seat in the end of the barrel. Upon ignition, the wedding band portion of the case expands into its matching seat and effectively seals off the breech from escaping



The breechblock and chamber (above) feature matching “wedding band” seats. Upon firing, the “grease chamber” of the case (below) effectively seals off the breech.



gas—simple, neat and effective. The Burnside was noted for its cleanliness.

The original loading for the Burnside cartridge called for a dab of beeswax to seal the ignition hole at the base of the case thereby waterproofing it, 45 to 50 grains of black powder, a thin, paper, over-powder wad and a bit of lubricant made from one part spermaceti to two parts tallow applied over the paper wad, into the wedding band and to the shank of the bullet. In an emergency and with a fired case in the chamber, the carbine could be loaded from the muzzle with loose powder and ball.

Today, turned brass Burnside cases are available from S&S Firearms and Dixie Gun Works while custom cast, .556" diameter, 345-grain Burnside bullets (Rapine 556360) are available from Patrick Kabosley. Modern cases will accept up to 54 grains of FFG black powder, but the original loading of 45 to 50 grains does just fine. Lubed with a dab of Wonder Lube, simply hand inserted into the

5TH MODEL CARBINE

MAKER: Bristol Firearms Co. and Burnside Rifle Co.

ACTION TYPE:

Single-shot, toggle action

CALIBER:

.54

SAFETY:

Half-cock hammer notch

BARREL LENGTH:

21"

OVERALL LENGTH:

39-1/4"

WEIGHT:

7 pounds

FINISH:

Blued and color case hardened

SIGHTS:

100, 300, 500 yard, flip-up rear leaf, fixed front

STOCK:

Walnut

PRICING:

\$775-\$3,000 (Flayderman's Guide 9th Edition, F+W Publications, 700 E. State St., Iola, WI 54990, (800) 258-0929, www.gunsmagazine.com/gun-digest-store)



The simple, rugged design of the Burnside endeared it to the troops. It used a unique brass case with a rapid taper. Ignition was by standard musket cap.

Burnside cases and propelled by 50 grains of Schuetzen FFFg for 1,289 fps, Kobolsley's bullets will deliver 3" to 4" groups offhand at 50 yards from my Fifth Model Burnside, which has a very good bore. Heck, when I was 17, I used a Burnside for one whole summer as a short range, woodchuck gun.

As one of the most successful and widely distributed carbines of the Civil War, the Burnside is a very desirable milsurp and a hoot to shoot with readily available components. Don't pass this piece of history by.

GUNS

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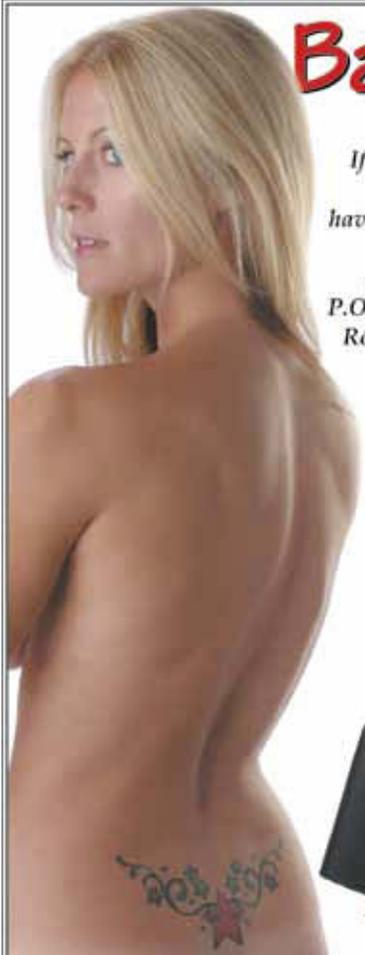
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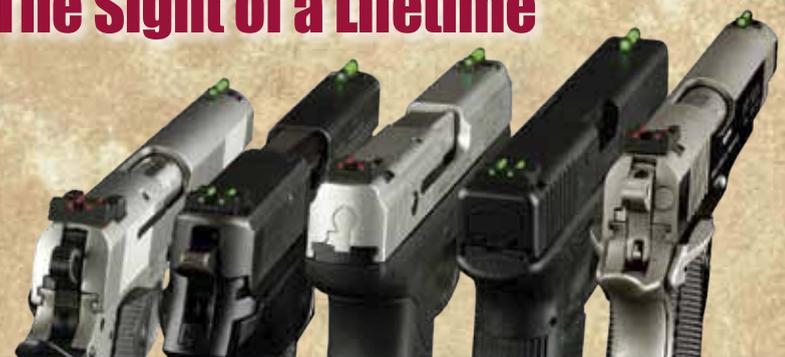
Baikal MP 153
BBL-24", 26" or 28"
OAL-45.5" Wt-11 lb
12 Gauge: 2-3/4", 3" or 3.25"
Black Synthetic - \$418 MSRP
Camo (not shown) - \$526 MSRP



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OUTTM of the BOX

MIKE CUMPSTON

A BLAST FROM THE PAST A Break-Top Mini .22 WMR from NAA.

In April of 2010, somebody close to the source sent up a trial balloon of sorts. It was a pre-announcement revealing the development-in-progress of a new evolution of the perennially popular North American Arms Mini Revolver. Rather than depending on partial disassembly for loading, this .22 Winchester Magnum Rimfire would break open from the top in the tradition of the 19th century Smith & Wesson and Iver Johnson pocket revolvers. Accompanying pictures of the complete revolver suggested introduction was imminent.

“We Will Sell No Revolver Before Its Time”—Sandy Chisholm, President, North American Arms Inc.

I contacted Sandy at NAA and learned the future of the top-break revolver was very much up in the air and the design would see the light of day only if it proved mechanically

sound and economically feasible. The design that emerged in late October features a sturdy hinge with cam-actuated cartridge lifter that appears to be identical to the arrangement on my Iver Johnson hammerless. It operates in the same way. Pushing up on the top-strap locking stirrup releases the barrel



The product of lengthy and intensive research and development, the North American Arms Top Break Mini Revolver has entered the marketplace in the form of a 500-unit “pre-production” run. A portion of the tool-room revolvers were made available by pre-order with the remainder placed with distributors in early November 2010. The challenge facing NAA is putting the design into full production at a significant reduction in price.



The overall measurements of the break-top revolvers (above) are the same as those of the Model 22M. The lock work parts are identical and the BT should be amenable to the investment casting used in other models. The cam-actuated ejector (below) works exactly like those of 19th and early 20th century top breaks. As the barrel is swiveled down, the ejector plate rises and ultimately snaps back in to place. The throw is too short to eject the magnum cases but it does present them for easy manual removal.



and cylinder to rotate downward. At the height of the rotation, the shell plate lifts the cartridges for easy removal. At the end of the stroke, the shell plate snaps back flush in the cylinder. A fully enclosed stirrup engages a square lug at the top of the frame—promising far greater rigidity than is usually seen on 19th century top breaks. The lock work is borrowed from the existing mini revolvers and the safe-carry and shooting sequences are the same. The cylinder attaches to the barrel assembly via a spring-loaded arm that hooks into a groove in the cylinder bushing.

The BT, as it is currently known, seems inspired by enthusiasm rather than any hope for immediate profit. The first 500-unit run is machined from stainless steel stock, involving many intricate operations and considerable expense. The ongoing challenge is to translate the design to the investment cast major substructures common to the NAA line. Chisholm predicts that a 25-percent reduction in price will be required to give the BT a foothold in the marketplace.

NAA BREAK TOP MINI REVOLVER

MANUFACTURER:
NORTH AMERICAN ARMS INC.
2150 S. 950 E.
PROVO, UT 84606-9925
(800) 821 5783
WWW.GUNSMAGAZINE.COM/NAA

ACTION:

Single action

CALIBER:

.22 Winchester Magnum Rimfire

CAPACITY:

5

OVERALL LENGTH:

5"

BARREL LENGTH:

1.6"

WEIGHT:

7 ounces

PRICE:

\$450 (initial run)

The excellent fit and finish of the tool-room Break Top do not differ significantly from the standard production mini revolvers. A frequently occurring catch phrase in NAA literature is "watch-like precision" applied to the inner workings, as well as the external appearance of the product line. Long-term owners report trouble-free operation, excellent quality control and quick corrective action by the company when problems arise.

NAA markets the mini revolvers as deep-cover, personal-protection tools. More than 40 years of successful operation affirms that a substantial customer base accepts them as such. Cuteness alone can't account for the sustained popularity of the mini revolvers. The .22 WMR models comfortably exceed the energies of



There is a considerable array of .22 Magnum Rimfire ammo available on the market. All available loads would completely penetrate a pine 2x4. Velocity and energy from the 1.6" barrel are roughly comparable to expectations from full-sized .22 Long Rifle field handguns.

the old black-powder hideout guns and, of course, the various .22 rimfire sub compacts that often occupy the same role. The WMR rounds are all developed for optimum performance in rifles and most offer no bullet expansion in mini-gun velocities. All will penetrate through a pine 2x4, yet the CCI TNT bullet mushrooms perfectly in any expansion media.

To load the revolver, move the hammer to engage the partial cock notch, push or lift the barrel catch to unlock the barrel and cylinder. NAA advised this be done gently. Return the barrel/cylinder to battery making sure the catch is firmly seated. Pull back the hammer enough to free the cylinder for rotation and lower it so its firing pin drops into one of the slots between the chambers. Visual confirmation of proper safety engagement is illustrated in the owner's manual. Cocking the hammer prepares the revolver for immediate firing. It is important to keep the shooting-hand thumb well away from the rear of the cylinder—preferably locked down over the middle finger. Allowing the thumb to ride along side the cylinder guarantees bloodshed and loss of skin.

The trigger pull on my Break Top is quite heavy. The substantial hammer spring accounts for much of the trigger weight and this is a double good thing. It insures positive ignition of the magnum rimfire's priming and maintains the firing pin firmly in the safety notches. Getting used to the trigger requires only a very short learning curve.

Situation awareness and the element of surprise appear to be more important to successful use of the mini revolvers than any finely honed skill on the part of the user. Starting with the revolver palmed behind folded hands at waist level, it requires less than a second to bring it onto target and trigger a shot. At 3 yards, my shots clustered in a group of about 1" and, shooting in the same mode, I was able empty the full five rounds into the head of the B27 target at 5 and 7 yards. Point of impact was several inches higher than my sight picture. At 15 yards, I held just under the nine ring of the B27 and landed five rounds above midline in the nine and 10 rings.

Fifteen yards is the maximum range



Five snap shots from 3 yards (above). The element of surprise would seem to trump shooter skill as the key to practical use of these handguns. Five shots from 15 yards (below). Shooting a perfect score on the Texas Concealed Handgun Course should not be particularly difficult, though the minimal caliber approved for qualification is .32.



in the Texas Concealed Handgun proficiency demonstration course. It would not be hard to score 100 percent with this revolver if .22 was allowed. Beyond 15 yards, my shooting deteriorated exponentially but I did shoot enough at 20 and 25 yards to confirm that the 1.6" barrel was sufficient to stabilize the bullets.

The bulk of my range shooting was with CCI Maxi Mag FMJ ammunition. There appears to be no reason to get obsessive about choosing among the various brands of magnum rimfire ammunition. They all hit to essentially the same point of aim. They all penetrate enough to be effective when the elements of good shot placement and good luck are in sync.

A portion of the original 500 revolvers was sold pre-order to enthusiasts who followed the Break Top as it developed. The bulk of the revolvers entered normal distribution channels in early November. Given the investment in time and money, it seems safe to predict that the BT will move seamlessly into the North American Arms product line.

.22 MAGNUM AMMO PERFORMANCE

BRAND (BRAND, BULLET WEIGHT, TYPE)	VELOCITY (FPS)	ENERGY (FT-LBS)
WINCHESTER WESTERN 40 JHP	998	88
CCI 40 FMJ	990	85
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QA

QUESTIONS & ANSWERS

• JEFF JOHN •

Ballistic Gelatin

Q: I am in 8th grade at Fairbanks Middle School and am doing my science fair project on ballistics. My scientific question is: If the weight of the bullet and grains of powder in a cartridge are changed, how will the ballistics change? My school and science fair board have approved my project. I am doing my testing at Richwood Gun and Game Club, where I am a junior member.

My Dad and some of the other members who are all NRA Certified instructors are helping to make sure everything is done safely. I am shooting five different weights of .30-06 bullets at 200 yards. I am measuring the velocity of the bullet with a chronograph. I am measuring the path and change in velocity by the rise or drop in the bullet at the target.

I want to measure the difference in energy by the distance the bullet travels into ballistic gel at 200 yards. My problem is I have not been able to find how to make ballistic gel or where I might buy some inexpensively. I was wondering if you might help me by advising where I might find how to make it or buy it.

Ryan Richileau
Union County, Ohio

A: The ballistic gelatin used by the FBI and ammo factories is very sensitive and must be kept at a constant temperature in a refrigerator and used relatively quickly after it sets up.

If you'd like to know more about ballistic gelatin, try Gelatin Innovations. The firm's website offers pretty clear directions for making ballistic gelatin as well as the kits.

Another method, and one more accessible, is the Bullet Test Tube from Ballistic Technologies. The firm's products are available at Brownells or MidwayUSA.

While expensive, the Bullet Test Tube is reusable, more stable and easier to handle. Some complain it

is too hard and gives an unrealistic test of bullet expansion, though, and the firm offers a conversion formula to replicate the depth of the path in ballistic gelatin. Since you will be measuring relative expansion, it should work fine for your science project, since you can photograph the cavity more easily, recover the bullets and reuse the media. 

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1890 Refinishing

Q: I purchased a slide-action Winchester Model 90 .22 WRF rifle at a garage sale. Unless Winchester made a model without bluing, someone removed all the blue from this gun. I know collectors discourage refinishing original guns, but if all the finish has been removed, I would guess it would not be considered "original." What is your opinion on making this gun look new again? Does Winchester redo guns? Would it be considered "original" if Winchester did the work? Do you know what they might charge?

Randall Beecham
Bellville, Ohio

A: You're in one of those grey areas where it depends on how much money you want to sink into the project. Finishing the gun to the original condition will mean refinishing or replacing the stock as well. If the rifling is perfect or darn near, I'd think about refinishing.

Sadly, none of the factories will work on their older guns. It's partly liability, but mostly because they don't have the parts anymore. None of the factories still use the older finishing processes anyway, so it won't look



This old 1890 needs more than a broom to be groomed, but it is a 1st Model and maybe worth restoring. It needs practically everything including a new barrel. Oddly enough, the screws are all in remarkably good shape considering the rest of the rifle.

“factory new” unless refinished by one of the specialty shops.

Since there is no finish on the metal, the cheapest way is to slap a little cold blue on and call it a day. Next would be to have a local gunsmith who does bluing give the gun a fine beadblast finish and a hot tank blue. According to the Brownells Catalog No. 63, prices for a simple bead blast and blue averages around \$95 to \$145 depending on the shop and area. Oxide bluing can be dull or very glossy depending on the skill and quality of the polish given the metal. A bad polish is worse than not doing anything, so the skill of the polisher is paramount.

Restoring the gun to “factory new” will mean going to specialists like Dan Cullity or Doug Turnbull and can run \$2,000 or more. Those firms can do all of the work, including using original-style finishing and it will then truly be a heirloom piece.

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TAKE A PEEK

LOOKING INSIDE A RIFLE BARREL
CAN SOLVE MANY MYSTERIES.

John Barsness

The one part of guns we really can't examine closely is the inside of the barrel. The rest of a rifle, shotgun or handgun can be disassembled and examined closely, but we really can't see the details of a 24" rifle bore—unless we use a bore scope.

The late Dave Gentry, a well-known custom gunsmith from Montana, introduced me to the virtues of a bore scope almost 20-years ago. A major firearms company had loaned me a .300 Winchester Magnum for evaluation and a possible magazine write-up. This company was (and

is) well known for the accuracy of its rifles, and the .300 Winchester is considered an accurate round, so it was disheartening to look downrange and see 30-caliber holes scattered across 2" or 3" of paper.

