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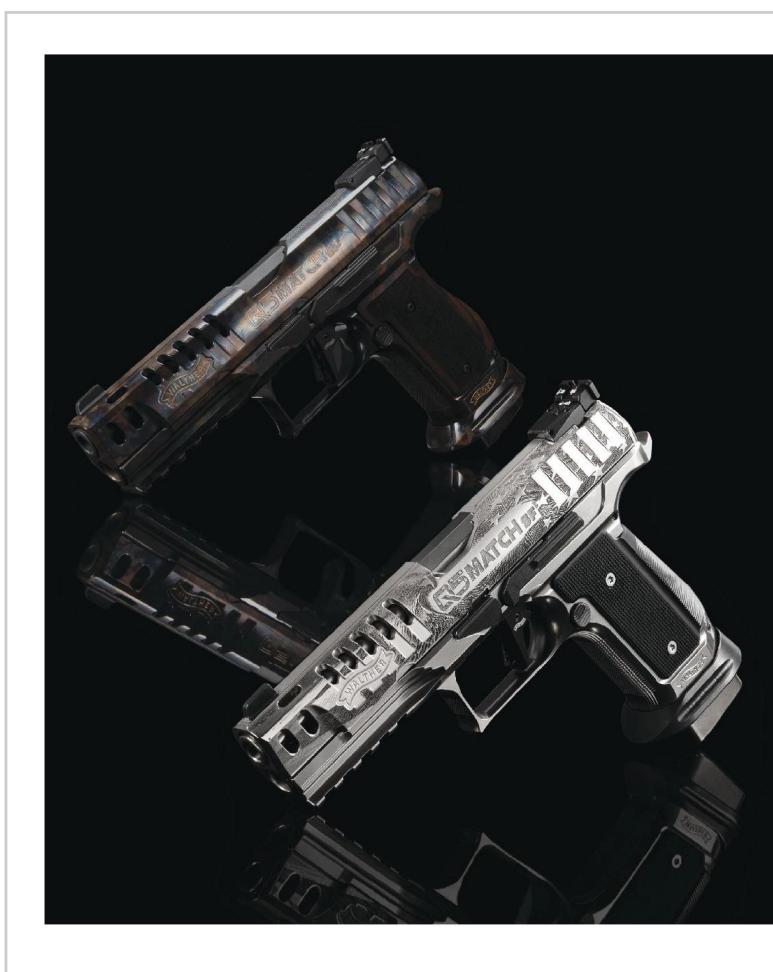
BECKSTRAND U.S. Army selects SIG Sauer Tango6 for M110A1 SDMR rifles.



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46

BEFORE & AFTER

Restoring a veteran's memory.

BY ERIC R. POOLE

52

CHOOSE YOUR OWN ADVENTURE

SIG Sauer launches the P320 Custom Works fire control unit (FCU) so you can design your own.

BY TOM BECKSTRAND

62

TRAP MAX

Competition proves out the features on tomorrow's field guns, as it does with Browning's new Citori 725 Trap Max.

BY ROBERT W. HUNNICUTT

72

A FLIGHT OF FANCY

For a time during World War II, the German Air Force was issued one of the most elegant arms in the annals of warfare: M30 Luftwaffe Drilling.

BY GARRY JAMES

Reader Blowback 8	Rifles & Glass by Tom Beckstrand
Editorial by Eric R. Poole	Bullet Board by Dave Emary
Gun Room by Garry James	Proofhouse Ruger American Pistol Competition 9mm 86
Gun Tech by Richard Nance 23	Spent Cases by Keith Wood96

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STORY OF A WIN. 1904

I enjoyed Eric Poole's editorial about the Winchester 1904. In 1949, when I was 10 years old, I went to Boy Scout camp where I got involved with .22 target shooting. After camp, Dad agreed to let me continue shooting. We went to the closet in his bedroom where there was a Winchester 1904. He got the rifle in about 1920 when he was a farm boy, and he told me about his time with it shooting small game where he grew up. He gave the rifle to me and said we should get it working. I used that gun for a few years and shot some small game and targets with it. In 7th grade, about 1952, I got into 4-position smallbore target shooting at a local gun club. I told Dad that I needed a new rifle with a five-shot magazine. He bought me a Model 69 Winchester, which I used until 1960 when I bought a Remington 513T to continue target shooting. I've had several Winchesters, Marlins and Mossberg rifles, but I lost track of the Model 1904. In 1990, Dad passed away, and Mom in 1995. When we were going through their house for an estate sale, I found the '04 in the closet! It was in OK shape, but the stock picked up a couple of bad cracks. I cleaned it up and pulled it from the sale. I now have the '04 on display in my room. I don't shoot it anymore, but the memories remain. Thank you for sharing your story, and for allowing me to share mine.

Jim Lange Bettendorf, Iowa

BEST STATES CORRECTION #1

Pennsylvania is listed in the "2020 Best States for Concealed Carry" rankings as No. 25. However, the article states that open carry is not legal in Philadelphia. That is incorrect. While open carry by civilians in Philadelphia is uncommon, it is legal as long as the carrier has

a concealed carry permit. Quirky, but true. Warren Harrison Email

You are correct, open carry is illegal in Philadelphia unless you have a permit. Thanks for lending your keen eye. — K. Wood

BEST STATES CORRECTION #2

I'm not proud to point out that I live in Massachusetts, but I noticed a glaring error in your data for my state. You claim that permits are valid for one year. I'm looking at my Class A and my lawful-purpose permit issued in 2016 expires in 2022. The permits are good for six years, not one.

Gary Galas Uxbridge, Massachusetts

BEST STATES CORRECTION #3

Regarding Keith Wood's excellent 50-state ranking feature in the September 2020 issue, I'd like to nitpick a little. Idaho does not and has never issued concealed carry "permits." Idaho issues a "concealed weapons license." They are so labeled in capital letters across the top-left half of the license, which is nearly identical to an Idaho driver's license. There is a difference between a "permit" and a "license." It's not semantics, and it does not apply to handguns only. Anyone 18 years of age or older, whether a resident of Idaho or not, may legally carry a con-

JULY '64

"Legend of the Springfield Armory" by Arnold Chernoff was a two-part series offering a comprehensive summary of the historic military plant in Springfield, Massachusetts. Founded with the approval of George Washington in 1777, and authorized as a national armory by the U.S. Congress in 1794, the arsenal provided military arms during every major American conflict from the Revolutionary War until its closing in 1968. It is now a National Historic Site managed by the National Parks Service and features a mustsee small-arms museum.



cealed weapon anywhere in the state, whether on their person or in their vehicle, provided that they are not otherwise barred by law from possessing such a weapon. Idaho Code was changed, effective July 1, 2020, to clarify that nonresidents enjoy the same rights as residents regarding concealed carry within the limits of a city, town, settlement, railroad or mining camp. Idaho code prohibits carrying concealed into any courthouse, jail or primary or secondary school, or property owned by a school such as a

IT'S NEVER TOO LATE FOR A COMEBACK

MONDAYS 9PET Outdoor

stadium. That's it for the nits. Great article, it was very informative.
Glenn Carpenter
Boise, Idaho

BEST STATES CORRECTION #4

To the idiot who did zero research on Georgia's gun laws: The permit does not allow guns to be carried into government buildings. And our permit is not "\$15" but "\$75." When this subscription runs out, I will not renew again. This may be small to you, but it shows me your character.

Tim Culbreth Email

To your first point, Georgia law generally prohibits carrying a firearm in a government building. However, according to Ga. Code Ann. 16-11-127(e)(1), "weapon carry" license holders are authorized to carry a weapon in a government building if the building is open for business and "where ingress into such building is not restricted or screened by security personnel." You are correct on the permit fee. Mea culpa.

- K. Wood

BEST STATES CORRECTION #5

I always enjoy G&A's "Best States" article when they appear. Regarding this year's Concealed Carry survey, here in Missouri it's only \$10 per year for a permit. The article stated that it was "\$33." I renewed my 5-year permit for \$50 last year, too. You are correct that Missouri does not offer a non-resident permit, but why should it? Non-residents can carry without one, the same as Kansas, which you noted and gave 5 points to. Once you give Missouri the 5 points for nonresidents, the state should move up to No. 5 or No. 6. Otherwise, I always love your magazine! Ken Wall

Springfield, Missouri

STILL SICK

To reader Mr. Vance who wrote "You Sick People" in the September issue, you have to realize that guns in America are not sporting guns anymore.









The day of walnut and blued steel is over. Like you, I think we have too many plastic guns. When I was young, I would go hunting in Pennsylvania. Everyone then had walnut and blued guns. I like bolt actions, but today most are sniper rifles and not "sporting." Most of the farms are gone now, and in Delaware, New Jersey and Pennsylvania, hunting isn't as popular as it was. So, people have to buy black guns to kill people; just watch TV every night. We are sick.

Sam Stelma New Castle, Delaware

WAKE UP!

I'm 80 and was raised with guns and hunted all my life. I am also a Life member of the NRA. I would also like to see a new hunting gun come to market and read about its attributes in this magazine. However, before Guns & Ammo can write a report, a "hunting" gun needs to be developed! I am not into tactical firearms, but some people are and they are "guns," and there is a potential need for knowledge and use of them. For example, I have a Glock in .40 S&W for protection, and I'd like more information on it.

Bob Mortenson Show Low, Arizona

PROTECTING OPINIONS

This letter is in response to Dennis Vance's letter, "You Sick People." I would like to thank Mr. Vance for being a member of the NRA. With that, I would like to believe that, he being a hunter, would also support all firearms related to shooting sports. Mr. Vance's understanding of the Second Amendment appears to be somewhat limited, as it was created to protect the free people of the U.S. from an oppressive government, and not merely to safeguard the hunting heritage. The right of the people extends to lawful ownership and use of so-called "plastic handguns" and "black rifles," as well as his hunting rifles and shotguns. I would hope that Mr. Vance realizes that the Second Amendment safeguards First Amendment free speech, and if he wishes to refer to some as "sick people," it's OK because the proud gun owners will protect his right, regardless of an uninformed opinion. Yes, I'm a 43-year member of the NRA, a hunter and owner of many types of firearms. Art Wands

Canon City, Colorado

ARTICLE SUGGESTION

I would like to see Guns & Ammo publish a complete article on how to use a muzzleloader from the time you take it out of the box. I would like to see how to season a barrel, how to store it for long periods, and how many times you can shoot it before the zero starts to fall off. Should you clean all the bore butter out before loading?

Freddie Vice Oneonta, Alabama

Thank you for the article idea. Would G&A readers be interested in seeing these types of stories? Email us at gaeditor@outdoorsg.com.

— Eds

ELECTIONS

Keith Wood's column, "Elections Have Consequences," was right on and a sample of what we have to look forward to if the Dems get back in power. They hate the Bill of Rights and the Second Amendment. Our founding fathers knew that you can't subjugate an armed populous. The far-left Democrat party is not the moderate organization that I knew for most of my life. Many want socialism, globalism, and to put American citizens under international law with no borders for our country. They can't do any of these things as long as we are armed, and they know it. When all the guns have been banned, when all the words have been censored, when all the history has been erased, when all the freedom has been taken, only then will you discover why our right to bear arms was so high on the list of rights.

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EDITORIAL NOVEMBER 2020 G&A 15

Fun guns with a giggle switch.



ERIC R. POOLE

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MACHINE GUNS

CAN YOU OWN ONE? You might be surprised how many Americans (even gun owners) think they are illegal. True, 15 states and the District of Columbia prohibit the possession of "Any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot without manual reloading, by a single function of the trigger," according to the ATF's definition, plus receivers and certain parts. However, the citizens of 35 states can legally enjoy exercising this aspect of their Second Amendment rights if they are willing to submit to the process of acquiring and registering a machine gun, and assuming they can find one for sale.

The National Firearms Act (NFA) of 1934 required interested civilians to pay a \$200 tax when a machine gun was transferred between one federally registered owner to another. Though \$200 may not sound stiff in 2020, in 1934 it was equivalent to \$3,867 today. Because it defied the Bill of Rights ratified in 1791, the government's tactic to fight the criminal element of the Gangster era aimed to discourage ownership of machine guns through collecting tax revenue and registering citizens. Though the spirit of the NFA may appear well intended, it yielded regulatory powers to increase the federal government and allowed an infringement

on the rights of law-abiding citizens. The ATF reports that 630,019 machine guns are registered in the U.S. Though regulated since the passage of the NFA in 1934, there would be more in circulation to meet demand were it not for the Hughes Amendment attached to the Firearm Owners Protection Act (FOPA) of 1986. The Hughes Amendment banned the sale of machine guns manufactured after the date of enactment to civilians, restricting sales of new machine guns to military, law enforcement and

dealers. Though the amendment was controversial, it passed the Senate and was signed into law by President Ronald Reagan on May 19, 1986. At the time of this writing, the newest machine guns that are transferable between law-abiding citizens are 34 years old.

Since 1934, there have been two homicides committed with legally owned machine guns. One was a murder of a police informant committed by an Ohio police officer on September 15, 1988. Another was an alleged homicide committed on September 14, 1992, but details are scarce. Machine gun ownership among law-abiding citizens does not rise to a level of concern such that the Hughes Amendment should exist. It should be repealed.

> While gun owners are often poised to defend against new restrictions to the Second Amendment, I challenge readers to consider electing repre-

sentatives who will fight to reinstate and protect our gun rights. Unfortunately, transferable machine guns command

tens of thousands of dollars when they come up for sale, leaving most of us unable to afford owning one. Given the value of a pre-'86 select-fire Colt AR-15 now exceeds \$25,000, and some belt-feds demand

six figures, most of the transferable machine guns are acquired by a few. Would these machine gun collectors be willing to risk devaluing their investments to see the availability of these small arms restored to America's citizenry?

COLT M16A2 (PRE-'86)/ SOCOM KAC UPPER, 5.56 NATO: \$35,000



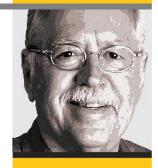




GUN ROOM NOVEMBER 2020 G&A 17

"Well, I must admit, this is a first for the column!

Interesting little pistol, and the decoration is certainly attention-getting."



GARRY JAMES

GARRY.JAMES@OUTDOORSG.COM

IDENTIFICATION & VALUES



TRAPDOOR CARBINE?

Q: I am trying to identify what appears to be a Springfield Trapdoor Carbine. Overall length is roughly 41 inches. Serial number appears to be 74XXX, which, accordingly, would put its production date sometime during 1877. Do you agree? Any information you have would be much appreciated. I am trying to identify the production year and approximate value for my personal records. This was given to me as a gift by a close family friend. I have no intention of parting with it.

K.L. Email

A: Your "Trapdoor" Springfield's serial number does place its year of manufacture in 1877 — parts of it at least. From your photos, it appears you have a puttogether that most likely started out life as a rifle and was modified to carbine length, though it also could have been a carbine and had other parts tacked on. The hammer is incorrect, having been taken from an earlier .50-70 Springfield. The rear sight is a Buffington style, which did not appear until 1884. The triggerguard is from a rifle, and the stock also, as there is no inletting for the ring bar. Another tipoff would be to check and see if the cleaning-rod channel had been

plugged. I'd value the piece at between \$350 and \$500, assuming it's operable.

LIBERATOR LORE

Q: Years ago I had a .45 Liberator Pistol. Did the OSS invent this? Why only one shot? What's the skinny on the Liberator? R.B.

Lehigh Valley, Pennsylvania

A: In 1942, supposedly at the request of Polish partisans, the United States began work on a small, inexpensive and disposable pistol that could be turned out in large numbers and air-dropped or smuggled to resistance groups in Europe and Asia. The user

was supposed to sneak up on a German or Japanese soldier, shoot him, and then take his service weapon. For secrecy reasons, the gun was designated "FP-45" (Flare Projector 45). It did not get the nickname "Liberator" until after the war. The project was given high priority, and the concept underwent several design changes before it was turned over to the Guide Lamp Division of General Motors for production. Most of the major components were stamped sheet steel. The 3½-inch-long

smoothbore barrel was of seamless tubing. The gun measured 5½ inches overall. It was about an inch thick and weighed 16 ounces. A sliding cover in the hollow grip allowed for the storage of 10 rounds of .45 ACP ammunition. The Liberator was packed in a waxed cardboard box with a line drawing of the pistol on the top. Included in the package were the pistol, wooden ejector rod, 10 rounds of ammunition and a comic-book-style set of instructions showing how to operate the gun properly. General Motors made 1,000,000 of the guns within about three months. The cost of the kit (pistol, box and contents) came to \$2.40. The project was initiated by the Joint Psychological Warfare Committee.

THE AUCTION BLOCK

A scarce and desirable English .577 "Manstopper" revolver sold for an impressive \$16,450, including premiums, at the May 26, 2020, Morphy firearms auction. This circa-1866 to '70, solid-frame, double-action, though unmarked, was probably made by P. Webley & Son. Of impressive dimensions, condition is very good with the piece exhibiting a considerable amount of its original blued finish, and only a minimal amount of blemishing. The bore is good with some pitting, and the mechanism, though generally sound, exhibits a

small anomaly in which the hammer has to be pulled back a small amount in order for the double-action to work properly. These revolvers are rare and sought after by collectors. For more information concerning this and future auctions, contact Morphy at morphyauctions.com, or 877-968-8880.





