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P. 34

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EDITOR'S NOTE 6
BY MIKE HUMPHRIES

WHAT IS *THE ARMORY LIFE*? 8

***THE ARMORY LIFE* VAULT** 10

WHEN LESS IS MORE 12
The SAINT Victor 9mm Carbine combines direct-blowback operation with potent performance.
BY JEREMY TREMP

INTERVIEW: JASON BURTON 18
Our one-on-one with the artisan behind Heirloom Precision's amazing work.

BEST FOR BUG-OUT? 24
Is the M1A past its prime, or the preeminent do-everything defensive rifle?
BY HUNT FISH SHOOT

A CRUCIAL CHOICE 30
The Crucial Concealment Covert IWB delivers comfort and concealability.
BY ADAM SCEPANIAK

TO PORT, OR NOT TO PORT ... 34
Is this custom upgrade a waste of time, or well worth the effort?
BY ROY HUNTINGTON

THE SINCEREST FORM ... 42
Springfield Armory's M1 Carbine Air Rifle is a convincing take on a revered classic.
BY FRANCISCO JARDIM

FUSING FORM & FUNCTION 50
The Desert FDE Hellcat Pro melds cutting-edge capability with eye-catching appeal.
BY JEREMY TREMP

THE BLACK HILLS JOURNEY 56
Now in its fifth decade, a revered ammo maker sticks close to its roots.
BY WAYNE VAN ZWOLL























ADDING SOME FLARE **62**
Give your XD-M 9mm the Elite treatment with these magwell kits.
BY RICHARD JOHNSON

ON THE CUTTING EDGE **68**
The Model 2020 Carbon Fiber Hunting Knife stands ready for the field!
BY RANDALL WILSON

AN EXCEPTIONAL EDC **72**
Powder River Precision's PRP Trigger Kit meets the Hellcat Pro.
BY MIKE HUMPHRIES

CHASING PERFECTION **78**
Heirloom Precision's Jason Burton takes the SA-35 to new heights.
BY ROB LEATHAM

PUT A L.I.D. ON IT **86**
Have you overlooked what might be the best handgun accessory ever?
BY WILL DABBS, MD

FORGOTTEN WARRIOR **90**
While overshadowed by the RPG-7, the RPG-2 was a trailblazer truly all its own.
BY PETER SUCIU

NEW PRODUCTS **96**



COVER IMAGE:
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IMAGE: JOHN MCKENZIE / DOWN RANGE PHOTOGRAPHY

EDITOR'S NOTE

MIKE HUMPHRIES

WELCOME to the Spring 2023 issue of *The Armory Life* print magazine. It's shaping up to be a great year so far, with some exciting new launches and a lot of interesting topics covered within these pages.

First up and featured on the cover is Jeremy Tremp's in-depth review of the new SAINT Victor 9mm Carbine, starting on page 12. Featuring a robust and rugged straight-blowback system of operation and a 32-round magazine, this pistol caliber carbine delivers a totally new shooting experience with the SAINT Victor platform.

How about those of you that like custom guns? Then be sure to read our interview with Heirloom Precision's Jason Burton, a master gunsmith who understands how to get the absolute most in refinement out of classic designs like the 1911 pistol. Check out the piece starting on page 18.

Speaking of Heirloom Precision, we also have a detailed review of Burton's take on customizing the ever-popular SA-35. Shooting legend and firearms expert Rob Leatham gives us the inside scoop on this very special project and the amazing pistol that resulted. Want to see how it turned out? Then be sure to flip to page 78.

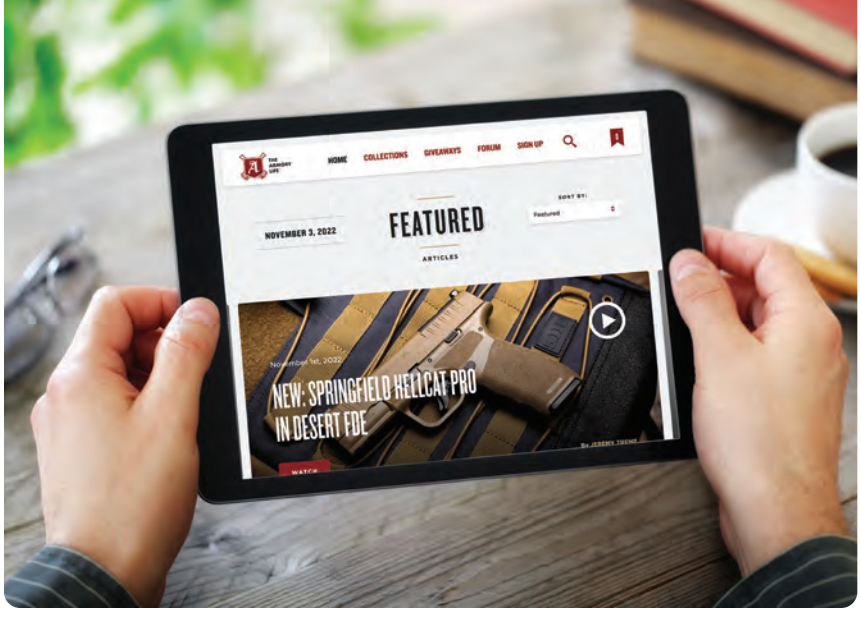
Additional pieces in this issue cover such interesting topics as whether or not porting a pistol is worth the trouble, the fascinating story behind Black Hills ammunition, tricking out a Hellcat Pro with a Powder River Precision custom trigger, and a detailed consideration of the RPG-2 — an often-overlooked yet exceedingly influential Soviet weapon.

Round all that out with reviews of such must-have accessories as the Crucial Concealment Covert IWB holster, XD-M Magwell Conversion Kits and the Model 2020 Custom Carbon Fiber Hunting Knife, and you'll see this issue is simply packed with great content.

As always, I am extremely interested in hearing your thoughts about *The Armory Life*. Please feel free to reach out to me at support@thearmorylife.com, and let me know what you think about both the magazine and the website.

So, welcome to the Spring 2023 issue of *The Armory Life* quarterly magazine. Flip through its pages, read some articles, scan some QR codes, visit the website and enjoy. And be sure to keep an eye out for future issues as well!

VISIT THEARMORYLIFE.COM



WHAT IS THE ARMORY LIFE?

IN ADDITION to the print magazine you're reading here, there's also another means of consuming *The Armory Life* content — and it's just a few clicks away. TheArmoryLife.com website delivers free, daily content from some of today's top content creators and writers.

For those of you not familiar with the site, it covers a broad range of topics divided up into the following categories: EDC, Gear, Guns, Hunting, Skills and Survival. To visit these sections, simply go the website, scroll up to the top of the page and click the "COLLECTIONS" button.

DIVING IN

This print magazine, in addition to providing you with beautifully illustrated content, is designed to also act as a portal for readers to the website. This is accomplished through the use of QR codes on select pages. Scan these with your smartphone, and you will be taken directly to expanded article content and videos to complement the content within these pages. Additionally, these codes can also give you access to additional information on Springfield Armory products reviewed.

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AN ENGAGING OPTION

While you are on the site, don't forget to sign up for *The Armory Life* Debrief. Doing this will ensure you receive our weekly Debrief email, featuring the editorial team's top content selections for the past seven days. Signing up will also enter you in *The Armory Life* Monthly Giveaway for a chance to win top Springfield Armory firearms. When you sign up for the Debrief, you'll automatically be entered for the current giveaway as well as all future monthly giveaways.

There are several ways to sign up for the Debrief email — by visiting TheArmoryLife.com/Debrief, through the dedicated tile located on the front page, at the sign-up section inset within daily articles, or in the "pop-up" that will appear when you visit the site. If you'd like to sign up right now, simply scan the QR code located at the lower left corner of this page and fill out the form.

CONCLUSION

Visit TheArmoryLife.com to sign up for *The Armory Life* Debrief and enter to win a free gun, check out all the free daily content, and much more!

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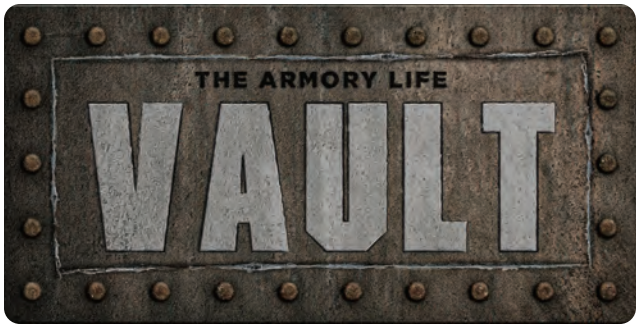
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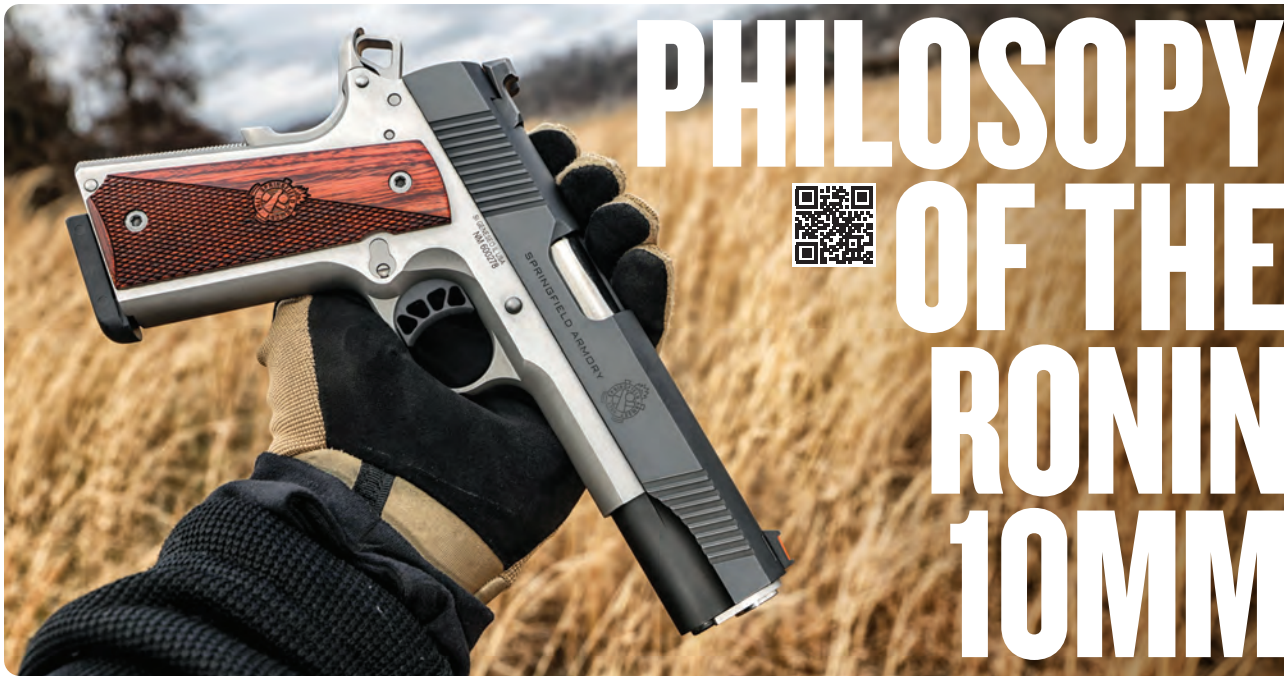
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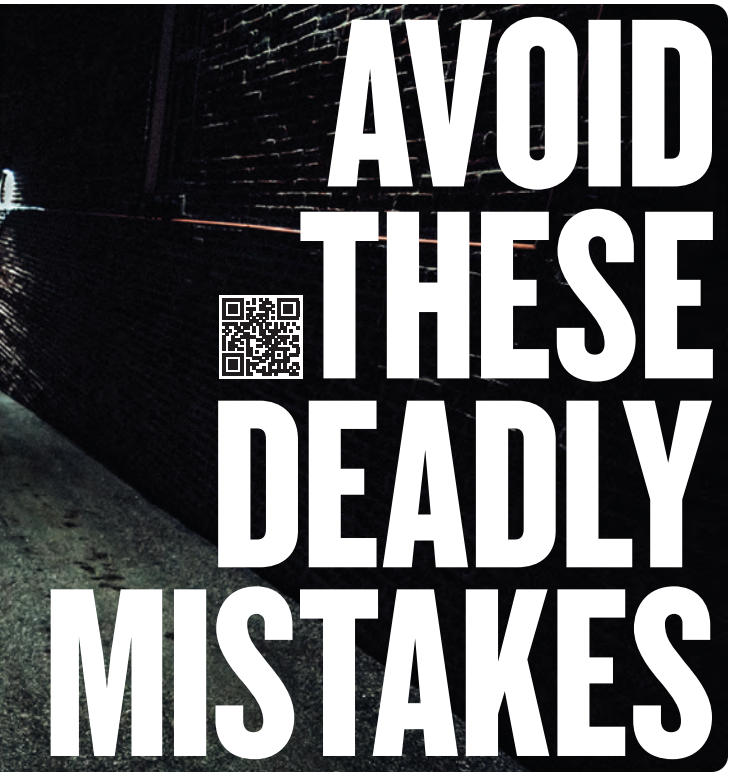