The scope was a proven Bausch and Lomb. The action screws were

tight, and a folded piece of paper slid easily between the fore-end and the free-floated barrel. The bore looked nice and shiny when held toward the overhead light in my shop, but still the rifle refused to shoot accurately with either handloads or factory ammunition.

Finally I called Dave, since during his career he'd encountered about every rifle problem in the known universe. He said it sounded like I'd done all the sensible stuff, but if I wanted to bring the rifle into his shop he'd look it over.

Dave only spent a couple of minutes examining the outside of the rifle before putting it in a padded vise on his bench. Then he assembled his bore scope and carefully inserted it into the barrel. Bending over slightly, he squinted into the eyepiece of the scope as he slowly eased its thin tube back and forth. Finally he stepped back and said, "I think I found your problem. Take a look."

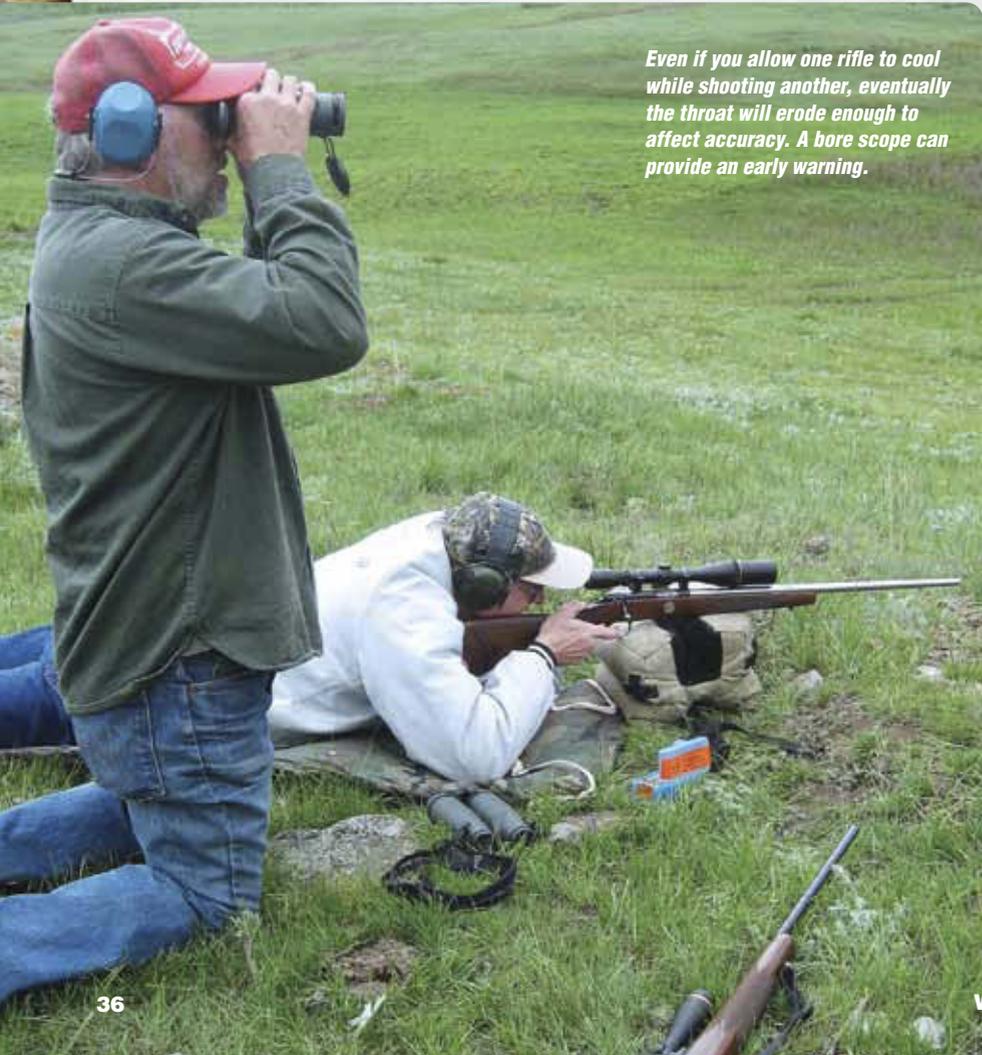
I bent and peered into the scope, seeing only some mysterious shadows. "What am I supposed to be looking for?"

"Slide It Back And Forth A Little."

With the scope moving, the rifling immediately became apparent. The angle of the lands and grooves could even be seen, including some toolmarks—that is, except for a 1/4" of the bore, where the rifling was missing. I stood up and looked at Dave, somewhat startled. "There's a gap in the rifling."

Dave laughed. "I bet that has something to do with your problems." He guessed that a big chip of steel had somehow gouged out a ring inside the bore during the reaming process. Since Dave spent part of his early training in the shop of a well-known barrel maker, he was probably right.

Even more interesting than the rifling gap, was the fact that it couldn't



Even if you allow one rifle to cool while shooting another, eventually the throat will erode enough to affect accuracy. A bore scope can provide an early warning.

be seen just by eyeballing the barrel. Oh, somewhere way up the bore there appeared to be a slight shadow, but without *knowing* it was there the bore looked shiny and bright.

The Response?

I called the public-relations guy for the firearms company, who all but yawned when informed of the major flaw in the rifle's barrel. (Perhaps this was because he was about to quit and take another job, something he did about a month later.) So I shipped the rifle back to the company and pretty much forgot about reviewing any of their firearms for a while.

But I didn't forget about the bore scope, eventually growing so curious about the unseen depths of my own firearms, that I ordered one from Brownells. It's the same model Dave Gentry used, made by the Gradient Lens Corporation. These days it's called the Hawkeye Classic Slim, with a tube measuring .165" in diameter. There's also a Classic Hardy, with a .250" diameter tube, so-called because it won't break quite as easily as the Slim's tube. This happened to me once, when I dropped the scope on the carpeted floor in front of my workbench. It doesn't take much to crack the fiber optics inside the tube; the reason Gradient has a repair department. They returned my scope, all fixed up, within a couple of weeks.

The Hawkeye Classic is Gradient's least expensive scope, available in four models with 2" to 17" tubes. The 17" model is most useful for shooters, since it will reach past the mid-point of almost all barrels. Gradient's list price is \$995, not exactly cheap, but less than many firearms. I've had mine for a decade and have found it far more useful than a few \$1,000 rifles I've owned.

If you really want to get fancy, however, Gradient also sells video bore scopes for up to several thousand dollars. The only one of these I've seen



The 17" tube allows a look at the inside of all but the very longest rifle barrels.

in action belongs to well-known barrel maker Dan Lilja, and reveals far more detail than the Classic model. Dan uses it constantly in his shop to reveal any flaws in the manufacturing process; one reason Lilja barrels have such a good reputation for superb accuracy.

The main tube of a Hawkeye bore scope has a tiny lens at the end that provides a view straight down the bore, much like driving into a dark tunnel with headlights on. This view is interesting, and in particular, shows any longitudinal streaks, whether large toolmarks or copper fouling. But for real detail, there's also another tube equipped with a 90-degree mirror that slides over the outside of the main tube. This provides an extreme close-up of the surface of the bore, revealing small toolmarks, pitting and even the microscopic traces left in the surface by lapping.

Forget Preconceived Notions

However, despite that first experience with Dave Gentry's Hawkeye, I soon found a bore scope can't always predict which barrels will shoot well. In fact,



The primary view through the Hawkeye is lengthwise through the barrel, like driving a car into a dark tunnel with the headlights on.



The Hawkeye Classic Slim comes with an extra tube with a 45-degree mirror. This slides onto the outside of the main tube and is used for a close inspection of the lands and grooves providing an extreme close-up view of the surface of the bore.

sometimes a bore scope creates more mysteries than it solves. Most of us assume a super-smooth rifle bore will shoot more accurately than a rough bore, but that's not necessarily true. Often bores full of toolmarks will shoot really well, and some even refuse to pick up copper fouling. I've also scoped some top-notch, hand-lapped custom barrels that copper fouled significantly—and even some that didn't shoot all that well—and couldn't find a reason for either. This is a good lesson in itself: Preconceived notions of what makes an accurate barrel don't always hold true.

On the other hand, it's possible to find gunsmithing errors that might cause problems. The 90-degree tube is great for looking at the chamber of



The Hawkeye comes in a rugged case, complete with cleaning equipment.

a rifle barrel. Often the throat of the chamber has noticeable toolmarks, some quite large, and a rough throat often causes severe copper-fouling right in front of the chamber. This doesn't do accuracy any good, especially as fouling builds up; but, probably a bigger problem is the actual deformation of the bullet just as it starts down the bore.

Some chamber throats even have slightly shallower rifling on one side, indicating the front end of the chamber isn't precisely lined up with the bore. This is just about unknown in custom rifles, because the pilots of high-grade reamers precisely match the diameter of top-notch barrels. But it isn't unknown in factory barrels because the bore, being slightly oversized, leaves a little room around the reamer pilot. A rifle chambered slightly off-center isn't likely to shoot all that well.

At the other end of the barrel, a precise crown allows bullets to leave the muzzle exactly the same way each time. Now, it is possible to examine the crown without a bore scope, since it's right there on the end of the barrel, but a bore scope provides a much closer and detailed look. Through

my Hawkeye, I've found little ridges on the edge of the crown, left by the cutter, that couldn't be seen with a magnifying glass. Sometimes there are even slight tears or chips in the steel. Re-crowning, or polishing the existing crown, often results in noticeably better accuracy.

A bore scope will also reveal barrel erosion long before it can be detected otherwise. An eroded chamber throat is only visible to the naked eye long after it becomes a real problem, appearing as a darkened area in the bore just in front of the chamber. A bore scope reveals erosion even in its earliest stages, when the throat starts to develop an "alligator skin" appearance. This normally doesn't affect accuracy in the beginning, but can raise pressures due to increased friction from the roughened surface. This is why some target shooters fire a few fire-lapping rounds through their barrels every few hundred rounds.

Barrels In Decline

Generally, accuracy doesn't start to really go sour until the throat starts to increase in diameter, due to tiny pieces of steel coming off. Some barrels will show a gradual decline in accuracy at

this point, but others start scattering shots without much warning. A friend once took a trusted .22-250 on a prairie dog shoot in Wyoming, and the rifle all of a sudden started missing easy shots. Once back home, my friend took the rifle to his gunsmith for rebarreling. Out of curiosity, the smith also sectioned the old barrel, finding the rifling totally gone for a few inches in front of the chamber. A look through a bore scope could have predicted that barrel's failure!

The quickest throat erosion I've ever seen was in the chrome-moly barrel of a 7mm STW barrel, on a new factory rifle. The rifle never did shoot very accurately, and after 200 rounds or so of trying different handloads and fiddling with the stock bedding, I finally stuck the Hawkeye down the barrel. Over 2" of the throat showed severe alligator skin, at which point I decided that this particular barrel wasn't going to last long enough for me to decipher its problems, and had it rebarreled to .300 H&H.

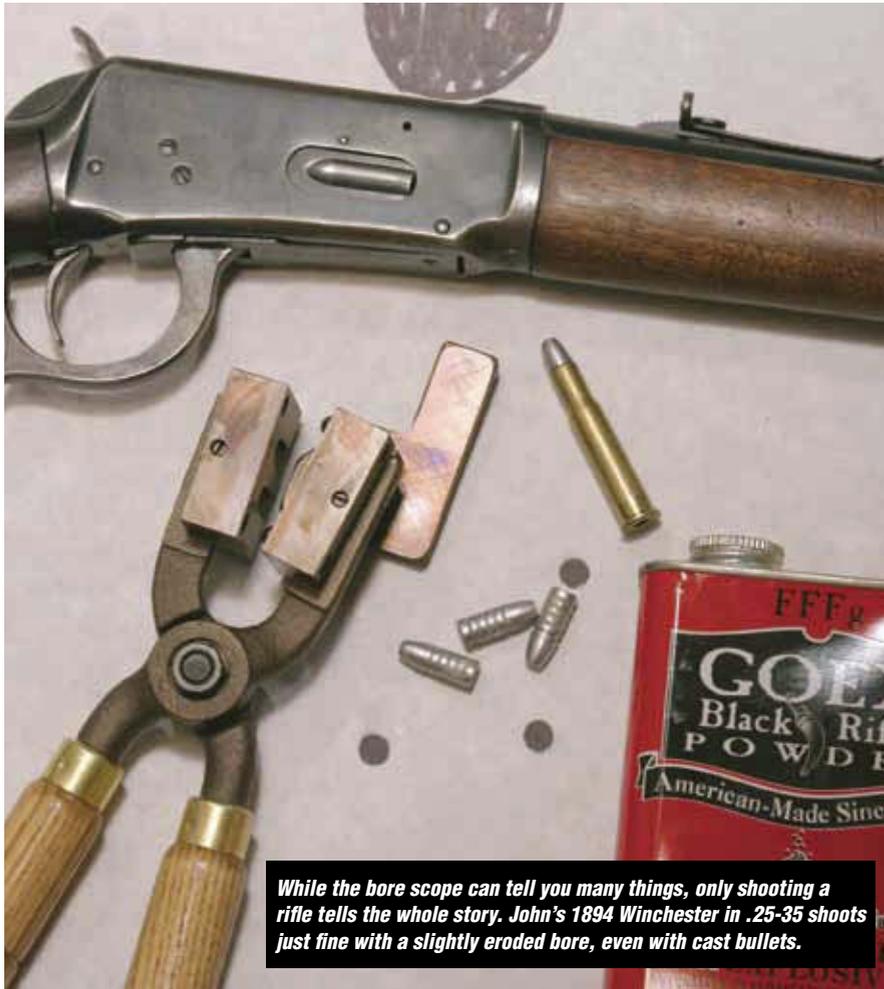
At the other extreme is a Ruger No. 1 .22 Hornet and a Remington 700 .223 with thousands of rounds through their barrels. Yet the Hornet shows almost no sign of erosion, and the .223 less than that 7mm STW barrel showed after only 200 rounds. Both have a lot of life left—a good thing, since they're both very accurate.

Common Rule?

One thing that Hornet has taught me, is the common "rule" that shooting a barrel until it's really hot will significantly shorten barrel life, isn't necessarily true. The No. 1 Hornet has repeatedly been shot so hot that the barrel can't be touched—and then shot some more. Yet its throat still appears almost new.

The relative size of the cartridge, of course, has an effect on throat erosion. I've owned several .220 Swifts that have also been shot very hot, but even after 1,000 rounds the bore scope has never revealed the level of erosion seen in that 7mm STW barrel after only 200 rounds.

The Hawkeye has also revealed more obscure problems. I've owned a New Ultra Light Arms Model 24 in .30-06 for about a decade now, and from the beginning it was the most accurate .30-06 I've ever shot, out of dozens. A few years ago, I took it to New Zealand to "field test" Berger VLDs on the North Island's abundant wild game, especially feral goats. Three-shot groups averaged around .4" before the trip, but afterward the rifle didn't shoot as well. Since less than two boxes had been fired in New Zealand, and only about 500 rounds



While the bore scope can tell you many things, only shooting a rifle tells the whole story. John's 1894 Winchester in .25-35 shoots just fine with a slightly eroded bore, even with cast bullets.



A rifle's action can be taken completely apart for examination, but the interior of the barrel remains invisible without a bore scope.

had been put through the barrel in its lifetime, erosion wasn't the cause.

The bore scope revealed a few light pits in the steel, just in front of the chamber, no doubt created by near-constant rain during the trip. The muzzle was always covered by electrical tape between shots, and the rifle wiped down at the end of each day, but apparently enough humidity built up in the bore to drip down around the bullet of a chambered round, causing a little rust in the throat. A few rounds of fire-lapping bullets solved that problem, and the

rifle now shoots very well again.