NAUGHTY PARLOR PISTOL

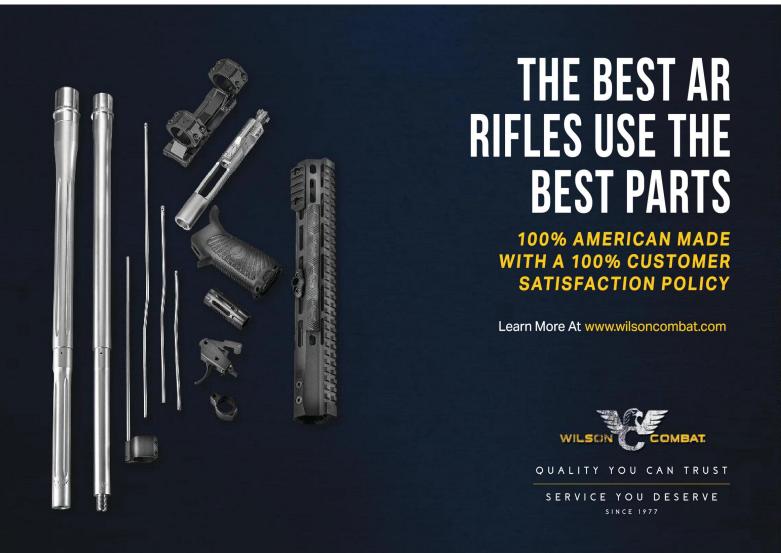
Q: Mr. James, I thoroughly enjoy your column every month. I have an affection for firearms that were made by craftsmen whose personalities are reflected in their work. That is one of the reasons I acquired this "parlor pistol" chambered in .22 Flobert. The pistol has no identifiable manufacturer, only the word "Germany". It has the number "17" stamped in

two places on the firearm (under the receiver and under the grips), and the letter "S" is also under the grips. I assume "17" is the serial number. There are two proofmarks. One is a crown over the letter "U", which I understand indicates Suhl beginning in 1950. The other is the crown over the letter "B", which I have been unable to identify. The engraving is interesting. There is a rabbit, two bears looking

at a target and two erotic scenes. I would appreciate the expert perspectives you might offer concerning this firearm. Thanks in advance. J.C. Virginia

A: Well, I must admit, this is a first for the column! Interesting little pistol, and the decoration is certainly attention-getting. Those sort of embellishments go back to the early days of firearms. While I'm not any great expert on gun erotica, I have to admit, if period, in certain circles such vignettes will bring a premium. Now, to the piece itself. The pistol is definitely German, intended for casual (and sometimes indoor) target shooting. Actually, the

"crown U" definitive German proofmark goes back further than 1950. It had been around for some time before it was abolished by the German proof law in 1939. I have seen German catalogs as late as the 1930s selling these pistols. The manufacturer is difficult to ascertain, as similar guns were built by a number of German and Continental makers and are often lacking addresses. Yours probably dates from some time in the 1910s or '20s. It is in excellent condition and of a little better quality than many. The engraving, with the exception of the X-rated portions, is typically Germanic. Normally these "parlor" or "salon" pistols have limited collector interest. However, the superb



condition of your piece, abetted by the interesting scenes raises it above the norm. I would value it at between \$950 and \$1,100.

SPIES SHOTGUN

Q: Last year, I purchased two shotguns with one being an A.W. Spies sideby-side muzzleloading shotgun. It has original ramrod, cleaning kit with canvas bag, and a hard leather case. The bore is shiny and with no blemishes. It is missing one hammer and has a broken tumbler, all else is in working condition. Wood is in excellent condition, also. Any information you could provide would be greatly appreciated. Any idea of value?

L.L. **Email** shotgun, as a decorator, at around \$250 to \$275. VINTAGE S&W .357 MAGNUM

it is custom-made. The

project would cost much

I would price your Spies

more than the gun is worth.

A: A.W. Spies was an

American gunmaker who

the mid-1830s until 1857.

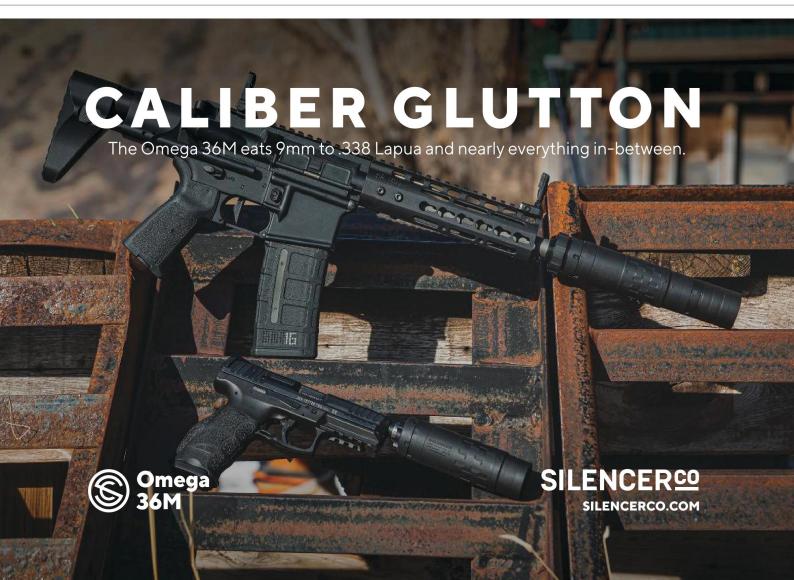
Q: I am curious about the approximate build date and value of my Smith &



early 1990s. According to the grips, if they are original to the gun, my revolver was made around 1984. It's still fun to shoot. C.G.D.

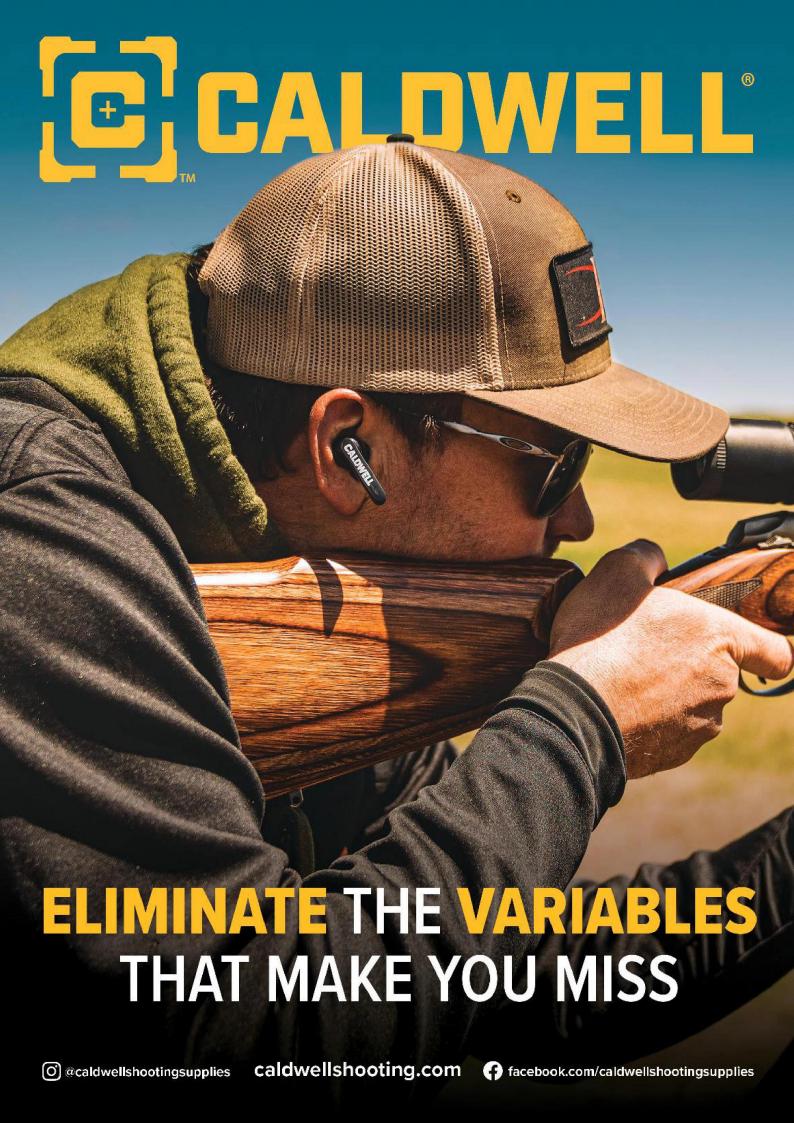
Delray Beach, Florida

A: From what I can tell of your photos, your Model 66 .357 Combat Stainless S&W was made in the mid-1980s. The 66 was introduced in 1970 and manufactured until 2004. The one you own is in very nice condition; I'd say at least 95 percent, perhaps as much as 98 percent. It does not appear to have any extras. As such, according to the Forty-First Edition Blue Book of Gun Values (bluebookofgunvalues. com), it is worth between \$525 and \$650. M











HEAR, HEAR!

THROUGH THE YEARS, I've tried my fair share of in-ear hearing protection. Plugs work well at muffling gunshots but, unfortunately, they make it difficult to hear anything at all. On the range or in the field, this can be problematic. In-ear electronic hearing protection is often uncomfortable, cheaply designed, or lacking sound quality. Trophy Ear's flagship product, the Flexx Pro takes electronic hearing protection to another level.

Of course, in order for Trophy Ear to create your custom digital hearing protection, they need molds of your inner ears. The supplied DIY kit contains a two-part silicone mixture that is placed into an impression syringe and injected into the ear.

Here's a pro tip: Follow the directions, the silicone sets quickly. Or, if you don't mind paying a little extra, you can have an audiologist obtain the molds of your inner ears for you.

Fit isn't the only thing that's custom

with Flexx Pro. You can choose a black, blaze orange or a beige faceplate, and just about any color you can think of for the shells, including up to three colors swirled together. More importantly, if you suffer from hearing loss, simply include a copy of your latest hearing test when you send your ear impressions to Trophy Ear and they will program the units to your specific needs.

The Flexx Pro's waterproof, Nano-coated shell material is soft and pliable. The units fit perfectly and stay securely and comfortably in place. Each unit offers four hearing programs that you can toggle through with the push of a button. The first is for relatively quiet environments, with no wind or rain. Subsequent programs are for progressively louder conditions.

Turning the volume-control knob forward turns the unit on and increases volume. Turning it rearward lowers the volume until the



A DIY mold kit is provided to ensure the custom shells perfectly fit the user's ears.

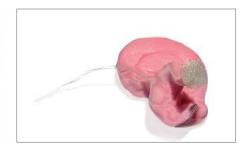












The author demonstrates how easy it is to make a mold of your ear using Trophy Ear's supplied kit.

unit turns off. The audio clarity provided by the 12-band digital signal processor was the best I've experienced with in-ear electronic hearing protection. The Flexx Pro actually enhanced my hearing, while protecting it.

Each Flexx Pro unit is powered by a readily-available size 10 hearing-aid battery, which provides around 96 hours of use. The pair comes in a hard case with spare batteries, a bristle brush and disposable wax guards that prevent ear

wax accumulation in the unit's receiver. Worth noting, all Trophy Ear products are made in the U.S.

The Flexx Pro is my new go-to hearing protection. Although, priced at \$1,199, they are admittedly a bit spendy albeit more affordable than conventional hearing aids. If you're looking for a more budget-friendly solution, visit trophyear.com and have a look at Trophy Ear's full lineup. The Custom Solid Ear Plugs start at \$110.





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SIG Sauer Tango6T 1-6x24mm



TOM BECKSTRAND

THE ARMY'S NEW SCOPE

THE WAR ON TERROR taught our military the importance of precision rifle fire. Sure, "fire superiority" is a valid concept because shooting a lot in one direction will definitely encourage the enemy to keep their head down, while friendly elements maneuver to the target. However, nothing brings a fight to a screeching halt like a well-

placed shot. One of those in the right place, and none of your friends have to run anywhere. Problem solved; problem staying solved.

The challenge was, until September 11, 2001, our military had no mechanism to ensure precision riflemen were present at the squad level where they're needed most. An infantry squad consists of about nine soldiers and is a basic maneuver element. It does the heavy lifting in any war by patrolling through enemy territory. When American soldiers make contact with the enemy, it is most likely at the squad level. It makes sense that there should be at least one squad member

trained and equipped to deliver precision fire in support of the squad.

This concept gained rapid acceptance when the war started, and we're just now getting a dedicated rifle and optic combination into our soldier's hands. The rifle is the new M110A1 SDMR made by HK. The scope is

the Tango6T 1-6x24mm made by SIG Sauer.

It's important to clarify the differences between a sniper and a designated marksman. A sniper attends a 6- to 8-week course that covers everything from shooting to fieldcraft to mission planning. The squad designated marksman (SDM) program is solely focused on advancing the shooting skills of a unit's top expert-qualified shooters using irons and optics. SDM training

typically lasts 2 weeks. The end-state is to consistently hit man-sized targets out to about 600 meters, or 660 yards. Predictable rifle fire for distances out to 600 meters is improved with the employment of quality optics.

The U.S. Army wanted a first focal plane (FFP) reticle for this scope, so that's what SIG Sauer gave to them. SIG

Sauer initially developed a ballistic drop compensating (BDC) reticle for the M80A1 round at the Army's request, which was called the "7.62 Extended Range" reticle. Later, the Army requested (and now issues) a BDC reticle developed for M118LR, a 175-grain Match load, which is also issued to snipers. The reticle developed for M118LR ammunition is the "Dual Wind holds Long Range 6X magnification," or "DWLR6."

Nobody knows why the Army started with one ammunition type and then changed mid-solicitation. My guess is the M80A1 ammunition couldn't meet the accuracy requirement

for the SDM role. The M80A1 bullet is a 130-grain leadfree round that is made of a copper jacket, a copper plug that sits in the bottom of the jacket, and a pointed steel penetrator that forms the bullet's nose. That combination is a concentricity nightmare, and I'd be shocked if the

M80A1 would hold a 4-inch group at 100 yards.

So, the Army asked SIG Sauer to design a second reticle around the M118LR, which is loaded with a 175-grain MatchKing. It's good, solid ammunition.

The reticle SIG Sauer designed for the Army has a floating center dot with an inverted horseshoe around it. These are the only two components of the reticle that illuminate, but they function as well as a red dot when the scope is set at low power such as



Soldiers from the 1st Armored Brigade Combat Team (1ABCT), 3rd Infantry Division, conduct marksmanship training at the Fort Stewart, Georgia, sniper range on the U.S. Army's new M110A1 Squad Designated Marksman Rifle (SDMR) on June 5, 2020. 1ABCT was the first unit in the Army to field this rifle. The SDMR fills the capability gap at the squad level. (U.S. Army, Sgt. Daniel Guerrero)

DWLR6 RETICLE





SIG_{SAUER}

Once the scope is dialed in, knurled caps are screwed on to protect the windage and elevation turrets to prevent unintended adjustments.



The illuminated reticle is powered by a CR2032 battery, and features nine daylight illumination settings and two night-vision-compatible options.



The Tango6T features a 24mm objective lens. All lenses are secured with epoxy for improved durability.



The larger ocular lens provides ample eye relief, nearly 4 inches. The focus-adjustment ring caps the rear of the scope's eyebox.

1X or 2X. With higher magnification, the center dot allows for precise shot placement.

Descending from the center dot is a vertical stadia line that's marked for 50-meter increments out to 1,000 meters. Each 100-meter mark is a horizontal hash, and the 50meter designations are dots. It's an effective way to get fast holdovers for a moderately trained rifleman.

At each 100-meter hash there are two flanking dots at increasing horizontal intervals that give the reticle its "Christmas tree" shape. Those dots are holdoffs for either wind or moving targets.

While I'm not normally a fan of BDC reticles, the Army put one in this scope because 1 to 3 weeks of training isn't enough time to teach a soldier how to use a ballistic calculator, considering all the other tasks that need to be covered. A BDC reticle simplifies and speeds up the aiming process at the expense of precision. BDC reticles are very precise when conditions match the "ideal" around which the reticle is designed: ammunition, temperature, elevation, etc.

Once one of those elements change significantly, the BDC reticle only becomes a generalization. Fortunately, SIG Sauer also publishes the data for each subtension mark on their BDC reticle in mils. This allows the reticle to work for cartridges other than M118LR and M80A1, although not quite as seamlessly.

Besides its function and features, SIG Sauer's Tango6T scope won the contract because it is an extremely durable and weather-resistant optic. Ensuring robust construction





was a serious consideration during the design process. I spoke to Andy York, president of SIG Sauer's Electro-Optics, and he said, "We wanted to build an extremely durable product here in the U.S. We redesigned the waterproofing around the turrets and made a lot of improvements to overall optic durability. All of those changes are now offered on all versions of the Tango6 1-6X."