IMAGE: SHUTTERSTOCK/NICK STARICHENKO

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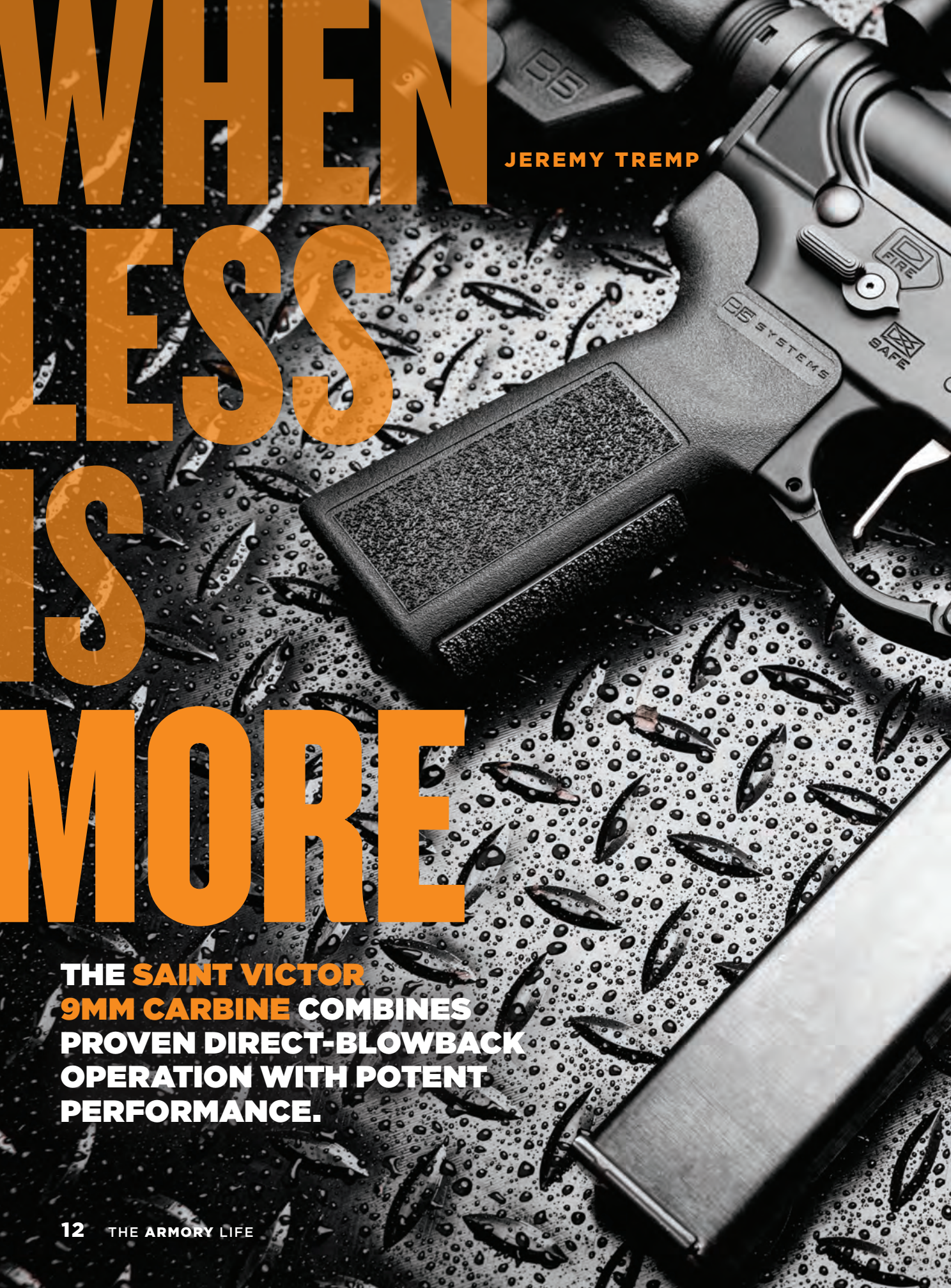




SPRINGFIELDS THROUGH HISTORY

WHEN LESS IS MORE

JEREMY TREMP



THE SAINT VICTOR 9MM CARBINE COMBINES PROVEN DIRECT-BLOWBACK OPERATION WITH POTENT PERFORMANCE.



WATCH THE VIDEO
FIRST LOOK: SAINT VICTOR 9MM CARBINE

SAINT® VICTOR



IF I COULD SNAP MY FINGERS and go back to the days of affordable 5.56 ammo, I would do it in a heartbeat. But, without that magical ability, how can we train longer and more often without raising our ammo budgets? A 9mm AR-pattern carbine, of course!

Springfield Armory's line of SAINTs combine excellent quality features with very reasonable pricing. Rather than be designed as base model AR's, the SAINT line (made up of the SAINT, the SAINT Victor and the SAINT Edge) offers shooters an upgraded AR at a price much lower than if they tried to build it out themselves. And this new pistol-caliber Victor, the SAINT Victor 9mm Carbine, continues this tradition.

HOW IT'S DIFFERENT ...

Firstly, I want to point out that this is a dedicated 9mm AR, not some modified standard model with a magwell adapter. The forged 7075 T6 aluminum upper and lower receivers are designed specifically for the 9mm cartridge. You will see this on the upper receiver in the shortened ejection port and cover door, lack of forward assist and the more forward-oriented brass deflector. The lower has a 9mm-specific magwell designed specifically for the 32-round magazine that comes with the gun.

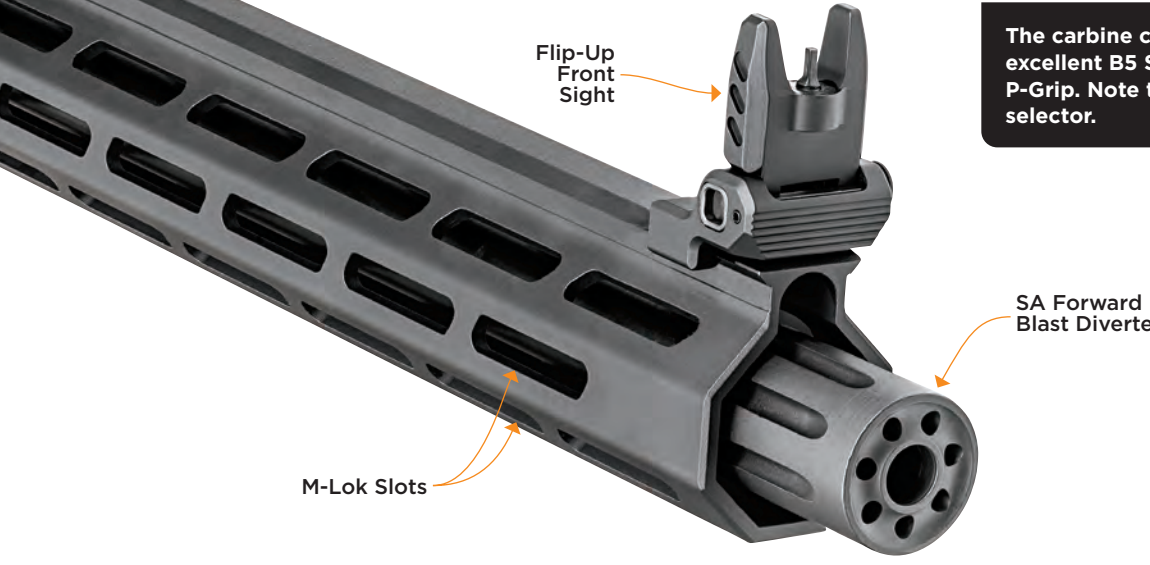
Speaking of the magazine, Springfield made the choice to use the proven and reliable Colt-pattern magazines for this carbine. This magazine, made from rugged steel, features a double-stack, double-feeding approach. This means the magazine doesn't narrow at the top to a single round, rather alternating each round's feeding position. Furthermore, the double-stack, double-feed design is extremely simple to load. You simply press the rounds down, rather than stack-



The 16" barrel is topped with Springfield's Forward Blast Diverter that is partially recessed under the handguard.



The carbine comes with the excellent B5 Systems Type 23 P-Grip. Note the ambi safety selector.



ing and pushing like most modern handgun magazines. Also, the carbine is designed to lock open when the magazine is empty.

Within the upper receiver is another unique quality of the SAINT Victor 9mm Carbine — a simplified, straight-blowback bolt assembly. If you are familiar with AR's, you know that they operate on a direct gas impingement system. This means that there is a small hole towards the end of the barrel that taps off gases when a round is fired. The gases move up into this hole, traveling back through a gas block and the gas tube, and then finally unlock and move the bolt rearward to cycle the rifle.

Due to the reduced chamber pressure of a 9mm compared to a 5.56mm, the carbine can use a much simpler and straightforward system where a combination of bolt mass and recoil spring pressure keep the action closed long enough for safe cycling of the fired cartridge case under recoil. The SAINT Victor 9mm Carbine therefore can employ a simplified bolt assembly with no rotating bolt head. So, you get a simplified system with fewer moving parts.

... AND THE SAME

The SAINT Victor 9mm hosts many of the great features you have come to expect from Springfield's SAINT Victor line of AR's. From its B5 Systems furniture, to its spring-loaded flip-up sights, ambi selector, flat-faced trigger and more, this comes all in a 16"-barreled package weighing under 7 lbs.

Let's dive into some detail on the specific features of the carbine. For the furniture, Springfield chose the ever-popular B5 Systems Bravo stock, trigger guard and Type 23 P-Grip. The stock is slim, rock solid and easily adjustable, with comfort from the no-slip cushioned buttpad. With the modern shooter in mind, the Bravo Stock sports QD mounts on either side of the rear of the stock. The Type 23 P-Grip has an aggressive



The carbine employs a simple and robust straight blowback system of operation.



Dedicated upper and lower receivers of the carbine are designed around the 9mm cartridge. Note the Trijicon MRO the author installed.

SAINT VICTOR 9MM CARBINE

CHAMBERING	9mm
BARREL	16"
WEIGHT	6 lbs., 15 oz.
OVERALL LENGTH	31.75"-35"
SIGHTS	Flip-up
STOCK	B5 Systems Bravo
ACTION	Semi-auto
FINISH	Black
CAPACITY	32 (one mag included)
MSRP	$1,299

texture, ensuring you keep a solid grip on it while firing.

Springfield included their spring-loaded flip-up iron sights, which is always a welcome feature. They stay out of your way until you need them, providing you with either a primary or secondary method of aiming.

For the muzzle device, Springfield added their Forward Blast Diverter. This muzzle device diverts the gases forward during firing, making for a much more pleasant experience when shooting next to others. The Blast Diverter is designed to maximize control and help minimize muzzle flip.

THE BENEFITS

Let's take a SAINT Victor 5.56mm and set it right next to this new 9mm variant. Without the magazines inserted, you would be hard-pressed to tell any difference. The similarities allow you to set up the SAINT Victor 9mm in identical configurations, but shoot for half the price. The manual of arms is all the same, so your reps will translate to your 5.56mm AR perfectly.



What about those who might be new to the AR platform, or a new shooter who may be intimidated by recoil? The 9mm SAINT Victor shoots quite softly with the pistol-caliber chambering and the Forward Blast Diverter. The SAINT Victor 9mm Carbine is a great way to introduce new shooters to the world of the AR.

Another great feature of the 9mm AR is the ability to carry more ammunition. If you are the type who likes to train with chest rigs and battle belts, you can carry more than twice the ammo of 5.56 utilizing the same space. Two of these mags will fit where a single 5.56 magazine fits in my gear. This keeps you downrange longer and increases your practice time.

The SAINT Victor 9mm Carbine is also an option for home defense. The ability to add a light on the rail aids in dark environments for target identification. The good capacity and easy recoil control ensure a great deal of confidence in an emergency situation. You also gain about 200 feet per second out of a carbine barrel over that of a pistol, which adds stopping power.

And lastly, a 9mm AR also makes for a great suppressor host.

HANDS-ON

For kitting your rifle out specific to your needs, Springfield offers

an M-Lok rail with more ports than you will know what to do with. This allows the addition of a grip, flashlight, sling, bipod, etc. For my specific rifle, I chose a Trijicon MRO with a green reticle, mounted to an American Defense Manufacturing QD mount. For the rail, I selected a Surefire Scout Pro with a push button tailcap. Directly behind that I attached a QD for my sling.

For my modified C-clamp grip, I have fallen in love with the BCM Mod 3 Vertical Grip. I don't use it for a vertical grip; heck, I don't know anyone with hands that small. But I use it to stack my pinky and ring finger on which gives a great deal of control over the rifle. For the sling I chose the GrovTech two-point padded Sentinel Sling in black. These slings are super lightweight and durable, and come with QD swivels.

Getting out on the range, I was very curious to experience the recoil impulse of the carbine. I loaded up some Remington 9mm ammo into the mags and stepped out for some fun. Everything was perfectly familiar from my other SAINT rifles, even the loading procedure. One little change that I really appreciated was the new 45-degree selector on my test model.



The author ran the SAINT Victor 9mm Carbine on the range and was impressed with its performance and reliability.

The first few shots put a wide smile on my face. You still receive a satisfying thump from the 9mm round, but I think it's very manageable compared to your typical 5.56mm AR. I appreciate this a lot because training with this 9mm AR will translate well to all my other AR's, and that is a serious benefit. The SAINT Victor 9mm ran flawlessly throughout the day and the handguard didn't heat up to uncomfortable levels, even when shooting fast with high round counts. The flat-faced trigger made for a comfortable and smooth trigger pull no matter where my finger ended up.

After a couple hundred rounds I really came to appreciate the slim Bravo stock. It makes the rifle feel "tighter," and has less bulk on the stock. Wrapping up a range day where I was able to run both a pistol and a rifle with the same ammo was refreshing. I'm looking forward to more range sessions to get reps in for half the cost of 5.56 ammo.

The SAINT Victor 9mm Carbine's magazine is made of rugged steel and holds 32 rounds of ammunition.



CONCLUSION

If I could have wished for Springfield to make the perfect 9mm AR, this SAINT checks just about all the boxes for me. I look forward to getting more range time with this carbine while keeping my wife happy that our back account isn't being gutted.

Do yourself a favor and give this one a closer look, as it might reinvigorate your love of AR's in a new way or just help you to get out on the range more often.

FOR MORE INFORMATION, VISIT:

SPRINGFIELD-ARMORY.COM
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Jason Burton of Heirloom Precision at work in his shop, holding a Springfield Armory 1911 pistol.

CUSTOM HEIRLOOM PRECISION GUNMAKER

THE ARMORY LIFE INTERVIEWS

JASON BURTON

WE HERE AT *THE ARMORY LIFE* truly appreciate finely crafted firearms, as well as the gunsmiths with an artisan's touch that create them. So, we jumped at the chance to interview Jason Burton of Heirloom Precision.

Anyone familiar with the custom 1911 world is surely aware of Heirloom Precision and its renowned reputation for stellar quality. The opportunity offered by this interview gave us the chance to learn more about both Mr. Burton and his highly respected company.

We would like to thank Mr. Burton for taking the time to do this Q&A session with *The Armory Life*.

***The Armory Life* (TAL):** Why don't we start by you telling us a little bit about yourself as well as Heirloom Precision, for any of our readers who might not be familiar with your work.

Jason Burton (JB): Thanks for allowing me to be a part of this! I'm a life-long gun guy. I was brought up around guns and was fortunate to be exposed to various types of guns throughout my youth. As I got older and more involved in shooting, I "discovered" — or maybe, re-discovered — the 1911.

I eventually got to have my ever-growing passion for the 1911 transcend into what is my work and my company, Heirloom Precision. I have been making my living building custom 1911's for the past 16 years, and my main focus — as it has always been — is to build only the best bespoke 1911's I can. I'm lucky to have a client base that allows me to create the guns that I do.

IMAGES: HEIRLOOM PRECISION



Two full-house custom rail guns built on Springfield frames. The pistol in the background was built for Clint Smith of Thunder Ranch.

TAL: What drew you to the firearms world? Did you grow up around guns, or did you seek this out on your own?