At the other extreme, a bore scope will often teach us that even fairly abundant pitting doesn't prevent many barrels from shooting pretty darn well. Among my oldest centerfire rifles is a Winchester Model 1894 .25-35, the serial number indicating it left the New Haven factory in 1898. The bore looks pretty good to the naked eye, but the bore scope shows numerous pits, probably caused by corrosive primers. Yet the rifle will still put three jacketed bullets into 2" or less at 100 yards with the factory open

sights. Many brand-new Winchester lever actions won't do any better. Some rifles even shoot cast bullets well with a certain amount of pitting.

Perhaps the best use for a bore scope, however, is for testing the abundance of new bore-cleaning solvents on the market today. All are supposed to be vastly superior to anything else, yet I have looked through the bore scope following the as-directed application of some solvents to find lots of copper still in the barrel. There's a box full of wonder-solvents on my workbench right now, sent along by various manufacturers, some still waiting on testing. But because of what my bore scope has revealed, only a couple of these get used when a rifle really needs to get cleaned, because the Hawkeye has revealed the secrets of the inner barrel.

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STORM ARRIVAL

THE BERETTA STORM **Px4** MODEL F .45 ACP.



Mike Cumpston

The .45 ACP version of Beretta's Px4 Storm tested here is the type F Traditional Double Action model and is the only action type being imported at this time. Levering the slide-mounted safety downward drops the hammer and engages the safety. The pistol can be loaded and dry cycled with the safety on, providing a hedge against inadvertent discharge. Size-wise, it will fit in the same box as the common SIG and full-sized Glock pistols and has the same width across the slide.

Even so, the storm is less blocky in appearance than the earlier Cougar and most other modern double-action pistols of essentially the same girth, because the slide is streamlined and narrowed in its upper aspects for ease of holstering. Most of the people who inspect the Px4 remark upon its attractive appearance—an observation almost never made or remotely justified in reference to other “plastic pistols.”

In 2005, building upon the sound engineering principals of the Cougar design, Beretta brought forth the Storm series, which came to include a pistol-caliber carbine, .223 carbine and a shotgun. Its centerpiece is the Px4 pistol featuring the rotating barrel-locking system of the earlier handgun and replacing the Cougar's alloy frame with a lightweight polymer/glass sub unit. Available in 9mm and 40 S&W, the staggered magazines offer high capacity for their size (17+1 and 14+1 respectively).

A variety of fire control variations mirrored the options available in the Cougar. The standard Model F is traditional double action with ambidextrous decocking safety, traditional double action with decock only, DAO and Constant Action featuring a shortened and lightened double-action-like trigger pull. The latter two were without manual safeties, slick sided and narrower overall, as many end users prefer.

The modular design enables gunsmiths or agency armorers to option among the action types. The pistols come with three interchangeable backstraps allowing you to select the optimum trigger reach and overall grip size. Other user electables include

The Beretta Storm Px4 is ready for duty with SureFire X400 light and laser combo and Spyderco C69GP Temperance Leaf knife.



When the decocking lever is in the firing position, a red dot is uncovered. When cocked (below, right), the hammer nests in a frame recess. Depressing the decocking lever on either side of the slide lowers the hammer safely.



SWAT



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STORM ARRIVAL

THE BERETTA STORM **PX4** MODEL F .45 ACP





The Storm lends itself well to 1-handed shooting and the interchangeable backstraps help fit the pistol to the shooter's hand.

a reversible magazine release for left-handed operation or replaced with a larger or smaller unit. Low-profile slide releases are also available to enhance concealability. Takedown and reassembly for routine cleaning is transparently simple, as is swapping out the alternative grip backstraps.

Billed as Beretta's strongest pistol, the Px4 aspires to be all things to all people. Its promises of reliability, extended service life and ergonomic

versatility are vindicated by wide acceptance in officialdom and by the general public. The United States Coast Guard, several municipal police departments and foreign military organizations have adopted the Px4.

A new variant, arising from military interest, is the Px4 Storm SD (special duty) with features designed to meet the criteria for the Joint Combat Pistol as specified by SOCOM. It has an extended barrel to allow for threading

for a suppressor, earth-toned frame and other extras in a waterproof case.

Today, Beretta's aim for the Px4 Storm is at the civilian personal-defense market. This is the major growth segment of the firearms industry. While organized shooting games languish with the economic slump, economic and political realities have quite the opposite effect on people determined to safeguard their rights to life and liberty. Parnell McNamara and Charlotte Kosub operate a very active central Texas concealed-handgun training facility.

Both have adopted the Storm in 9mm as personal carry weapons. They keep four of them on hand for CHL students, who do not have semi-auto handguns or, as often happens, show up with non-functioning pistols. The Px4s have been totally reliable and both veteran shooters and the newly initiated are impressed by their handling characteristics. A number of Parnell's trainees have told him that they plan to buy Storms as primary

Riding The Rail

The SureFire X400 Weapon Light is a remarkably compact and powerful illumination and target designation tool, suitable for mounting on full- and mid-size handguns or long guns. The 170 lumen white-light feature is a lot more powerful than the hand-held flashlights of just a few years ago, and the red laser "sight" is right at the top of the class IIIA power operating level of general use lasers. The Devil is in the diodes, as current state-of-the-art LEDs are much less power hungry and far more durable than traditional bulbs, and diode lasers are smaller and much tougher than their ruby and gas predecessors.

SureFire says the laser has twice the

power of its closest competitors. The general run of laser sights are more than powerful enough for use in subdued lighting, but many of those in common use are dim to the point of uselessness in bright daylight. In full dark or, with the X400's white light doing its concentrated best, the red-laser dot is prominently visible against any target. In bright daylight at ranges common to close encounters, it is highly visible and quick to pick up.

Mounted on the Beretta .45 Storm, the red dot stands out against deep green, orange and white backgrounds at 25 yards, where we used it to shoot the major portion of the benchrest groups. Vertical and horizontal sight adjustment is via a supplied hex wrench. SureFire uses nylock adjustment screws to eliminate any possibility of creeping zero. I eyeballed the sight, bringing it in rough conjunction with the Storm iron sights at 25 yards and, upon initial actual shooting, found the sight setting required only minor tweaking for a perfect zero.

A hemispherical switch at the bottom-rear of the unit governs the operating modes of the X400. They include an off position at either extreme of movement and the choice of light only, light and laser, and laser only. The ambidextrous on-off switch is at the rear of the unit accessible by the trigger finger. There are two "remote" switches available separately. One mounts to fore-end rails on long arms and the other is a pressure switch attached to the front of a pistol grip. These are useful accessories since they provide for instant on-off



The powerful red laser is highly visible in bright daylight at close range. It was easy to pick up against green and orange targets at 25 yards and useful for shooting precise bench groups at that range. A hemispherical switch at the rear of the laser selects the desired operating mode of the X400. Individual modes are light only, light and laser, laser only and "disable" at either extreme of the toggle's arc. The last setting is useful for preventing inadvertent activation if one of the optional "momentary" remote switches are installed. The basic, ambidextrous on-off switch is just in front of the triggerguard.

operation in addition to "constant on." A trapdoor in the rear of the unit accesses the battery compartment, housing two SureFire lithium 123A batteries. The LED white light will run for 2.4 hours on a set of batteries—about twice the runtime of a 65-lumen combat light with incandescent bulb. Battery life for the laser alone is 24-hours continuous use.

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PRICE:

\$460

carry guns. A compact model is available, as is a sub-compact that operates on the more traditional tilting-barrel principle; but the standard pistol, at 7.6" overall length and weighing less than 30 ounces is comfortable on the belt and easy to conceal.

I found I preferred the smallest of the backstraps. It affords ideal trigger reach and a comfortable, hand-filling grip. McNamara has larger hands but also prefers the small grip and Ms. Kosub, who has smaller hands than either of us, also uses it exclusively. I shot a number of the bench groups with the SureFire X400 laser sight and several using the standard fixed sights with equivalent groups from both. Early reports on prototype or at least pre-introduction .45 Storms revealed a tendency toward "ammo sensitivity." One such example tossed very large groups with standard ball ammo. If this was a general phenomenon in the developmental stages, it was not a factor in our production pistol.

My best 25-yard groups at 2.8" came with a handloaded 230-grain ball and the 200-grain JHP load from Fiochi. Sellier & Belloit FMJ ball was essentially the same at 3.1" and the CorBon 185-grain DPX split the difference. Shooting from the bench, recoil was quite perceptible—significantly more so than would



Two 10-round magazines fired offhand from an isosceles stance at 25 yards made a decent combat target. Shot at a reasonably brisk pace, the initial double-action shots both landed in the 10 or X rings. Rested, the .45 ACP Fiochi Extrema (below) topped with 185-grain Hornady XTP bullets delivered this 2.8" group at 25 yards.



The Px4 breaks down easily for cleaning into its major components. The pistol is designed for easy care and can't be put back together wrong.

be the case with a 9mm on the same platform. The low-barrel axis and the grip configuration direct recoil straight back with minimal torque and barrel rise.

Offhand Shooting

Paradoxically, the same factors and the generous width of the grip seemed to moderate recoil when firing from standing, unsupported positions. From offhand positions, perceived recoil was actually less pronounced than with my full-size 1911 Government models. With any pistol, my shooting speed is governed by my ability to reliably group my shots within the 9, 10 and X rings of the B27 target. I do not much care for double taps, or "hammers," or any shooting mode that requires self-programming of ultra-high speed multiple shots. Transitioning from double-action first shot to single action is a significant factor and a wide disparity between the trigger pulls militates against consistency.

Compared to pistols with 12-pound double-action pulls, I find the 10-pound double-action pull on the Storm to be quite controllable. The transition to the 5-pound single-action release lands the shots in the same group, unless I out-speed my personal limitations. Shooting from a generic synthetic belt slide at 7 yards, with my hand already on the grip at the beep of the club timer, I fired five double-to-single-action pairs and averaged the data.

Average time for both shots was 1.7 seconds. The first shot was away at an average of 1.16 seconds with the second shot averaging .54 seconds. The overall grip shape and likely the



A key feature of the modern polymer pistol is the interchangeable backstrap and the Px4 doesn't disappoint. The pistol can be comfortably fitted to hands on either side of average.

pronounced stippling of the frontstrap eliminate any shifting from recoil. The Storm came straight down out of recoil with the sights centered on target. The rotation of the barrel during the feeding sequence moderates recoil and, at the same time tends to keep the pistol in horizontal plumb.

From 25 yards, I activated the timer and got on target, ready to fire at the beep. The initial double-action shots were away in 5/10 to 6/10 of a second and frequently landed in the 10 or X ring. My transition and subsequent single-action "breaks" consistently occurred at less than 1.4-second intervals and kept most, if not all of my shots inside of the 9 ring.

Fairly early in these shooting

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STORM ARRIVAL

sessions, I came to realize the Px4 Storm had put a deep dent in my long legacy of prejudice toward the general plastication of pistols. I really like the Px4 Storm. The grip configuration makes the 5-pound single-action pull very manageable for single-handed shooting and prompted casual off-hand plinking sessions at 20 to 25 yards. Hits on soft drink cans and the head portion of the B-27 were frequent enough to sustain the element of high and happy fun that comes with at least the presumption of competence. The single negative factor that emerged during my shooting sessions was minor irritation of my index finger by the side of the trigger. I believe this occurred only during benchrest shooting and was not related to roughness or a sharp edge on the trigger.

Mechanics And Maintenance

Beretta made early predictions of extended service life and ultra-reliable function. Now, the company reports at least one of the pistols has fired 150,000 rounds without parts failure. Factors contributing to long life include a progressive abatement of recoil by rotation of the barrel in line with a steel module that further isolates the polymer grip frame from damage. All primary points of contact, including the frame rails and feed ramp, are steel cast into the polymer/glass grip frame.

An early report mentioned minor, self-limiting degradation of a polymer feed ramp. I do not have an early example for comparison but the entire feed ramp on the current pistol is made of steel. Reviewers of early Storms in 9mm and .40 S&W, noted the safety levers were sharp and hook-like, causing pain when the shooter retracted the slide. It seems Beretta has been responsive to this sort of input and not at all shy about making minor corrections. There are no sharp surfaces anywhere on the .45 Storm.

The barrel is chrome lined—a factor that effectively eliminates barrel wear as a concern. The forged-steel slide wears a Brunton coating. This

PX4 STORM TYPE F

MAKER: BERETTA USA
17601 BERETTA DR.
ACCOKEEK, MD 20607
(301) 283-2191

WWW.GUNSMAGAZINE.COM/BERETTA

ACTION TYPE:

Rotating locked breech

CALIBER:

.45 ACP (tested), 9mm, .40 S&W

CAPACITY:

9+1

BARREL LENGTH:

4"

OVERALL LENGTH:

7.59"

WEIGHT:

28.2 ounces

FINISH:

Brunton

SIGHTS:

3-dot, drift adjustable

GRIPS:

Polymer, interchangeable backstrap

PRICE:

\$650

is the standard, bake-on finish applied to the Beretta service pistols and common throughout the industry. It is highly resistant to environmental and chemical influences. One prominent producer of the basic chemistry places it between nitrate bluing and electroless nickel in resistance to holster wear.

One element of the safety system is a 2-piece firing pin. The rear portion rotates upward and away from the hammer when the manual safety is applied. Because of its construction, Beretta recommends any dry firing be done with a snap cap in the chamber.

Dismounting the pistol for routine cleaning is very simple and easily remembered by the growing legions of licensed gun carriers who view handguns as necessary tools and are not into guns as a hobby. Pulling down on the 2-recessed release levers frees the slide, barrel and action block, allowing them to slide off the front of the frame as a unit. The guide-rod captured recoil spring and action block can be plucked out of the slide, followed by the barrel. Unlike the earlier Cougar, it is impossible to stick the spring backward into the block

.45 ACP FACTORY AMMO PERFORMANCE

LOAD (BRAND, BULLET WEIGHT, TYPE)	VELOCITY (FPS)	ENERGY (FT-LBS)	GROUP SIZE (INCHES)
S&B 230 FMJ	780	311	3.1
CorBon 185 DPX	1,011	420	3
Fiocchi 200 XTP	900	360	2.8
Fiocchi 230 JHP	827	349	4.1

Notes: All groups fired from a rest at 25 yards.

.45 ACP HANDLOADED AMMO PERFORMANCE

BULLET (WEIGHT, TYPE)	POWDER (BRAND)	CHARGE (GRAINS WEIGHT)	VELOCITY (FPS)	ENERGY (FT-LBS)	GROUP SIZE (INCHES)
230 FMJ	Unique	6.0	789	318	2.8

Notes: All groups fired from a rest at 25 yards.



The CorBon 185-grain DPX, the Fiocchi "Extrema" 200-grain XTP load and the Fiocchi 230-grain JHP are excellent performers. Of the loads tested in the Storm, the Extrema tied for most accurate. All of these loads show good expansion from the 4" barrel. The bullet at far right is from the Fiocchi Pistol Shooting Dynamics load. It is a product of the Zero Bullet Company of Georgia. The DPX load is a frequent accuracy champ from most .45 ACP pistols and expands just as pictured from even the shortest barrels. Test medium was a slab of lean beef brisket backed by 3-gallon water jugs.

or to reconfigure the upper assembly incorrectly. Reassembly requires aligning the upper unit in the frame rails and retracting the slide until it clicks into place.

As a paramount Beretta product, it is to be expected that full service will be readily available. In addition to a practical, high-riding, belt side holster, a number of accessories are available direct from Beretta USA. These include, among other items, a comprehensive spare parts kit, an adjustable sight kit, magazine-pad extensions and springs, magazine-release packs and a hammer-spring-cap housing with lanyard ring.

The large variety of general market accessories is a clear indication of the Px4 Storm's wide-reaching acceptance. This includes selections of holsters for the Px4. Safariland alone lists 14 distinct models. Kramer Handgun Leather will block a very broad array of their custom holsters for the Storm. DeSantis has shoulder rigs, IWBs, standard belt holsters and a leather double-magazine pouch. Aker Leather has a selection of distinctive holsters "for all popular auto pistols"—a qualification the Storm certainly meets.