In pursuit of building this scope for the U.S. military, SIG Sauer built a 3,000-square-foot clean room where components sourced from

around the world are assembled into scopes. All assembly and testing is completed at their Oregon facility.

Each Tango6T is tested to ensure the illumination system works correctly. The scope has a locking illumination turret and illumination settings that work with both clip-on night vision devices that sit in front of the optic, as well as operator-worn night vision goggles (NVG). SIG Sauer also checks each scope for light leakage when viewed from the rifle's business end. Some illumination systems are visible from downrange when observed through night vision

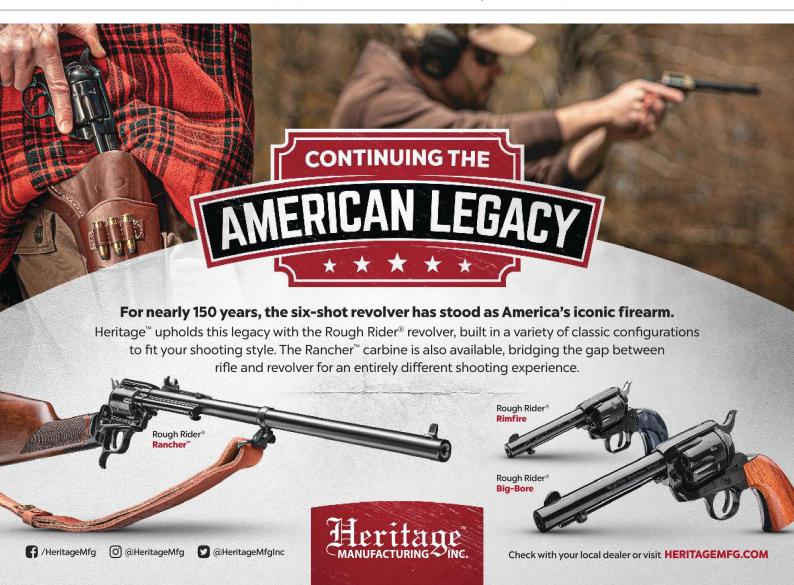
SIG SAUER TANGO 6T 1-6x24mm	
POWER	1X-6X
OBJECTIVE	24mm
TUBE DIAMETER	30mm
ELEVATION ADJUSTMENT	.2 mil per click
WINDAGE	.2 mil per click
RETICLE	DWLR6
LENGTH	10.25 in.
WEIGHT	1 lb., 6.1 oz.
EYE RELIEF	3.9 in.
MSRP	\$1,540
MANUFACTURER	SIG Sauer, 603-610-3000, sigsauer.com

devices. The Tango6T doesn't exhibit this giveaway.

Each scope goes through impact testing and a recoil simulation machine, and they also get submerged in a water tank to verify waterproofing. Perhaps my favorite durability-enhancing step is the use of epoxy in all the lens housing groups. The number one cause of point of impact shifts in any optic is lens movement. Smack a scope from the side and there's a good chance one of the lenses inside the tube moved. Even .001-inch of lens movement will result in a

point-of-impact shift. SIG Sauer takes the additional step of bedding to hold all lens housing groups in place. Once each group is threaded in place, epoxy ensures it never moves again.

It's taken a while for the U.S. Army to get here, but squad designated marksmen now have a simple and robust optic that will help them successfully complete their mission. SIG Sauer is also offering this scope commercially, one of the few times it's been possible to purchase the exact same optic our military's marksmen use.



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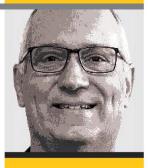
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BULLET BOARD NOVEMBER 2020 G&A 33

Should you shoot that old shotgun?



DAVE EMARY

TWISTED STEEL

MANY OF US HAVE an old side-by-side shotgun at home. Maybe it's a family heirloom, an unexpected attic find, or given to you by a friend or neighbor. This article is pointed at shotguns made between the 1880s and 1920s era, many of which have Damascus or "twist-steel" barrels. Some of these

barrels feature very striking patterns, and the workmanship in many of the guns is very good. Such efforts are expensive for gunmakers to recreate today due to the time and skill required. Despite their artistic quality, many of us have heard tired comments like, "That'd make a great wall hanger," or, "That Damascus barrel will blow up in your face!" But are those statements really true? Can these old shotguns be safely put back into service and used effectively in the field? The answer to the latter is "Yes," but with caveats.

For many of these guns, a careful inspection, some key measurements, and a diet of the proper ammunition will have them ready for action on your next bird or squirrel hunt.

Artistic Metal To begin, let's talk about Damascus

and twist-steel barrels, and how they are made. The origins of Damascus steel are not clear, but it is believed to have come from India before Christ. Its development seems to have been perfected and used to produce high-quality blades in and around Damascus, Syria, during the 3rd and 4th centuries, AD. Damascus was popular because it was harder than the common iron blades of the era, and it held an edge better. However, the original process for producing Damascus steel appears to have been lost sometime in the 1700s.

In the late 18th century, Damascus-barreled guns were brought to Europe from the Middle East, and European gunmakers began working with and making their own Damascus-steel barrels. A considerable amount of research, experimentation and reverse engineering has been done





in recent times to try and reproduce Damascus steel of the past, but the process has never really been nailed down. Modern-era Damascus steel (1800 and later) is made by layering iron and steel, heating it to high temperatures and hammer forging them together. Many patterns can be achieved in the finished steel by twisting the layers of metal during forging or introducing charcoal while forging to produce small spots of carbide in the matrix. The material is then drawn to produce a long rod of metal and then machined into a barrel.

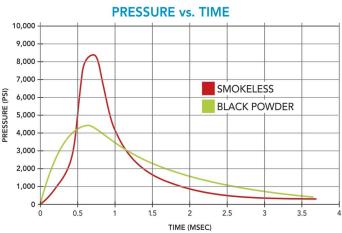
Another method for producing shotgun barrels brought about what are commonly called "twist" barrels. The process involved pieces of iron and steel being drawn out into long rectangular bars or "threads." These threads

were then heated and alternately wound around a mandrel and hammer forged together. It took approximately seven feet of metal threads to form one foot of barrel. Damascus and twist steels do not have the strength of modern fluid Bessemer-process steels, but they are not weak if properly manufactured.

Cautions for Old Damascus-Barreled Shotguns One of the first things that should be checked on an old shotgun is how tightly the action locks up. If you close the action and the barrels appear to have some wiggle relative to the receiver, the gun is not a candidate for shooting. A gunsmith might be able to tighten it up, but don't shoot a shotgun that has a loose lockup. You should also have a gunsmith check the headspace of the gun to make sure it is in specification. If it is not, don't attempt to shoot it.

Any old shotgun you are contemplating shooting should be thoroughly inspected by a gunsmith that is familiar with this type of firearm. There are several points that should be looked for when inspecting a Damascus-barreled shotgun. The first is the condition of the barrels. Are the barrels bright and shiny inside, or are they heavily rust pitted? If the barrels are heavily pitted, it is not a candidate for shooting. Heavy pitting causes surface roughness, which increases friction with the wad and can increase pressure. Rust can also decrease the wall thickness of the barrel and compromise

its strength. Remember, shotgun barrels are much thinner than rifle barrels and don't have the same margin of safety. Some of the old guns have also been reamed out to remove pitting. Your gunsmith can measure the wall thickness of the barrels and determine if they have been reamed out. If this is the case, the barrel's wall thickness has been decreased and the gun is not safe to shoot.

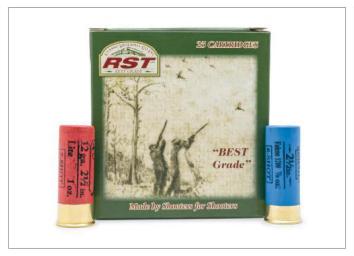


The second aspect to check is whether or not the barrels have been dented, or if they have had dents removed. It is relatively easy to remove a dent from a fluid-steel barrel, but not so with a Damascus barrel. Removing a dent from a Damascus barrel will create a weak spot on it. A gun in this condition is a wall hanger.

Barrel constrictions, or choke, in most of these sideby-side shotguns were Improved Cylinder, Modified or Modified/Full. If you have a gun that is choked Cylinder/ Skeet, chances are pretty high that the gun has been modified. It is easy to look up the diameter of different chokes and use a set of calipers to measure the muzzle diameters. A gun that has obviously had the chokes reamed should immediately be inspected to determine if the entire barrel

The last area to check is the length of the chamber to validate the chambering of the gun. Many of these old shotguns were chambered for 2½-inch, 25%-inch and, of course, 23/4-inch shotshells. The concern here is that a 2¾-inch shell may chamber in a 2½-inch shotgun, but this combination would cause excessive pressure when fired, and likely damage the firearm.

Ammunition for Old Shotguns I can't emphasize enough that establishing the chambering for an old shotgun is



RST offers classic, standard-velocity "Lite" shotshells in a variety of options. These are often safe in older barrels including 2-, 21/2- and 2³/₄-inch loads from #4 to #9 shot, with paper or plastic hulls. \$13

critical. Just because a shell fits in the chamber does not mean it is the right ammunition. If the shell is too long for the chamber the hull will be forced into the forcing cone when it is fired, resulting in a constricted bore and significantly increased pressure. You might get away with this for a little while, but sooner or later you will damage the gun. Damascus

barrel steel, as I said, is not weak, but it is more brittle and doesn't have the margin of safety found in modern gun metals. Many Damascus barrels were primarily designed for blackpowder shotshell loads. The adjacent graph shows comparative pressure-versus-time curves for the same shot load and muzzle velocity loaded with blackpowder and modern progressive smokeless propellant. What jumps out immediately from the comparison is the fact that blackpowder produces about half the pressure of smokeless powder, and it stretches out the pressure curve a lot more than smokeless. So, while the Damascus barrels are plenty strong for blackpowder charges, the much higher pressures produced by smokeless powders exceed their safety margin. Although some of these older Damascus barreled guns were advertised at the time as being designed for smokeless loads, the powders available back then don't compare to the propellants used today.

Pressure vs. Time for Blackpowder & Smokeless The next question is do you have to shoot blackpowder loads in your old shotgun? The answer to that is "no." However, let me be clear: Do not shoot standard modern loads in an old Damascus-barreled shotgun! Several companies make lines of shotshells that use smokeless propellant, but are tuned for low wad compression and use slow propellants



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in order to limit peak pressure and spread the curve out (much like blackpowder loads). These companies offer lines of low-pressure 2-inch, 2½-inch and 2¾-inch shells. My personal preference is to use 21/2-inch shells all the time, even in a 234-inch chambered

gun, just to play it safe. RST (rstshells.com) and Polywad (polywad.com) both offer lines of shotshells appropriate for Damascus-barreled shotguns. Nearly the entire RST line is loaded to low pressure with the exception of their Pigeon line. Polywad offers their Vintager and Double Wide lines loaded to low pressure for old shotguns. As I said before, I only shoot 2½-inch shells in my Damascus-barreled 1894 Remington, even though it has 2¾-inch chambers. Despite its age, with %-ounce and 1-ounce loads, that gun may be more effective than my Beretta 686 in 28 gauge, which has accounted for many birds over the years, albeit with only 34 ounce of shot.

Shooting a Damascus-Barreled Shotgun I have a 12-gauge 1894 Remington side-by-side shotgun made circa 1901 with 30-inch barrels and 234-inch chambers. It has little finish remaining, but possesses beautiful Damascus barrels with bores that are bright and free of pitting. The gun locks up tight with the lever running straight down

PERFORMANCE

LOAD	VEL. (FPS)
RST Paper Lite 12 ga., 2½ in., 1 oz.	1,181
RST Falcon Lite 12 ga., 2½ in. ¾ oz.	1,259
Polywad Vintager 12 ga., 2½ in. 24 gr.	1,286

the tang. It headspaces correctly and shows no signs of rough handling or abuse. The gun comes up quickly and fits quite nicely. I get considerable pleasure from hunting with it. Using the 21/2-inch loads from RST and Polywad, I have no trouble knocking down

pheasants at reasonable ranges.

For this article, I chronographed two loads from RST and one load from Polywad. I used the RST Paper Lite 21/2-inch load with 1 ounce of #7 shot advertised at 1,175 feet per second (fps), and the RST Falcon Lite 1/8 ounce of #6 shot advertised at 1,200 fps. I used the Polywad Vintager 21/2-inch 24-gram (essentially 1/8 ounce) load with #71/2 shot 21/4-Dram equivalent. These loads were all comfortable to shoot with modest recoil, and are plenty effective on upland game.

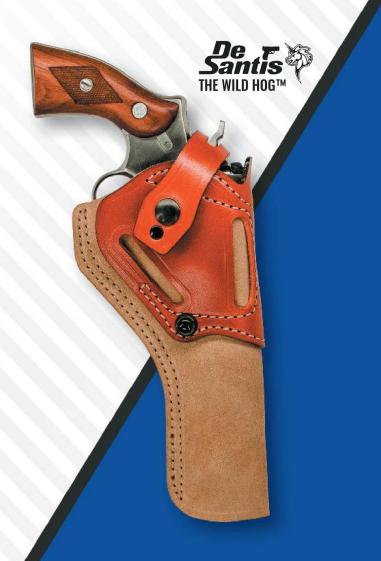
Summing Up So, if you own a vintage side-by-side with Damascus or twist barrels, get it checked out by a qualified gunsmith. Many of these guns are high quality firearms capable of producing results with proper ammunition. In a good-condition firearm, low-pressure and low-compression loads are perfectly safe to shoot. I can tell you from my own experience that hunting and taking game with a 120-year-old shotgun is very satisfying.

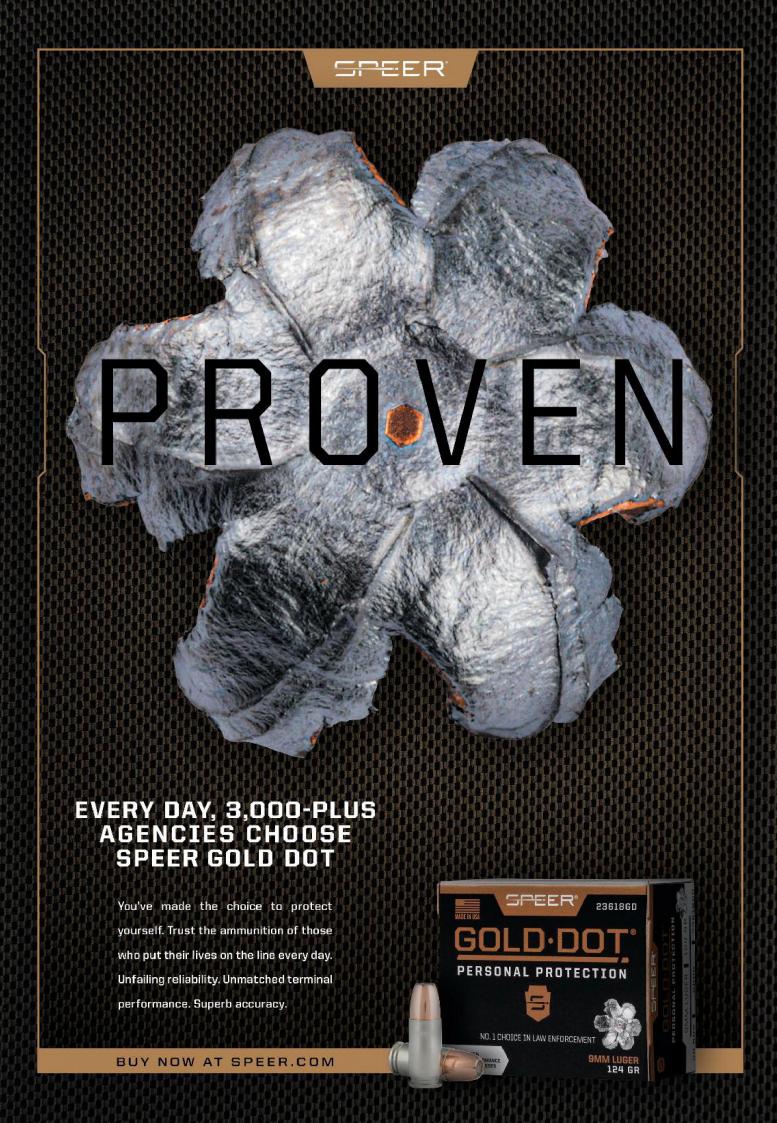
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WAYPOINT

SPRINGFIELD ARMORY'S MODEL 2020 MARKS THE COMPANY'S ENTRANCE INTO THE BOLT-ACTION RIFLE MARKET, AND THE FIRST TIME AN ALL-NEW BOLT-GUN HAS WORN THE BRAND'S MONIKER IN A CENTURY.

BY KEITH WOOD | PHOTOS BY MICHAEL ANSCHUETZ

THE LAST TIME an all-new bolt-action rifle sported the name "Springfield Armory" was on the Model 1922. That's about to change. Springfield Armory has unveiled its first new bolt-action rifle, aptly named "Model 2020" for the year of its introduction. The first offering, and subject of this review, is dubbed "Waypoint," and it marks the beginning of what will be an expanding line of rifles.