JB: My father was certainly my first influence in regards to firearms. He was very mechanically inclined, and I think (as with many gun people) that in part drew him to guns. I got my first exposure to guns very early, and I quickly developed that same fascination with the mechanical aspect of guns.

I can remember the first time I shot a 1911, a Sharps rifle, an AR-15, a levergun, and thinking how cool all these gun were. Even at an early age, I can remember how rewarding it was to make a hard shot — or at least what I thought was a hard shot. Being brought up around guns allowed me to not only see a bunch of cool guns but also to shape my perspective on what they were for and how they could be used.

When I turned 21, I immediately got my concealed pistol license. Although I had chosen a carry gun that by the numbers seemed perfect, it didn't take long for me to realize that I had a lot to figure out when it came to actually carrying the gun on a day-to-day basis.

So, as I began to look for other methods of carry and other carry guns, I landed back with the 1911 and realized that not only was the gun easy to carry but it had all the most desirable attributes when it came to actually shooting the gun. Even though I didn't know it at the time, that point was when I really became infatuated with the platform and was the first true step toward eventually building them for a career.

TAL: How did Heirloom Precision come about?

JB: I think, like with a lot of careers, people often take a step

without knowing exactly where it will lead. I was the same way. I knew I wanted to work on 1911's and just generally be involved with them. In 2005, I got to take the first big step towards building custom 1911's when I got an offer to move to Arizona and manage a custom shop. I had already been tinkering with the 1911 for a few years before that, but moving to Arizona in late-2005 and getting the chance to really dive into the industry was the first real step.

Two years later in late 2007, Heirloom Precision was formed.

TAL: What is the "signature philosophy" of the company?

JB: I'm driven by a constant quest to build the best guns I can, and nothing less. Right before I moved to Arizona, I remember a friend asking me what I wanted to do. My reply was simple, "I want to build a perfect 1911". Now, I'm not sure I have done that yet (or anyone else, for that matter), but that's always been my goal. It constantly drives me to improve, to know more, to be better.



Burton sitting at his bench inspecting a pistol after final assembly.

TAL: Who is the typical customer of Heirloom Precision (if there is one), and why?

JB: Obviously, it's people who are in love with the 1911 platform. But I think they are also people who enjoy the mechanical aspect of the design and the craftsmanship involved in building guns at a high level. My clients all seem to share the same passion with what can be done to both customize the 1911 and also what the gun can do from a shooting standpoint.

TAL: What should a customer of yours expect from a gun they get from you?

JB: In addition to building each client an exceptional gun, what I also strive to provide is an excellent customer service experience. The people who come to me are true enthusiasts for the 1911, and there is a shared pride of ownership between the clients who commission my guns and myself as a builder.

The experience of having something custom crafted individually for each client is as important to me as the guns themselves because the realities of my business are that no one really "needs" what I do. There are so many great production 1911's out there now that my guns are really "want" items that are built in part because they can be. At the same time, the guns must be simply excellent, and each

Range testing a custom build to ensure it provides top-notch performance and function is an absolute necessity.





Burton in the Heirloom Precision workshop, machining sight dovetails into a slide.

client should expect exactly that from a gun that leaves my bench.

My work now speaks more to this than it ever has. Being a bespoke builder, I'm able to tailor each gun to the client's desires. Oftentimes, a client has an overall idea for the theme of the gun they want me to build. Other times, the client chooses a few options and sets me free to do the rest. The process overall really is a collaborative effort. (*Editor's Note:* To see a special project SA-35 Rob Leatham asked Burton to do, visit page 78.)

TAL: What is it about the 1911 that appeals to you so much?

JB: I can remember my first impression of the gun was how it was carried — cocked and locked. The single-action trigger and thumb safety were two major points of interest early on for me. I was drawn to the efficiency of the trigger, and the overall appeal is how effective the 1911 platform is.

From a mechanical standpoint, the gun is pure genius. This is something that is proven over and over again with how adaptable the gun is to all manner of shooting. When it comes to semi-auto pistols, there is nothing like the 1911. No matter how many other guns have been fielded and developed over the years, they are all constantly judged by how they measure up to the 1911. The gun simply has staying power like nothing before or after it.

TAL: Do you work much with Springfield Armory guns? If so, which ones, and why do you like them?

JB: I do indeed. I like to build on guns that I would describe as a "blank canvas," and the Mil-Spec line of guns as well as some of the ones with railed frames are excellent to work with. In fact, when it comes to railed-frame 1911's, I think the Springfield layout is the standard by which to judge all others.

TAL: Where do you see Heirloom Precision five years from now? Or 10? Or more?

JB: I'll do this for as long as I can. I hope that my desire to constantly build better and best my previous work allows me to look back in 10 years and know that I am doing even better work than I was today.

At the same time, I'm still relatively young, and 20 years ago I never thought I'd be doing this work today. I think as long as I can stay involved with the 1911, I'll be happy.

TAL: Mr. Burton, thank you again for taking the time to do this interview with us. We appreciate the opportunity.

JB: It was my pleasure.

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WATCH THE VIDEO
IS THE M1A TOO OUTDATED?



-OUT?

IS THE M1A PAST ITS PRIME, OR THE PREEMINENT DO-EVERYTHING DEFENSIVE RIFLE?



IMAGE: MAX JACOBSEN/@PNW_PEW

Fitted out with a 20-round mag, the M1A Scout Squad offers potent power. Shown with walnut stock.

WHAT EXACTLY IS A "BUG-OUT RIFLE"? At its core, a bug-out rifle is one that when things go wrong — terribly wrong — you know you can grab that firearm and be prepared for whatever you might face. It could be used to hunt for food, or to defend your life. In a sense, it's that one rifle that can help you survive a possible apocalyptic scenario.

But what rifle should you choose for this extremely important role? There are plenty of options out there, from something as simple as a bolt-action rifle to something as sophisticated as a cutting-edge AR rifle with all the bells and whistles. It all comes down to what your needs are, your budget and what best fits those parameters.

The point of the bug-out rifle might seem simple in concept, but it's a bit more complex in execution. Think about it. You may have to hunt for food, and/or defend your life or your family's lives. And you would have to do all this with one rifle. You can't pack multiple rifles, so you have to select one that can cover all your bases.

With the dual need of potentially having a rifle that is for hunting as well as self-defense, a semi-automatic model makes a lot of sense. And how many "fighting rifles" out there are capable of taking large North American game while also being a capable — and practical — self-defense rifle? Not many.

A SOLUTION

For us, we like a heavy-hitting .308 rifle, preferably in a semi-automatic configuration, and in a proven design. Also, we'd like it in a reasonably compact and handy package. With those parameters set, we can't think of any better option than the M1A Scout Squad from Springfield Armory.

A timeless design inspired by the U.S. Military's rugged M14 rifle, this robust rifle packs a powerful round capable of taking practically any game animal you'd face here in the continental United States, as well as any two-legged threat you might face. There is likely not a role the M1A Scout Squad can't fill, and fill very well.

With the M1A Scout Squad model, you get a short and handy 18" barrel that combines compact dimensions with still extremely

capable ballistic performance. The rifle is offered with either a walnut stock or a lighter synthetic stock — the latter is the one we personally picked.

It's an extremely handy rifle with the shorter barrel, yet still a good length to wring out effective performance from the .308 cartridge. A light and handy rifle is a must in the hunting woods, whether it's the mountains or low land brush thickets.

The M1A feeds from detachable box magazines, ruggedly constructed from steel. This makes carrying spare ammo and reloading the rifle much easier than a comparably chambered bolt-action rifle. Springfield Armory offers magazines in 5-, 10- and 20-round capacities (the rifle comes from the factory with one 10-rounder).



IMAGE: BRITTON WASMER/FST IMAGES

The action of the M1A makes for a rifle that is simple to operate as well as rugged and reliable.



POWER SOURCE

What you need to take into consideration is that in a bug-out-type situation it's likely no one is coming to help you. You most likely will have to be your own first responder. As a result, you'll want to make sure you have selected not only a reliable firearm, but also a capably powerful one to stop a potential threat.

The round this rifle shoots, the .308, has proven itself as being very effective for both self-defense or hunting. The .308 packs the punch to stop threats in their track with one shot, or take a game animal with one well-placed vital shot. The ammo is readily available anywhere across the United States and would be far more plentiful than other less-mainstream, more specialized chamberings if ammunition became scarce.

To be frank, .308 is a quite powerful round. And handling it in a rifle of this size does demand more of the shooter than employing a comparably sized AR in 5.56mm. To help minimize perceived recoil and muzzle flip, the Scout Squad features a ported muzzle brake roughly the same shape and size of the Standard Issue rifle's flash suppressor. This brake helps tame the gun and keep you on target for faster follow-up shots.

Lastly, the robust operating system of the M1A will stand up to a lifetime of abuse and keep on running. The polymer stock of our test model can be "used and abused" and still maintain its integrity. Growing up, we had a good friend of our father who served in the Vietnam War and was issued an M14. He praised the M14's action for its reliability and ability to operate, no matter the conditions.

M1A SCOUT SQUAD

CHAMBERING	.308 Win.
BARREL	18"
WEIGHT	8 lbs., 8 oz. — 9 lb., 3 oz.
OVERALL LENGTH	40.33"
SIGHTS	Aperture rear
STOCK	Composite or Walnut
ACTION	Semi-auto
FINISH	Black
CAPACITY	10 (one mag included)
MSRP	$1,942-$2,087

ADDED FLEXIBILITY

Overall, the M1A is a very easy system to operate. Controls are simple and straightforward. The primary controls are made up of a triggerguard-mounted ambi safety, a reciprocating charging handle, an ambidextrous magazine release, and a bolt lock/release lever on the left side of the receiver.



The heavy hitting .308 round is just what you might need in a bug-out type situation. It is equally suitable for self-defense and putting food on the table.

To load the rifle, hook in the forward portion of loaded magazine and rock the body of it rearward until the magazine catch paddle engages and locks it in place. To release the magazine, push the release paddle forward and reverse the process.

Once the loaded magazine is firmly seated, you have two options. If the action is closed, you can pull back on the reciprocating charging handle and release. If the action is locked open, you can press the bolt lock lever to release the bolt forward. Conversely, you can use this lever to lock the action open.

The safety, located in the forward face of the triggerguard, can be engaged in the "on" position by pushing it back into the triggerguard. To disengage, simply use your trigger finger to push it forward.

Speaking of the trigger, to make a precise shot with a rifle, it needs a good trigger. The two-stage National Match trigger in the M1A Scout Squad offers the perfect balance between precision and "field use" practicality. It has a crisp 5-lb. break with no creep, and we found that making hits at 200 yards on 6" plates with iron sights was a breeze with this rifle.

In addition, the Scout Squad has a Picatinny rail mounted forward of the action in the "scout" position, which allows you to mount a long eye relief scout scope or red dot. This forward mounting location lends itself to faster target acquisition and improved situational awareness.

CONCLUSION

A bug-out disaster-type situation is the last thing anyone wants to find themselves in. But, if you prepare, you can survive. Picking the right gear with the right firearm, like the M1A Scout Squad, will give you the leg up on whatever threat you may face.

Most importantly, even if you don't have to defend yourself, in a survival situation you will likely have to feed yourself through hunting.

Well-rounded and ready to defend your life or hunt game, the M1A Scout Squad deserves serious consideration when choosing a bug-out rifle. And remember, a bug-out rifle is only as good as its user. Train, prepare and defend.

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A CRUCI CHOICE



HOLSTERS CAN COME in many shapes and forms, designed for a wide range of specific uses and applications. But the ultimate goal is always the same — offering you an effective way of carrying your firearm. But, such a seemingly simple and direct goal like this can lead us down many, many paths.

AL

THE COVERT IWB HOLSTER FROM CRUCIAL CONCEALMENT DELIVERS BOTH COMFORT AND CONCEALABILITY.

ADAM SCEPANIAK



The Covert IWB holster from Crucial Concealment gives you a discreet means of carrying a pistol like this optic-equipped Hellcat OSP.



The author used the Covert IWB holster to carry his Hellcat OSP for several weeks during testing.

Need proof? Just take a look at my personal box of holsters, featuring ones of seemingly all types, shapes and materials. I bet you have a box like this somewhere as well. And why do we have these? It's probably part of our pursuit of that one "unicorn" holster that will make us stop buying holsters altogether and be totally happy with how we carry our everyday carry (EDC) pistol.

But, before you can even go down that rabbit hole, you have to find your ideal EDC pistol. For me, the 9mm Springfield Hellcat OSP (optical sight pistol) is a true contender. The Hellcat OSP as an EDC has flipped the firearms industry on its head for multiple reasons. Set aside the fact that it's the world's highest capacity micro-compact; it also has normalized carrying an EDC with an optic mounted. Now, you can have a truly compact defensive pistol, and one set up with a tough micro-sized optic such as the Shield SMSc.

And with the success of the Hellcat came a trend of holster makers developing products for the pistol. And now that carrying an optic-equipped micro pistol has moved into the mainstream, holster makers are taking note.

Today, we are going to look at the Kydex ambidextrous Crucial Concealment Covert IWB (inside-the-waistband) holster, available from the Springfield Armory Store. We are going to see if it is one of those unicorn holsters for which I have been searching. So, let's dive in and take a closer look.

THE DETAILS

There are certain things that I look for in a holster and it being a good fit for me (no pun intended). One key element to any holster is retention. It is like the story of the three bears and their porridge. You do not want too much retention, or too little — it needs to be just right.

With the Crucial Concealment Covert IWB, there is a small Phillips screw near the bottom of the holster with a rubber washer that allows you to adjust the retention to your liking. This is something that is easily modifiable, so you can adapt the holster exactly to your needs.

Another feature of the holster that is adjustable is the cant at which the IWB holster will sit on your waistline. Just like the retention adjustment screw, this is externally adjustable through the use of Phillips screws. Additionally, the holster is fully ambidextrous as it can be swapped for left- and right-handed shooters.

I appreciated all these features in the Covert IWB because it lets you create a more custom fit. Not all holster manufacturers are thoughtful enough to employ something so simple yet meaningful.

Also of note is the fact that the Crucial Concealment Covert IWB is cut so that a pistol with optics like the Hellcat OSP and the Shield SMSc can fit in the holster, or just as easily a standard Hellcat with no optic.

Something else that is extremely important to me in any holster is the depth at which it will be riding on my waistline. If it's too high, it has an increased likelihood to "tip" off your belt or pants. Too low, and it's too difficult to draw your firearm in an expeditious manner.

I found that the Crucial Concealment Covert IWB sat at a moderate depth where I could quickly draw the Hellcat during dry-fire drills, while still hiding well under a simple t-shirt without printing.



The holster is produced from rugged Kydex for durability and light weight.

Remember that porridge analogy I made about it being "just right"?