Sighting options include Trijicon BE10 Night Sights. State-of-the-art laser sights come from SureFire and Viridian. Both come with mounting kits accommodating the Px4. Veridian's X-Large Frame Auto-Nylon belt holster will fit the Storm mounted with either the X5L or the new CH/C5L laser sights. Fobus Holster supplies the Kydex Tactical Roto-Holster for the full-size Storm and any accessory that will fit the pistol's rail mount.



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NELSON'S BANE

THE GREAT ADMIRAL,
COMMANDING A FLEET OF
SHIPS, WAS BROUGHT DOWN—
AND AVENGED—BY THE
COMMON MUSKET.

HMS Victory, under fire for half an hour, had lost her mizzen topsail and wheel, yet maneuvered to make a devastating point-blank 50-gun broadside to the stern of the French flagship Bucentaure. Victory then drifted into the 74-gun French ship Redoubtable. With yards locked, a furious battle above and below decks ensued. From the mizzenmast of the Redoubtable, a musket shot felled Lord Vice Admiral Horatio Nelson. The ball, fired by a French Marine from roughly 70' away, passed through his left epaulet, clipped an artery, a lung and broke his spine. Nelson died, in agony, three hours later in the cockpit of the 102-gun Victory.

The battle of Trafalgar, Britain's greatest naval victory, began just after noon, Oct. 21, 1805, when two columns of British ships broke the straggled line of the Allied Franco/Spanish fleet off the coast of Spain.

The Redoubtable's Captain, Jean Jacques Etienne Lucas had, during his long stay in the port of

Cadiz, Spain, developed a strategy to take a superior ship, which was to suppress his opponent's deck crew so a boarding party could take the ship with small arms. Thus, Lucas promoted marksmanship practice with muskets and grenade throwing from the tops and the deck. Small-arms fire from the tops was a standard

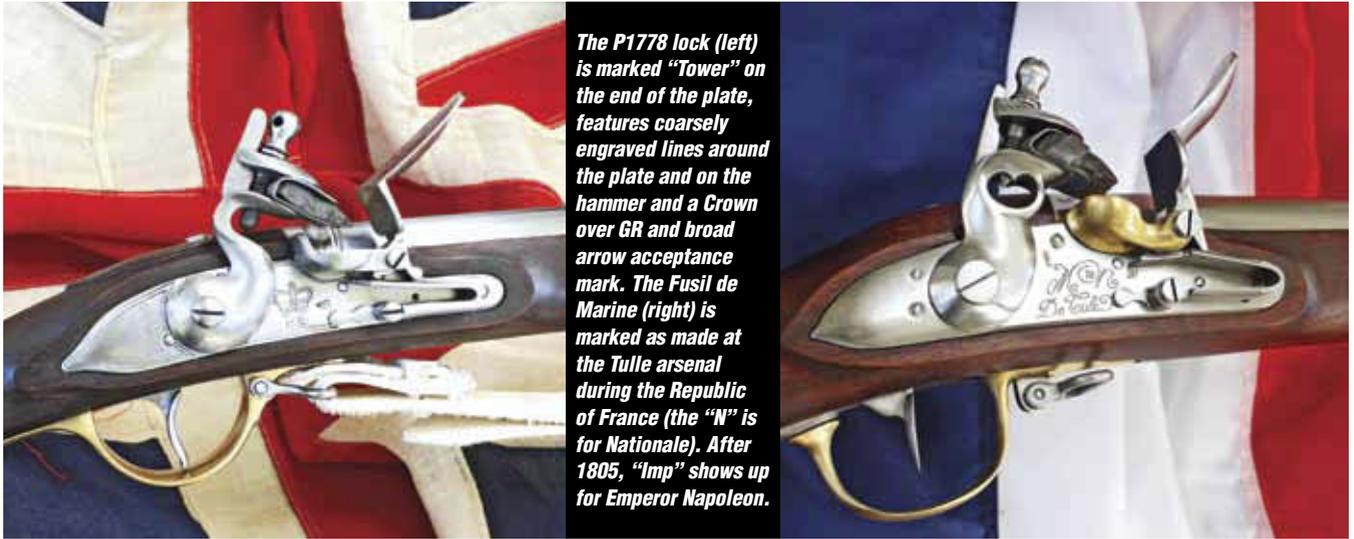
The British Marines were armed with the P1778 Sea Service musket (below, top musket) and their French opponents likely were armed with the Fusil de Marine An IX. Often, muskets used in the tops had the slings removed. There was plenty of time to prepare for battle, and muskets, ammo, grenades and water were hoisted by slings into the tops and stationed on the deck before battle.





Vice Admiral Lord Horatio Nelson (center in the print above) was felled by a musket ball from a French Marine shooting a Fusil de Marine (top) from the mizzenmast of the French ship Redoubtable. He was avenged by HMS Victory Midshipman Pollard, shooting a Brown Bess (bottom). The glycee print was purchased from allposters.com. The P1778 barrel (below, left) is marked with the crown GR over a broad arrow and crossed scepters. The tang had a small crown acceptance mark and an inspection number. The An IX tang marking (below, middle) identifies this Fusil model. The left side of the barrel (below, right) has the year of manufacture (year XI=1803-04 to us) and an inspector's mark.





The P1778 lock (left) is marked "Tower" on the end of the plate, features coarsely engraved lines around the plate and on the hammer and a Crown over GR and broad arrow acceptance mark. The Fusil de Marine (right) is marked as made at the Tulle arsenal during the Republic of France (the "N" is for Nationale). After 1805, "Imp" shows up for Emperor Napoleon.

practice and French Marines fought roughly 40' above the deck on platforms on the masts, armed with the smoothbore 69-caliber Fusil de Marine and grenades.

British Royal Marines under Nelson fought from the decks with the 77-caliber Brown Bess smoothbore Sea Service muskets, carronades and grenades. Nelson feared the musketry from the tops could start an uncontrollable fire in the heavily tarred rigging or in the sails and forbade their use there.

Redoubtable's Marines poured devastating musketry upon the

deck of the Victory, shooting down roughly 40 British officers, sailors and Marines, as well as mortally wounding the admiral. In all, French Marines felled about 1/3 of the men exposed on the upper deck. Just before the collision, Redoubtable closed her lower gun ports to prevent the British from boarding through them, halving her broadside potential. Redoubtable's small arms would have to carry the day.

Victory's starboard gunners pounded Redoubtable with broadside after broadside of fire from all three decks with her 32-, 24- and

12-pounder guns double and triple shot. Unable to run out their guns and firing at contact range, Victory's 32-pounder gunners had to throw buckets of water through their gunports into the Redoubtable to prevent her catching fire from the muzzleblasts. With little ventilation, the lower gundeck quickly filled with choking smoke from the guns.

Capt. Lucas prepared to board Victory and take her hand-to-hand, but the huge distance, created by the tumblehomes, between the two ships prevented quick crossing. So much time elapsed getting the boarding

LE FUSIL DE MARINE AN IX

It's unknown what French Marines had on Redoubtable. Since the French Marines were made up of Infantry units, they could easily have been issued the long, iron-mounted infantry model or the shorter brass-mounted Marine version. The Navy was little understood by Napoleon, generally bottled up in harbor by the British, and often outfitted piecemeal, although several distinct Marine arms are known.

An offshoot of Le Fusil de Dragon An IX, Le Fusil de Marine An IX (year 9 in the Republican calendar, Sept. 1800 to Aug. 1801 in ours) is different only in the use of a brass center band. The one pictured in J. Boudriot's book (3) is from the later Imperial period and some sources indicate this version didn't go into production until then, so it may have been a manufacturing shortcut as the war progressed. An earlier version pictured in Gilkerson's book (4) shows a Fusil de Marine predating the An IX, yet with all the An XI features, except the placement of the center band is about 2" forward of the dragoon band. This alternate placement is noted in Boudriot's book as well.

Redoubtable's Captain, Jean Lucas, was known for his promotion of small arms practice, so although I've found nothing to

prove my theory, I believe he would have wanted his men armed with the latest model—the An IX—but we'll never know for sure.

Notes On Refinishing

To turn Pedersoli's Dragoon musket into a Fusil de Marine, the twin middle iron band (see the December 2010 issue) is replaced



The French Marines in the tops were armed with muskets and grenades. Redoubtable's Captain Lucas practiced his men with both and they were adept at lighting and throwing grenades two at a time. The Klingenthal An IX Sabre du Bord—boarding cutlass to us—would've been stationed on the deck, for use by the boarding party. This reproduction was purchased from IMA.

with one of brass. Luckily, Pedersoli makes a copy of the .69 1798 Austrian musket—itsself a copy of the French musket—but with brass bands. I acquired the brass center band along with a spare band spring (which required a spot of weld to fit the band tightly) from Flintlocks, Etc. and voilà—Le Fusil de Marine.

French journals warn collectors that spurious rare Marine models are made from the prolific Dragoon models by merely changing the middle band. The big tattletale is the lockplate marking identifying where the musket was made, which on the Dragoon is St. Etienne. Marine models were made at Tulle.

Engraver Dale Woody, well known for fine engraving, as well as restoring original factory marks, replicated the correct marking "Mle N le de Tulle" and the barrel's "RF" (Republic Français) along with a couple of the requisite proofs and the year of manufacture (I chose An XI, about 1803-1804—just in time for the battle). The markings are somewhat of a "hybrid" based on Boudriot's drawings (3).

I stripped off the factory stock finish, stained it with Air Art Aviation's military stock stain XII (from Brownells) and refinished it with linseed oil. Even though the metal parts were nicely machine polished by Pedersoli, I hand polished them to a 600-grit finish, giving them a more subtle luster.

party across, a swarm of British sailors and Marines mustered from below decks and repulsed the attack, killing every boarder. Things weren't going as planned for Redoubtable.

Nelson's Avenger

Credited as "The man who avenged Nelson's death" was Signals Midshipman John Pollard, stationed on the poop deck. Pollard had been wounded in the arm by a splinter and shot (a musket ball hit him in the leg, smashing his watch and leaving a bruise) and had his signal telescope shot from his hand by fire from the tops. With Nelson wounded, there was no signaling to worry about. Pollard picked up one of the spare muskets positioned at the Signal Chest for the Marines and began firing into the tops of the Redoubtable as shipmates fell around him.

He wrote some years later, "As often as I saw French soldiers rise breast high in the tops to fire on the Victory's deck, I continued firing until not one was to be seen. King, the Quarter-master, in the act of giving me the last parcel of ball cartridges, was shot through the forehead and fell dead before me; this event gave me feelings of great shock. I was the only officer left alive on the poop after the action ceased [who was stationed there]. Thus originated the belief that I was the person who shot the man that killed Lord Nelson." (1)

The fire from the mizzentops was silenced by the constant return fire from Pollard and fellow British Marines. Whether the French

Marine picked out Nelson on purpose will never be known. The fact Redoubtable's Marines were well drilled in marksmanship gives credence to the thought the shot was aimed, even though heavy smoke from the cannon fire swirled about both ships.

The range was no farther than 70' and the French knew Nelson had lost an arm, so the man standing on deck

with the empty sleeve pinned across a coat largely embroidered with the star of the Order of the Bath, the Order of the Crescent awarded by the Sultan of Turkey, the Order of St. Ferdinand and of Merit awarded by Ferdinand IV of Naples and the German Order of St. Joachim, would have made him an obvious and tempting target.

Accident or aimed, a musket shot downed one of the greatest admirals

THE PATTERN 1778 SEA SERVICE MUSKET

The Brown Bess, long a staple of the British Army with a 42" barrel, was deemed too long by the Navy for shipboard use. The Sea Service musket, the same nominal 77 caliber with a shorter 37" barrel, was also a simpler and less expensive musket in most regards, having a folded sheet brass buttplate, no entry pipe for the rammer, no nose cap, a simplified triggerguard and no stock escutcheons. These weren't shortcomings in the build quality. The simple fact was the Royal Navy expected maritime use to wear out muskets faster than land use, thus requiring more frequent replacement, so they were made less expensively.

Two versions were carried onboard ship—the natural polished steel musket of the Marines and ones painted black for rustproofing and use on expeditions where shiny brightwork could give away a position.

Likely, the muskets stationed at the midshipman's signal locker for use by Marines on the poop deck were white since bright muskets were issued nearly 2-to-1 on board a 1st rate like the Victory. (2)

The rail from which Midshipman Pollard fired had several muskets and paper cartridge ammunition in packs of 10 in a small keg stationed as a reserve.

Notes On Refinishing

Built in India, the touchhole isn't drilled, so the importer can ship these almost anywhere in the USA without paperwork. Simply drill the touchhole and you have a working musket. The barrel is listed as being .75, but measured .739" at the muzzle—bigger than a 12-gauge (.729") and gets bigger toward the breechplug.

After stripping the shiny, orange-ish finish, I found a generous portion of soft, porous sapwood on top. The toe had either been broken, or the stock blank built up with an extra piece glued and pinned on. It was well done, and—what the heck—it looks like an arsenal repair. I used Brownells Acraglas to bed



Paper cartridge ammo for the Brown Bess was in packets of 10 (left) and stored in kegs. The P1778 has a simplified triggerguard compared to the Land Pattern Brown Bess. Note the simple steel plate for the tang bolt. It was expected these muskets would be used up more quickly in Naval service than infantry service.

the tang area because of the sapwood and the overall softness of the wood. The stock was then stained dark with Air Art Aviation's military stock stain VII and XIII (from Brownells) and given a linseed oil finish.

The factory's aggressive use of a buffing wheel rounded every sharp edge giving the metal an unnatural look, with huge waves in every part. I cleaned up as best I could the brass, lock, barrel and wood with files and stones, losing the period proofmarks. (Unfortunately, the markings are applied before buffing, ensuring they are all blurry.) Dale Woody re-engraved the lost markings and touched up the crown and "Tower" mark on the lock.

The lock was a major problem. The frizzen was supposedly hardened, but it also looked like the face had been filed crosswise with a farrier's file (or something coarser). It destroyed the first flint tried. Stoning it smooth went through the shallow hardening. The mechanics of the lock was beyond me to repair and I gave it to friend Pat Johnson to monkey with. He got it to work by replacing the tumbler axel, refitting the bridal and hardening the frizzen with Kasenit (available from Track or Brownells).



After biting off the back of the cartridge, muskets were primed then the powder was poured down the barrel and the paper cartridge holding the lead ball rammed down. The large, rectangular bayonet stud atop the barrel of the Bess (above) acted as a crude aiming device. The Fusil de Marine (below) had a simple, but more refined blade front sight atop the brass muzzle band and bayonet stud underneath the barrel at 6 o'clock.



the world has ever known. In turn, the unknown Marine was shot down by the young, determined Signals Midshipman, John Pollard, himself wounded, using a similar smoothbore musket; all while the great guns on both sides threw tons of iron into each other. One enduring myth is the French were armed with rifles. They could've had some rifles, but the ball recovered from Nelson's body on display at Windsor Castle was weighed and measured for



Freelance Photographer Lynn Pedigo, a GUNS contributor, shoots the Fusil de Marine at the Prescott Sportsmen's Club in Prescott, Arizona.

the Trafalgar Bicentennial, and is undoubtedly a musket ball.

Nelson died assured of victory in what would be the last great fleet action of the sailing era. The French 2-decker Redoubtable was sandwiched between and raked by fire from both sides as the 3-deck HMS Téméraire joined HMS Victory. Redoubtable struck her colors to Victory with Captain Lucas gravely wounded. It is unknown how many Redoubtables were killed in the battle, but most of her guns were dismounted or shattered by the British guns and only Redoubtable's foremast was left standing. Under tow, she was lost at sea during the storm following Trafalgar and 487 of her compliment of 582 men went down with her. The British prize crew and a few Redoubtables barely escaped in the heavy sea.