Though Springfield Armory's brand is often associated with traditional firearms such as the M1A and M1911, the Model 2020 is a modern gun. The Model 2020 was developed from the start to be a hunting rifle, not just another reconfigured tactical rifle. It's initial Waypoint model sets the stage for the line, and offers a glimpse of what we can expect from future offerings. Thoughtful design,

> complementary construction materials — including lightweight carbon fiber — and high-quality components sourced from well-regarded companies, are all combined and offered at a price that would be hard, if not

impossible, to replicate in a project build.

For some, building an accurate hunting rifle starts with a custom action, a premium barrel and metal work bedded into a rigid and weatherproof stock. However, the process is often easier said than done, and may break a hunter's budget. A rifle with specs similar to the Waypoint is Proof Research's Conviction, which carries an MSRP of \$7,699. I also spec'd a somewhat similar Clymr rifle with Gunwerks that priced out to \$8,485. To me,

it's obvious that Springfield Armory did their homework when designing the Model 2020, but I'm baffled as to how they built it for the price. The Waypoint, for example, will retail for \$2,399, which means that you'll likely find it selling at dealers for closer to \$2,000.

The Model 2020 Waypoint combines an action blueprinted with close tolerances and a premium carbon-fiber-sleeved barrel. No, it's not a Proof Research barrel or one from Christensen Arms. Rather, Springfield Armory is sourcing the carbon-fiber-wrapped barrels for the Waypoint from BSF Barrels (bsfbarrels.com). The barreled action is set into a carbon-fiber stock by AG Composites (agcomposites.com), and features a new TriggerTech Field trigger. Add the price of each of those components, and you'll quickly exceed the Waypoint's \$2,399 MSRP. I recently built a similar rifle using a carbonfiber barrel, custom action, lightweight stock and installed a TriggerTech trigger. Those components alone ran me north of \$3,000 — not including labor! This really puts the 2020 Waypoint's value into perspective.

The Model 2020 is all about the components. Though it is common for custom rifle builders to re-machine factory actions to more precise dimensions, machining technology now exists to make them correct and with tight tolerances from the get-go. Springfield Armory is employing such technology in the 2020's action. Initial chamberings are the 6mm and 6.5mm Creedmoors, as well as .308 Winchester and 6.5 PRC. G&A's Waypoint was chambered for the latter.





The Model 2020's bolt is a two-lug, sliding-plate-extractor design with a spiral-fluted body and oversize knob.

The Action The round, push-feed, two-lug bolt action is based on the Remington Model 700 footprint. The 4140-steel bolt is spiral fluted and features an oversized knob so that it can be cycled readily without compromising cheekweld. It's machined from 416 stainless steel and possesses

several notable design departures. To start, the 2020 uses an integral recoil lug, which is machined into the action. The 2020 also has a cone breech, which is somewhat of a rarity these days. Best known on the Model 1903 and pre-'64 Winchester Model

70 rifles, the cone breech encourages smooth feeding and reliability. Most makers don't use it because it requires additional machining operations that can raise costs.

The weak link of many push-feed actions is the tiny extractor. The 2020 disposes of this aspect in favor of using a beefy sliding plate milled into the bolt nose and locking lug. A spring-loaded plungerstyle ejector is standard. The ejection port on the action is

MODEL 2020 WAYPOINT				
TYPE	Bolt action			
CARTRIDGE	6mm Creedmoor, 6.5mm Creedmoor, 6.5 PRC (tested), .308 Winchester			
CAPACITY	5+1 rds. (6.5 PRC)			
BARREL	BSF Barrels, 416R stainless steel, carbon-fiber tension wrapped; 20 in. (6mm Creedmoor, .308 Winchester); 22 in. (6.5mm Creedmoor); 24 in. (6.5 PRC)			
OVERALL LENGTH	41 in. to 45 in.			
WEIGHT	7 lbs., 2 oz. (6.5 PRC)			
sтоск	AG Composites; carbon fiber, adjustable comb			
TRIGGER	TriggerTech; 2 lbs., 14 oz (adj.)			
SIGHTS	None			
MSRP	\$2,399			
MANUFACTURER	Springfield Armory, 800-680-6866, springfield-armory.com			

SPRINGFIELD ARMORY



The Waypoint's BSF barrel comes threaded and capped by a removable muzzlebrake.

milled oversized, which allows both empty cases and loaded rounds to eject easily. Another reliability aid is the choice to use Accuracy International's AICS-pattern detachable-box magazine. AICS mags have become the standard for comparison because they feed a cartridge from the center

to guide rounds directly into the chamber. This is in contrast to other magazine patterns that require lateral movement from a staggered-column arrangement.

Because accessories, including scope mounts, are so plentiful

for the Remington 700pattern receiver, basic dimensions of the 2020 were spec'd to be similar. Aftermarket stocks and bottom metal designed for the 700 will work on the 2020. (This will probably be more important if the line expands to include less-tailored models with basic stocks.) The 2020 receiver has been drilled and tapped for 700-pattern scope mounts, but a one-piece rail is included. Additional rigidity is



The receiver and bottom metal are dimensionally similar to the Remington 700, meaning stock changes are possible, if necessary. Center-feed AICS magazines facilitate reliable loading.

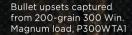
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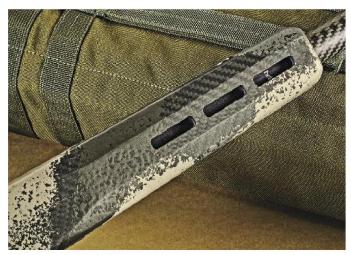
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Three M-Lok accessory slots are built into the forend of the AG Composites stock. Compared to the usual sling stud, they offer a more secure mounting point for bipods and rails.



The Waypoint's AG Composites stock includes a Decelerator recoil pad and an adjustable comb. The stock's carbon fiber is visible between areas under the sponge-painted camo.

built into to optic rail mount in the form of two steel pins. The pins sit in recesses milled into the receiver that correspond with pin holes on the underside of the rail. They provide a mechanical lock to add strength to the traditional four-screw mounting arrangement, but can be removed if a different mount is desired. The rail itself cantilevers over



A magazine release is located in the lower front corner of the triggerguard.

the front ring of the action, allowing it to accomodate some of the longer scope mounts.

All in all, the 2020 is designed with a great emphasis on reliable feeding, extraction and ejection. Guns & Ammo's test rifle was a testament to that attention to detail.

The Barrel Carbon-fiber-wrapped barrels have become popu-



A near-vertical pistol grip and an oversized bolt handle knob are two features with origins in competition riflery. The handle's contour is shaped to avoid scope interference when lifted.

lar in recent years. They offer excellent rigidity for a fraction of the weight that would accompany an all-steel barrel of the same size. If you're looking to cut ounces and maintain performance, carbon fiber is an option. Most carbon fiber barrels are constructed by wrapping the material around a thin-tapered barrel and using epoxy to secure the arrangement and ensure barrel alignment. Some riflemen, however, argue that the epoxy's weight negates some benefit of the carbon fiber, and that the compound can negatively affect heat dissipation. For the Model 2020, Springfield Armory chose a different approach.

The Waypoint uses a BSF Barrels fluted 416R stainless steel barrel, tension-wrapped in a carbon-fiber sleeve. Unlike carbon fiber barrels that use epoxy resin, the carbon-fiber wrap on the 2020's barrel is mechanically roll-wrapped rather than chemically bonded. The flutes create an air space underneath the carbonfiber sleeve, and the tension wrapping means that 95 percent of the carbon fiber does not touch the stainless steel. The air gaps allow air to foil around the steel and cool the barrel faster. Hence, the flutes not only minimize weight while maximizing strength,

accuracy also benefits from rapid heat transfer.

The barrel is threaded at the muzzle and comes equipped with an effective and removeable muzzlebrake. Standard chamberings utilize a 20- or 22-inch barrel length, while the PRC barrels measure 24 inches.



The bolt release is in a familiar position at the rear of the receiver on the left side.

The Stock As on the barrel, carbon fiber was selected

as the stock material for its strength and light weight. And it's more than just an outer shell. Cut one of AG Composites' stocks apart and you'll find carbon fiber within. Developed with Springfield Armory, the stock design has a tapered forend, vertical grip and a 1-inch Decelerator recoil pad. The comb is adjustable using a single hex screw, allowing the shooter to set the height of their cheekweld to correspond with their





own physique and the height of the scope. Since objective lens

diameters vary, this is a particularly useful feature. Finally, the barreled action is bedded on aluminum pillars, which eliminates the unnecessary weight of a bedding block.

Five flush-cup quick-detach (QD) sling-swivel mounts are imbedded into the stock, one at the toe of the stock, and two

on either side of the butt and forend. Additionally, three M-Lok slots are on the underside of the forend for attaching a bipod or adapter assembly. G&A's test rifle shipped with a short rail section that we used to attach a bipod. These mounting systems are a more rigid solution for attaching a loaded bipod than attaching one to a sling swivel stud. Notably, the stock on the Model 2020 Waypoint was comfortable for benchrest testing and shooting from a number of field positions.

Controls Controls are simple and straightforward. A useradjustable TriggerTech Field trigger is standard on the rifle, which is a brand enjoying a cult following among custom rifle builders. The trigger action is single stage with less than 0.015 inch of overtravel, which can be tuned to between 2½ and 5 pounds. The trigger features a Frictionless Release Technology (FRT) meaning they do not rely on coatings, polishing or lubrication of the key engagement surfaces to achieve excellent trigger pulls. Though TriggerTech offers similar-featured triggers, the company's Field Trigger was designed for the Model 2020, and features a lower, snag-free safety that rides close to the stock.

The magazine release is positioned inside the leading edge of the triggerguard and is actuated by pushing it forward. It is intuitive and can be accomplished with either hand. The bolt release is found on the 9 o'clock position of the receiver from the shooter's perspective.

The Finish The action, bottom metal and exposed steel areas of the barrel are finished an Olive Green Cerakote while the

bolt body is Melonite treated for a hard and corrosionresistant finish. Stocks, on the other hand, are individually



The TriggerTech Field Trigger is curved, slender and vertically serrated for purchase. It is a single-stage design and the pull weight is user adjustable between 2½ and 5 pounds.

PERFORMANCE

LOAD	VEL. (FPS)	ES	SD	BEST GROUP (IN.)	AVG. GROUP (IN.)
Hornady Match 147-gr. ELD-M	3,051	65	20.5	.54	.62
Hornady Precision Hunter 143-gr. ELD-X	3,120	104	37.3	.78	.88

Notes: Accuracy is the average of five, three-shot groups fired from a sandbag rest at 100 yards. Velocity is the average of five shots recorded by a LabRadar chronograph

painted with sponges dabbed in a earth-tone, four-color camo pattern. This treatment tastefully allows the carbon-fiber weaves to be seen throughout the stock underneath the paint.

At The Range Springfield Armory is besting much of the competition by guaranteeing 3/4 MOA accuracy at 100 yards with three-shot groups using factory ammunition. I aimed to verify.

Before heading to the range, I adjusted the trigger down to just less than 3 pounds and ensured that all of the screws were torqued. Ammunition availability was limited for the 6.5 PRC, and gunwriters are not immune to the effects of an ammunition shortage. However, we used the 147-grain Match and 143-grain Precision Hunter loads from Hornady for this test.

Guns & Ammo's testing protocol requires five, five-shot groups. However, to test Springfield Armory's accuracy guarantee, I fired several three-shot groups as well. I'll save you the suspense: Springfield Armory's standard was easily exceeded. G&A's test rifle was consistently putting three rounds of Hornady's Match ammo into a half-inch group at 100 yards. My best group was with the hunting load, which measured a scant 0.19 inch at that same distance. Five-shot groups averaged 0.62 and 0.88 inches, impressively.

Thanks to the muzzlebrake and stock design, recoil was extremely mild. The furthest steel target on my range is at 400 yards. With winds light, I dialed 4.6 minutes of elevation into the Leupold VX-6HD riflescope and drilled the center of the steel plate with the first shot. Incredible.

For a company that is entering the bolt-action rifle market for the first time, Springfield Armory did it right. This is a wellbuilt rifle made of quality components that produces excellent performance. Guns & Ammo was the first in the gun media to test and evaluate the Model 2020 Waypoint. Our consensus is

> that this rifle will distinguish the Springfield Armory brand in the hands of America's precision hunters.

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HIS FRIENDS CALLED HIM "FUDD," a name Donald Rollo embraced during high school in Manito, Illinois. Yep, it's the same name borrowed from "Elmer Fudd," the Looney Tunes cartoon character. In part, Rollo's nickname was inspired by the cigar he'd often be seen chewing on, and the gun he carried afield. It is also believed that he once fell and yelled, "Awe, Fudd," and the name stuck. He was full of life and adventure, so much so that he ran off with Marie Havens to Corinth, Mississippi, where their parents' permission wasn't needed to marry. Back home, they didn't attend the same school and, despite being married, didn't live together until after they graduated in 1958.

That July, Fudd joined the U.S. Army and was sent to Fort Leonard Wood, Missouri, for training. When he was authorized leave, he

hitchhiked in uniform back and forth to see Marie on the weekends; you could do that back then. Fudd was then sent to maintenance training for fixed wing and rotary aircraft before returning home to Illinois to get Marie in January 1959.

Together, the Rollos were assigned to Karlsruhe Army Airfield, Germany. There, Fudd and Marie welcomed their son Donald, "Donnie," in August '59 and daughter Denise in '61.

After a short time spent training at Fort Leonard

Wood, the Rollos returned to Germany in 1962 where Fudd was stationed briefly at an airport in Stuttgart. In fact, the Rollo family was often relocated. They left Germany for Fort Eustis, Virginia, and to Fort Bragg, North Carolina, where their third child, David, was born in October 1963. There, Fudd was assigned to a U.S. Army Special Forces Command (Airborne) and deployed to Vietnam in 1966. He didn't talk much about his tour, but soon after his return he transferred to the U.S. Air Force.

TSgt. Rollo was immediately assigned to an air base in Athens, Greece. The entire family continued to live there for four years while Fudd was sent to Udorn Air Force Base in Thailand as part of a Special Operations Wing. When in Greece, they'd take short trips to Europe and Turkey. The Rollos returned home to farm in 1971. However, with 13 years of service between the Army and Air Force, he decided to reenlist with the U.S. Air National Guard in 1978 until he was finally discharged in 1985.

Though Fudd's military career was colorful, I've found that his story is relatable to many servicemen of his generation. When he left the military, he farmed and worked at a powerplant, and enjoyed hunting, fishing and baseball when time would allow it. I met him only once, unfortunately, in a hospital just before he passed away in 2009. I was new to the Rollo family then, but I was tasked with helping my father-in-law Don sort through his father's personal effects, which included a Winchester Model 94 in .30-30 propped up against the wall of a closet. The levergun was neglected and in rough shape with rust growing in and around the barrel. Its hard use was concealed by rattle-can spray paint.

"Here," Don told me, "You take it. Maybe you can fix it up and get it shooting someday."



The Winchester Model 1894 Winchester purchased John M. Browning's patent, which was granted on August 21, 1894. The new model was announced in time for the November 1894 catalog. It required only a few minor changes to facilitate manufacture, and became the first lever-action repeating rifle designed for cartridges loaded with smokeless powder. Factory records show that the first delivery of Model 1894 rifles was made on October 20, 1894. The two, new, smokeless cartridges were the .25-35 Winchester and .30-30 Winchester.

The Model 1894 was the first sporting gun to pass the 1,000,000 mark. The millionth Model 1894 was chambered in .30-30, engraved and presented in 1927 to President Calvin Coolidge. The 1½-millionth Model 94 was presented to President Harry S. Truman on May 8, 1948, and the 2 millionth was given to President Dwight Eisenhower in 1953. Production passed 3,000,000 in 1967, and the 3½ millionth Model 94 was made in 1979, selling at auction for \$18,000. It was a record for a factorynew Winchester centerfire rifle.

When the New Haven Arms plant was sold to Winchester employees in mid-1981, they formed the U.S. Repeating Arms Company (USRAC) and licensed the Winchester brand from the Olin

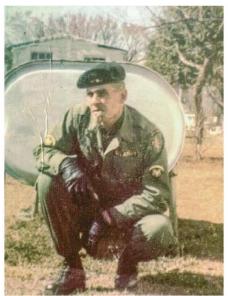
Corporation that still manufactures Winchester ammunition. At that point, nearly 5 million Model 1894 rifles had been produced. The '94 was the most successful centerfire lever-action ever produced by Winchester.

Under control of USRAC, there were several changes made to the Model 94. In 1983, the angle-eject (AE) receiver was introduced to meet the sales challenge presented by the also-popular side-eject Marlin Model 336, which allowed the top mounting of a scope. Hence, USRAC drilled and tapped the Model 94's receivers for top-centered scope installation using low rings. Each carbine also included a screw-on thumb hammer extension for right- or left-hand use with a scope.