Most of the holsters I use with any regularity are made of some type of plastic or Kydex versus other materials. The reason I prefer this material is because it doesn't retain moisture and simply rinses clean if you get it dirty. Obviously, I like the fact the Covert IWB is made from this material.

To make sure I could really wring out this holster for the review, I carried my Springfield Hellcat OSP topped off with a Shield SMSc in the Crucial Concealment Covert IWB holster every day for three weeks straight.

For my time using the system, I was on my feet for typically 10 to 12 hours per day. I found that it didn't inhibit my movement at all, which is key. Any good holster should not change the way you act or move because that could be a signal to others you are carrying concealed. Moreover, with the Hellcat OSP toting an optic on top of the slide, the Covert holster still allowed me freedom of movement, and it was completely comfortable.

CONCLUSION

All in all, I thoroughly enjoyed my time using the Crucial Concealment Covert IWB holster because it provided me with the feature set and benefits I look for in a holster. It's important to note though that everybody has a different body type, shape and size and that the holster has to individually fit you, your needs and your preferred style of carry.

It was not long ago that having an optic on a handgun was a completely foreign idea. Now, with the Springfield Armory Hellcat OSP and accommodating holster companies like Crucial Concealment, it's becoming much more common. Maybe I have finally found my unicorn holster!

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OR TO PORT...

IS THERE A DIFFERENCE — AND DOES IT MATTER?

ROY HUNTINGTON



Is porting worth the effort or just a bunch of noise? Check out this in-depth comparison of a ported and un-ported 1911 Garrison to find out.



The secret to the precision cuts of a Mag-Na-Port treatment is the use of electrical discharge machining (EDM).

IMAGE: MICHAEL ANSCHUETZ

ASK JUST ABOUT ANY SHOOTER with any experience how they like ported guns and you'll get some strongly worded answers. Some are raucously opposed to "Putting holes in the barrel!", while others think a proper handgun can't be shot well without ports or a comp of some sort. The issue I have with both the nay-sayers and the activist supporters is most have very little actual experience shooting them side-by-side.

One may be a long-time "non-comp" shooter put off by a perceived higher muzzle blast and increased noise, so they shut that option out. Others might have learned to shoot or have a good deal of experience on a compensated gun of some sort. They may look with disdain upon anyone foolish enough to shoot a gun without a comp or ports.

"Oh, the humanity!" It's like endorsing one political candidate — in spite of another also having some positive traits — and keeping your ears plugged to any positive arguments except the ones about your candidate.

That's called confirmation bias. It's when you've made a decision about something — cars, knives, ammo, comp guns or non-comp guns, etc. — then only consider information supporting your opinions. Often, in spite of nearly overwhelming evidence showing those opinions might be incorrect, those same people continue to shut out any new information.

I began to wonder if I might have applied this to the question of porting on guns, which led me to this test.

PORTS AND COMPS

First, let's consider the terminology we will use when discussing this topic. Comps can be elaborate contraptions going onto the muzzle end of a handgun, or just simply ports cut into the top near the muzzle.

In the 1980's, the age of the comp gun in competition exploded onto the scene, and rightfully so. A comp allowed shooters to shoot faster, more accurately and more smoothly, so they dominated the circuits. That spilled into the standard marketplace, and soon it seemed as though comps of one sort or another were available to everyone.

Some of those elaborate comps vented loads of pressurized gases and were, indeed, quite loud. I think, more than anything, that's what prompted many non-competitors to wonder what the big deal was. If you're shooting a weekend match, or just plinking or even handgun hunting, why put up with the Sturm und Drang and general fuss a comp generates for just a few shots? I'd tend to agree.

Most also think having those ports or a comp "out there" greatly reduces the gases pushing the bullet out of the bore, tending to negatively affect velocity. This perceived hacking away at potential velocity has turned many shooters off to the idea of comps or ports. "I want every bit of velocity I can get!" they cry out. "And I'll be damned if I'll use 'em," they add, "even if they might help me shoot faster and more accurately!" So there.

CAN LESS BE MORE?

In 1972, Mag-Na-Port burst onto the shooting scene on the cover of an issue of *Guns & Ammo* magazine. These elegantly shaped, small rectangular ports on a gun's upper muzzle area were almost unnoticeable. Developed by Larry Kelly, the process employed electrical discharge machining (EDM) — which doesn't use mechanical cutters — to make those precise, definitively shaped ports. EDM uses an electrode and an anode to allow current to flow, "eating away" metal, but never touching it. Complicated shapes can be produced, and Larry realized he was onto something.

Mag-Na-Port technology was introduced to the shooting public and soon gained its approval. The general ambient fuss normally generated by a competition-type comp was replaced by small, precisely aimed jets pointed "just so" to keep muzzle flip down. Many called the technology a game-changer.

Today, Mag-Na-Port is run by Larry's son, Ken Kelly, and is more popular than ever. The process can also be used on rifles and shotguns, as well as handguns of all kinds. An auto has ports cut through the barrel as well as the slide, allowing the escaping gas to help force the muzzle down as the bullets leave the bore. A revolver just has ports through the top of the barrel near the muzzle. Mag-Na-Port has been doing their magic on factory guns of all sorts for decades. It's well proven — and got me thinking.



IMAGE: AUTHOR

The author had a un-ported blued Garrison 9mm for the test, along with a stainless model he had ported.

THE GUNS

In chatting with editor-in-chief of *The Armory Life*, Mike Humphries, I told him I thought it'd be an interesting test to compare identical 1911's, one ported and one un-ported. "Let's see what really happens in the real world," I suggested. I wanted to determine how much velocity something like Mag-Na-Porting *really* cuts. And, if it does lower the velocity, to what degree — and does that percentage really matter? Is the reduced muzzle flip worth a bit of velocity loss?

I figured using a relatively straightforward, but high-quality 1911 as the base for the test made sense. So, I requested two stock 5" Springfield Armory Garrison pistols. One of them went to Mag-Na-Port so they could do their magic with two ports. Soon we got a "Your gun's done," call from Ken Kelly and it landed at my FFL.

My idea was simple, but time-consuming. I was going to assemble as many different 9mm loads I could find in my stash and shoot them over a chronograph. Each load would have five rounds fired from each gun and I'd collect the data. I also wanted to pay close attention to how different each load felt regarding perceived recoil, muzzle flip and anything else popping up.

In the interest of full disclosure here, I started this fairly firmly in the "I don't need a comp to shoot well" crowd. I've also always assumed (dangerous, right?) a comp or port-style modification would negatively affect velocity a good deal. So, here we find ourselves on new ground, and with the ability soon to proudly point our fingers and say, "See, I told you so."

I just wasn't sure who would get the finger pointed at them.



IMAGE: MICHAEL ANSCHUETZ

1911 GARRISON

CHAMBERING	9mm
BARREL LENGTH	5"
WEIGHT	38 oz.
OVERALL LENGTH	8.6"
SIGHTS	Low-profile, three-dot
GRIPS	Wood
ACTION	Single-action
FINISH	Blued or stainless
CAPACITY	9+1 (one magazine included)
MSRP	$868-$917

THE TEST

I ended up with 30 loads from my stash of 9mm ammo. Over the years as editor of *American Handgunner,* I had accumulated a good cross-section of loads from different makers I used during gun tests. I have countless boxes missing "a few rounds" for chronographing or accuracy testing, so this was a good time to use up some of that ammo. Kindly see the chart on page 40 for specifics.

The drill was to load five in a magazine, shoot five over the chrono documenting each shot's velocity, then load five more of the same and repeat things for the other gun. I shot the un-ported stock Garrison first, followed with the Mag-Na-Ported version. About 300-odd rounds later I was done with the shooting portion. I had to re-shoot a few loads due to "fault" readings on the chrono, which is common with the electronic beasts.

This also allowed me to get a feel of the stock gun and the ported gun, one right after the other. I was able to compare the differences in perceived recoil and



IMAGE: MICHAEL ANSCHUETZ

The Mag-Na-Port process puts cuts not only in the barrel, but also matching ones in the slide.

muzzle blast and will admit my comparison is subjective. But I've been shooting handguns for nearly six decades, so I'm attuned to some of the more subtle nuances of what's going on regarding recoil and muzzle blast.

Refer to the chart for details and numbers. The velocities listed are an average of five rounds for each load.

I also downloaded a decibel meter app for my iPhone. Doing some experimenting, I found it seemed to be reliable. My chainsaw showed it was as loud as a chainsaw, according to their chart. My tractor met the specs for tractor noises and my barking Aussie Shepherds pegged the "barking" limit of the app.

DATA POINTS

Since I was doing the work, I included a 9mm Springfield 911 (3" barrel) I own in the mix to see how these loads are affected by a shorter barrel with no ports. It's just FYI info for you to compare against the "full-sized" 9mm autos. Call it a bonus.

First, let's get the noise question out of the way. I started the test firmly convinced the Mag-Na-Ported gun would be "a lot" louder than the stock gun. After shooting, I seemed to feel a bit more muzzle blast on my arm and face, but it was hard to tell if it was louder. Some of the higher velocity loads might have barked a tad more in the ported gun, but it was hard to tell for sure.

The DB meter told me the unported gun averaged about three to five points lower noise than the ported gun, depending upon the load. The light/high velocity loads were the most obnoxious in either gun. The stock gun ran in the 105 DB range (differing load to load) while the ported gun averaged 108 to 110 or so. According to my research, that's not significant, although it is louder. But both are above the 100 DB limit of "permanent damage" if you're exposed to it, so wear your ears.

As a test, I also fired a .44 Magnum, promptly pegging the meter at 120. I suppose it was actually louder, since the meter couldn't read higher. I read online some gun reports can approach 140.

I want to stress this was an informal test, but I confess I was surprised the ported gun didn't show as being *considerably* louder. I'm assuming the "noise" is the same (same powder, same load, same "explosion"), but the porting allows "some" of that sound to be closer to your ear. Hence, they might seem louder.

The real surprise for me came as I assembled the velocity data. I had expected the ported Garrison to show significantly lower velocities, at least with some loads. But nope, and as a matter of fact with some loads it was just a tad higher. Overall, there were five loads showing *higher* velocities in the ported gun than the stock gun. I profess I don't know why or how that is.

The biggest velocity difference I could find was only 5.6 percent lower in the ported gun, say, around 50 feet per second (fps) or so. The chart shows the loads compared so you can see for yourself. As near as I could manage with my high school math is the ported gun averaged about one percent less velocity than the stock Garrison (give or take just a smidgen).

To me, a load generating, say, 1,187 fps in the un-ported gun and 1,151 in the ported gun — Black Hills 115-gr. FMJ for instance — is fine in either gun. The Speer Lawman 147-gr. TMJ showed 981 in the stock gun and 970 in the ported gun, a difference of only 11 fps. You can have much more variance than that just in round-to-round differences.

An interesting point is the fact virtually all of the loads having velocities listed on the boxes showed higher fps figures over the chronograph. A few, like the Buffalo Bore loads, were almost spot-on with the velocities listed on the boxes. They were also very consistent between the two guns, with just 10 fps or less between the ported vs. unported models. But they test with real guns, not pressure barrels.

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VELOCITY

LOAD	UN-PORTED GUN	PORTED GUN	911 MODEL
SPEER LE 147-GR. GDHP	1,028	980	855
BARNAUL 115-GR. TMC	1,148	1,130	1,005
AGUILA 124-GR. FMJ	1,061	1,037	931
Z-CLEAN LEAD FREE 100-GR. ZINC FP	1,278	1,301	1,200
NOSLER 124-GR. JHP	1,169	1,112	1,051
WOLF 115-GR. FMJ STEEL CASE	1,189	1,181	1,121
HORNADY 135-GR. FLEXLOCK	1,075	1,026	955
COLT 124-GR. JHP	1,168	1,208	1,102
BUFFALO BORE 147-GR. +P HARD CAST LEAD	1,123	1,114	1,005
BUFFALO BORE 124-GR. +P+ JHP	1,351	1,357	1,123
BUFFALO BORE 95-GR. BARNES TAC-XP	1,556	1,548	1,397
DOUBLE TAP 80-GR. BARNES TAC-XP	1,509	1,477	1,285
WINCHESTER 147-GR. FMJ "TRAIN"	999	1,003	908
SPEER LAWMAN 147-GR. TMJ	981	970	880
AMERICAN EAGLE 124-GR. FMJ	1,088	1,070	947
WINCHESTER 147-GR. CONT. EXPANSION	1,053	1,041	955

LOAD	UN-PORTED GUN	PORTED GUN	911 MODEL
BLACK HILLS 115-GR. FMJ	1,187	1,151	1,029
BLACK HILLS 125-GR. HONEYBADGER	1,028	1,003	927
INCEPTOR 65-GR. COPPER POLY FLUTED	1,548	1,532	1,316
HORNADY 147-GR. TAPCQ	1,017	999	923
CORBON (VINTAGE) 115-GR. +P DPX	1,293	1,281	1,187
OPS 85-GR. HPF	1,332	1,316	1,199
FEDERAL 147-GR. HYDRA-SHOK JHP	980	963	873
STREAK (TRACER) 147-GR. TMC	982	966	965
WINCHESTER DEFENDER 147-GR. JHP	1,069	1,022	951
TRITON QUICK-SHOK 115-GR. JHP	1,351	1,318	1,172
BROWN 147-GR. BXP-X-POINT	1,041	1,012	929
HPR 85-GR. OTF	1,340	1,338	1,229
LIBERTY CIVIL DEFENSE 50-GR. JHP	2,252	2,195	1,903
DOUBLE TAP 77-GR. DT COPPER HP	1,557	1,582	1,365

All velocities are the average of five rounds measured in feet per second (fps). Velocity measured with a Competition Electronics Pro-Chrono DLX. Note: Some ammunition is no longer in production.

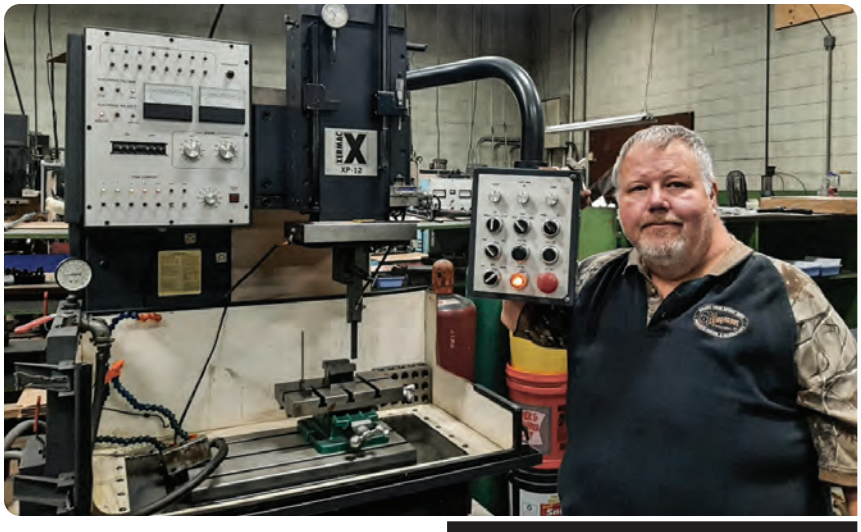


IMAGE: MAG-NA-PORT

Ken Kelly, guru of Mag-Na-Port, is hands-on in the shop daily. His company revolutionized the concept of ported guns.