The last mention of Redoubtable in HMS Swiftsure's log (the 74 towing Redoubtable after the battle) read: *At 5 the prize made a signal of distress to us. Hove to, and out the boats, and brought the prize officer and his people on board, and a great many of*

the prisoners. At a quarter past, the boats returned the last time with very few in them, the weather so bad and sea running so high that rendered it impossible for the boats to pass. Got in the boats. At quarter past 10, the Redoubtable sank by the stern. Cut the tow, and lost two cables of eight and a half inch, and a cable of five inches with the prize. (1) However succinct,

FUSIL DE MARINE AN IX

MAKER: DAVIDE PEDERSOLI
VIA ARTIGIANI, 57 25063
GARDONE VAL TROMPIA
BRESCIA, ITALY
WWW.GUNSMAGAZINE.COM/DAVIDE-PEDERSOLI
IMPORTER: BEAUCHAMP & SON
FLINTLOCK'S ETC
P.O. BOX 181, RICHMOND, MA 01254
(413) 698-3822
WWW.GUNSMAGAZINE.COM/FLINTLOCK
ENGRAVER: DALE WOODY
P.O. BOX 565, RANDLE, WA 98377
(360) 497-5280
WWW.GUNSMAGAZINE.COM/GUNFANCY

ACTION TYPE:
Flintlock Musket

CALIBER:

.69 Smoothbore

CAPACITY:

1

BARREL LENGTH:
40"

OVERALL LENGTH:
55-1/4"

WEIGHT:
10 pounds

FINISH:
Polished bright

SIGHTS:
Blade front only

STOCK:
European walnut, oil finished

PRICE:
\$1,250 (engraving: \$295)

P1778 SEA SERVICE

IMPORTER:
THE DISCRIMINATING GENERAL
1121 JEAN PARK RD.
MANOTICK, ONTARIO
K4M 1E4, CANADA
(613) 692-3577
WWW.GUNSMAGAZINE.COM/MILITARYHERITAGE

ACTION TYPE:
Flintlock

CALIBER:

.75 Smoothbore

CAPACITY:

1

BARREL LENGTH:
37"

OVERALL LENGTH:
52-3/4"

WEIGHT:
8-1/2 pounds

FINISH:
Polished bright

SIGHTS:
None, bayonet stud

STOCK:
Indian hardwood

PRICE:
\$549

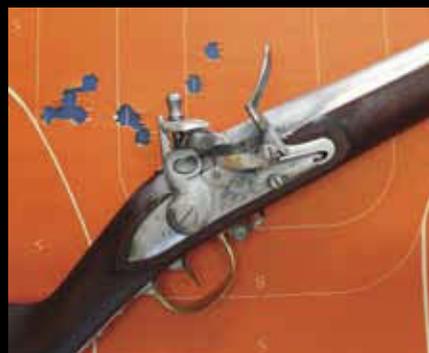
SHOOTING

I fired both muskets at a distance of 25 yards offhand and from a rest to see what kind of performance could be expected. Loaded with paper cartridges, roughly duplicating original ammunition, it is apparent to me Lord Nelson could easily have been shot down on purpose by the French Marine in Redoubtable's tops. Just as easily, Midshipman Pollard could've shot down the French Marines one by one.

My French cartridges were rolled in newsprint with a .648" roundball and 85 grains of Swiss Ffg. Because the bore of the P1778 grew a little larger at the back, I chose a .715" roundball, wrapped and tied in newsprint and charged with 70 grains of Swiss Ffg powder. Both powder charges were recommended by Dixie Gunworks (the firm's catalog is a treasure trove of information for shooters of muzzleloaders).

Rested, the Fusil de Marine delivered a 9-shot, 25-yard group of 5-1/2", with seven of those nine going into a group of 3-1/8". The P1778 Brown Bess delivered a 10-shot, 25-yard group of 8-1/2", with seven of the 10 going into a 3" group.

After a couple of "flash in the pan" misfires, I learned both muskets shot a little to the left, more due to your humble correspondent's technique, rather any manufacturing problem. The myth the shot must have been an accident is bunk. At these ranges, Lord Nelson was no doubt targeted.



The Fusil de Marine delivered the best accuracy (above), no doubt because of the higher quality Pedersoli barrel. Seven of the shots are in a 3-1/8" group. The British P1778 shot well (below), but suffered more fouling due to the poor interior finish of the barrel. The .715" ball, at the large end of tolerances for British ammo, became hard to load at round seven and a short starter was needed for shots eight, nine and ten.



it's not much of an epitaph for the ship suffering the greatest casualties in the battle.

Captain John Lucas survived his wounds, was repatriated to France, made a Rear Admiral and personally awarded by Napoleon with the Gold Cross of the Legion of Honor in 1806. He died in 1819, disillusioned at having been ignored by the government of the Restoration. (1)

Midshipman Pollard, who avenged Lord Nelson, arose to the rank of Lieutenant in 1806, retired in 1864—still a Lieutenant—and was rewarded by promotion to Commander. He died in 1868 at age 81. (1)

You can view the coat and the shot-through epaulet Nelson wore at Trafalgar online at Britain's National Maritime Museum, www.nmm.ac.uk/collections/nelson. The musket ball, recovered from Lord Nelson's body, is on display at Windsor Castle. It is fused with a bit of uniform and a bit of the gold bullion from his epaulet, and has four areas of loss.

GUNS

FOOTNOTES:

- (1) *THE TRAFALGAR COMPANION*
BY MARK ADKIN,
©2005, AURUM PRESS LTD.,
ISBN: 1-84513-0189

(2) *SMALL ARMS OF THE BRITISH FORCES IN AMERICA 1664-1815*
BY DE WITT BAILEY PHD,
©2009, MAN AT ARMS PRESS
ISBN: 1-931464-40-5

(3) *ARMES A FEU FRANCAIS MODELES REGLEMENTAIRES 1717-1836*
(TWO VOLUMES), JEAN BOUDRIOT,
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WILLIAM GILKERSON,
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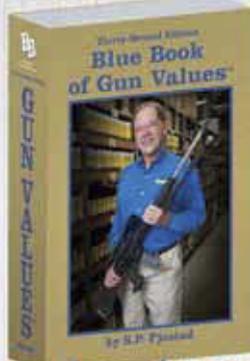
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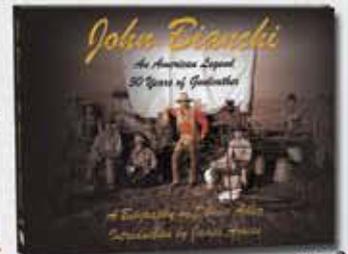
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AMERICA'S GRIE THE COLT 1911 GOV

AMERICA'S PISTOL: THE MILITARY 1911

Mike "Duke" Venturino
Photos: Yvonne Venturino

Just as the Colt Single Action Army .45 revolver nearly four decades before it, the Colt .45 Automatic was designed primarily for horse cavalry use. Indeed the US Army adopted it with that purpose in mind, with the designation US Model 1911. Now a full century later, even though it has not been "standard issue" for 25 years, American special operations troops are still using .45 autos in combat in Iraq and Afghanistan.

Think about this for a moment. Go back 100 years before 1911 and what type of handguns did the American military have? They were single-shot muzzleloaders firing roundballs powered by black powder, ignited by a piece of rock (flint). Then go forward 100 years from 1911 and the US Model 1911 is still considered one of the finest fighting handguns ever developed. Many firearms experts consider it a major mistake that the US military dropped the .45 in 1985 in favor of a 9mm.

However, 1985 wasn't the first time American military thinkers tried to discard the 1911. The very reason the

M1 .30 Carbine was adopted in 1941 was to replace handguns altogether. Training troops to proficiently fire the Model 1911 .45 was considered difficult. The logic was, a hit from a relatively weak .30 Carbine was better than a complete miss from a .45 handgun. That makes sense but the intended result never occurred. In WWII, both M1 .30 Carbines and M1911 .45 pistols were issued to American troops by the millions.

Cavalry Use

Being intended for horseback combat is one of the reasons John M. Browning put several safety



When Duke manages to steal some free time for fun pistol shooting, his US Model 1911 .45 is one of his favorite choices.

systems on America's first military autoloader. The primary one is a thumb-actuated lever on the left rear of the slide. However, it can only be engaged when the pistol's hammer is fully cocked. The hammer has a half-cock notch that could be considered a safety but a not overly effective one. The other is a grip safety. Located in the rear of the grip, it prevents the pistol from firing unless it is depressed when the shooter's hand grasps the pistol. Be that as it may, accidents still happened. In my younger years I was acquainted with a gent who trained with the US "horse cavalry" as late as 1940. He said he remembered at least two incidents where troopers shot their own horses in the head during training.

The US Government officially adopted the Browning/Colt collaboration on April 21, 1911. Contracted price per pistol was \$14.25 including a spare magazine for each. During the next 19 months the Colt factory delivered 72,570 pistols to the government. These new US Model 1911 .45s were quickly deployed to Army fighting units. Their first recorded combat came in the Philippines in June 1913. When the US Cavalry chased Pancho Villa and his revolutionaries in northern Mexico in 1916 every horse soldier carried a .45 Model 1911 sidearm.

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The M1911 .45 pistol came first (top, middle) but many other American .45 ACP military weapons followed, such as the M1911A1 (middle, second), Colt Model 1917 .45 revolver (middle, third) and Smith & Wesson Model 1917 .45 revolver (middle, bottom). At left is the US M1 Thompson submachine gun and (right) the US M3 submachine gun.

THE OLDEST PISTOL GOVERNMENT MODEL

AMERICA'S PISTOL: THE 1911 TURNS 100

John Taffin, Photos: John Taffin

In the year 1911, the airplane was less than 10 years old, Henry Ford was already making cars and Chevrolet tooled up to compete with Ford. When's the last time you saw someone driving a 1911 Ford or Chevy? About the only thing today's cars have in common with those 100-years ago is the fact they have four wheels. Airplanes have changed tremendously, travel and communication have increased exponentially, however there is one exception to the rule when it comes to change—firearms.

In 1911, Colt introduced what would become the most popular big bore semi-automatic pistol ever, the 1911 Government Model chambered in .45 Automatic Colt Pistol. The 1911, in spite of all the new semi-auto designs offered in the past quarter century or so, is still the number one choice among civilians when it comes to a dependable, big-bore, self-defense or combat pistol. The same basic 1911 made 100 years ago is still found coming out of the Colt factory. There have been minor changes mostly in sights and grip safeties; however, the .45 ACP Colt 1911 of 2011 is virtually indistinguishable from the original.

As just about everyone knows John

Moses Browning was responsible for the 1911 and it was not long before the 1911 was placed in battle, but let's talk civilian use.

After WWI, Americans—at least those in the know—began to discover the 1911. One of the first groups to adopt it, unofficially, was the Texas Rangers, or rather individual members thereof. Rangers could choose their own sidearms and I can remember seeing pictures in the 1950s in these pages, of Rangers like Clint Peoples and Bob Crowder armed with a pair of fully engraved, ivory-stocked .45 Colt 1911s carried in floral-carved holsters.

The original 1911, just as my



John has been shooting and carrying the 1911 for self-defense nigh onto 45 years.

1914 Commercial version, had very small sights, a hammer that would quite often bite the area of the back of the hand between the thumb and forefinger and a flat mainspring housing. In 1923, changes to the 1911 were approved and it became the 1911A1. One of the complaints of the 1911 was it had a tendency to shoot low. To bring the pistol up naturally, the flat mainspring housing was given an arch, which moved the hand back slightly and to compensate for this the long trigger was shortened. Over the years much easier to see sights arrived and the tang on the grip safety was lengthened to help alleviate hammer bite. Today this problem is mostly solved by a beavertail grip safety matched up with a rounded spur hammer. One other change often seen is an extended thumb safety. All of the changes are minor and do nothing to affect the basic design of the 1911.

The Super .38

In 1929, a second chambering was added to the 1911. Colt took their existing .38 ACP, upped the powder charge and the result was a 130-grain bullet at 1,300 fps making it capable of penetrating car bodies and windshields. The .38 Super did what it was supposed to do and John Henry Fitzgerald of Colt at the time claimed it was not only more accurate at long ranges than the .45 ACP, it was also

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Standard magazine capacity of Colt 1911 has been seven rounds for the .45, eight rounds for the 10mm and nine rounds for the .38 Super. Aftermarket mags have improved on that some, but it took Para-Ordnance to really break the bank by increasing the width of the frame and increasing capacity to 14 rounds.

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All of those US Model 1911s were of a type. Barrel length was 5", grips were checkered walnut, metal finish was a dull blue and magazine capacity was seven rounds. Sights were hardly considered; front was a tiny rounded nub and rear was a notched bar of steel dovetailed into the slide. The only manner in which the sights could be adjusted was by drifting the rear sight laterally in its dovetail to correct point of impact in regards to windage. The shooter had to be satisfied with point of impact for elevation as the pistol was issued. Military Model 1911s were *suspected* to be on at 50 yards.

Ammunition

Military issue .45 ACP ammunition for the 1911s, remained remarkably constant through the many decades and wars of its service life. Original testing by the US Army's Ordnance department had started with 200-grain roundnose bullets. Bullet weight was soon increased to 230 grains and that was officially adopted in 1911 with a velocity of approximately 830 fps. Interestingly, in the book *The Model 1911 And Model 1911A1 Military And Commercial Pistols* by Joe Poyer it is written that in 1940 the .45 ACP's official bullet weight was 234 grains with a velocity of 820 fps and a plus or minus variation of 20 fps. One notable change in .45 ACP military loads occurred during both World Wars when steel was used both for cartridge case manufacture and bullet jacket material.

As is always the case for the United States, when war was declared on Germany in April 1917, American military forces were woefully unprepared. Along with most items of military equipment, this shortage also applied to handguns. In fact, the US military had to turn to Smith & Wesson and Colt revolvers converted to fire .45 ACP ammunition to help fill the need for handguns. Shortly after adoption of the Colt Model 1911, that firm licensed the government owned Springfield Armory to also make their pistol, but their production of 1911s had to cease in favor of building Model 1903 rifles. To help with the situation Colt licensed Remington-UMC to build 1911s also. Production problems caused less than 22,000 to be made in that plant before the contract was cancelled shortly after the war.

Improvements Needed

Extensive use of the Model 1911 in wartime revealed a few minor areas for improvement. Those changes were incorporated by 1924, which resulted in a designation change from Model



In 1941, the US M1 .30 Carbine was developed as a replacement for the M1911 pistol (above), but the 1911 was still being issued decades after the M1 .30 Carbine had been declared surplus. The M1911 and M1911A1 served us in two World Wars and Vietnam; generally issued with web belt (below), leather full-flap holster and magazine pouch with two extra 7-shot mags.



1911 to Model 1911A1. Most of the improvements were internal but two are immediately evident when looking at Models 1911 and 1911A1 side by side. They are the arched mainspring housing and the finger bevels on the frame alongside the trigger. The official government mandated dividing line between the two models was that up to serial number 700,000 they are Model 1911s. After that they are Model 1911A1s.

Up to about serial number 734,000 military issue 1911s had a dull blue finish. Then in 1941 they began receiving a phosphate finish generically called "Parkerizing." Shortly before this Colt also began experimenting with synthetic materials for grips so most of the 1911s made for WWII carried "plastic" grips.

And that brings us to a great change in US Model 1911A1s. Naturally, the United States entered WWII unprepared in regards to all weapons and the Colt factory could not manufacture enough .45s to

meet needs. Therefore, other firms were given contracts to produce 1911A1s. Such were Ithaca Gun Co., Remington Rand, (the typewriter manufacturer not the arms maker) and Union Switch & Signal. A small number were even made by the Singer Sewing Machine Co. Manufacture of US Model 1911A1s by all these factories ceased at the end of the war in 1945 and the government purchased no more, even though the model remained standard issue for 40 more years.