Fudd's rifle is a USRAC-era Winchester Model 94 Ranger in .30-30 wearing serial number 5,472,XXX. The Ranger series appeared in 1985 and was distinguished by a hardwood stock



Pvt. Donald Rollo at Fort Leonard Wood circa 1959.



Spc. Rollo circa 1965 at Ft. Bragg before deploying to Vietnam.



Rollo holding his son Donnie in front of barracks at Karlsruhe, Germany in 1960.

and forearm. Unfortunately, it can be difficult to determine a USRAC rifle's exact date of manufacture, as the company's production records are not readily available. But, since Fudd's rifle lacks the cross-bolt hammer-stop safety introduced in 1992, we can place its manufacture between 1985 and 1992.

USRAC went bankrupt in 1989 and was bought by Belgian-maker Fabrique Nationale (FN) in 1992. FN instituted CNC technology to Winchester's manufacturing, and the traditional half-cock

safety notch on the hammer was replaced by a cross-bolt safety that allowed the guns to be sold internationally. The safety drew enormous criticism, and by 2003 FN moved the safety to the tang behind the receiver. The last New Haven-produced Model 94 left the plant in 2006, and U.S.-based Winchester firearm production ceased.

The discontinued Ranger was an ideal model for whitetail hunters. Mounting a scope to a rifle became popular, and the early Rangers lacked the crossbolt safety FN added. It was handy, weighing 6 pounds, 4 ounces, and had an overall length of 381/8 inches with a six-round capacity in the tubular magazine. It's 13½-inch length of pull meant that it comfortably fit most shooters, like most '94s. There was also a Model 94 Ranger Compact with a 16-inch barrel introduced in 1998, but it featured the loathed crossbolt safety and was canceled in 2004.





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There are 65 parts to a Winchester Model 1894; Lohman Gunsmithing restored, and sometimes repaired, every one of them. The project was completed with a high-gloss nitre blue and color-case hardening added to the '94 receiver. Wood-to-metal fit throughout is flawless.

Lohman Gunsmithing My father-in-law's next birthday is near, so I set out to restore Fudd's rifle months ago. It wasn't easy to find a restoration service, but I found one while getting to know Houston-based gunsmith Brian Lohman. Lohman

Gunsmith (lohmangunsmith.com) is, perhaps, best known for manufacturing custom Model 1911 pistols and suppressors. However, he is also recognized by many for being a restoration specialist. There are few gunsmiths who will touch flood or fire

projects, but he has been doing them since 2012. (I stand corrected: Lohman did his first metal and wood gun restoration for a 4H project while he was in 5th grade. He earned a blue ribbon.)

I sent Fudd's Model 94 Ranger to Lohman Gunsmithing, and days later he called to accept the job. In addition to restoring the barrel and action, refinishing the barrel with slow-rust bluing — almost a lost art — and nitre bluing the small parts, Lohman also offered to color-case harden the receiver with a proprietary formula that includes bone and charcoal. A clear coat is



applied afterwards to ensure the case-hardened colors never wear off.

The Model 1894 never had case-hardened receivers as a standard feature. However, I was told by the Cody Firearms Museum (centerofthewest.org) that, accord-

ing to Winchester's records, a small number were actually case hardened. From 1916 to 1963, levers were listed as case hardened, and hammers by this process from 1916 to 1934. Given the 1980s vintage, I felt that it wouldn't be intolerable to

dress up this project.

Winchester collectors if I were to

WINCHESTER **MODEL 1894 RANGER** Lever action .30-30 Win. **CARTRIDGE** CAPACITY 6+1 rds. **BARREL** 20 in., 1:12-in. twist OVERALL LENGTH 38.13 in. LENGTH OF PULL 13.5 in. **WEIGHT** 6 lbs., 4 oz. **STOCK** Hardwood, straight grip Post (front); U-notch, leaf spring, **SIGHTS** adj. (rear) SAFETY Internal hammer block **ORIGINAL MSRP** \$386 **MANUFACTURER** U.S. Repeating Arms Co. (1985-2006) Lohman Gunsmithing, 832-849-0009, RESTORATION lohmangunsmith.com

Lohman's gunsmiths removed the paint and refinished the hardwood, staining it with a dark walnut finish. While scrutinizing the markings, I remain impressed that the stampings and engravings remain as sharp as they are. Typically, sanding prep before finish work dulls the corners and reduces the legibility of the factory type and markings. The woodwork now exceeds the USRAC quality. Each mating surface was blended perfectly to both ends of the receiver and tang. The transformation of this rifle is remarkable.



Though considered the most affordable of all Model 94s, this project yielded the same enjoyment and appreciation as any lever-action would.

Creating an Heirloom Lohman Gunsmithing turned the Model 94 Ranger project around in just a few months. A gunsmith sent me photos of various processes with updates on our timeline along the way. I cannot understate the professionalism of their service and excellent communication.

With months to spare, I received the Model 94 Ranger in better-than-new condition. It was hard to keep the rifle a secret

from Fudd's son Don, but I used the time to further study Fudd's story. He was older than his years, and he rarely talked about his nearly 20 years of service. Nevertheless, he was affected by it for the rest of his life.

Few Winchester collectors would regard Fudd's rifle a "treasure," but the values of vintage Winchester Model 94s and a few commemoratives often exceed the ability of many to afford one. However, while working on this project, I found many decent USRAC-made Model 94s priced between \$350 and \$450 in gun stores and online. According to the 41st Edition Blue Book of Gun Values, a perfect-condition Model 94 Ranger has a value of \$435, which is the least amount when compared to other Model 94 variations. Fortunately, a rifle such as this is worth saving because it keeps a veteran's memory alive in the form of an heirloom. The sentimental value far exceeds what anyone outside of the Rollo family would pay for it, and there's nothing wrong with that.

For those interested, Lohman Gunsmithing can custom build a similar vintage-looking heirloom, fully functional and ready for the field. The pleasure it can give is no different than the millions of Model 94s that have gone before it.

SOURCE

Lohman Gunsmithing, 832-849-0009, lohmangunsmith.com





CHOOSE YOUR OWN ADVENTURE

SIG SAUER LAUNCHES THE P320 CUSTOM WORKS FIRE CONTROL UNIT (FCU) SO YOU CAN DESIGN YOUR OWN.

BY TOM BECKSTRAND

A HANDGUN IS THE MOST PERSONAL of firearms because it spends so much time in the presence of its owner. Whether it's in a nightstand or inside a holster, pistols get more contact and attention than any other firearm. As a result of all that attention, pistols see heavy customization. The changes can just as easily be functional as cosmetic, and the only limitation is budget and imagination. The downside of customization is the inefficiency. Brand-new parts on brand-new guns often get tossed aside for the desired aftermarket components.

SIG Sauer has changed that wasteful process with its new P320 Custom Works program. This venture allows enthusiasts to purchase the P320's Fire Control Unit (FCU), the serialized chassis within the P320 platform from a SIG Sauer dealer. With it, you can build out the rest as you see fit.





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While SIG Sauer always meant for the P320 pistol to be modular and user-configurable, making changes came at the expense of discarding unwanted factory parts or selling

can be purchased and shipped without ever

having to set foot in a gun store. Do your

shopping online, if you prefer.

them to recover some of the gun's original expense. (The MSRP for the most basic P320 Nitron is \$549.) This is a minor consideration for many gun fans, but to a new shooter on a budget, the thought of chucking new parts is a tough consideration.

SIG Sauer's Custom Works program presents us with new options. The first is the ability to purchase the FCU from a dealer and then source parts from third-party vendors, some of which who have built a business around customizing the P320. If the customer isn't familiar with manufacturers who have teamed with SIG on this project, the Custom Works program can help. Once the customer has the FCU in their possession, he then sources his barrel, slide assembly and grip module of choice. If a guy bought an FCU and decided to shop around for a grip, he could either buy one from sigsauer.com (which start at \$39) or from a third party. SIG Sauer currently offers several

grip modules for the P320, including those with multiple lengths and dust covers that facilitate everything from

SIG SAUER P320 FCU				
ТҮРЕ	Striker fired, semiautomatic, chassis			
FINISH Titanium Nitride (TiN)				
MSRP	\$350			
MANUFACTURER	SIG Sauer, 603-610- 3000, sigsauer.com			

concealed carry to competition and duty use. There is even a tungsten-infused heavy XSeries TXG grip module (\$299), which is currently all the rage.

Historically, P320 owners who wanted something particular or more functional could take a Dremel

tool and customize a grip module. Or, he could send a module off to someone else to work on it, or replace it with one from a third-party business such as Wilson Combat's WCP320 (\$65). Customers either risked modifying their original purchase at the cost of some additional time or expense, or they paid to replace it with what they really wanted. This is why the program is big news. SIG Sauer's new Custom Works allows the FCU owner to build exactly the gun he wants, using preferred aftermarket parts, the first time around.

SIG Sauer is also working on an online configurator called the "P320 Studio," which will allow FCU customers to shop for barrels, slides, frames and other accessories available from SIG as well as from many of the partnered manufacturers. This means that, with a P320 FCU in hand, you can get on the P320 Studio and order a JTTC slide, barrel and compensator from

Parker Mountain Machine (\$355), and a grip frame from Mirzon (\$119) to complete the pistol, for example. Parts

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ordered from SIG Sauer's P320 Studio will come with a onetime, 10 percent discount for all FCU's registered in the configurator. Only SIG Sauer's products will initially be available, but third-party offerings will be added quickly.

The second major benefit of the FCU's availability is the opportunity it presents aftermarket companies. Zev Technologies, for example, has customized polymer-framed pistols for years. (They've even developed their own striker-fired polymer-framed handgun.) Zev is one of SIG's partners for the Custom Works P320 program, which allows Zev the opportunity to purchase FCUs and what SIG Sauer calls "gunsmith slides," in order to build their own Zev-branded custom guns. Like the savings a consumer sees from buying what they want, Zev has the ability to buy critical parts and finish the builds in their own signature configurations. Instead of being limited by starting with a factory-finished slide, Zev buys partially-finished slides and machines them to their desired specifications. Zev's XCompact and XCarry Z320 Octane models retail for \$1,299.

Options Galore The P320 and X-Series has been commercially sold for some time, so there is already a good selection of aftermarket parts available. The P320 Custom Works program is the first, to my knowledge, that actively seeks out aftermarket partners and helps them promote and sell their products in support of the FCU. Where there are currently many options available, I suspect there will soon be even more. This kind of parent-company support for aftermarket, third-party products is unprecedented.

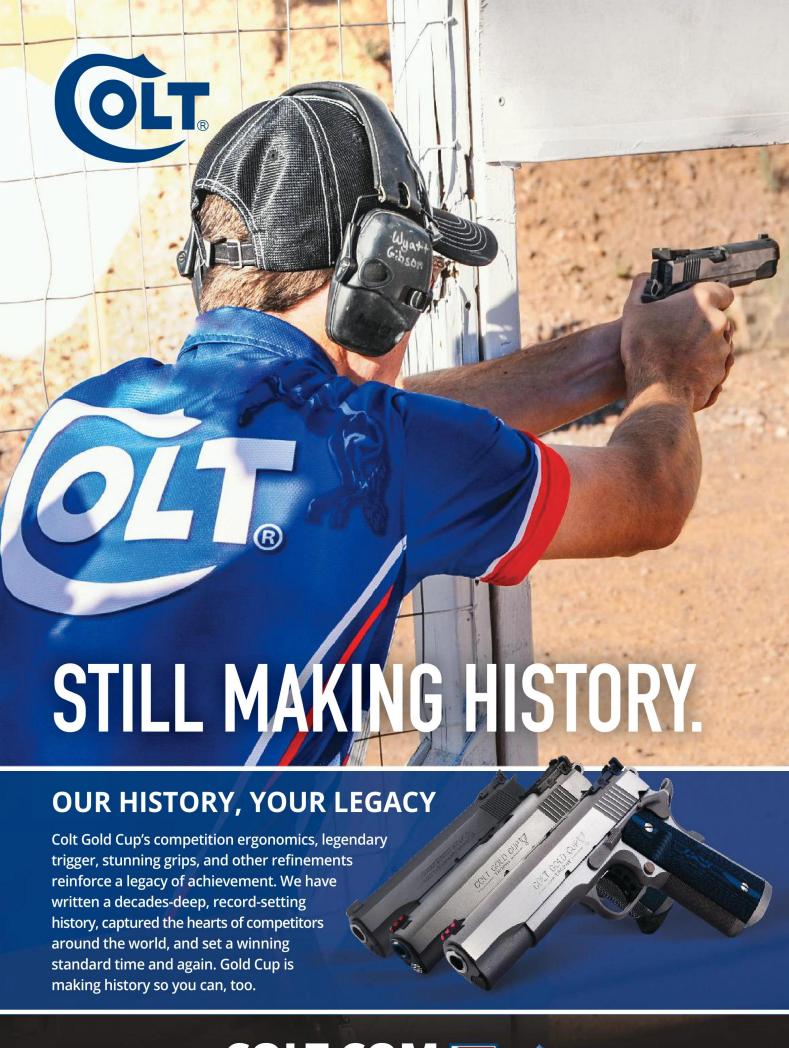
Probably the most prominent aftermarket components for the P320 are grip modules. Choices are available from Wilson Combat, Icarus Precision, Mirzon and GrayGuns for a start. Icarus Precision offers aluminum frames that fit the P320 FCU (\$370). These grip frames are made entirely of billet 7075 aluminum

optic cuts that will accept the SIG Sauer

Romeo1, Trijicon RMR

or Leupold DeltaPoint

Pro right out of the box.







The trigger is GrayGun's Adjustable Straight Trigger (\$89), and the FCU (\$350) is installed in SIG Sauer's TXG grip module (\$299). The Grey Ghost Precision Slide (\$430) shrouds while a Streamlight TLR-1 (\$125)

a SilencerCo threaded barrel (\$185) fitted with a compensator by Parker Mountain Machine. Sights are from Trijicon, hangs from the module's full-size rail and a Taren Tactical +5 basepad (\$42) increases magazine capacity to 22 rounds.

Coming soon! SIG Sauer is near launching the next-generation Romeo2 red-dot sight with larger window, protective shroud, easy-

access battery and recessed illumination buttons. The ruggedly durable sight is also convertible between operation as an open emitter or a closed

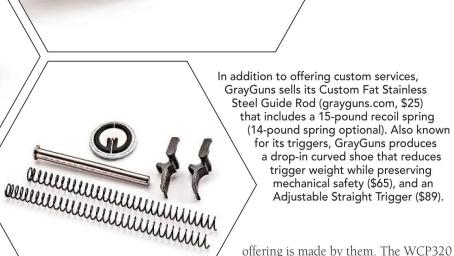
emitter system.

and have the top portion of the grip thinned considerably when compared to the standard P320 grip from SIG Sauer. This makes it easier for small hands to work the pistol's controls. I found that these A-320 frames fit just about every hand well.

The Mirzon Enhanced Grip Module for the P320 has rubber panels inlaid in the grip (\$119). Along with the rubber feel, Mirzon thinned the top of the grip and fattened up the bottom to allow easy access to controls while still filling the hand.

GrayGuns is a long-time player in the high-end competition scene, and has a reputation for trigger components that significantly improve factory offerings. GrayGuns is offering laseretched grip modules for the P320 that look good and improve purchase on the grip (\$115 to \$165), but their triggers are my favorite products. The triggers GrayGuns sell look the same as the factory units, just with different shoe shapes, but that's not all. GrayGuns' triggers cost \$89. They drop into the factory FCU and reduce pull weight by around 30 percent. More complicated trigger kits are also available to get pull weights even lighter while still retaining all the factory safety.

Perhaps my favorite aftermarket grip module comes from Wilson Combat. Wilson Combat WCP320 grip modules feature Wilson's distinctive Starburst pattern textured into the grip. While it may look like a modified SIG grip, the Wilson Combat



offering is made by them. The WCP320 features significant changes that make it much more comfortable than the stock module, too, in my opinion. Selling for \$65, it's not expensive at all (which explains why they are often sold out on their website.)

The grip has a slightly radiused frontstrap and heavily radiused backstrap that makes both narrower than the SIG Sauer P320 stock grip. When combined with the heavy scallops behind the trigger, the Wilson Combat grip frame feels great in the hand. I haven't met anyone who disagrees.

Wilson Combat also places aggressive texturing on the frontand backstraps that makes the WCP320 module controllable in rapid fire. Wilson even integrated a weight system that allows the user to install tungsten or metal dowel rods to sit just behind the magazine inside the grip frame. (Adding weight to viisons grip is similar those who have handled SIG Sauer's X5 and Legion pistols.) This improves the balance and recoil characteristics of the P320. Lastly, Wilson's integrated a magazine innel into the module that speeds reloads without adding any wilk. What looks like a pretty simple grip module is thoughtal, subtle and performance-enhancing. Wilson's grip is similar those who have handled SIG Sauer's X5 and Legion pistols.) This improves the balance and recoil characteristics of the P320. Lastly, Wilson's integrated a magazine funnel into the module that speeds reloads without adding any bulk. What looks like a pretty simple grip module is thoughtful, subtle and performance-enhancing.