AND THE WINNER IS ...

Truthfully, I think we're all winners here. While I honestly feel the Mag-Na-Ports did help to keep muzzle flip down significantly, those same ports also didn't affect velocity in any manner anyone should fret over. If you're interested in competition where fast shooting and target-to-target movement are critical things, I'd think about getting ports. What additional perceived blast there might have been was hardly noticeable, at least to me. For a defensive gun, I'd be interested in seeing how these ports work on one of the smaller .380-sized autos, which tend to be snappy and flip the muzzle. I'll look into that.

If you favor un-ported guns, that's fine too. I felt the overall recoil of the ported gun to be just a tiny bit snappier than the stock gun, while keeping the muzzle lower. That energy has to go someplace, so it goes backwards into you. Normally it's "wasted" generating muzzle flip, so the stock gun felt slightly "softer" in recoil, at least to me. But I don't think the owner of an un-ported gun can reliably exclaim his gun generates enough higher velocity to matter in the real world.

We could go on about shooting a ported gun close to the body and the fact it may put some blast in your face, or how the flash might "blind you" at night. In my own tests shooting "flashy" loads at night, I could hardly see them usually, and often didn't see them at all. I've also shot ported guns close to my body with no ill-effects. I suppose if you aimed the ports right into your face it might make a difference, but at that point you're likely rolling around wrestling for your gun, so I doubt you'd even notice?

So, my final word? I wouldn't worry about this one bit. Shoot ported guns if you like them, or un-ported if they float your boat. I'll call it a draw, with each side having their own set of advantages — and disadvantages. And, wanting to try out Mag-Na-Porting might just be a good excuse to buy a new gun!

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THE SINCEREST FORM...

SPRINGFIELD ARMORY'S M1 CARBINE AIR RIFLE, A CONVINCING TAKE ON A REVERED CLASSIC.

FRANCISCO JARDIM



I'M A SUCKER for classic military-style firearms. Guns with a lot of history like the M1 Carbine always tickle my fancy. But guns like these can be expensive, and some possess such collector value you should not shoot them much, if any.

So, what options does that leave you? How about a gun that looks almost exactly like the original, does not cost a lot and is also extremely cheap to shoot. Oh, and you can probably fire it in your backyard. Sign me up!

AIRY OPTIONS

That leads us to the Springfield Armory M1 Carbine CO^2 Blowback .177 BB Air Rifle, available from the Springfield Armory Store. My first impression of it was that it was a near ringer in looks, weight and function for the G.I. classic made famous in World War II and beyond.

The air rifle was developed with an eye for authenticity right down to its functional semi-automatic action. Powered by CO^2, the gun is initially cocked and loaded by pulling back the operating slide and bolt and allowing them to fly back into battery under recoil spring force. Thereafter, the slide and bolt visibly recoil with each shot. CO^2 guns that mimic the mechanical action of real guns when fired are generally referred to as being "blowback action."

Additional realistic features of the CO^2 gun include a 15-shot BB magazine that inserts and ejects like the real thing; an operational, late-war-style rotating safety (horizontal for fire and vertical for safe); a late-war-style adjustable rear sight; and finally, a bayonet lug front band which can actually mount the original bayonet.





The Springfield Armory M1 Carbine Air Rifle is a CO^2-powered blowback .177-cal. gun that is a dead ringer for the original.

IMAGE: MAX JACOBSEN/@PNW_PEW



CONVINCING SIBLING

The exterior metal parts of the gun are made of a durable die-cast zinc alloy and the stock can be a rather convincing wood-grained synthetic stock, or for around $100 more, a genuine wood stock and handguard. I happen to have an excellent original M1 Carbine, so I set the air rifle alongside it to compare how grand a job they did. I was very impressed.

Dimensionally they are very close, with the only readily apparent difference being the larger size of the CO^2 gun's magazine. It's slightly longer (.85") and wider (.925" vs .75") where it protrudes from the stock. When I took it out, I noticed it was considerably heavier, too. That's because this is the heart of the gun, containing BB's, a 12 gram CO^2 cylinder to propel them, and the valves to vent the gas where it needs to go to both fire the BB down the barrel and reciprocate the operating slide.

Because of their complexity, magazines like this tend to be a little pricey. However, I was pleased to find I could buy extra magazines for this carbine at



An M1 Carbine bayonet fits securely on the air rifle, but don't take that as a license to pierce. Even the steel barrels of original guns aren't up to this task.



about $40 or so each. Take note, since they are larger than the originals, they won't fit in vintage G.I. M1 Carbine pouches.

By the way, if you're willing to wreck an original G.I. 15-round magazine for the sake of greater historical cosmetic perfection, you could easily alter it to fit the CO^2 gun's magazine well with a Dremel tool cutter.

HANDS-ON

Unlike a lot of real M1 Carbines, the Springfield Armory air rifle has a great 4.5-lb. trigger pull. To get the most out of the gun, I shot from the bench with the same Caldwell Shooting Supplies "BR The Rock" competition front rest I use with conventional rifle reviews. Velocity was recorded with a Competition Electronics Pro Chrono digital chronograph set up about five feet from the muzzle.

Accuracy was done at 32 feet, which I consider maximum plastic-toy-soldier sniping range. This was based on the limitations of my eyesight, rather than specific insight into how well the gun would shoot.

I used standard .177 caliber,



To cock the action and chamber a BB, pull back the charging handle on the operating slide and let it fly home into battery.

zinc-plated steel Air Venturi BB's. While you might say all zinc-plated steel BB's are pretty much alike, the same can't be said for the containers they are packaged in, most of which seem to be designed to spill the maximum number of BB's onto the ground. Air Venturi gets a tip-of-hat from me for putting a practical, screw capped, proboscis on the jar that is just the right combination of controllability and flow.

They also shot impressively well. Five-shot groups averaged 0.95", and my smallest group was 0.73". Remember, this gun is a smoothbore. My point of aim was a six o'clock hold on a 1" black target paster. Windage was right on, but elevation was an inch low. The rear sight, like the rest of the gun, is realistic in appearance, and allows for windage correction by turning the windage screw knob, just like the real thing. However, the elevation slide is molded into the sight and can't be adjusted. Any changes in elevation need to be done by filing the front sight down or, more sensibly in light of the range involved, altering your hold.

Temperature affects the performance of CO^2-powered guns significantly. On the day I shot, the thermometer was topping out in the high 50's. I kept my 12 gram CO^2 cylinders in a pant's pocket to warm them up a bit more. The highest velocity I recorded was 446 feet-per-second (fps). Average velocity was very close to the advertised 425 fps before the gas depleted to the point where velocities, and then accuracy, started a steady decline. In general, the 12 gram cylinders seemed to be good for 22 to 25 shots before velocity dropped below 400 fps. In other words, I was getting top performance for the first magazine, and perhaps half of a second.

At an optimum 78 degrees, it is reasonable to expect about 40 full-velocity shots per gas cylinder. The blowback action clearly eats up a lot of CO^2. Fortunately, 12 gram CO^2 cylinders only cost about a buck or less. Also, all these accessories — from the pellets to the CO^2 cartridges along with targets and more — are available on the Springfield Armory Store in the "Airguns" section.



SPRINGFIELD ARMORY M1 CARBINE AIR RIFLE

CHAMBERING	.177 BB
BARREL	17.25"
WEIGHT	5 lbs., 11 oz.
OVERALL LENGTH	35.8"
SIGHTS	Windage adjustable rear, winged front
STOCK	Wood or wood-grain synthetic
ACTION	CO^2-operated blowback
FINISH	Black
CAPACITY	15 (one mag included)
MSRP	$309.99 (wood), $219.99 (synthetic)

The author bench tested the M1 Carbine air rifle for accuracy and velocity, and learned he had to situate the screens very closely to pick up the BB's.



CONCLUSION

The Springfield Armory M1 Carbine Air Rifle offers a unique opportunity to own a convincing replica of the original, and one that you can shoot cheaply and easily. Pricing on the Springfield Armory Store for the wood-stocked model is $309.99, while the synthetic-stocked model is priced at $219.99.

Considering that real MI Carbines have climbed into the $1,000 range and beyond recently, this BB recreation is a great option for backyard plinking fun at a minuscule comparative cost. Sounds like a great deal to me!

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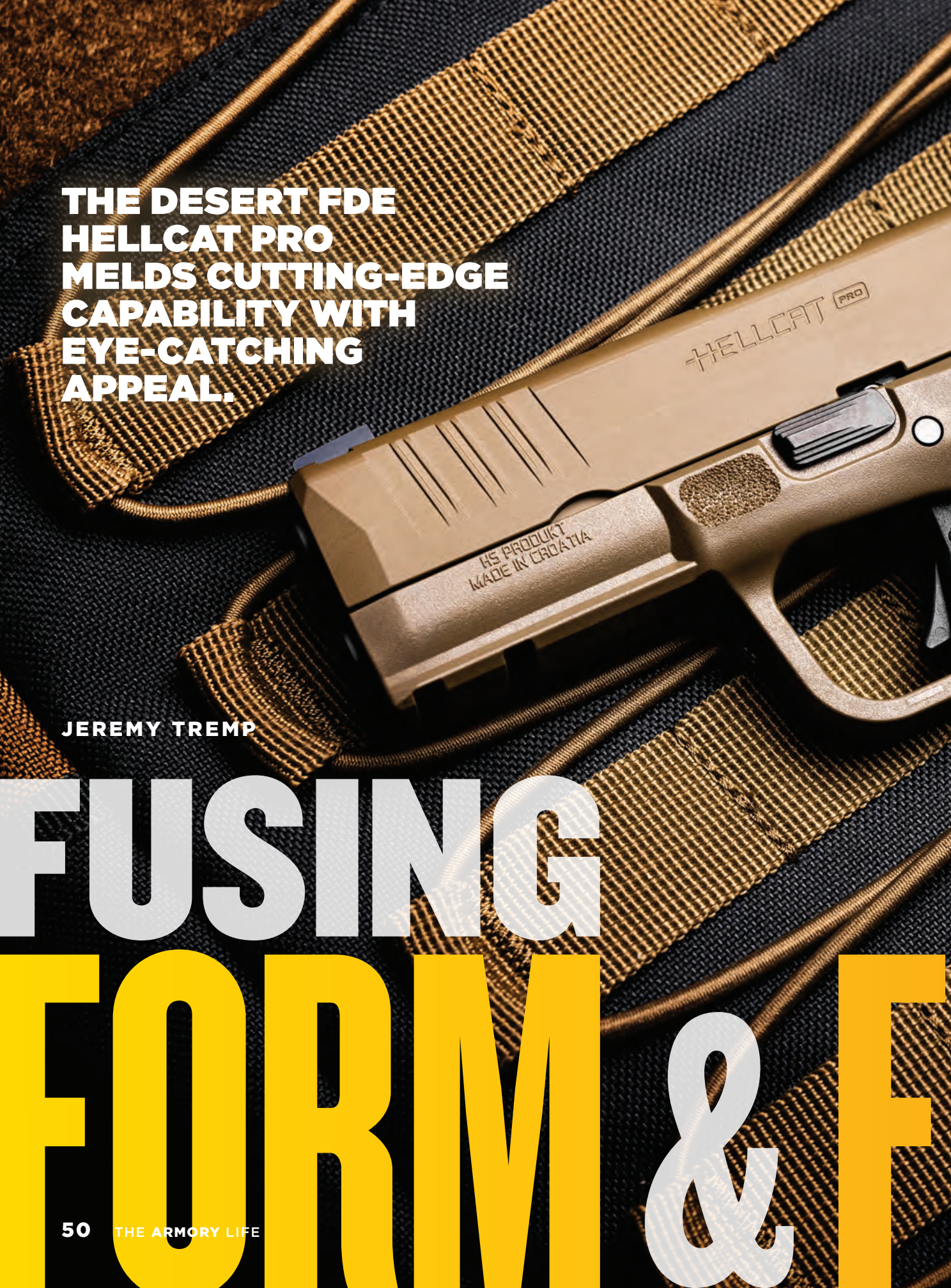


SPRINGFIELD ARMORY



The Hellion™ from Springfield Armory answers the call for superior ballistic performance in a short, adaptable platform. This fully ambidextrous bullpup rifle can be quickly configured for left or right side ejection and features an overall length of just 28.25-inches while still possessing a 16" barrel. Chambered in 5.56 and designed to accept AR pattern magazines the Hellion combines portability with potent performance.

SPRINGFIELD-ARMORY.COM



THE DESERT FDE HELLCAT PRO MELDS CUTTING-EDGE CAPABILITY WITH EYE-CATCHING APPEAL.

JEREMY TREMP

FUSING FORM & F



WATCH THE VIDEO
HELLCAT PRO IN DESERT FDE

UNCTION



The Hellcat Pro Desert FDE 9mm pistol offers users a CCW pistol that is both easy to conceal as well as shoot.

CHOOSING TO CARRY A FIREARM EVERY DAY for the defense of yourself and your loved ones is a major responsibility. From understanding your pistol, to knowing local laws and learning de-escalation techniques, you must always be on top of your game. So, selecting the right firearm for this role is not a choice to be taken lightly.

To my mind, the most important factor in choosing a CCW pistol for this purpose is that it be both utterly reliable and produced by a reputable manufacturer. Furthermore, if you're like me, it is important you enjoy the look and feel of your daily carry pistol. Yes, firearms are meant for that worst-case scenario and form should certainly follow function, but if you are carrying one every day it's beneficial to have some feeling of attachment to it. There is no shame in being partial to a certain pistol because you prefer how it looks — as long as it runs, and runs well.

If you've carried a firearm for any length of time, you know it's a process to figure out what works best for you. Pistols designed for concealed carry can have a wide range of features, some of which may be suited to your needs while others might not. From the texturing, the position and size of the controls, slide length, and even the size and design of the grip itself, all of these qualities must be weighed against your needs.

Beyond the core features, it is also wise to select a pistol that has been widely adopted by holster manufacturers to ensure you can find the just right fit for you. The more options, the more competition and the more innovation — all of which benefit the consumer.