It is worth noting those earlier Model 1911s remained in service along with the A1 version, and in rebuilding and servicing pistols over the decades, parts were swapped back and forth. It is common to find former government-owned .45 Autos with parts of various vintage.

Here's something else worthy of note. Although the United States' military forces all used 1911s to one degree or the other in WWII, many

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more powerful at those distances. The Super has never had a large following, but like the .44 Special, has always been a "Connoisseur's Cartridge."

It was resurrected in a manner of speaking with the proliferation of combat pistol competition beginning in the 1980s. Colonel Jeff Cooper, who always championed the .45, said the .38 Super makes a wonderful Trail Gun, which would be quite effective on coyotes and other varmints. I hold the .38 Super among semi-automatics in the same esteem I do the .44 Special among sixguns.

The Commander

In 1947, the Army started looking into the possibility of adopting a smaller, lighter .45 ACP pistol. The engineers at Colt went to the drawing board and the result was an alloy-framed .45 weighing 1/3 less than the 1911 and having a barrel length of 4-1/4" compared to the original 5" length of the 1911. The Army never did adopt such a pistol; however, in late 1949 Colt began offering what is now known as the Commander, and civilians befitted greatly.

With its lighter 26-ounce weight, the Commander is much easier to carry all day compared to the all-steel 1911's 39 ounces. However, the trade-off is its greater felt recoil, so in 1970 an all-steel version was offered as the Combat Commander. Both versions have been offered in .38 Super and 9mm, in addition to .45 ACP. The Commander uses a rounded hammer, instead of the long hammer of the 1911, to help prevent hammer bite, and almost all 1911s now wear what has become universally known as the Commander hammer.

Other Cartridges

While the .45 ACP has always been the number one chambering in the Colt 1911 followed by the .38 Super, there have been others. The National Match/Gold Cup has been chambered in .38 Special Wadcutter in the past, and both the 9mm and 10mm chamberings have been used, with the latter still being produced. My personal experience has been with Colt manufactured 1911s in .45 ACP, .38 Super, 10mm and the 9mm in the Colt Commander. I have never fired a 9mm in a full-size Colt 1911 and judging from the prices they command on gun sites and auction sites, I probably never will.

Today the 1911 is as popular, probably more so, than ever. A long list of gunsmiths specialize in tuning and embellishing 1911s and several who started out that way now build



The Colt Commanders debuted in 1949 as a lighter, shorter alloy-framed 1911 for concealment use. Later, they were made in steel. These are (above, from left to right) a blued and stainless steel .38 Super (which John considers a "Connoisseur's Cartridge"), Jimmy Clark Custom .45 and lightweight .45. The song Who Could Ask For Anything More? was certainly written about the .45 ACP Colt 1911—or should have been. Taffin's choices (below) include a Government Model for everyday use, Commander for concealment and a Gold Cup for targets.



their own 1911. In addition, we find a nearly endless list of manufacturers now building 1911s. There seems to be no end to the possibilities and it is without a doubt the most copied semi-auto pistol in existence, with dozens of "new" versions offered every year. Just about every custom feature possible on the 1911 has been accomplished, and custom 1911 pistols can be found retailing for \$3,000 and more. With all that, such companies as Auto-Ordnance, Iver Johnson, Para USA, Springfield Armory, as well as Colt progressed backwards now offering no frills military-style 1911s for civilian carry.

My personal shooting life with the 1911 began with a Remington Rand surplus in the mid-1950s, and today Remington is back in the 1911 business with a modernized version known as the 1911R1. My old Remington loaded with war-surplus hardball, traveled with the family

as we relocated from Ohio to Idaho 45-years ago, and also rode with me for three summers as I traveled back and forth to the University of Montana Graduate School. My experience with other 1911s extends to those made by Doublestar, Guncrafter Industries, Iver Johnson, Kimber, Les Baer, Para USA, Smith & Wesson, Springfield Armory, Taurus, Wesson Firearms and Wilson Combat, as well as the .38 Casull from Casull Arms, the .460 Rowland, the .50 GI and several custom 1911s from such pistolsmiths as Jimmy Clark, Luke Volkmann and Bill Wilson.

There was a time, in the not too distant past, when Colt seemed to have trouble living up to their historical standards when it came to building Single Action Army sixguns and 1911s. I am happy to report this is no longer the case and the firearms coming out of Hartford

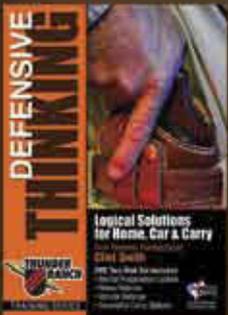
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thousands were given to other Allied nations' by the Lend Lease Act. Countries receiving them were, in order of numbers shipped, Great Britain, the Free French, the Soviet Union, the Nationalist Chinese and Canada.

Broadly Adopted

That's not all. Between WWI and WWII several other nations geared up to produce 1911s or variations thereof. The armies of both Norway and Argentina adopted the Colt 1911 .45 Automatic pistol, first buying them from Colt and then setting up facilities to make their own. Also the Star factory in Spain produced a 1911 knockoff. Here's an interesting twist of fate. The Norwegians had ceased production of their 1911s in the 1930s, but after Nazi Germany occupied their country in 1940, they put that factory back to work and took its production



Note the M1911 (above) has no frame bevel behind the trigger and a flat mainspring housing (note the grip safety is the longer A1 style, often changed during the gun's working life). After WWI, the pistol was modified and renamed the Model 1911A1. Now there is a frame bevel behind the triggerguard, a shorter trigger, a longer grip safety and arched mainspring housing.



for their purposes.

With all the interest in WWII history nowadays, prices of original US M1911 and M1911A1s have risen dramatically. Back in the 1960s military surplus .45 Autos sold for about \$35. I remember that figure because its what I got for trade-in value on a Remington Rand one about 1969. Nowadays a good condition sample can bring 50 times that price, and a really, really, good sample can bring much more. That situation now makes fertile ground for even more knockoffs.

Of course copies, clones and facsimiles of Colt's Government Model .45, the civilian name for the US M1911 and 1911A1, have been common for decades. But now even Plain Jane military ones are being reproduced. Without being sure, I think Colt may have started the ball rolling themselves back in the 1990s. Then they brought out a Model 1991A1. Next, right after the beginning of this century, Colt put out a copy of the US Model 1911 and then followed with an US Model 1911A1. I have one of the latter and it came complete with a replica of the original cardboard box in which Colt shipped pistols to the government. Colt's current website still lists the Model 1991A1 but not the US M1911 or M1911A1.

One of the newest Model 1911 replicas comes from a company in no way normally associated with autoloading pistols. That's Cimarron Arms, an outfit identified with "cowboy" guns. One of their 1911s arrived just as winter started here in Montana and by deadline time it was not possible for me to fire it, so I'll do a piece specific to it as soon as possible.

In the meantime consider this. In the overall scheme of things a pistol isn't a very important war weapon—unless you are the one in danger and it is the single item that saves your life. A prime example is quoted in a new book titled *Blossoming Silk Against The Rising Sun* by Gene Eric Salecker. In it when describing American paratroopers dropping on the island of Corregidor in the Philippine Islands, the author says that Private Earl Williams was struggling to get free of his parachute harness when charged by two Japanese soldiers. Williams could not get his M1 rifle uncased in time but saved his life by shooting both enemies with his M1911 .45.

The US Model 1911 and M1911A1 has not been standard American issue for 25 years but in its basic form it is still being used by special operators, many of whom feel it should never have been dropped in the first place.

GUNS

are right up there with the best Colts ever offered. In the past year or so I have extensively tested five brand-new Colt 1911s. These comprise three chambered in .45 ACP, a stainless steel 1911, a stainless steel 1911 with a Picatinny rail and a Combat Elite. In addition to these three, a bright stainless steel Colt Custom .38 Super and a stainless steel 10mm Delta Elite were tested. They are all superb pistols and as good as the 1911 gets, which means really, really good.

In the 1950s several well known, or soon-to-be well-known gunsmiths turned their attention to the 1911 building custom versions mainly for bull's-eye shooting. It was not long before the .45 ACP 1911 replaced the double-action revolver in centerfire competition. These semi-autos, and many built since, were capable of grouping their shots within 1" at 50 yards. A fully accurized 1911 is a joy to shoot, whether in formal competition or informal plinking, *but*



Today's Colt .45 Combat Elite (above) has many of the custom features now demanded by shooters, such as a beavertail grip safety, lowered and flared ejection port and sleek easy-to-see sights. In rapid fire, this one shot very well indeed with 200-grain SWCs. Over the past century the 1911 Colt has been chambered in (below) .45 ACP, .38 Super, 9mm and 10mm. In addition, many other cartridges including the .22 Long Rifle, as well as many exotic rounds such as the .50 GI have been chambered.



the number one attribute of the 1911 is the fact it is simply the finest self-defense pistol ever offered.

Jeff Cooper is the one man really responsible for the rediscovery of the 1911 beginning in the late 1950s. For nearly a 1/2 century he promoted its use along with proper training. Our own Massad Ayoob has called it the greatest fighting handgun ever. I rest my case. The consensus is in; the debate is over. It was not long after Col. Cooper started his campaign for the 1911 that custom gunsmiths began offering Custom Combat versions of their bull's-eye guns.

One of the pioneers was Frank Pachmayr whose .45s set the tone and his number one designer was a man who has been my friend and neighbor for nearly 40 years, Master Gunmaker George Hoeng. In the 1970s Paul Liebenberg migrated from South Africa to join Pachmayr and produce the Combat Special. Today Paul offers the same basic 1911 from his Pistol Dynamics shop. There is a long list of things, which can be done, but for my personal use give me a good trigger and great sights before anything else and I am good to go.

Ammo

When Col. Cooper began touting the .45 ACP 1911, shooters basically had two choices when it came to ammunition, hardball or load your own. Cooper advised the use of a hardcast 200-grain SWC, such as the No. 68 Hensley and Gibbs loaded over Unique for right around 1,000 fps. That soon became my standard load. Hardball is still a viable choice, except it can provide more penetration than desired; however, today we have a great choice of self-defense .45 ACP factory loads offered in hollowpoint persuasion in weights of 185, 200 and 230 grains. Many of these rank right at the top of the list when it comes to stopping power.

When it comes to self-defense there are really only two categories of semi-automatic pistols, namely the 1911 and all others. It would take a dozen articles this size, nay a book, to even come close to covering all the 1911s being made today so I am focusing on the original, the Colt. After 100 years a Colt is still a Colt. One custom gunsmith I talked to said the Colt 1911 is still the best first choice 1911. I'm not going to argue with him. The .45 ACP is even older than the 1911, yet today it still remains a number one choice. For actual stopping power, it has been challenged by the .357 Magnum and .40 S&W, but it still remains "King of the Semi-Auto Cartridges" chambered in a "Perfectly Portable Packin' Pistol."

Beginning in the 1980s a new breed of semi-auto pistol began to appear. Prior to this a few police departments in the country were outfitted with 1911s, however most still used double-action revolvers. By the 1990s most departments had switched to double-action semi-automatics. Somehow this type of pistol was viewed as being "safer" than a 1911 with its exposed hammer and especially when carried cocked-and-locked. This is strange when you consider the fact 100 years ago the 1911 was considered a safe pistol for the man on horseback.

I like double-action pistols. I like polymer-framed pistols. We have many superb versions offered from several manufacturers and they are reliable and shoot more accurately than needed for self-defense use. For normal every day use I'll take the 1911 chambered in .45 ACP as a packin' pistol, or a 10mm or .38 Super for use when my travels take me to the sagebrush, foothills, forests or mountains. I don't drive a 100-year-old car, I have a large flatscreen TV, several computers, even carry a cell phone in my pickup (for emergency use); however, when it comes to handguns those at the top of my list include the same ones available 100 years ago, namely, the Colt Single Action, the Smith & Wesson N-Frame and most assuredly the Colt 1911. Sometimes progress isn't all that necessary. **GUNS**

THUMBNAIL HISTORY OF THE COLT 1911

1911:

The US adopts the .45 ACP Government Model.

1923:

The 1911 formally becomes the 1911A1.

1929:

The Government Model is chambered in .38 Super.

1932:

Colt introduces the National Match pistol in .45 ACP and .38 Super.

1950:

The Colt Commander arrives.

1957:

Colt's target pistol the National Match returns as the Gold Cup.

1970:

The Series 70 Government Models begin.

1983:

The Series 70 becomes the Series 80 with internal firing-pin safety.

1985:

Colt produces their first stainless steel 1911; the compact Officer's Model arrives.

1991:

Colt brings out the no-frills 1911A1.

2011:

Colt celebrates 100 years of the 1911 as they continue to produce high-quality versions.

“Gun Fit”



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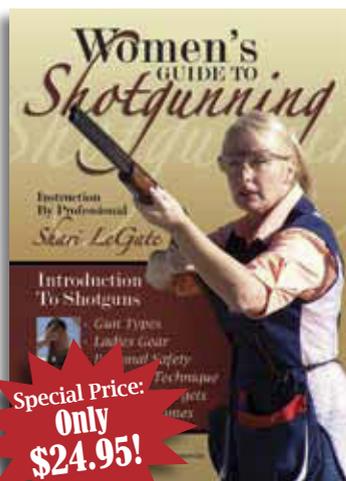
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The 110's 3.75" clip-point blade proved to be the perfect length for a wide variety of field duties—small enough for skinning but large enough to slice and dice around the camp. Built like a brick outhouse, the knife's ample 4.8" handle fits most mitts big and small. But it was the blade lock that sealed the deal. Those worried about the blade closing up in the middle of a hotly contested field chore could rest at ease.



The Buck 110 Folding Hunter, shown here in classic form (top) and modern EcoLite version (bottom), is an American icon.

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420HC stainless steel

BLADE LENGTH:

3.75"

CLOSED LENGTH:

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WEIGHT:

8 ounces (Classic), 5 ounces (EcoLite)

SCALES:

Natural woodgrain (Classic),

Paperstone (EcoLite)

SHEATH:

Black leather (Classic),

black nylon (EcoLite)

PRICE:

\$66 (Classic), \$45 (EcoLite)

Many a hunting folder has come along since but none can match its numbers. Over 18 million have been sold and Buck still makes the folding hunter at a clip of 1,000 units a day. Many outdoorsmen prefer a lighter knife these days—the classic 110 weighs around 8 ounces—and Buck has solved the problem with the release of the new, durable synthetic Paperstone-handled 110 EcoLite, which weighs in at just under 5 ounces and is available in green or burgundy. Better yet, they're made right here in the USA. We've been graced with many a fine knife design over the past 50 years, but in reality only a handful ever make it past a decade of production. The Buck 110 Folding Hunter is still in the game!

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Press Continues The Assault

“[W]e... need to look at what the anointed media do with their elite status.” I wrote in a Rights Watch column titled “Authorized Journalists” back in February 2009. “Meaning how they slant supposedly straight news stories to fit their anti-gun agenda. And ignore other stories altogether... Combine that with an almost astounding ignorance of their subject matter.”

If anything, the bias appears to be getting worse. As the November elections appear to have resulted in a temporary reprieve from new federal legislative infringements, and as many states are moving to relax gun restrictions, hysteria from our supposed “government watchdogs” is becoming more shrill. Here are a few recent examples:

In Ohio, editorial boards of major newspapers seemed unanimous in decrying a state Supreme Court decision validating preemption, meaning cities like Cleveland could no longer impose characteristics-based firearms bans. Their talking point, straight from the Brady playbook, was that this did “violence” to “home rule.” Of course, the fact that “gun control” laws never seem to carve out local exemptions is never acknowledged, let alone advocated for. The only “one size fits all” solution they endorse applies to shackles.

A New Zealand correspondent commented on her adventures in Texas, bemoaning how the frequent sight of armed diner patrons left her “spellbound and queasy.” Only one problem: Open carry is still illegal in the Lone Star State, although moves are

underway to reform that. Not that her readers were told that.