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several options for grip modules. It covers the top half of the guns as well. Options for slides and barrels are available from Grey Ghost Precision, Parker Mountain Machine (PMM), Rival Arms and L2D Combat. PMM is a small shop just down the street from SIG Sauer who has sophisticated barrel/compensator/slide packages (\$355) that integrate the compensator in such a manner that it looks like a factory product. The most impressive aspect is the performance that these packages offer. The assembly cuts muzzle flip to almost nothing! I was able to keep all shots in a relatively small group during rapid fire because the muzzle didn't move. I never even lost sight of the red dot, which is another slide-cutting service PMM offers.

Both Rival Arms and L2D Combat offer barrels, slides and parts kits that are a great way to complete any P320 FCU build. Rival Arms and L2D Combat make their own slides, but now SIG offers them the gunsmith slides. These slides have all the critical dimensions cut at SIG Sauer, but leave the slide's exterior unfinished for Rival Arms and L2D Combat, should these companies decide to streamline their production. Rival and L2D can then integrate their slide-cutting methodologies to hit SIG Sauer's recommended slide-weight specs while still

integrating their optic-mounting solutions, lighting cuts, texturing and aesthetic additions.

It's a brave new world for handgun shooters everywhere. SIG Sauer's effort to include and promote third-party manufac-

turers around the FCU program will ensure customers like us can get exactly what we want or need, even if it's something that SIG Sauer doesn't produce. Never has a handgunner had more great options available.

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TRAPMAX

COMPETITION PROVES OUT THE FEATURES ON TOMORROW'S FIELD GUNS, AS IT DOES WITH **BROWNING'S** NEW CITORI 725 TRAP MAX.

BY ROBERT W. HUNNICUTT | PHOTOS BY MICHAEL ANSCHUETZ

BROWNING'S NEW CITORI 725 TRAP MAX is a specialized competition gun for trapshooting, and it carries a retail price of \$5,860. More than 40 years in the trade tells me that that brief description alone will generate an anguished outpouring of mail from readers demanding to know, "Why do you write about guns I'm not interested in and will never be able to afford?"

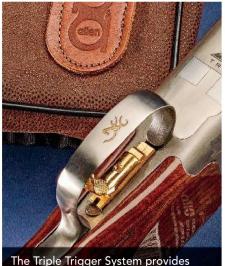
Compare the firearms field to the automotive world. You're going to see the \$2 million Bugatti Chiron on more car magazine covers than a new \$22,995 Mitsubishi Eclipse Cross. Exotic, expensive cars sell more magazines than bread-and-butter rides. More importantly, consider that those fun features on your crossover appeared first on a Rolls-Royce in 1990. As in cars, innovations trickle down from pricey guns to

more humble, everyday models. For example, barrel porting was once limited to top-line competition guns, now the cheapest Turkish pump-action may have it.

Modern magazine economics mean that every story is going to be, to some degree or another, a review. If we're going to educate you now, we have to work it in while writing about someone's gun. If that gun is feature-packed, we can work in a lot more education.

Finally, if you read Guns & Ammo, you're supposed to be an expert. Your jumpy, electric-car-driving neighbor who's developed a recent appreciation for the natural right to self-defense certainly assumes you are. Being an expert means being interested in and having something useful to say about all guns; even, and maybe especially, the ones you can't afford.

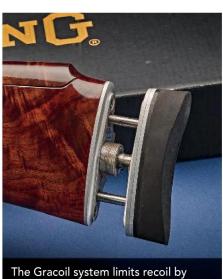




The Triple Trigger System provides three separate trigger blades that can be secured in any of three positions with a hex socket screw. Two blades are wide and checkered, while the other is narrow and smooth.



The pistol grip is tightly curved and vertical. It swells toward the bottom, making it comfortable for just about any size hand. Checkering is at 20 lines per inch, prioritizing great looks over a firm grasp.



mounting the buttplate and recoil pad on a spring-loaded plunger that com-presses on firing. Combining it with the Trap Max's 9-pound weight makes for very comfortable firing.

A good case could be made that the Browning Citori is the most successful over-under shotgun design of all time. It's been around half-a-century, and while Browning is very cagy about the numbers, it's certainly sold in the millions in just about every possible gauge and configuration. The 725 Citori began to appear in the 1990s, driven by the rapidly expanding sporting clays market. While the original Citori followed the lines of the Superposed, the 725 had a lower profile that was more competitive with popular Italian brands, and touted for its lighter weight. The basic operating system remained the same, however, with locking by a wide underbolt engaging a bite in the bottom surface of the monobloc. The hammers are cocked by a rather complicated part pivoted at the front of the triggerguard. You probably wouldn't design it that way these days, but it was an improvement over the Superposed and is certainly well-proven by now.

The trigger assembly is Browning's FireLite design, and it's mechanical, in place of the original Citori (and Superposed) inertia trigger. The inertia trigger was invented to prevent doubling, and needs to be reset by recoil between the first and second shots. Inertia triggers work perfectly well barring an ammorelated misfire, but a dud round in competition can cost a target.

So, competition guns, and even a lot of hunting shotguns, tend to have mechanical triggers today, which reset automatically. If you can pull the trigger of an unloaded shotgun twice, the trigger's mechanical. If not, it's inertia. Slap the butt of the shotgun or drop it on its butt from a couple inches' height and the inertia trigger will reset.

As befits a top-of-the line competition gun, the Trap Max comes with Browning's Triple Trigger System. The trigger blade is a separate piece that slides on a rail at the bottom of the trigger assembly. It can be attached at any of three positions in a range of .323 inches (8mm) by tightening a 2mm hex socket set screw.

Three gold-colored blades are provided. Two are checkered and .393 inches wide, and of those, one is perpendicular to the boreline, while the other is twisted to the right for right-handed shooters. The third blade is smooth and .254-inches wide for those who prefer a more conventional trigger feel.

In the days when there was a trap field behind every VFW hall in the land, you'd have felt perfectly at home anywhere with a Model 12 Winchester or Remington Model 31 straight out of the box, but today's trapshooter wants very precise control of his sight picture. This is accomplished at either end of the Trap Max. Keeping in mind that the eye is the rear sight of





If you're one of those who's tired of polymer- or fiberglass-stocked guns, drink in the beauty of the Trap Max's figured walnut, polished steel and nitrided frame. Trapshooters like guns that look as good as they shoot.

a shotgun, the gun has a comb that's adjustable both for height and lateral position. This lets you regulate how much rib you see and lets you make sure you're looking straight down the rib.

Using the supplied %4-inch (3mm) hex key, turn out the hexsocket screws on the right side of the stock below the cheekpiece. One full turn is plenty. Then, pull the cheekpiece up and out of the buttstock. You'll see the tubular steel supports ride in transverse slots in an aluminum block screwed to the cheekpiece. Witness marks in the plate indicate four 1/16-inch displacement intervals to the left or right of center. Use the same hex key to adjust displacement to your desired setting.

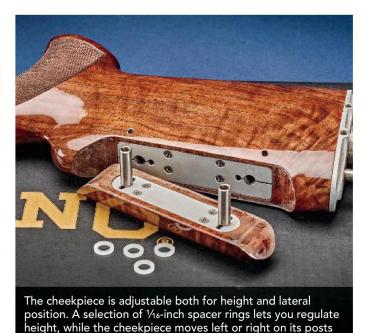
Graco, a longtime maker of trapshooting accessories that supplies Browning both the cheekpiece and buttplate hardware, says that moving the cheekpiece 1/16 inch moves the point of impact about 1½ inches at 30 yards. Keep in mind, that measure will increase at greater distance, as when shooting handicap targets.

Elevation is regulated by adding or subtracting white plastic

washers that surround the support posts. These are also 1/16-inch thick, and 16 of them are provided, letting



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you lift the impact point a full foot at 30 yards. We'll leave aside whether that would be a good idea. Once you've achieved your desired point of impact, a process requiring many hours at the pattern board, you can tighten all the screws securely and go on your way.

to adjust for windage.

The Gracoil buttplate assembly has Pachmayr's thick and solid back rubber pad mounted on a recoil-reducing assembly that allows the butt to collapse about 3/8 inches against spring tension to soften the kick. If you don't routinely shoot trap, you may be skeptical about the necessity of such a system on a 9-pound ported gun. If you are, ask yourself whether it might seem better after a full day in the baking sun of Sparta, Illinois, shooting the Grand American Trapshoot.

The buttstock itself is quite thick at more than 11/2 inches and has a tightly curved, vertical pistol grip as originated by trapshooter and writer Fred Etchen. It's quite substantial and swells toward the bottom to make a consistent hand position easy. Checkering is at 20 lines-per-inch in a bordered point pattern. This looks great, but I'd like an 18- or even 16-line pattern on a hot summer day. So many shooters wear gloves anymore, the elegant measure is just fine for them.

A straight buttstock and an adjustable comb where all the adjustment is up requires a tall rib to match, and the Trap Max has it. Its height tapers from about 3/4 inches at the breech end to 17/32 inches at the muzzle, with its width going from 7/16 to 5/16

> inches in the same distance. Made of aluminum with a cross-hatched top surface, it looks like a railroad bridge.



Sight picture is adjustable at the front as well as the rear. Turn the knurled thumbwheel at the front of the rib to adjust it up or down. Moving the rib down raises the shot charge point of impact.

After reading the very detailed instructions about adjusting the cheekpiece in the manual, I was surprised not to see anything about adjusting the rib height, but we'll figure it out by dead reckoning. The rib is pivoted on a pin in its support at the breech end of the barrels. It attaches to a front support at the muzzle by a thumbwheel with very bold detents. Witness marks are visible below the rib on the right side.

Turning the knurled thumbwheel moves the rib up or down in very subtle increments. You can immediately see this is a much finer adjustment than can be achieved by removing or replacing 1/16-inch spacers under the cheekpiece.

Adjusting the front sight for elevation is nothing new. My 1929-model Colt Shooting Master does the same thing. All you need to remember is that a front sight moves impact point the

BROWNING

CITORI 725 TRAP MAX

12, 2¾-in. chamber

30 in. (tested), 32 in.

3¾ lbs., both barrels

Two Full (.701-in.), Light Full (.712-in.),

Improved Modified (.725-in.) and an

Improved Cylinder (.735-in.) choke

tubes, spanner, hex keys for trigger

blades, eight fiber optics and case

B.C. Miroku Ltd., Kochi, Japan Browning, 800-333-3288,

browning.com

and stock adjustments, three trigger

Over-under

9 lbs.

47¾ in.

14% in

23/16 in.

113/16 in.

TYPE

GAUGE

WEIGHT

OVERALL LENGTH

BARREL LENGTH

LENGTH OF PULL

DROP AT HEEL

DROP AT COMB

TRIGGER PULL

ACCESSORIES

MANUFACTURER

MSRP

IMPORTER

opposite of a rear sight. You lower the front sight to raise the point of impact. Referring to a handy sight correction calculator I found on the internet (sdmfabricating.com/sightcalc. html), it appears each click of elevation should move point of impact about 1 inch at 30 yards. That's extremely precise for a shotgun. You should ask yourself if you are that precise before getting carried away with the knob-twisting.

Sights are a .085-inch midbead and a HiViz ProComp fiber optic a bit over an inch long that provides a 1/8-inch bead. The installed bead was green, but the Trap Max came with a little rotary case con-

taining a couple more green, a couple red and a couple white sights. By the time you're through setting your impact point and choosing a sight, you won't need to shoot trap for a while.

The barrels are both ported. There was a time when wags pooh-poohed top barrel porting on grounds of "Why do you care if the barrel jumps on your last shot?" It appears those



The Invector-DS choke tubes are almost 4 inches long and have a brass seal ring at the base to keep the threads clean, as well as a gold ring at the front. Spare HiViz fiber optics are provided in a handy rotary case.



skeptics have all died, because porting both barrels seems to be the norm these days. The top barrel has 18 ports while the bottom has 28, so the greater importance of the first shot is recognized.

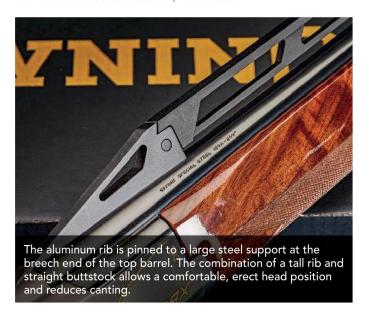
Browning came early to the concept of using bores larger than the standard .729inch diameter for 12 gauge, and hasn't let up. What is grandly termed Total Barrel Dynamics comprises three different design and manufacturing processes.

Vector Pro is a very gradual forcing cone configuration that makes for a smooth transition between the chamber and the barrel. Relatively abrupt forcing cones were needed for paper wads that didn't expand to contact the bore on firing. Plastic wads have been close to universal since the 1970s, so there's no reason for a sharp forcing cone. When

I was a youngster, it was quite common for gunsmiths to use big old reamers to ream out the original forcing cone. That business, I suspect, is pretty well gone.

Back-boring was a process pioneered by gunsmiths like Stan Baker for trapshooters of the 1970s. The standard .729-inch bore diameter was specified with fiber wads in mind, and





PERFORMANCE

= POINT OF AIM

24

22

43

39

TOTAL HITS: 259

WINCHESTER AA DIAMOND

GRADE AADGL12507 1250-1-71/2

/ERAGE OF 10 SHOTS AT 40 YARDS

IMPROVED MODIFIED CHOKE

24

43

there's no reason it can't be bigger with plastic wads. Back-boring meant increasing bore diameter, with the goal being reduced recoil and better patterns. The process is well-accepted today by everyone except Italian manufacturers. My gauge showed the Trap Max's bore diameter measured .738 inches.

Just as it's a good thing to squeeze the shot charge gradually into the bore, it's beneficial to make its passage toward the choke smooth and easy. The Invector-DS choke tubes used in the Trap Max

are almost 4 inches long and feature a conical-parallel interior configuration that incorporates a cylindrical section at the muzzle end that helps stabilize the wad as it passes out of the gun. The "DS" in the name is for "double seal," in this case by a brass band at the rear of the tube that helps keep carbon fouling from reaching the tube threads. This comes in handy if you want to use the ½-inch knurled section to turn out the tube by hand. The usual spanner is provided if you install it too tight. A goldcolored ring at the front end is marked with the tube constriction, supplementing the usual tick marks in the front face of the tube. This piece also protects the inside of your gun case from being torn up by the tube's notches.

Browning's spec sheet shows the Trap Max being supplied with Full, Light Full, Modified and two Improved Modified tubes. Guns & Ammo's sample gun turned up, for whatever reason, with two Full (.701-inch), a Light Full (.712-inch), an Improved Modified (.725-inch) and an Improved Cylinder (.735-inch). That's plenty of potential pattern-testing for anyone! I would have preferred to pattern with Modified and Full tubes, since Modified is fine for 16-yard targets. As one wasn't on hand, I used Improved Modified.



Ammo was Winchester's AA Diamond Grade. I suppose you could use this for handicap trapshooting if the Amateur Trapshooting Ass'n, the sport's governing body, allowed it, but it's

primarily intended for demanding sporting clays applications

WINCHESTER AA DIAMOND GRADE AADGL12507 1250-1-71/2 AVERAGE PELLET COUNT: **365** AVERAGE OF **10** SHOTS AT **40** YARDS **FULL TUBE** • = POINT OF AIM 20 61 54 46 17

TOTAL HITS: 282

PERFORMANCE

like Federation Internationale de Tir Aux Sportives de Chasse (FITASC) competition, which is an international clay-shooting association based in Paris.

Winchester's new AA Diamond Grade load uses selected high-antimony shot, copper-plated, which is not allowed in ATA trap, but OK to use in the international style. Increasing the antimony fraction slightly lowers the weight of each pellet, giving you more pellets to a given charge weight. Copper plating makes the shot flow better and increases resistance to deformation. The result is

tighter patterns for a given choke constriction.

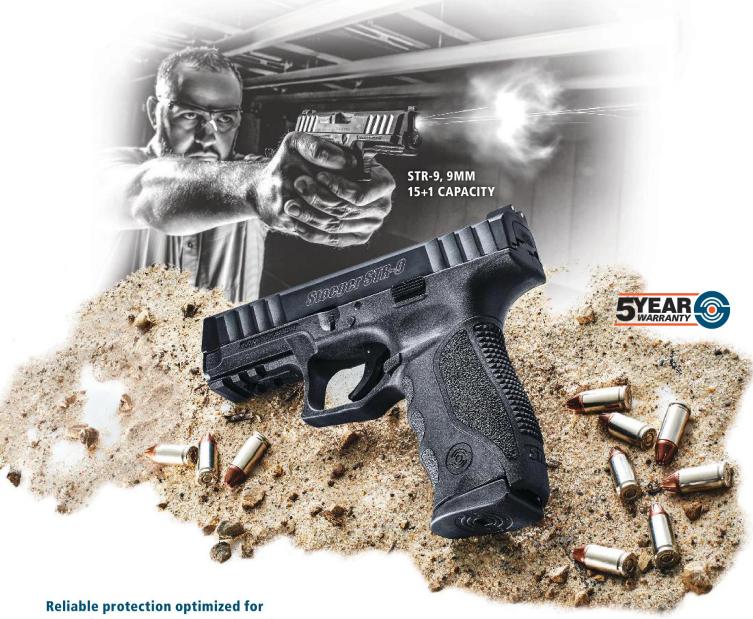
Years ago, I came into a supply of Rottweil Supertrap 32, a round intended for international trapshooting. It had nickelplated shot and was very hard-hitting at distance, even from an Improved Cylinder choke. I kept a few in my vest for the tall ones on the sporting course, while reserving more pedestrian ammo for most shots. Since Winchester AA Diamond Grade carries a price of around \$12 a box, that's how I'd use it. Popping it at 20-yard teal targets would be overkill.