MY FIRST CHOICE?

Personally, I've been carrying a Hellcat 9mm for about two years now. My first Hellcat was one in Desert FDE, and to be honest that was one of the things that drew me visually to that specific pistol. I am a sucker for all things in this color. When the slightly larger 9mm Hellcat Pro OSP (optical sight pistol) was released, I really loved shooting it, but I initially felt like it was a bit too large for me to carry at the 3:30 position like I did my Hellcat. Also, keep in mind I have a 32" waist, so I don't have a lot of real estate for concealment.

However, after a bit of research, I decided to reconsider the Pro. I picked up a Tulster Oath IWB holster and was, quite frankly,



The author found the Springfield Armory Hellcat Pro in Desert FDE to be quite easy to shoot well despite its concealable size.



The trigger, magazine release and other controls of the Desert FDE pistol have a matte black finish.

surprised at how comfortable and concealable the Hellcat Pro was with this "winged" holster. In fact, it was actually more comfortable to carry than my original Hellcat in a holster without a wing, and also very easy to conceal despite its larger size. If you are not familiar with what a "wing" or "claw" on a holster like this is, it's a small tab that sticks out towards the rear of the holster. This protrusion causes your belt to push the butt of the pistol inward towards your body, making it conceal better.

So, for the last four months, I've been carrying the Hellcat Pro, and I've been loving it. I feel even more confident carrying a slightly larger and more controllable pistol with a full 15+1 capacity of 9mm. That only left one question … .

Yes. The Hellcat Pro OSP now comes in Desert FDE. I'm pleased to report Springfield didn't leave us Desert FDE fanatics hanging. We've now got an FDE color variant of the Hellcat Pro, and I could not be happier.

THE DETAILS

The 9mm Hellcat Pro in Desert FDE has all the same features you've come to love in the original Pro. It sports a 3.7" hammer forged barrel, front and rear slide serrations, an OSP optics-ready configuration with co-witnessing tritium/luminescent U-dot sights, the popular Adaptive Grip Texture treatment, and a lengthened Picatinny accessory rail. And you get all these features in a compact 15+1 round pistol that makes for an excellent choice for CCW.

Let's dive into what I think makes the Hellcat Pro in Desert FDE a fantastic choice for your personal concealed carry pistol. Starting with the heart of the gun, the hammer forged barrel is designed for a lot of shooting. The hammer forging process ensures the barrel has unmatched strength and durability.



DESERT FDE HELLCAT PRO OSP

CHAMBERING	9mm
BARREL	3.7"
WEIGHT	21 oz.
OVERALL LENGTH	6.6"
SIGHTS	U-Dot
GRIPS	Integral, polymer
ACTION	Striker-fired
FINISH	Desert FDE
CAPACITY	15+1 (two mags included)
MSRP	$692

On the rear of the barrel is a very handy feature for quickly determining if your pistol has a round in the chamber. Springfield added a loaded chamber indicator made up of a small opening at the rear of the barrel hood that reveals if the chamber is loaded or not. Adding to the functionality of the pistol are the front, top and rear slide serrations on the slide. These ensure a positive purchase in any condition regardless of where you grip.

If you've carried and trained with a pistol long enough, you know the wear and tear a finish can take over time. To address this, Springfield uses a Melonite finish on the barrel and a tough Cerakote finish on the slide to ensure the Hellcat can withstand the harshest of conditions.

To ensure maximum control for the shooter, the pistol features the proven Adaptive Grip Texture on the frame, ensuring you retain positive control of your pistol. This texturing gives you maximum control over the pistol without being too aggressive as to rough up



your skin during daily carry.

The texture is quite ingenious, really. The pattern is made from staggered pyramid shapes, with the taller pyramids having a flattened top to ensure comfort against your skin while holstered, while the shorter pyramids come to a point and lock into your hand when the pistol is firmly grasped.

Ergonomics on the Hellcat Pro FDE are quite well thought out. The slide lock has a ledge around it to prevent larger hands from unintentionally disengaging it after the last round has been fired, which can be easy to do on some micro compact pistols.

The magazine release is just large enough for ease of activation, while not being too big as to cause unintentional engagement. The rear section of the mag release is smooth, while the front half has nice serrations for positively engaging when dropping the magazine on reloads. While the Hellcat is not fully ambidextrous, Springfield added the ability to reverse the magazine release so that lefties have that option as well.

ABOVE AND BEYOND

For the sighting system on the pistol, Springfield uses the Hellcat's tritium/luminescent U-Dot sights, which are very intuitive. Instead of lining up three dots, you simply settle the front dot into the cradle. It allows for quick sight acquisition in all types of environments thanks to the bright green front sight.

The Desert FDE-finished Hellcat Pro is equipped with Springfield's OSP configuration. This allows you to easily attach a micro red dot such as the Shield SMSc to your Hellcat Pro. Since no adapter plates are required, the optic direct mounts and is low enough with micro-sized optics that the iron sights co-witness perfectly with the dot.

This is a must-have option in my opinion for a pistol that is your daily carry. For sighting systems, one is none and two is one in my book. And, if you want to run just the iron sights on the pistol, the



The Adaptive Grip Texture helps to lock the pistol into your hand. This helps you control muzzle rise and recoil, even with sweaty palms.



The integral stand-off device below the bore helps ensure the pistol remains in battery at contact distances.

Hellcat Pro in Desert FDE comes with a cover plate in black that matches the barrel and the controls of the pistol. The plate features slide serrations over its top that add to the gripping surface for the shooter.

Another impressive feature of the Hellcat series of pistols, and one present on the Hellcat Pro, is the built-in "stand-off device" on the front face of the guide rod. This device is designed to prevent the muzzle of the slide from coming into contact with a surface and pushing the gun out of battery, rendering it incapable of firing. If you were to press the muzzle of the pistol against a surface, it would contact the stand-off device and prevent the slide from being pushed back. This is a simple but effective feature that I really appreciate having on my CCW pistol.

Despite its compact size, the Hellcat Pro also has a generously sized accessory rail for the mounting of a pistol light. Keep in mind that attaching a pistol light will affect the holster you will need to purchase, but it's a great added feature for the Hellcat Pro.

HANDS-ON

Features and specs are great and all, but how does the pistol perform and what kind of results should you expect from the Hellcat Pro? While I was always impressed with the shootability of the micro compact Hellcat 9mm, physics always intrude. Combining a small, light pistol with a powerful chambering will affect its controllability.

That's one of the things I like the most about the Hellcat Pro. While still surprisingly compact and concealable, the pistol packs in a full 15+1 capacity with a grip long enough to get a proper full, firm grip on the pistol. The extra slide and barrel length also help cut down on muzzle flip. This keeps you on target for quick follow-up shots. Yet this is all in a slim (1" wide, just like the Hellcat) and remarkably concealable pistol.

Regarding the trigger on the Hellcat Pro in Desert FDE, it's great. I'll spare you the "crisp break, positive reset" spiel and just say I think it is ideal for a carry pistol of this type. With a pull in the 6- to 7-lb. range, this is just where I want it for a pistol I carry. It's not so heavy that you end up pulling your shots in anticipation like a double-action trigger, yet not so light a pull that you would feel uncomfortable carrying it on your hip all day. The take-up is smooth, the wall is easily discernible, and the break requires minimal travel.

CONCLUSION

With the Hellcat Pro in Desert FDE, you have the magazine capacity of a much larger firearm in a very concealable and, dare I say, stylish package. The Desert FDE Hellcat Pro ships with two stainless steel, flush-fit, 15-round magazines. I would suggest picking up a few more and stowing some in your vehicle, EDC bag, purse, bedside, etc. It's always nice to have a spare mag within reach.

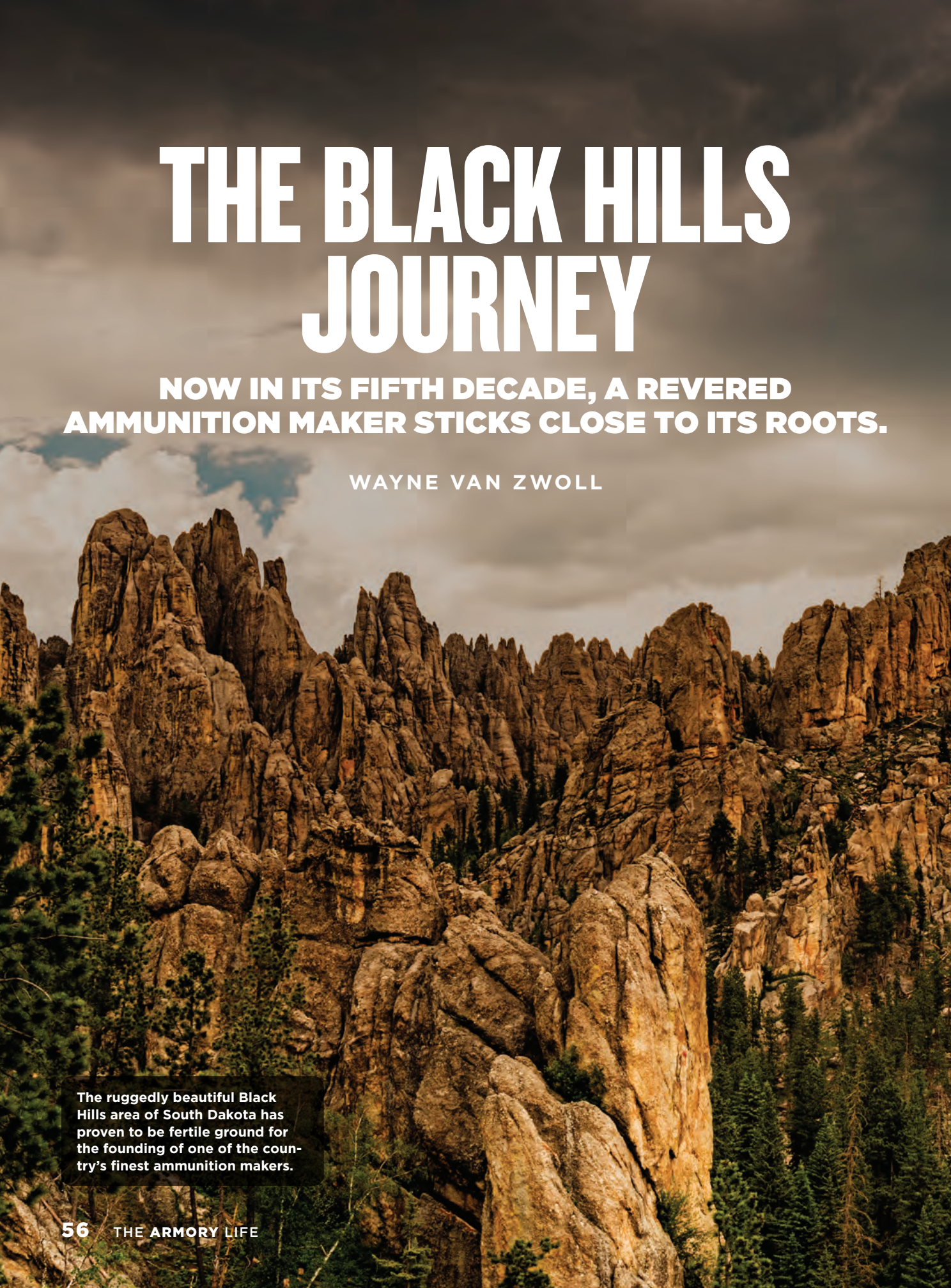
I feel like most of the time with a concealed carry gun, you must make sacrifices for comfort or concealability. With the Desert FDE Hellcat Pro and a good holster, you can have your cake and eat it, too. And now with the Desert FDE option, you can carry in style as well. It certainly looks like Springfield has fused form and function into the perfect carry gun for me. How about you?

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THE BLACK HILLS JOURNEY

NOW IN ITS FIFTH DECADE, A REVERED AMMUNITION MAKER STICKS CLOSE TO ITS ROOTS.

WAYNE VAN ZWOLL



The ruggedly beautiful Black Hills area of South Dakota has proven to be fertile ground for the founding of one of the country's finest ammunition makers.

ABOUT 20 YEARS AFTER JEFF HOFFMAN left the Rapid City Police Department to load ammunition for Black Hills Shooters Supply, both he and wife Kristi filled a Navy contract for 50 million rounds of 77-gr. 5.56mm ammo. Not from Black Hills Shooters Supply, however. The Hoffmans had bought into that company, but in 1989 split from it to sail their own ship as Black Hills Ammunition (BHA).

They launched BHA in what I recall as a metal shed crammed with people, stacks of boxes and a forest of hand-pumped loading presses. A rabbit warren. Aisles between the stations were so tight I had to time my step between press strokes. A shipping container outside held components and finished ammo. The Hoffmans' first efforts at cartridge manufacture were reloads for the police. Jeff's crew at the station remained faithful customers, but their orders would hardly carry his and Kristi's new enterprise.

"I quickly found we couldn't compete with Winchester, Remington and Federal," Jeff admitted. "We'd have to offer something they didn't. Expenses were eating into our savings while we tried to come up with a plan. A big order from the Illinois State Police saved us that first year." Law enforcement (LE) and military contracts would continue to fuel the business. One of the most helpful came from the Army's marksmanship unit – the AMU, or USAMTU – the training unit whose members in my competitive days were the shooters to beat at any match. "That contract gave us credibility, hiking our commercial sales."

IMAGE: BLACK HILLS AMMUNITION



Punching well above its weight class, Black Hills Ammunition has earned an enviable reputation for extremely high-quality ammo.

IMAGE: BLACK HILLS AMMUNITION

The Hoffmans' dreams were much bigger than could mature in their first shop. On my next visit, Jeff drove me across town to a big, empty building that looked like.... "A creamery," he nodded. "And so it is. But not for long." We traipsed through a sprawling 60,000 square feet of cavernous tank rooms, and a labyrinth of freshly framed annexes. "We'll fill 'em all, and soon."

A couple of years ago, re-tracing my steps through that plant, I was stunned by the changes. From loading rooms to the ballistics lab, BHA's new digs oozed high-tech. While the annexes evidenced no link to the dairy industry, they were as spotless as if BHA were shipping milk. But the work, Jeff told me, was far from finished. "We need more space, more tooling. Demand is already outstripping our capacity to meet it. Sometimes component shipments can't keep up with our production lines."



No matter the size of the order, Black Hills ensures every round is loaded to the highest standards.