Following a series of hit pieces, *The Washington Post* repeated the canard that 90 percent of Mexican “crime guns” come from private US sellers and went further to suggest that fewer than one percent of them came from official Mexican sources—despite corruption among the military and police being rampant, that one of the most powerful cartels, Los Zetas, was started by former officers and that much of the seized ordnance includes machine guns, grenades and the like.

Along those lines, the *El Paso Times* informed its readers that an illegal buyer could purchase up to 600 “automatic weapons a year” and that “no dealer is going to remember” that person—despite machine guns being NFA-controlled firearms. When this was exposed as hopelessly incompetent journalism at best, the paper issued a quiet retraction claiming they meant to say “high-powered rifles,” which again, is simply nonsense.

ABC’s “Good Morning America” featured a spokesman for the Brady Campaign stumping for more “gun control,” and went out of their way to assure the audience he was “not anti-gun.”

These are but a few examples of media dereliction of duty from its proper role of being a watchdog of government, not its lapdog. As gun owners interested in protecting our right to keep and bear arms from attacks on all fronts, we must all be on guard against misrepresentation and deception, and be ready to expose it when we see it.

Farewell To A Friend

I would be remiss in not mentioning the untimely passing on Dec. 21, 2010 of Aaron S. Zelman, executive director of Jews for the Preservation of Firearms Ownership. He was 64. A great friend and defender of liberty has been lost.—David Codrea

Visit David Codrea’s
 online journal
 “The War on Guns” at
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 read his *Examiner* column.

NEWS

Former Combat Marine Awarded Silver Star

A former Combat Center Marine was awarded the Silver Star for valor in Afghanistan during a ceremony on Lance Cpl. Torrey L. Gray Parade Field, at Twentynine Palms, Calif., last Dec. 17, 2010.

Sergeant William W. Rollins earned the nation’s third highest award for demonstrating courage under fire in action against the enemy June 19, 2008, while serving as 1st Squad Leader, 2nd Platoon, Company G, 2d Battalion, 7th Marine Regiment, in support of Operation Enduring Freedom.



Sergeant William W. Rollins salutes after receiving a Silver Star during a ceremony at the Combat Center’s Lance Cpl. Torrey L. Gray Field Dec. 17, 2010. The Silver Star is the Nation’s third-highest award. Photo: Lance Cpl. Sarah Anderson

During a patrol to the village of Dowlatabad, in Balkh province Afghanistan, Rollins squad was ambushed. His squad was pinned down and could not find a way out. Rollins’ found himself on the far left of the squad and furthest from the fire. After a quick assessment, he seemed to be the only one mobile enough to create a distraction, his only hope to free his Marines from the enemy’s fire and get them to safety. With machine guns and rocket propelled grenades flying at the Marines, Rollins rushed to within 30 meters of the enemy positions, leveled his machine gun and provided suppressive fire, allowing his men to escape the immediate ambush

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You probably won't need to shoot 91,622 rounds* with any handgun, but the fact that an HK P30 can give you the reassurance that if you need to stake your life on the reliability and durability of any handgun, you can depend on a P30 from Heckler & Koch. Designed for European law enforcement agencies, the P30 is a premiere sidearm for anyone serious about personal security. Available in 9 mm and .40 S&W, the P30 comes as a standard model, L model (long-slide), and S model (with ambidextrous safeties).

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*96,322 rounds fired by HK P30 9 mm serial number 129-012246 (shown above). For the full story, visit <http://pistol-training.com/archives/2668>.

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area, according to the award citation.

Once his Marines withdrew, Rollins courageously maneuvered through enemy fire to rejoin his squad where he continued to attack the enemy while the squad's wounded Marines were extracted. Then, with enemy fire still impacting around him, Rollins observed a Marine hit, rushed to his aid and dragged him to safety. Rollins' aggressive actions in the face of the enemy drew fire onto his own position and provided his squad the reprieve they needed to maneuver to safety, according to the award citation.

Several fellow Marines said the medal was well deserved, that Rollins' bravery epitomized the values every Marine, past and present, lives by.

"It doesn't surprise me that he got it," said Edgar Figueroa, a former active duty Marine and friend of Rollins. "He's a very humble guy. He would give you the shirt off his back. He is a normal guy, who got put in an extraordinary situation, did what any Marine or squad leader would do; protect his squad, even if it means his own life. I'm proud of him."

After the ceremony, Rollins stood proud and humbled as the Silver Star hung from his chest and old friends greeted him with smiles and congratulations.

"I feel extremely honored," Rollins said. "The only thing going through my head at the time was how can we move to cover safely. This [award] was the last thing on my mind. It is quite an honor, and it's nice to be back." Rollins and his wife, Alexandra, expect a baby girl in February. He plans to enroll in a fire fighter academy in Houston.—*Lance Cpl. Sarah Anderson, Marine Corps AGCC Twentynine Palms*

SAAMI Successful

The United Nations has adopted changes to international ammunition-shipping requirements sought by the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI). The rule change essentially protects the industry from a shift in US shipping regulations that potentially would have cost the industry \$300 million per year. The net result is that while the regulations will change, shipment of ammunition in the US will continue without additional fees and handling requirements. The change harmonizes US regulations with international requirements, reduces overly strict shipping requirements by truck and vessel and facilitates shipment of ammunition to consumers worldwide by parcel post.—*Courtesy NSSF*

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Tom Knapp Teams With CZ-USA

Exhibition Shooter Tom Knapp has selected the CZ 712 to use in his upcoming shooting demonstrations. The 712 as well as other CZ-USA models will be featured during his wing shooting clinics. New videos and TV appearances are in the works where Tom will bring new ideas along with his special brand of excitement to the line of CZ shotguns, rifles and pistols.



Tom Knapp, well-known exhibition shooter, has selected the CZ 712 shotgun to use in his clinics and demonstrations.

Tom Knapp is "The Shooting Star," and one of today's greatest exhibition shooters. A true living legend, Tom is the original World Record Setter using his shooting prowess to achieve three world records for hand-thrown clay targets. In addition to thrilling crowds around the world with seemingly impossible feats with a shotgun, Tom has joined them in their homes as host of outdoor television shows. Both a "Legends of the Outdoors" and "Exhibition Shooters" Halls Of Fame Member, he is regarded as the finest ambassador American shooting sports has ever known.

CZ-USA is the exclusive US importer for firearms from Ceska Zbrojovka and Zbrojovka Brno in the Czech Republic, as well as a line of shotguns from Huglu, Turkey. CZ-USA is the holding company for Dan Wesson, a premium handgun manufacturer in New York, and the Safari Classics line of custom sporting rifles.—*Courtesy Jason Morton, CZ-USA*

GUNS

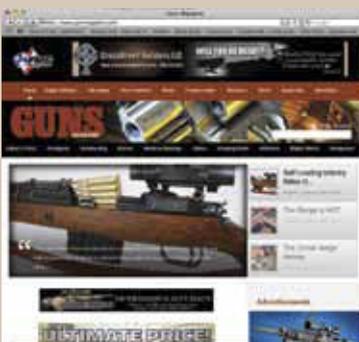
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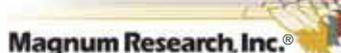
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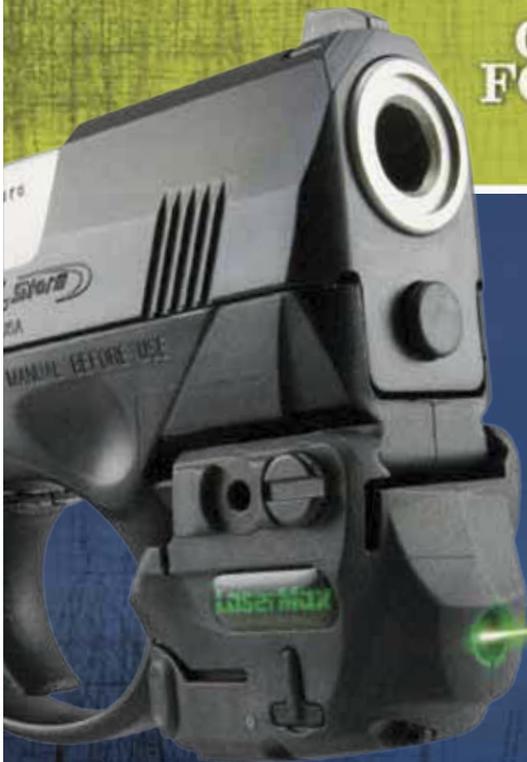


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A while back a buddy asked me what were the three most important things I used for gun cleaning. I told him, "Puppy puddle-pads, a goose-neck light and a gun vise." *That got his eyebrows dancin'.*

"What about solvents an' lubes and rods and, and..." I waved him off. There's a whole world of gun cleaning supplies out there, I explained, and if I have my druthers, I'll use the best and most specialized for the weapon, the weather and its application. But I've learned that regardless how many, or what kinda cleaning supplies you have, making the task neater, more efficient and complete means *you'll do it more often, and when it most needs doin'.*

Get A Vice

The puddle pads—available at most pet supply stores—are one of my best "discoveries." They provide a padded, lint-free, absorbent surface, a liquid-impermeable bottom and, when the job

is done; you can wad up the whole solvent-soaked, lube-splotted, grunge-dappled mess and toss it in the trash. After cleaning but *before* applying lube and grease, a slender flexi-head light can reveal lots of "oops" or problems in otherwise hidden places. A setup like MTM Case-Gard's Gun Vise lets you organize and control supplies, and act as that extra set of hands you don't have. Virtually everything else you need is a matter of personal choice—and today, you've got some great ones!

Cutting Clutter & Boosting Efficiency

Cleaning from the breech to the muzzle avoids damage to the crown and minimizes grunge going into actions. Two of the best such systems available are made by Otis Technology and Cleenbore USA.

Otis makes a wide variety of gun cleaning kits, but all feature very compact size, neat organization and breech-to-



The Brownells/Otis Elite kit and Cleenbore's SACS Small Arms Cleaning System are compact, neat and efficient. KG solvents and oil work well.



muzzle cleaning using coated flexible "Memory-Flex" rods. Otis systems have been US military issue for years now, and their pocket-sized field kits are virtually without peer. If you want to seriously cut down your jumbled jungle of cleaning supplies, check out Brownells' version of the all-calibers, armorer's-level Otis Elite kit.

Over 200 individual components in an attaché-size zipper case equips you to clean firearms from .177 through 10 gauge. Contents include highest-quality bronze bore brushes, bore reflector and chamber flag, scraper and punch kit, large and small obstruction removers, receiver brushes, patches in several sizes, and much more; even an instructional DVD. You also get the pocket-size Brownells/Otis 750 Tactical Kit for field carry.

The Cleenbore SACS—Small Arms Cleaning System—is even smaller, and does away with cleaning rods entirely. The heart of the system is a handle-and-valve device which uses compressed air from CO₂ cartridges to propel synthetic cleaning and lubricating wads down the bore. The cleaning wads have Scotchbrite scrubbing ends. Both types are 20 percent oversized, so they compress and follow the rifling, giving a really thorough cleaning and lubing effect. Typically, shooting a cleaning wad with a few drops of KG-12 Bore Cleaner/Copper Remover down the bore twice, then one pass with a lubricating wad will do the trick.

I've used the Cleenbore SACS on rifles from .223 to .45-70 and been amazed at how well it works. It looks like a toy, and cleans like an armorer!



MTM Case-Gard's Gun Vise can turn cleaning pains to pleasures.

Be A Pro

When using conventional patches, slotted cleaning tips are convenient, but for real efficiency, precisely-sized jags clean more effectively with fewer passes. Pro-Shot Products' jags are a top choice of finicky benchrest shooters who insist on perfection.



Precision jags like these from Pro-Shot clean far better than slotted tips.

Your Chambermaid & GTUL

To get into those crud-collecting bolt-lug cuts and clean your chamber, check out the Chambermaid setups from CJ Weapons Accessories. Using short flexible rods, specialized bronze brushes and thick, cut-to-fit synthetic wads, this system makes short, neat work of a job you'd otherwise be sweating over. Chambermaids are available for most bolt and auto rifles, shotguns and handguns.



Chambermaid kits are great for getting bolt lug races and chamber cuts spanky-clean.



Glock magazines are notorious for harboring lint and dust-buffalo, and they're a pain to disassemble and clean. The GTUL allows you to secure the magazine with one hand and apply pressure to disengage the locking tabs. With the other hand you can then depress the retaining pin and slide the baseplate off. The Mag Brush has a punch in the handle's base for that chore, and the nylon brush finishes the job. GTUL saves time, aspirin and band-aids!

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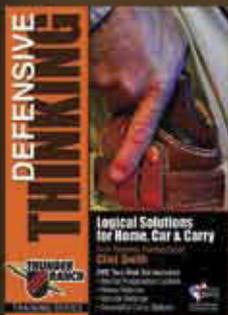
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Hoppe’s BoreSnake performs three cleaning functions in one quick pass, and the GTUL is a magazine-cleaning marvel.



The Wet Stuff

With a crazy cosmos of petroleum-based and synthetic solutions out there, “keepin’ it in the family” is sound advice. Mixing many oils and different synthetics can result in poor performance, gumming, clotting and galling. That’s no reason to avoid trying new solvents, cleaners, lubes and protectants—there are lots of terrific products—but experiment cautiously. I try ’em one gun at a time, and never on carry-guns until they’re proven.

On Guard

All of Sentry Solutions products play nice together. They’re based on an oil-free dry film technology, and combat-proven by the Navy’s SEAL teams. Especially effective in dusty, gritty environments and around salt water, their family of products offers great protection from corrosion, friction and wear. Also check out their excellent Knife & Tool Care Kit.



Sentry Solutions products are oil-free and highly effective in dusty environments.

Family-style Care

Smith & Wesson makes a broad range of gun care products, from Premium Bore Gel to a Premium Lubricant & Protectant that’s safe for all finishes. If you shoot a Smith, why not keep its care in the family?



Smith & Wesson (above) offers a full line of maintenance products, while SIG SAUER (below) uses Mil-Comm lubes and greases exclusively.



If you’re a SIG SAUER fan, you should know they’re so impressed with Mil-Comm’s lineup they use it in both their manufacturing processes and all their firearms. Mil-Comm light and heavy lubes and protectants, cleaners and degreasers are extensively used by our military forces on everything from small arms to the Mark 75 76mm High Cyclic Cannon. If it’s good enough to be the sole lube runnin’ our Harrier-mounted Gatling Guns, for

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Rare K98 Sniper from WWII



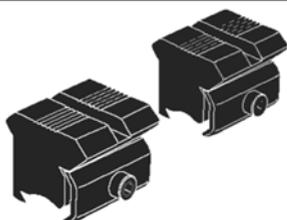
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SLiP2000 is another family of
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chills to 40 below zero. The only lube
used was a light wipe of SLiP2000
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your Fritos! According to my research,
this can have interesting but disturbing
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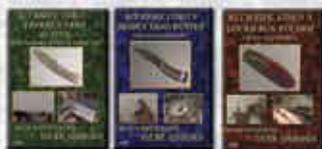


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8 3/8" overall, blade 3 3/4" x 7/8", 1/8" thick.
SS874 Blade Only.....**19.95**
SS874K Bearcat Kit.....**25.95**

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8" overall, blade 3 3/8" x 1", .144" thick.
SS650 Blade Only.....**19.95**
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9-5/8" overall, blade 2 5/8" x 3/16" thick.
SS631 Bear Paw Hatchet.....**14.95**
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ALASKAN ULU BLADE U-Style Ulu

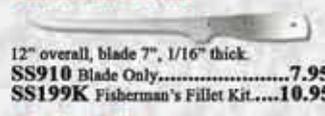


440 stainless steel. Blades 3 1/4", cutting edge 6", 1/16" thick with 7/32" holes.
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Thin, flexible 8A Stainless fillet blade Overall 10-1/2", blade 5-3/4" x .045" thick. Kit contains blade, pins and dymondwood.
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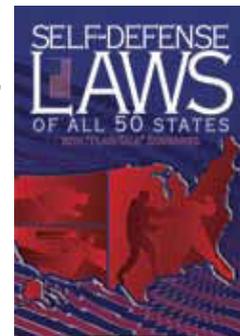
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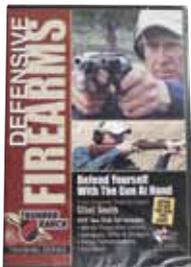
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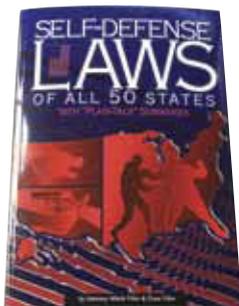


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GUNS MAGAZINE MAY 2011

GUN GIVEAWAY!