While patterning with the Diamond Grade, I discovered an interesting effect: a sort of silvery confetti would fall from the air when fired. We finally decided it was tiny flecks of copper coming loose from the shot. Don't plan on seeing this at your local gun club because it takes bright sun on the gun and dark shade on the target. It was fun, anyway. The ammunition is available in four loads: 1-ouncers traveling at 1,250 feet-per-second (fps) or 1,350 fps, and 11/8-ounce versions at 1,250 and 1,300 fps.

When I first pulled the Trap Max from its box and assembled it, I thought, "How am I going to shoot this log?" You feel every bit of its 9 pounds, and the thick buttstock and robust pistol grip made me think of various dangerous-game guns I've tried.

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Sighting it gave a panoramic view of the left side of the rib, and I immediately went to work on the cheekpiece. I thought moving it a notch or two to the right would be plenty, but I had to take it all the way to the stop to put my eye in line with the rib. I thought that configuration might be uncomfortable, but I didn't notice the step between the buttstock and cheekpiece a bit. More importantly, the general feel of the shotgun was improved far more than I would have suspected. The fact that I was no longer struggling to get a good sight picture clearly made a difference. Once that problem was eliminated, the Trap Max immediately felt livelier.

A trap gun has to be tested on the trap field, but I typically get some casual function-fire after patterning. I didn't expect much here, but the Trap Max was actually perfectly shootable on a variety of targets that hardly duplicated trap presentations. Someone somewhere is going to use it on sporting clays, and probably will get away with it.

The trigger pull was truly excellent at 3¾ pounds. That's plenty light for a competitive shotgun. Breaks for both barrels were crisp, with minimal overtravel. We really are in a golden age of triggers. If only they'd been this good in the 1970s! I used the twisted wide trigger, and it was quite comfortable.

For shooting trap targets, I selected Federal Ultra Clay and Field, a low-priced load that's pretty much the opposite of AA Diamond Grade. We used the Improved Modified tube at 16 yards and the Full tube at 24 yards. I have shot at 27, but that was during the sunny Reagan years.

On a clear summer day, the green fiber optic stood out like a torch; the red fiber might have been a better choice, but there was no difficulty finding the muzzle.

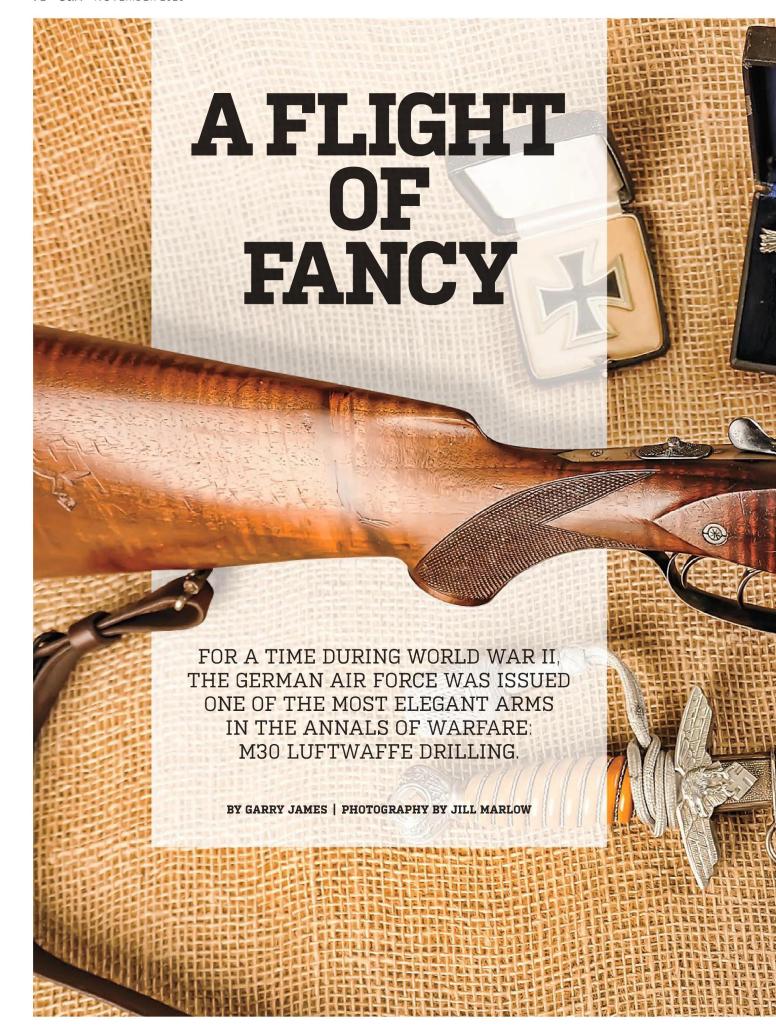
Improved Modified is pretty tight at 16 yards, but it certainly provided impressive breaks. It might have been a better selection for 24 yards, but we'd have been deprived of the hard breaks at distance provided by the Full tube. When you're pointing the 725 right, either tube punishes the target.

My usual trap gun is a Remington 1100, and the 9-pound Trap Max certainly requires a different approach. It takes a little more time to get out in front of them, making patience your friend. The Gracoil system, combined with the gun's weight and the porting, makes recoil inconsequential. I'd put it in the 20-or even 28-gauge range.

Is the Trap Max really worth almost six grand? Consider that competitive guns from Krieghoff and Perazzi are \$12,795 and \$14,838, respectively. More importantly, remember that buying a trap gun is exactly like buying a dog. Just as the \$300 the rescue league charges you for that three-legged, one-eyed mutt named Lucky is only the beginning of your pet expenditures, buying the gun is the cheap part of trapshooting. Ammo bills, shoot fees, Winnebago payments, diesel fuel and necessary presents for the wife will soon make the price of the shotgun look like chump change, and you only buy the gun once.

And cheer up; Soon, we can hope, Columbus will again be safe on his plinth, Portland, Oregon, will return to punchline status, and your nervous neighbor can go back to sipping Chardonnay while listening to the soothing sounds of NPR radio. By then, we'll be writing up more popular-priced pump guns. In the meantime, relax and try shooting a little trap.









Hermann Göring, German marshal, a portrait photograph taken in January 1945 by Robert Röhr. Göring was convicted of war crimes in 1946.



German flying ace and Luftwaffe General Adolf Galland's portrait in uniform was taken on November 1, 1940, by Heinrich Hoffmann.



The M30's safety was a handy knurled button located on the left side of the stock just ahead of the wrist. This same feature was seen on German sporting arms.

TO MOST OF US, when we think of survival arms, spartan, utilitarian guns such as the ArmaLite AR-7 .22 semiautomatic or the M6 folding rifle/shotgun come to mind. Both guns are rugged, reliable, foolproof and no-nonsense. Perhaps they are not all that elegant, but they can do the job.

It might come as a surprise then that, for a short time in the 1930s and '40s, there was a survival combination gun manufactured to the highest standards by one of the finest arms makers in the world, a firearm that could hold its own with some of the best-grade sporting arms of the time: the Sauer M30 drilling.

When one learns how it came about and who championed it, it becomes clearer how such a piece could ever been considered for use in a combat role, oblique though it might have been.

By the late 1930s, the German Air Force (Luftwaffe) had



Ammunition used in Guns & Ammo's evaluation included (left to right) Prvi Partizan 9.3x74R; a reconstituted 2½-inch Brenneke Slug; and a 2½-inch shotshell loaded with No. 2 shot.

become the pride of the Nazi regime. Led by former Great War ace and ardent member of Adolph Hitler's inner circle Reichmarschall Hermann Göring, the Luftwaffe was unquestionably the most politicized branch of the German Wehrmacht. Göring, a man never given to temperance, lived a lavish lifestyle in an elegant castle-like residence decorated with stolen artworks. Addicted to flamboyant uniforms (as well as morphine), he enjoyed fine wines, haute cuisine, and his pride and joy, the Luftwaffe.

Appearing to the outside world as an avuncular, almost comic figure, Göring was, in fact, a true believer in National

Socialism and, accordingly, was a cruel, pragmatic manipulator responsible for a number of the many atrocities committed by the regime, not the least of which was his being one of the architects of the Holocaust.



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Each barrel has its own gold-plated cocking indicator.



A selector on the M30's tang allows the shooter to switch from rifle to shotgun barrel, or vice-versa.

As well as being Hitler's second in command and Reichminister of Aviation, among his other duties and honorariums, Göring, an avid hunter, was also Reichminister of Forestry who was familiar with all types of fine sporting arms. When it came to choosing a survival arm for his pilots, who better to turn to than the respected high-end Suhl gunmaker J.P. Sauer & Sohn.

Sauer offered a copious variety of superb sporting rifles and shotguns, including a line of triple-barreled drillings (the name derived from drei, German for "three"). Models were offered in



When the rifle barrel is selected, a rear sight automatically rises up from the rib for aiming.

a range of styles and grades with barrels in various shotgungauge and rifle-caliber combinations.

After discussions within the Luftwaffe hierarchy and conferring with J.P. Sauer & Sohn, it was decided in mid-1941 to adopt one of the firm's drillings as a survival arm which, according to top World War II German ace and final commander of the Jagdflieger (i.e., "Fighter Force") Generalleutnant Adolph Galland, "In 1942 and 1943....was standard equipment for our fighter Bf 109 and Stuka bombers to operate in the desert. The purpose was to shoot animals for survival."

The "M30," as it would be called, was arranged with two upper 12-gauge shotgun barrels, the left set up to handle Brenneke slugs and the right, normal shotshells. The lower rifle barrel was chambered in 9.3x74R, a popular magnum-range sporting round introduced around 1900, and roughly equivalent to the British .400/360 Nitro Express. With a 286-grain bullet, muzzle velocity normally ran some 2,360 feet per second (fps) and muzzle energy was at 3,530 foot-pounds (ft.-lbs.).

This arrangement gave the pilot good options for self-defense

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The Rock Ultra CCO combines an aluminum frame with a commander-length slide. It's Officer-sized grips aid in concealed carry and minimize the chance of printing under garments. This stunner is chambered in 45ACP and comes with a 4.25" button rifled barrel. For penetrating impact and remarkably light recoil, make the CCO part of your collection.

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The M30 loads in the manner of many similar sporting drillings. Barrels are released by way of a top lever with crossbolt. The rifle barrel is in the lower-center, Brenneke barrel on top-left and shot barrel on top-right.

and game-getting should he be downed in any number of different locales and climes. The M30 came packed, broken-down, in a green-painted transit case also containing ammunition (20 rounds of Brenneke shells, 25 rounds of shotshells with 3½mm shot, and 10 rounds of 9.3x74R), a commercial cleaning kit in a cardboard box, manual and sling. The chest, which was

small enough to put beneath an aircraft seat, was stenciled on the lid with the arm's designation and accessories and Sauer's "CE" wartime maker's code. Inside the top cover was a detailed list of contents.

Being ostensibly a military arm, embellishments on the M30 were kept to a minimum, but there was still enough engraving on

the drilling's case-hardened frame and blued Krupp-Laufstahl barrels, along with a beautifully-finished and checkered walnut stock, to be able to discern its elite, civilian origin. Really, the only things indicating any martial intent were a brace of Luftwaffe eagles, one on the stock and one on the barrel, as well







The M30 retained the quality engraving and mechanical detail as seen on Sauer's commercial offerings.





Lest there be any doubt of the M30's ownership, the Luftwaffe eagle was prominently displayed on the right barrel and right side of the buttstock.

as an "Eagle 2" Luftwaffe ordnance stamp on the forward locking lug. Measuring 42 inches and weighing a lithe 7½ pounds, it was unquestionably the most elegant issue firearm in World War II, and just the ticket to appeal to Göring's love of fine things.

The M30 was based on a hammerless Blitz action

whereby the majority of the mechanism is mounted on the trigger plate, a simple arrangement that can be efficiently employed in drillings. The gun also had British Greener-style crossbolt and sideclips, along with a duo of underlocking lugs and a toplever that allows it to be opened like a normal double shotgun.



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Sauer employed the firm's standard hard-rubber buttplate on the M30.



The drilling's front sight was designed for use with the rear rifle sight, or it could stand alone as a shotgun bead.





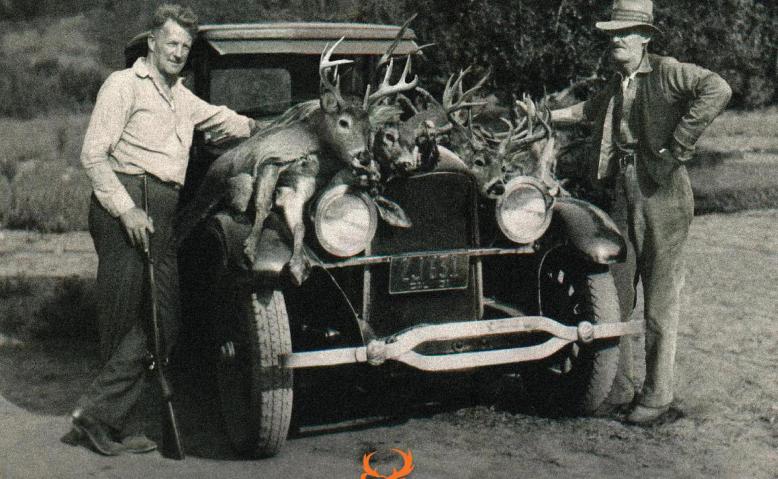
Traditionally, the barrels were identified with caliber and gauges. The Eagle 2 Luftwaffe ordnance inspection stamp can be seen on the forward locking lug. Barrels of highgrade Krupp-Laufstahl steel were so marked.

It was fitted with a pair of triggers, too. To fire the rifle barrel, one pushed forward on a selector atop the tang, which raised a V-notch, 100-meter rear sight. The forward single-set trigger fired the rifle barrel and the rear trigger the Brenneke barrel. After returning the selector to its rearward position, the front trigger was now able to discharge the shotgun barrel. The front sight was cleverly configured to serve adequately for both rifle and shotgun. Gold-plated indicators on the top of the receiver showed at a glance (or feel) which barrel(s) had been already

fired. The gun's safety switch, featuring a silver "S," was sited on the left side of the stock where it could be easily be manipulated with the shooter's right-hand thumb.

Production on the M30 began in earnest and between 1941 and 1942. It is estimated that somewhere around 2,500 were produced. As the war progressed, Sauer was increasingly called upon to build other, more useful arms for the Wehrmacht, so it was decided that the drilling project would be terminated. More than likely, except for the few that might have ended up

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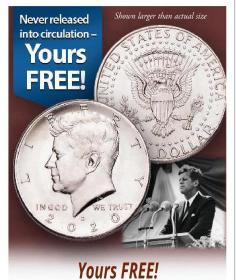
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The M30 came installed in its own metal case with ammunition and accessories, as noted on the case lid in German. A listing of other contents was printed on the interior of the lid, as well. Sauer's manufacturer code for military products was "CE."

in the gun rooms of high-ranking German officers, the majority of the *Luftwaffe* drillings issued continued to be carried aloft until the war's end.

Shooting the M30 We were able to secure a very good condition M30 for this evaluation. As expected, it was a fine piece of work. Fit and finish are of the highest quality. Securing ammunition proved to be something of a mixed bag, though. Fortunately, 9.3x74R is still a relatively popular round and is currently being loaded by Hornady, Federal, Norma, Sellier & Bellot, RWS and Prvi Partizan. Available bullet weights vary from 185 grains to 286 grains, with the latter being the most common.

The 12-gauge shells were a little more difficult, as they had an overall length of 65mm (2½ inches). Brenneke still offers rounds employing an early-style Model 1930 solid, ribbed, 490-grain slug with felt and plastic wads screwed onto the projectile's base. Really, the only difference between the current

Case accessories included a 32-page manual, cleaning kit and leather sporting-style sling.

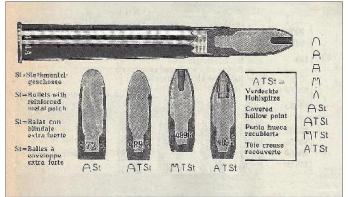


and period slug is the former used a card-base wad and slotted screw while the new one, in keeping with the times, I suppose, sports a plastic wad and Phillips screw. This does not affect performance. The easiest way to construct the proper cartridge was to secure some modern 23/4-inch Brenneke rounds loaded with "Original-Brenneke" slugs, remove the slugs and relocate them to 21/2-inch hulls. My good friend and gunwriter Terry Wieland managed to supply me with some French Cheddite papers and arrange for his associate, Bob Hayley, to reload them to period specs, tasks for which I most sincerely thank them.