IMAGE: BLACK HILLS AMMUNITION

Following the Army's lead, the Navy then the Marine Corps placed orders. Suddenly, BHA had contracts to supply all the 5.56 match ammo for the U.S. armed forces! "We had our hands full," said Jeff. "We were truly blessed." But then came another windfall: A request for "operational" ammunition. "That path has led to 35 products we developed for the U.S. government, mainly for

the Department of Defense. Our foot stays on the throttle to meet deadlines, but we never compromise on quality." Jeff is proud of the thanks he, Kristi and BHA's crew routinely get from U.S. Special Forces. "Those fellows know *we* know that each shot in combat can be mighty important."

THE REFINED CHOICE

BHA began early to court discriminating markets, holding its products to standards hard for other ammunition companies to match. A 50-gr. .223 load clocking 3,335 fps nips half-minute groups for me. "We expect that level of accuracy," Jeff said, "though it's well above the industry average."

High standards have drawn a steady stream of military contracts. Success on the military front has nudged BHA to enlarge its commercial footprint. In 1999, the Navy asked for a "precision" 5.56 NATO load. BHA's lab responded with a 77-grain MatchKing at 2,750 fps.

Since then, MK 262 Mod1-C ammunition has become available to civilian customers buying 420 rounds, 20 to a box, shipped in an ammo can. Each lot is tested to meet tough military specs. Ten, 10-shot groups (yes, 100 bullets!) at 300 yards must hold to a .64-MOA standard – 2″ groups at that distance! Hoo, boy! Not all 5.56 rifles can deliver such results. I said so to Jeff. "We use very accurate test barrels," smiled Jeff. "And we scrap them before we have to."

The manufacturing care evident in BHA military ammunition also distinguishes its hunting loads. "Gold" ammo, .22-250 to .338 Lapua, features bullets from Barnes, Hornady, Nosler and Sierra. This line recently added the 6mm and 6.5 Creedmoor, for accurate hunting/match rifles like Springfield Armory's Waypoint. There are 12 BHA Gold loads for the .308, eight for the .30-06.



IMAGE: BLACK HILLS AMMUNITION

Jeff and Kristi Hoffman started Black Hills Ammunition in Rapid City in 1982. It has grown fast and steadily in 40 years.

Over a chronograph and afield, I've found Gold as good as or better than its competition.

There's also their New Rifle series of U.S. service cartridges: 23 options in .223 and 5.56 NATO, plus four in .300 Blackout, with match loads in .308, .300 Winchester, .338 Norma and .338 Lapua. The New Pistol family includes eight handgun rounds, six loads each for the 9mm and .45 ACP, three in .40. The wide selection of BHA bullet weights and types reflects the Hoffmans' efforts to cultivate and maintain good working relationships throughout the industry. "We achieve more when we have friends to help," he observes. It's a philosophy Jeff and Kristi seem to bring to *all* relationships. They don't reserve courtesy and generosity for business alone.

Still, they and BHA's quality control staff are ruthless in culling ammo that doesn't measure up. "We inspect each cartridge, from component stage to packaging," Jeff said. "Yes, that's millions a year. And yes, we do. However difficult or time-consuming, it's part of our job. We spend more on inspection than on loading."



IMAGE: AUTHOR

Black Hills makes ammunition for a wide range of shooting disciplines, all held to the same high standard.

Most of the ammunition comes off straight-line commercial presses. Loading speed is controlled by operators who look for component flaws and can stop their press at any time. I'm told BHA tolerances are tighter than those imposed by SAAMI (the Sporting Arms and Ammunition Manufacturers Institute) or our armed forces. Finished cartridges run a QC gauntlet. Visual inspection is followed by a "block gauge" test for uniformity.

MODERN CLASSICS

"Hands up, Kid!" The bandit spun. His Peacemaker barked five times, fast. Sprinting through the smoke, he vaulted into the saddle, yanked at his carbine. *"You won't take me alive!"* More bullets flew.

Such mayhem marked the frontier and times of William Bonney and John Wesley Hardin. But the miscreant this day was an accountant with a scripted snarl. He drove a Japanese sedan with a Starbucks cup in the console. On weekends, he "got Western" as Sixgun Slim. So did his wife, a soccer mom turned Sidewinder Sue.

Cowboy Action events draw spectators with 1880's dress and venues. Jeff and Kristi Hoffman saw the appeal early on, and were soon loading lead-bullet ammo for Cowboy shooters. Current offerings are as follows:

CARTRIDGE	BULLET	VELOCITY
.32 H&R	90-gr. FP	750 fps
.32-20	115-gr. FP	800 fps
.38 LONG COLT	158-gr. RN	750 fps
.38 SPECIAL	158-gr. CN	800 fps
.357 MAGNUM	158-gr. CN	800 fps
.38-40	180-gr. FP	850 fps
.44-40	200-gr. RNFP	800 fps
.44 RUSSIAN	210-gr. FP	650 fps
.44 SPECIAL	210-gr. FP	800 fps
.45 SCHOFIELD	230-gr. RNFP	730 fps
.45 COLT	250-gr. RNFP	725 fps
.38-55	255-gr. FP	1,250 fps
.45-70	405-gr. FP	1,250 fps

Velocity measured in feet per second (fps) and bullet weights in grains. Abbreviations: CN (conical nose), FP (flat point), RN (round nose), RNFP (round nose, flat point)

Round- and flat-nose lead bullets at traditional speeds make these oldies a pleasure to shoot. My six-shooter in .45 Colt hops gently with BHA Cowboy loads, but the 250-gr. slugs flatten steel! My .38-55 Lyman "baby Sharps" has grouse-gun heft, but it's civil in recoil, while its lumbering lead punches snug groups. "We hew to 1880's pressures so they're safe in vintage rifles and revolvers," explained Mike Wright, whose ballistics savvy has blessed BHA. He added that even mild smokeless loads can test steel. "Their pressure curves differ from those of black powder." A useful caveat for shooters dusting off 19th-century firearms!

More recently added is the HoneyBadger line. It's named after the African mustelid that earned title honors in a Ruark novel – a tenacious, relentless burrower and predator unfazed by obstacles. "HoneyBadger bullets exhibit those qualities," said Jeff, who, with Dave Fricke of Lehigh Defense, developed the all-copper missiles.

HoneyBadgers were designed to be "barrier-blind." Even bonded lead-core bullets deform when fired through glass and other hard, abrasive materials. Cloth and wood, among soft barriers, can plug hollow points, preventing upset. Hoffman and Fricke sought a bullet that resisted deformation



IMAGE: AUTHOR

Wayne fired this quarter-inch knot with one of 15 BHA loads for the .223, with bullet weights ranging from 36 to 77 grains.

BHA MK 262 MOD1-C LOAD
77-GR. SIERRA TMK

BALLISTICS	MUZZLE	YARDS				
		100	200	300	400	500
VELOCITY	2,750	2,520	2,295	2,070	1,870	1,685
ARC	-1.5"	+2.0"	0"	-8.5"	-25.0"	-52.0"

External ballistics measurement from a 20" barrel. Bullet weight measured in grains, velocity in feet per second (fps), and arc in inches. Abbreviations: gr. (grains), TMK (Tipped MatchKing).

and thus flew straight through obstacles, and also one that didn't depend on upset for lethal effect.

They may have had in mind the fluted, sintered copper bullets developed by Charlie Kelsey in the early '90s. But the HoneyBadger is *solid* copper. Its nose flutes – three or four – are deep. A cannelure permits a roll crimp. Some HoneyBadgers have an additional cannelure to reduce chamber pressure. Some feature a recessed base – a useful detail, notes former Hornady engineer Dave Emary. "It lengthens bearing surface to better seal gas and improve accuracy. Moving the bullet's center of gravity toward the nose can also enhance in-flight and post-impact stability."

While their lead-free shanks limit their weight, HoneyBadgers can be driven faster than lead-core bullets. They fly flatter and bring plenty of moxy to the target. I find HoneyBadgers a bit less punishing in recoil than jacketed hollow-point (JHP) loads stoked to similar pressures. Accuracy is on par with the JHP's.

HoneyBadgers don't expand on impact, but ballistic gelatin shows impressive temporary cavities. The bullets continue in straight paths to cut deep channels. Introduced six years ago in .380 Auto (60 grains) and 9mm and .38 Spl. (100 grains), HoneyBadger bullets now come in seven other cartridges: .357 Mag., .40, 10mm Auto, .44 Spl., .44 Mag., .45 ACP and, for rifle enthusiasts, a 325-gr. load in .45-70.



IMAGE: BLACK HILLS AMMUNITION

Black Hills uses only the finest components in its ammo, to ensure top-end performance.

CONCLUSION

Compared to payrolls of other ammunition firms, BHA's is small — around three dozen full-time employees. But according to the Hoffmans, they're talented, hard-working and keen to deliver top-quality ammo. It's a close-knit clan. When COVID panic threatened to ground workers even in South Dakota, Jeff arranged for pallets of food to be delivered to the plant at no cost to the crew.

Ever taking the industry's pulse, Jeff has seen ballistic efficiency in rifle loads steal the attention once given to high velocity. A wave of first-time gun owners is gobbling ammo for small pistols. BHA's catalog reflects brisk demand for long-range and self-defense loads. Ideally, shifts in production and sales follow — or anticipate and even fuel — market trends. Still, some change is forced. Ammunition manufacture and sales are affected not just by product design and advertising, but also on timely access to components! Supply chains can determine what's available, cataloged and not.

Now 40 years in business, Jeff and Kristi Hoffman and Black Hills Ammunition have met many challenges, endured just about every industry cycle. And if the past is prologue, they are clearly more than ready for the future.

FOR MORE INFORMATION, VISIT:
BLACK-HILLS.COM

Ammunition from Black Hills must meet rigorous inspection and performance standards.



IMAGE: BLACK HILLS AMMUNITION

ADDING SO



With these new magwell kits from Springfield Armory, you can quickly add an extended and flared magwell to your legacy XD-M pistol.

WATCH THE VIDEO
INSTALLING XD-M MAGWELLS



GIVE YOUR 9MM XD-M THE ELITE TREATMENT WITH THESE MAGWELL KITS.

RICHARD JOHNSON

JUST BECAUSE SOMETHING NEW COMES ALONG doesn't mean you need to trade in the old model. When I find a gun that works for me, I'm not inclined to toss it away just because a new version rolls out on the market. But, who am I kidding? Of course, we all want the newest, latest and greatest!

Which brings us to the topic of the XD-M series of pistols. I have long been a fan of the XD-M and own several models. So, I noted with great interest when the XD-M Elite enhanced models started appearing. I'll admit, the newer XD-M Elite models offer some distinct advantages.

I can't deny I'd buy the Elite version if I were comparing it against my personal XD-M for



IMAGE: JOHN MCKENZIE / DOWN RANGE PHOTOGRAPHY

Kits come with all of the parts you need, including three backstraps, pins and magazine.

the first time today. But that's not the reality of my situation. I'm not currently inclined to trade up my XD-M pistols I have and trust. But that doesn't mean I'm not interested in upgrading them with the right components.

ENHANCED APPEAL

Thankfully, Springfield Armory has XD-M owners like me in mind with its Magwell Conversion Kits for the pistol line. These options allow an XD-M owner the opportunity to upgrade his or her 9mm variant to the same extended and flared magwells and extended magazines used on the new Elite series.

Not only are the kits an affordable way to get an Elite-style enhancement for your 9mm pistol, but they are also easy to install with just a few simple hand tools.

Springfield offers three versions that work for full-size and compact 9mm XD-M pistols:

- XD-M Standard Magwell Conversion Kit, 9mm
- XD-M Short Magwell Conversion Kit, 9mm
- XD-M Compact Short Magwell Conversion Kit, 9mm

Each of the kits contains all the parts you need to add the new magwell to your 9mm XD-M and get on the range, including a new extended increased-capacity magazine designed to work with the magwell. These magazines add capacity to your pistol and speed of reload, both of which are welcome additions to any defensive- or competition-style pistol.

The "Standard Magwell Conversion Kit" is designed for full-size 9mm XD-M pistols and gives you the larger "standard" magwell and a 22-round magazine. The "Short Magwell Conversion Kit" is also designed for full-size 9mm pistols, and provides you with the smaller magwell and a 20-round magazine. The "Compact Short Magwell Conversion Kit" is designed for 3.8" Compact XD-M pistols and gives you the smaller magwell and a 14-round magazine.

HANDS-ON

For this review, I got two kits: one for my XD-M 3.8" Compact 9mm pistol and a second for my full-size XD-M 9mm OSP with a 4.5" threaded barrel. Both kits were delivered in plastic pouches that

included the magwell, a locking pin, three backstraps of varying sizes to work with the extended magwell, and a new magazine. All parts are black.

Although many in my family are mechanically inclined, that genetic boon appears to have skipped me. Even so, I dove into the work, starting with the larger of the two guns. Some basic hand tools are needed, and I suspect that most readers of this article already have them on their bench. The tools I used were as follows:

- Hammer & punch set
- Roll pin punch set
- Gunsmith block

A standard punch should work fine for this, as will virtually any hammer. If you don't have a gunsmithing block to catch the pins when pushed out, you can simply use a folded soft cloth under the pistol, instead.

I was able to install the first magwell kit in about 15 minutes. Once I knew what I was doing, I installed the second kit in less than five. I suspect most of you reading this will be a lot closer to the five-minute mark on your first attempt.



IMAGE: JOHN MCKENZIE / DOWN RANGE PHOTOGRAPHY

The kits include extended capacity magazines, like this 22-rounder with the "Standard" kit.

HOW TO

The process for installing the kits on the 9mm XD-M pistols is the same regardless of size/type. In this example, I used the standard kit on my XD-M Desert FDE 9mm pistol. Although I found the kits easy to install, if you have any doubts about your ability, you would be better off taking the kit and pistol to a qualified gunsmith. If you are up to the task, these are the basic steps.

Ensure the Gun is Unloaded: Before beginning any work on your XD-M, remove the magazine from the pistol, clear the chamber and triple-check to ensure there is no ammunition in the gun's chamber. Remove all ammo from the work area.

Drift Out Pin and Remove Backstrap: With a 3⁄32" punch, drift out the backstrap roll pin. If you've

The author installed the magwell kit on his Desert FDE XD-M pistol with little trouble and basic tools.



The new backstrap and magwell are shown connected. The locking pin is shown partially out to indicate where it is inserted.



never removed this pin before, a few light taps with a hammer may be needed. Once the pin is free, you can lift out the backstrap.

Assemble New Magwell and Backstrap: Connect the new magwell to the appropriately sized backstrap that best fits you from the kit. You will use the locking pin included with the magwell kit. When inserting the locking pin, pay attention to insert it so the groove in its shaft will align with the roll pin you removed in the previous step. Once inserted, the locking pin should hold the magwell and backstrap together as a single piece.

Attach New Magwell and Backstrap: Leading with the tabs on the upper part of the backstrap, angle the backstrap onto the XD-M frame and pivot the magwell into position. There will be a small amount of friction resistance that will help ensure the parts stay tightly fitted after installation.