FOR WEB LINKS, GO TO WWW.GUNSMAGAZINE.COM/PRODUCT-INDEX

WIN THIS GLOCK GENERATION 4 G22 IN .40 S&W AND A MANTIS TA-2CM AND MORE!

Yes, you've read about this Glock in last August's issue in a story by Massad Ayoob, who found the improvement in grip quite useful. To quote Mas, "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, it 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 Glocks. Generation 4

is a welcome and natural evolution in the Glock product line."

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Need some extra protection? The ProMag Archangel Polymer Pen for those up close defensive encounters.

You can't win if you don't enter, so send those postcards in pronto or take the survey and enter online at www.gunsmagazine.com.

GUNS MAGAZINE GUN GIVEAWAY!

This contest is open to individuals who are residents of the United States and its territories only. Agents and employees of Publishers Development Corporation and their families are excluded from entering. Contest void where prohibited or restricted by law. Winners must meet all local laws and regulations. Taxes and compliance with firearms regulations will be the responsibility of the winners. Winners will be notified by CERTIFIED MAIL on official letterhead. ATTENTION DEPLOYED MILITARY: USE STATESIDE ADDRESS! No purchase necessary to enter.

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Entries must be received before **JUNE 1, 2011**.

Limit one entry per household.

QUESTION OF THE MONTH: How often do you clean your firearms?

- (A) Every time after shooting
- (B) A couple of times a year
- (C) Never

Name _____
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CIRCLE ANSWER(S) TO QUESTION OF THE MONTH MAY 2011:
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SAMPLE ONLY

ODD ANGRY SHOT

• JOHN CONNOR •

NO, THE SKY AIN'T FALLING

But just in case it does....

Most of us live on power grids which are increasingly subject to massive system failure. Ninety percent of you reside in areas susceptible to hurricanes or tornadoes; metro, forest or wildfires; earthquakes, flooding or avalanches; severe lightning, ice or snowstorms. Consider too, there's no sizeable American city with resources to self-sustain for a week before its shelves are empty, prompting riots and looting, martial law or anarchy.

That's not "scary talk," it's *reality talk*. Bad things happen with monotonous regularity—just not to all of us, all the time.

It seems I bonked a beehive in the September/October issue of *American Handgunner* when I answered a reader's question about the "best Domsday gun": which handgun would I grab if I had to get outta Dodge, maybe forever? The bees went berserk, the subject spun up and out, and I followed it with a column on survival planning—really, *emergency contingency planning*—in the Jan/Feb 2011 issue. They're available at www.americanhandgunner.com if you're interested.

Essentially, my main point in that column was to start from the right place in emergency planning; "from the inside out," addressing basic health and safety needs for yourself and family for a short-term low-threat situation before launching doomsday plans. Kinda like, if you're not sure your spare tire's inflated, don't start looking for a survival sanctuary 400 miles away.

While filing my scribbles from that column I ran across some notes from

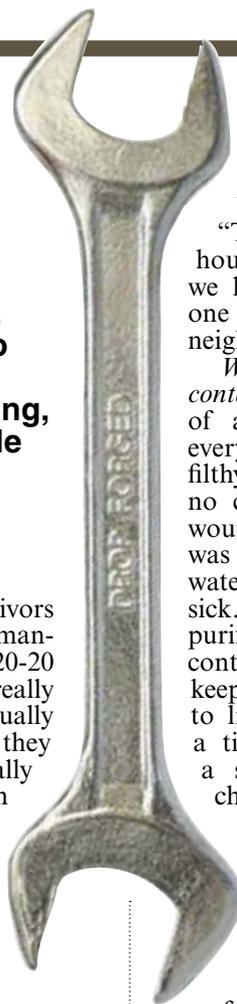
past interviews with survivors of several natural and man-made catastrophes; their 20-20 hindsight on how they really should have planned for virtually any emergency, and what they *didn't have* that they really needed. Aside from common sense stuff like batteries, candles and canned goods, they had some suggestions you may not have thought of:

"Shoulda Hads"

A wrench for the gas meter valve: The event was an earthquake. Structural damage took its toll, but fires and explosions from busted natural gas lines wreaked far more havoc.

"My house was damaged but still standing; almost all of our things would have been salvageable. I smelled gas right away and knew to shut it off at the meter, but I didn't have a wrench that fit the shut-off valve!" They had to evacuate the house, and it burned with all their belongings.

"The mains up to the meters are



The right wrench at the right time... priceless!

buried and strong," he said. "The real danger is on the house side of the meter. Now we have four (meter wrenches); one for us, three to give to neighbors—fast!"

Water filters, purifiers & containers: In the aftermath of a flood, "There was water everywhere, but it was polluted, filthy and dangerous. We had no clean water to drink, clean wounds with, bathe with and it was three days before (bottled) water got to us. Everybody got sick. One guy had a little hiker's purifier, but we didn't have containers to put water in and keep it clean, so everybody had to line up for one mouthful at a time. Another 'must-have' is a small hand pump. They're cheap, but worth a fortune in an emergency."

Dust masks—lots of them! Following a tornado and fires, "You wouldn't believe how much crap is in the air—dust, fibers, organic stuff, heavy smoke full of oils, asbestos and God knows what. The movies show people with scarves over their faces, but they're about useless. You need house-painting or medical dust masks; cheap and effective.

"We had to walk miles to an aid center through clouds of choking crap. Our daughter went into respiratory distress and we were all coughing up black stuff for weeks. Now we have *Breath of Life Emergency Escape Masks* and a couple dozen regular dust masks."

Dental Emergency Kit: During an earthquake a former EMT with a volunteer fire department fell through his buckled bedroom floor to his ground floor. "It's embarrassing," he said. "I of all people should have thought of it. My two medical kits were *almost* perfect, but... my injuries weren't bad except I broke a tooth and lost a big filling. The pain was excruciating and constant,

When disaster strikes, an old crowbar beats a Platinum VISA card hands down.



24/7, and horrible every time air hit it. All I needed was some dental wax, a temporary filling mix... for Pete's sake, the kits are only 10 bucks at the drug store!"

Mundane But Mandatory

Crowbar and shovel: Laughing, another earthquake survivor said, "You'd never believe how valuable a common, ordinary crowbar and a good, hefty shovel could be. I lived in a townhouse! What would I need with those? But I also lived on a fault line. I should have known." Whether affecting a rescue of victims trapped under debris or trying to salvage possessions, a crowbar and shovel can be of inestimable worth.

"I had a big screwdriver and a butcher knife—pathetic. I didn't even have a good pair of work gloves. When search and rescue showed up, what did they have? Pry bars, crowbars and shovels! I paid a lot of attention to stuff they had and later, made a list for myself."

Tarps, lines, bungee cords: Laughter came easily for a hurricane victim too, but only long after the fact.

"Have you ever tried camping out in your own house, with the roof gone, cold rain pouring in and wind howling through? We had food, water and a white gas stove, but we needed *shelter!* How stupid was I? Heavy duty tarps and lines are really useful anyway, and heavy rubber bungees! If there's no flex, no give-and-take on your lines, the wind will rip everything to shreds. Now the whole family knows how to make a storm shelter from tarps. If it happens once, it can happen again."

Charged extra cell phone batteries: In disasters, cell phone service is often the first utility to go out, and the first to come back online. But if your phone is dead when that happens...

"A dozen of us had cell phones," a survivor reported, "And we never thought to turn them off when the service went out, to conserve their batteries. We could have taken turns checking every hour. When it came back on all our phones were dead. Have spares charged and a DC charger tool!"

And finally, zipped lips: I'll let this one stand on its own.

"I never should have told my neighbors about our emergency supply caches. I envisioned myself as the good guy, helping them out. I never imagined they'd come, scared, desperate and angry, demanding everything or they'd kill us for it."

That kinda leads to the need for guns and guts—but you've got that covered, right? Connor *OUT*



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GUNS

MAGAZINE

MAY 2011

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I had noticed something about his ammunition. Without saying a thing to him about his loads, I tried some of my own, which were loaded with the same Keith bullets.

With the short-barreled .44 Magnum using my loads the groups were not spectacular, but certainly passable. They tightened up with the 6" sixgun and then the group from the 8-3/8" was as good as it gets with all holes touching. I turned around, looked at him and said: "I think you better call Smith & Wesson and apologize." The problem was not the sixguns, nor even his shooting, rather his loads. I had noticed the lack of a good crimp on his loads. Every time one of those loads was fired, the remaining rounds

him and asked if he had thoroughly tested this barrel, as quite often, ported barrels will not work with cast bullets. He replied, "Oh yes, the maker of the barrel had completely tested it." I fired several rounds and the bullets were everywhere! I called him back and related my results, he went back to the barrel maker, who went to his employee, who admitted he had not even fired a single load through the barrel.

Have I ever had factory guns which would not shoot? Smith & Wesson once sent me a .44 Magnum that would not shoot at all. This problem was an easy fix; they had sent a display gun from the SHOT Show and forgot to replace the firing pin. The same thing happened years ago with a Magnum Research Desert Eagle. When we

tried to shoot it we discovered once again there was no firing pin. Someone had mistakenly shipped their photography sample to me. I once opened a Dan Wesson box to find no barrel included. It wasn't hard to figure out it would not shoot!

Shortly after the 10mm arrived a company sent me a brand-new design, a radical departure



Sometimes Colt New Frontier .45 Colts are encountered with oversized chamber throats. Sizing bullets to .454" improved the groups of this New Frontier tremendously.

in the cylinder would allow the bullets to move forward which played havoc with accuracy. He was, of course embarrassed, but at least the problem was solved. Once again, the problem was ammunition.

Porting

A gunsmith sent me a custom ported Smith & Wesson Model 29 complete with a scope in place. He wanted me to test the recoil reducing effect of his newly designed porting. I fired the first shot and it felt pretty good. After firing the second shot, my eyes started to cloud up a bit, as they will do when tired; at the third shot my first thought was I'm not feeling this tired! It was easy to discover the problem. The ports were perfectly designed to throw all the trash back on the front of the scope. By the third shot the light gathering qualities had been diminished significantly. I felt a little sorry for the gunsmith going to all the trouble and sending me a revolver with porting incompatible with a scope.

Porting also turned out to be a problem with a custom Contender barrel. The cast-bullets supplier sent a supply of his gas-checked 7mm bullets along with a scoped barrel. I called

from the standard semi-automatic. It came from Europe with a special barrel. I tried to shoot it on paper at 25 yards using an 18x24" piece of poster board. I could not keep all the shots on paper. I used a black felt tip pen to make a small little target in one corner, stitched it with a magazine full from a Smith & Wesson 1006, folded the target to make a its own envelope, and sent it off to the president of the company. A few days later I received a phone call asking me to please send that gun back. The radical new design was never seen again.

Yes, there are guns out there that won't shoot, but they are awfully difficult to find. If a gun won't shoot the first thing to check is ammunition, which is most always the problem. The next step is to check the shooter and in fact, have several people of known ability shoot the same gun. If it still won't shoot then it is time to look for a real problem. I love it when someone tells me "This gun won't shoot!" as I know I may buy a really good sixgun for a small price. Did I ever tell you about the 7-1/2" Ruger .44 Magnum Flat-Top I got at a ridiculously low price because it wouldn't shoot?

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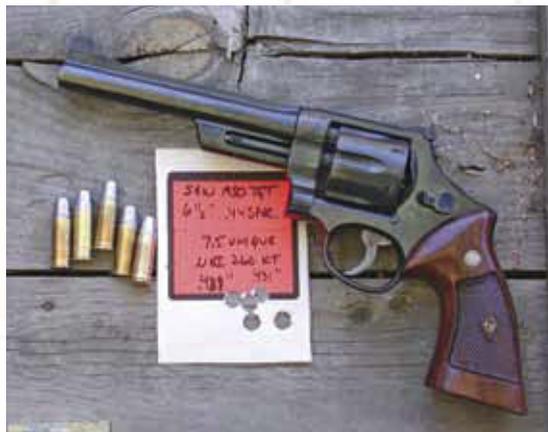
I recently received a call from my friend Jim Martin. Jim is an even older guy than I am, an expert in fast draw and gun spinning, a top-notch tunesmith when it comes to Colt Single Actions. He is also the man who rebuilt the Great Western .45s, which appeared on the cover of the first issue of *GUNS* in January 1955, so I could shoot them for the 50th Anniversary issue. Jim had recently tuned and tightened a 3rd Generation 7-1/2" New Frontier .44 Special and informed me the owner said it wouldn't shoot. "He will sell it for \$600..." and that's where I immediately interrupted him and said, "I will take it!"

I had a pretty good idea why it wouldn't shoot and made arrangements for it to be shipped to my FFL dealer, Buckhorn Gun & Pawn. It arrived the next morning and within an hour, I had it shooting 1-hole groups. Martin had done a magnificent job tuning it to perfection and tightening up the cylinder by installing an oversized bolt. When I received it the first thing I noticed was the rear sight was cranked high enough it was obvious the previous owner had been shooting 200-grain bullets, which were probably intended for the .44-40 and also probably sized at .427". The latter is precisely why it probably wouldn't shoot.

Using plug gauges I found the cylinder throats of the New Frontier to be a uniform .433". Shooting .427" bullets through such a cylinder is a guarantee of mediocre accuracy. The largest bullets I had loaded in .44 Special cases measured .431", and over 7.5 grains of Universal they shot

superbly in the new New Frontier. The reason this sixgun couldn't shoot was easily traced to the ammunition.

In my early sixgunn' years, I religiously measured the groove



Match the bullet to the sixgun's chambers. Here, .431" bullets grouped this well in a Smith & Wesson Model 1950 Target .44 Special.

diameter of sixgun barrels by tapping a pure lead slug down the barrel with a wooden dowel and then trying to measure the diameter of the bullet. Enlightenment came when I finally

realized the barrel diameter was not the most critical measurement. The chamber throats of the cylinder matter the most, as cast bullets pass through these tunnels long before they arrive at the barrel rifling. The less distortion when they get there the better. When this became apparent to me, I stopped measuring barrels and with .44 and .45 sixguns, gathered sizing dies from .428" to .432" for the .44, and .451" to .454" for the .45 and simply used the largest bullet which could be pushed through the cylinder throats.

Several years ago, I received a phone call from a distressed local reader who related he had been on the phone practically every day the last week with Smith & Wesson complaining about his three Model 629s. He had all three barrel lengths, 4", 6" and 8-3/8". None of them would shoot. Now right away I knew something had to definitely be wrong. You might get a new revolver that would not shoot, but three of them at the same time?

He asked if I would be chronographing anytime in the near future and if so, if he could chronograph his Smith & Wessons. Now I didn't have the slightest idea what chronographing would prove, however, I did set up an appointment. I already had a pretty good idea of why his sixguns wouldn't shoot. I surmised it had to be either poor ammunition or poor shooting on his part. So just to be sure, I took along some of my own .44 Magnum reloads.

Break The Rule

We rendezvoused, he shot his three revolvers and he was right, they certainly did not shoot very well. "Well, let me try them." I did and they still did not shoot very well. Since we were in such a dire situation, I broke an almost unbreakable rule of mine, which is: never shoot my reloads in someone else's guns. However,

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