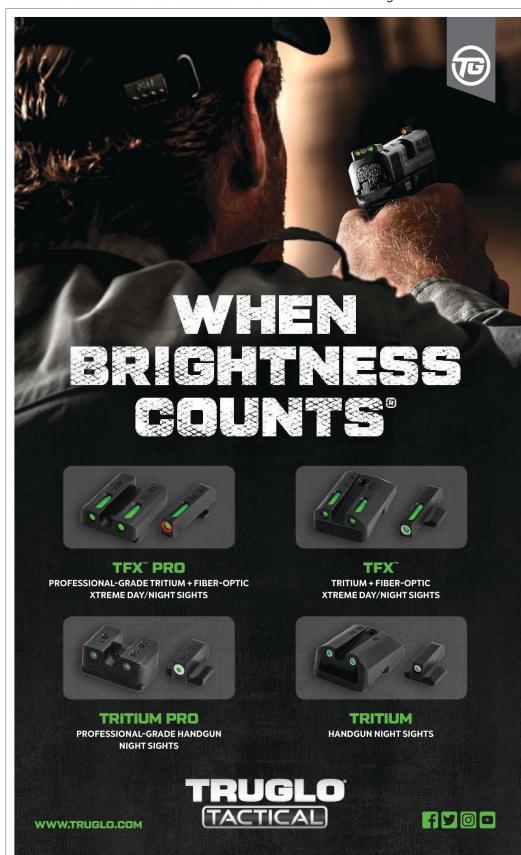
I could find no 2½-inch shells with No. 2 shot currently available. For once, my being something of a hoarder paid off. I was able to rustle up a half-dozen vintage paper shells loaded with 1 ounce of No. 2s, and these would suffice.

From what I can determine from examining several cased M30s that still retained their original ammunition, the rifle and shotshells were commercial loads, the 9.3x74R usually RWS and the 3½mm shotshells, Rottweil "Waidmannsheil." Brennekes were, unsurprisingly, by Brenneke. For the evaluation I chose 285-grain Prvi Partisan 9.3s for the lower barrel and the shells mentioned above for the uppers.

The Sauer was simply a dream to hold and operate. It is true old-world craftsmanship. The controls were quite simple and the trigger pulls on all three barrels averaged 3½ pounds. The shotgun barrel was tried on a 30-inch NRA ST-2 target at 40 yards, full patterns running in the 70 percent range. Brennekes were fired at the target's central image of a clay target and came in at 5 inches, slightly low and to the right. Rifle groups from a rest at 50 yards ran an average of 23/4 inches, which was very close to point of aim. The gun handled beautifully and recoil, even with the 9.3s and Brennekes, turned out to be surprisingly light. All-in-all, the M30 drill-



The 9.3x74R rifle round was first introduced around the turn of the 20th century. It is still produced and going strong.





The author's investigation revealed the 12-gauge, 3½mm shotshells issued with the Luftwaffe Drilling were probably Rottweil Waidmannsheil style.



The "original-Brenneke" slug shells employed in the M30 were loaded with the Model 1930 ribbed slug. These slugs are still being made today.

ing is a class act. Certainly, it would be great for the hunting fields.

The M30 had a short production span, only being manufactured in the early part of the war when Germany's fortunes were in the ascendance. Such an over-the-top, costly military arm could only have come into existence after being championed by such a vainglorious soul as Hermann Göring. When you think about it, just managing to wrest the drilling's heavy, awkward case from beneath a seat in the cramped cockpit of a flaming, out-of-control Messerschmitt Bf 109 would have been an amazing feat, not to mention trying to figure how to keep hold

of it while also controlling a parachute plunging earthward. I imagine what was probably in the Reichmarschall's mind at the M30's inception was a reverie involving one of his gentleman aviators gently dropping into a sylvan glade, whereupon he takes a bracing draft of Jägermeister and then unpacks and assembles the arm. Immediately spotting a red deer as it daintily drinks from a limpid tarn, he loads and begins the stalk. It's a scene accompanied by strains of "Prelude and Liebestod from Tristan and Isolde" by Richard Wagner. Unquestionably, it is an evocative vision, but hardly the reality of war.



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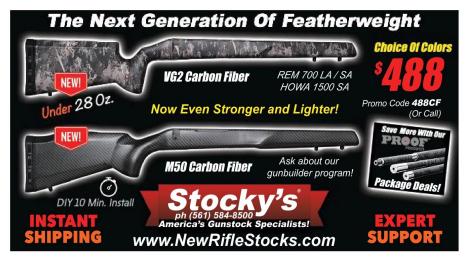
RUGER'S NEW American Pistol Competition is a raceready 9mm that's surging ahead in the game. Ruger has blended components of the standard American Pistol with special-purpose features intended to appeal to IDPA, IPSC and USPSA shooters.

The Competition model is still a striker-fired, polymer-frame semiautomatic. All Ruger American Pistols feature a pre-tensioned striker with a heavyduty spring resulting in consistent, reliable primer strikes. The Competition model tested by Guns & Ammo produced a trigger pull of 6½ pounds. The trigger also has a short reset, about .2 inch, which facilitates faster follow-up shots, important when earning a spot on the podium can come down to tenths of a second. Audible and tactile cues signal

when the trigger is reset and ready to fire again.

Like the standard American Pistol, Ruger's Competition model comes with a one-piece machined stainless-steel chassis with integral frame rails and fire control housing. The chassis, barrel and slide all come with a durable black nitride finish that resists weather, wear and corrosion.









Ruger American Pistols are especially notable for their modular grips. The Competition comes with three grip modules: small, medium, and large. Installation and removal are slightly different than with most competing polymer pistols. Instead of a pin that is driven crossways or vertically through the base of the grip, Ruger uses a cam system. There's a cutout in the rear of the grip module with the cam inside. Using the provided Torx wrench, turn the cam a quarter-turn counterclockwise to unlock, then pull the module down and back to remove. Replace it in the reverse order, but be careful not to overtighten the cam. Functional stippling completes the grip, covering the frontstrap, as well as the sides and back of the grip module.

The American Pistol Competition sent to G&A for testing was a "Pro" sub-model, which is how Ruger refers to handguns without manual safeties. However, the Competition's two passive safeties include an internal automatic sear block system and an integrated trigger safety. There is also a viewing port to check for a loaded chamber, and takedown does not require tools or a trigger pull.

In terms of controls, southpaws will appreciate that Ruger designed the American Pistol Competition to be ambidextrous. That means lefthanded shooters won't have to spend time disassembling the gun to swap the slide stop or magazine release; bilateral controls are standard. The slide stop, which is pyramidal in cross section, is large enough that it can easily be found and manipulated. The small, triangular mag release button is located just aft of the trigger, and molded fencing on the frame helps to protect against accidental mag drops. Takedown is a breeze, and the large lever rotates to release the slide, spring and barrel from the frame.

Other features shared with the standard Ruger American pistol include an overtravel stop molded inside the triggerguard, an accessory rail on the frame, 17-round, nickel- and Teflonplated, double-stack magazines with a chamber that's +P rated.



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Three wrap-around grip modules are included with the American Pistol Competition: small, medium and large. The grips mate to the frame utilizing a cam system. The modules allow users to adjust the pistol's fit for trigger reach, comfort and circumference.

Standout Similar as they are, the two guns are not identical. The Competition version comes with a removable sight plate with pre-drilled mounting holes that accommodate a number of modern red-dot sights, including those from Docter, Sightmark and Vortex. Screws are not included, however. You'll need #6-48 mounting screws to attach a red dot. The optics-ready design is convenient, but the iron sights on the Competition are also well-designed and perfectly suited for a match gun. An adjustable, serrated rear sight is paired with a fiber-optic front, both of which are dovetailed into the slide. Adjusting point of impact on the rear sight is simple and requires nothing more than a small flathead screwdriver. To change the impact on target, the screw on the top of the sight controls elevation while the screw on the right side adjusts windage.

Other distinctions include the lightening cuts, or small ports, on either side of the slide. The Competition model also comes with both front and rear serrations, unlike the standard model which only sports rear serrations.

Ruger's striker-fired Competition pistol sends rounds downrange through a 5-inch barrel, compared to the 4.2inch tube of the standard. The additional length gives the Competition a heavier feel and extends the sight radius, a benefit when shooting with irons. Also interesting, the Competition's barrel features a 1:16-inch twist to better support the lighter bullets popular among competitive shooters. The standard American pistol, by contrast, has a faster 1:10 twist rate that's ideal for heavier defensive-



Disassembly is similar to other semiautomatic handguns. The frame-mounted rotating takedown lever offers a pronounced ledge that offers the thumb positive leverage when rotated in either direction. Notice, too, the blade-style trigger safety flattens when depressed.



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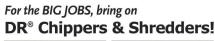


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type bullets such as

147-grainers.

With its added slide length, the Competition weighs 34 ounces empty, about 4 ounces more than the standard model. When attaching a red-dot sight and inserting a full magazine, the weight was 2 pounds, 2.1 ounces, which is on par with an ironsighted, steel-frame Model 1911. The added weight serves the competition

shooter by absorbing felt recoil and reducing muzzle flip. The nose-heavy approach is a bonus for competitive shooters because the weight smooths transitions from target to target in the same way a professional sporting clays shooter uses 32-inch shotgun barrels to even out the gun's swing.

Unexpectedly, both the standard American Pistol and the Competition model share the same MSRP of \$579.

When compared to similar approaches to a 9mm, striker-fired and red-dot-ready handgun used in the



The Competition model comes optics-ready from the factory and can accomodate red-dots from Docter, Sightmark and Vortex.

same competitions, the Glock G34 Gen5 in 9mm with MOS carries an MSRP of \$851. Smith & Wesson's M&P9 M2.0 Performance Center CORE sells for \$721. All three striker-fired pistols come with 17-round magazines, and +2 mag extensions are available at kearms.com for \$25. All have barrels that measure between 5 and 5.31 inches. Though all three guns are somewhat similar, the

Ruger weighed 10 ounces more than either the Glock or the Smith & Wesson. In terms of price, the Ruger American Pistol Competition is the runaway winner.

At The Range The Ruger Competition model is a pistol that begs to be shot quickly. The grip design and deep undercut on the rear of the grip encourages a high,

aggressive, thumbs-forward hand position that maximizes control. It's more sharply angled than other



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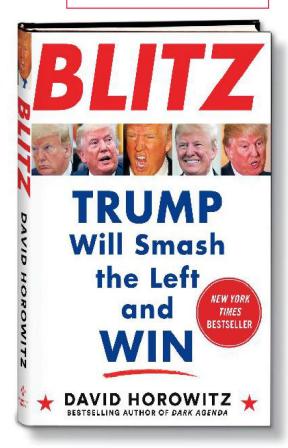
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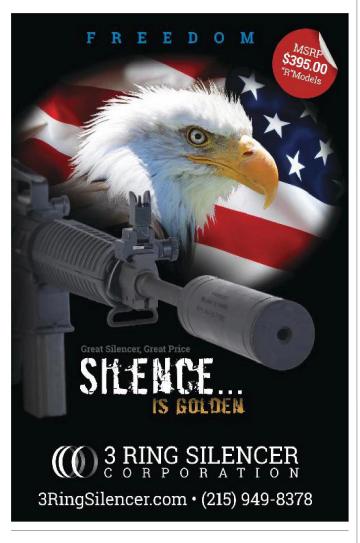
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Notes: Accuracy results are average of five, five-shot-shot groups at 25 yards from a fixed rest. Velocity figures are 10-shot averages recorded on a Competition Electronics digital chronograph placed 10 feet in front of the muzzle.

competition pistols, including the Glock, but the profiling makes sense on this gun since most competitive shooters utilize a more aggressive grip than the average person.

The ported slide runs smoothly and quickly when firing target loads, and the recoil pulse is extremely manageable. There were no failures to feed, extract or eject with any of the loads tested. The large side-mounted extractor bit firmly on the case and the nickel-Teflon plated magazines were easy to use and lock into place.

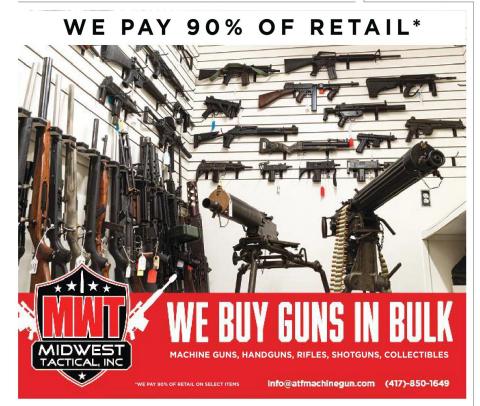
On two occasions, with two different loads, the slide failed to lock back after the last round was fired. And, by inserting a full magazine with force, a locked-back slide can be released to return forward and chamber a round. Some people may prefer a more solid slide lock, but for some shooters and competitors, Ruger's designers will have hit a sweet spot.

The Competition proved to be quite accurate. Tested with a red dot mounted, G&A's pistol printed five-shot groups from 25 yards as small as 1.35 inches using a Caldwell rest. With ammo it likes, and a steady rest, five shots under 2 inches were not uncommon. We also tested a variety of ammo weights from 100 grains to 147. Despite its

slow twist rate, the Ruger still shot the heaviest loads well. Without the red dot, our average groups opened up to between 2 and 3 inches, as expected.

While the Ruger American Pistol Competition accepts a number of excellent reflex sights, some existing red dots do not fit without machine work. That means you would have to find and purchase a mounting plate if your sight isn't on the list. During this evaluation, we also noted fewer holsters available for this gun than the more established competition pistols such as those from Glock, SIG Sauer and Smith & Wesson.

Overall, Ruger should have a winner with the American Pistol Competition— and not just among competition shooters. This is a solid pistol all around. What's more, the price falls below its major competitors, which has been a winning strategy for Ruger all along.



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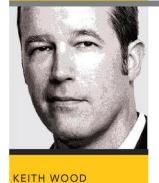
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THE GUN-CONTROL PLAN

WHEN THIS ISSUE is scheduled to appear on newsstands, the 2020 election will be some 30 days away. In a number of states, early and absentee voting are already underway. Making electoral predictions months in advance is a bad idea, so there won't be any of those here. Instead it is time

to focus on the Biden-Harris campaign's stated positions on our Second Amendment rights. Though former Vice President Biden is attempting to appear as a centrist to undecided and unaffiliated voters, his policy proposals on gun control are anything but. Don't believe me? Let's visit the source: joebiden.com/gunsafety.

The "gun safety" section of Biden's website is 11 pages long, so I can only hit the highlights. After reviewing Biden's gun control bona fides, which include passage of the 1994 gun ban as the chairman of the Senate Judiciary Committee, the site dives into several subjects.

The first proposal is the repeal of the Protection of Lawful Commerce in Arms Act, which became law in 2005 to protect America's gunmakers from predatory lawsuits. Repealing the law will allow states and cities to team-up with plaintiffs' lawyers to sue firearms and ammunition manufacturers for the illegal use of their products in the hands of criminals. As corporations go, America's firearm-related companies are relatively small. The cost of defending against frivolous litigation would quickly bankrupt even the largest of them.

Biden also plans to push Congress for a ban on so-called "assault weapons" and "high-capacity magazines," as well as ban their import through executive order. You may be thinking, "I've already got mine," but not so fast. Biden's plan "will give individuals who now possess assault weapons or high-capacity magazines two options: sell the guns to the government, or register them under the National

Firearms Act," according to the site. Biden's plan is to regulate millions of legally-owned firearms and tens of millions of accessories into the same government classification as machine guns and hand grenades.

Obtaining a tax stamp for NFA registration costs \$200

per item and currently takes 10 to 12 months. With the forced registration of millions of firearms and accessories, the NFA system will be backed up for years. Will there be a \$200-per-magazine tax? Failure to register a single magazine or firearm could land you a federal felony conviction, punishable by up to 10 years in prison. Possession of unregistered NFA items is a "strict liability" crime, so ignorance of the law is no excuse.

Had enough? Individuals will be prohibited from purchasing more than one firearm per month.
Sorry collectors, you will

be regarded as "stockpilers." Nearly all firearm transfers will be subject to mandatory background checks and convictions of certain misdemeanor crimes will prohibit individuals from possessing firearms — for life. States will be financially incentivized to impose "Red Flag" laws and require permits to purchase firearms.

Online sales of firearms (which are already required to go through a licensed dealer) will be outlawed, as will the online sale of ammunition. Gun parts? Online sales of those would be banned, too, under Biden's plan.

Biden's policy positions are clear and unequivocal. Even so, when an American worker at an automotive plant challenged Biden on his gun-control proposals on March 10, 2020, Biden told the voter "You're full of sh**. I support the Second Amendment." Really? He should read his own website.





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