Insert Roll Pin: Once the magwell and backstrap are in place, visually check to make sure your pin holes are aligned. Insert the roll pin you previously removed into the backstrap. You will likely need to use a hammer with a 3/32" punch to move the pin back into place.

Function Check: With the firearm completely unloaded, practice inserting the new magazine, manipulating the slide and dry-firing the pistol. If the new magwell was properly installed, the gun should be functioning as well as it was the day you bought it. If there is looseness in the magwell or backstrap, discontinue use and work back through the steps to ensure you properly installed the new magwell. If there is a problem you cannot solve, contact a gunsmith for additional assistance.



JOHN MCKENZIE / DOWN RANGE PHOTOGRAPHY

The addition of the extended and flared magwell and extended magazine truly enhances the performance of an XD-M 9mm.



The author fitted the XD-M Compact Short Magwell Conversion Kit to his CCW-ready 9mm XD-M 3.8" Compact.

FINAL THOUGHTS

The magwell upgrade kits for the XD-M pistols proved simple to install and are a high-quality design that perfectly match the look and feel of the handguns. I encountered no problems during the two installations. Even more importantly, both pistols ran right as rain after the work was complete.

If you are running a full-size XD-M 9mm for competition or tactical use, the upgrade seems like a no-brainer to me. It gives you a wide mouth and funnel to help speed reloads under stress. Likewise, the included extended magazine gives you more rounds between reloads.

For my 3.8" Compact XD-M, the magwell upgrade makes even more sense. With the flush-fitting, 13-round magazine, my pinky tends to hang off the bottom of the pistol. However, my 19-round extended magazines with the X-Tension sleeve are simply too long for my concealment needs.

Much like Goldilocks who found the smallest bed was "just right," I found the magwell upgrade made the XD-M 3.8" Compact the perfect fit for my needs. The upgrade adds just enough length to the grip for an improved hold on the pistol. Plus, the 14-round magazine offers additional firepower without being ridiculously long for a CCW pistol.

No matter the gun, I found these Springfield XD-M Magwell Conversion Kits to be real winners. Looks like my XD-M pistols just got the Elite treatment!

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ON THE CUTTING EDGE



The Springfield Armory Model 2020 Custom Carbon Fiber Hunting Knife is a wonderful partner for the Model 2020 Waypoint rifle as well as an exceptional outdoor tool.

THE MODEL 2020 CUSTOM CARBON FIBER HUNTING KNIFE COMBINES MODERN MATERIALS WITH RUGGEDLY SOUND DESIGN.

RANDALL WILSON

I RECENTLY TOUCHED DOWN IN BOISE on a much-needed vacation, ironically bringing with me one of Idaho's finest products. No, I didn't deplane clutching some locally grown russet in hand. I had carried a Springfield Armory Model 2020 Custom Carbon Fiber Hunting Knife from the Springfield Armory Store back to its state of birth (in my checked baggage, of course). Since I had been sent one to evaluate, it was a fortunate happenstance I was traveling from the Sunshine State to the Gem State for a bit of hiking and relaxation.

Springfield Armory needed a worthy knife to accompany its Model 2020 Waypoint centerfire rifle, and Idaho's preeminent TOPS Knives, Inc. was chosen to produce this exclusive drop point hunter for that role. To quote Allen Remley, the accessory product manager at Springfield Armory, "Springfield wanted a knife made in the United States, just like the Model 2020 Waypoint rifle. Period. Also, the Waypoint rifle has a unique look, so we wanted to have a knife that would share those similar looks."

He continued, "TOPS Knives has a reputation in the knife world for building strong, rugged knives. They are made in the USA and have great connections to the veteran and military communities. It seemed like a perfect fit with the Springfield Armory brand and our customers. We had TOPS design the blade shape and used a traditional 'drop point hunter' blade design. This is a tried-and-true design made popular by Bob Loveless and is a classic in the world of hunting knives. After the blade shape was settled upon, we went about getting the proper thickness and handle for a serious hunting knife."

IMAGE: BRITTON WASMER/FST IMAGES



In a field setting, a knife may be required for light chopping. The Springfield Armory Model 2020 knife is tough enough to handle this and other tasks.



The author carried the Springfield knife in the included sheath. It carried easily and securely through many days of hiking and camping.

THE DETAILS

Just before the trip, I had unboxed the Model 2020 knife. It had a gorgeous dark olive Cerakote finish and mesmerizing carbon fiber handle scales. Much to my delight, this was one very nice fixed blade. To its credit, the 2020's factory edge was unnervingly sharp. I liked it already. So many knives come out of their packages requiring a touching-up, or worse, a nearly full regrind of their most useful sections.

To get down to "brass specs," the 2020 knife checked in with a 3.75" flat-ground blade on a full-tang handle. It weighed 5.2 ounces on my digital scale. The steel was flat-ground high-carbon 1095, known for its edge-holding, ease of resharpening, and durability.

The evenly applied Cerakote was a nod to both protection of the steel as well as positive aesthetics. The carbon fiber scales were securely bolted to the body. Tan liners made for good contrast between the colors. A lanyard hole completed the tang.

Carry of the Model 2020 knife was achieved via an included black friction-fit leather sheath with a drop belt loop. The quality of the hide, dye, stitching and embossed Springfield Armory logo befit a knife of its station. A great knife is of no use without a commensurate method of conveyance. The belt loop positioned the knife just right below the hip, and it did not interfere with activity or sitting.

IN PRACTICE

Once on the Sawtooth Mountains' breathtaking hiking trails, I found the Model 2020 carried easily. It felt light and unobtrusive. I performed some camp/bushcraft functions — shaving, whittling, and batoning wood. The 1095, known as a user's steel, drove through all with no concerns. Because it is high-carbon and not rust-resistant, I was mindful to rinse and oil the exposed steel after use. I used food-friendly canola.

After some spirited field play, the Model 2020 needed very little re-touching to the edge, but a few swipes on a ceramic rod for good measure returned the blade to near-factory sharpness with ease. Kudos to the TOPS' edge geometry and heat treat. Rockwell hardness was done at 56-58 HRC by the maker.

Since there was no game to harvest in mid-July, I relied on a diet of kitchen analogs to test the knife's usefulness on proteins. I dissected a 5.5-lb. pork roast for carnitas. Because the Model 2020 was infinitely keener than any of my kitchen knives, I was very careful while making cuts that were at times precise — and then not so much.

I tried out the forward jimping on the blade's spine for more delicate work around the pork bone. The jimped portions are lightly smoothed and did not cause abrasions to my hand. For no other reason than to test the edge, I hammered through the pork bone with a makeshift mallet.

The bone splintered apart without argument.

One week later, I needed to clean up some pork tenderloins and portion out some chicken for the freezer. Out came the Model 2020. I touched up the edge on a kitchen steel and went to task. Again, it was easy work with this hunter. I certainly enjoyed using this knife as a butcher's tool.



Continued "torture" testing was done on cardboard, hardwood branches, and some poor random pool noodle. The knife's edge only slightly dulled and never chipped. The Cerakote took a few dings on the knife's spine when I was using a plastic-coated wrench to baton the knife through the branches. Some spirited swings took place, but I did not notice that the last several hits were metal on metal. Yes, that will defeat any coating you put over steel.

In all my uses of the Model 2020, the handle configuration was comfortable. The contours are rounded or relieved so as not to cause hotspots during hard cutting and/or repetitive motions. Out of curiosity, I took the handle scales off of the knife by using two 3/32" hex wrenches. An owner could leave the scales off and wrap the tang with paracord if one wanted a more survival-oriented version of the blade.

The Model 2020 Custom Carbon Fiber Hunting Knife was made as a companion to the Springfield Armory Model 2020 Waypoint centerfire rifle. Said Springfield Armory's representative, "We wanted to complement the looks of the Model 2020 hunting rifle. The carbon fiber handle with the Cerakote green seemed to do the trick. But when we looked at it, we thought it needed something more to make it 'pop.' That's when we settled on the tan micarta liners to give it that extra color combination and really match the rifle stock of the Model 2020."



With the carbon fiber handles removed, you can see the full tang of the blade. The author suggests that paracord could make for an alternative handle.

SPRINGFIELD MODEL 2020 KNIFE

KNIFE TYPE	Fixed-blade, full-tang
BLADE LENGTH	3.75"
OVERALL LENGTH	8.5"
BLADE MATERIAL	1095 carbon steel
BLADE FINISH	Olive Cerakote
WEIGHT	5.2 oz.
MSRP	$249.99 (on sale for $199.99 at time of publication)

CONCLUSION

While the MSRP of the Model 2020 knife is $249.99, at the time of publication it has been reduced to a sale price of $199.99 at the Springfield Armory Store. The retail pricing is in line with TOPS' other excellent semi-custom options and far below what some handmade hunters will set you back. I found the cost to be very reasonable, even more so at the sale price, for the performance and quality of this blade and its sheath.

My wife and I hiked more than 50 challenging miles during our trip. The knife was with us for every step. The Springfield Armory Model 2020 hunter proved to be Idaho strong, reflecting the beautiful nature of its backcountry and the practical utility one would expect from a tool born from the robust state. I expect all three of us will be back.

FOR MORE INFORMATION, VISIT:
STORE.SPRINGFIELD-ARMORY.COM
TOPSKNIVES.COM

AN

MIKE HUMPHRIES

EXCEPTIONAL EDC

POWDER RIVER PRECISION'S PRP TRIGGER KIT ADDS A CUSTOM TOUCH TO THE AUTHOR'S HELLCAT PRO.



IT WAS LOVE AT FIRST SIGHT. Well, actually, it might have been love at first touch. I'll be honest, when I first read the specs on the 9mm Hellcat Pro, I was a bit underwhelmed. I was a big fan of the original micro 9mm Hellcat, and I did not really see what this new configuration added to the platform to warrant a whole new gun. The barrel is a hair under ¾" longer. The grip frame is lengthened just a hair over ¾", admittedly getting you a good bump in capacity from 11 rounds to 15. But, these are still pretty minor dimensional differences, right?

It was when I handled a Pro for the first time that I truly understood what makes this Hellcat variant so special. Yes, on paper the changes are minimal. But, in the hand, these subtle tweaks take the already great micro 9mm and give you something, well, different. While the Hellcat Pro is still quite compact and concealable, it packs the punch of a much larger duty-sized pistol. It is a nearly 4" barreled pistol with red dot capability and 15-round capacity — but in a gun that is a svelte 1" wide and practically disappears in an inside-the-waistband (IWB) holster.

Needless to say, I was hooked. I put in an order immediately and waited patiently for my personal gun. When it arrived a few weeks later, I topped it off with a Shield RMSc compact red dot and was immediately impressed by the setup. But, while the Hellcat Pro was ideal for me in just about every way, I have a tinkerer's instinct. Even when something is perfect, I want it more perfect. Or, sometimes I just like it a bit customized to make it even more "mine."



The author decided to have his EDC Hellcat Pro fitted out with a Powder River Precision PRP Trigger Kit. Pistol shown with Shield RMSc red dot and BlackPoint Tactical DualPoint 2.0 holster.

IMAGE: JAKE MILLER / SPRINGFIELD ARMORY



The PRP kit comes with a trigger, sear, disconnector, striker safety, two different sear springs, a disconnector spring and a striker safety spring.

CONFLICT OF INTERESTS?

When it comes down to it, I'm a modern traditionalist. Or, a traditional modernist. Or, just a guy who likes nice guns, no matter the type. Basically, I am the type of guy who can be just as happy with a classic 1911 as I am with a striker-fired, polymer-framed pistol. However, it must work. Form truly must follow function.

Well, the Hellcat family has certainly attained that goal, with the design more than proving its reliability and durability.

So, how would I "tinker" with the Hellcat Pro? While I am perfectly comfortable with a polymer-framed pistol, I will admit I like the feel and tactile qualities of a metal trigger. Is there anything wrong with the Hellcat Pro's stock trigger? Not a thing. But, remember that tinkerer's instinct I mentioned? It was this drive that led me to Powder River Precision (PRP), a company renowned for its custom gunsmithing as well as its aftermarket parts for Springfield Armory polymer-framed pistols. It was on their website that I discovered the PRP Trigger Kit for the Hellcat.

THE SOURCE

During my research on the PRP Trigger Kit, I had the opportunity to speak with Daniel Batchelor, president of Powder River Precision as well as president of the esteemed American Pistolsmiths Guild. During my time speaking with him, I was able to not only learn more about the trigger kit, but also his company. "How did I get into this business?", Daniel said in response to one of my first questions to him. "My technical background is in manufacturing technology with an emphasis on aviation. I'm a commercial fixed wing, helicopter and glider pilot. I got started working on firearms because of my fascination with the mechanicals involved in quality firearms.

"Early on in my pistolsmithing career, I was fortunate to meet some legendary pistolsmiths," he continued. "They were kind enough to share some of their knowledge with me, and they encouraged me to continue to pursue my passion. The result was my wife, Michelle, and I deciding to found Powder River Precision in 2007."

Daniel and his company have developed a sterling reputation for their innovative and appealing aftermarket parts and accessories for Springfield's polymer-framed pistols, not the least of which includes the Hellcat series. "It was an easy decision to make aftermarket products for the Hellcat due to its performance and popularity," Daniel said to me.

DIVING IN

It was at this point I mentioned to Daniel I had picked up a Hellcat Pro and was considering swapping out the original trigger for his PRP Trigger Kit. "That's a great choice,"

he told me, explaining that I should be sure to select the Hellcat Pro variant for mine when ordering it. "We offer it for both the Hellcat and the Hellcat Pro. The two models have some subtle differences, necessitating different versions. So, we decided to make a distinct kit for the Pro versus the standard Hellcat," he explained to me.

As the conversation evolved, I explained to him that while I like the original trigger on the Pro just fine, I wanted a metal trigger for the pistol. And, I was curious what the PRP Trigger Kit could bring to the table. "Our goal with the kit was to get the pull weight of the trigger down to about 4.5 lbs., as well as smooth out the 'feel' of the pull a bit," he said. "We accomplished this with our sear, striker safety and disconnector."



The PRP Trigger Kit is designed to be easy to install with basic tools. The author enlisted the help of Jeremy Sides, a Custom/Repair Tech with Springfield Armory.

These parts are designed to Batchelor's exacting standards, and complement the inherent quality of the Hellcat. Both the sear and disconnector are made of 440C stainless steel, heat treated to 53-56 RC for durability. The striker safety is machined from 416 stainless steel, and also properly heat treated.

"Let's talk about the trigger in the kit," Daniel said to me. He went on to explain that the trigger is called the HTS, which stands for "Hybrid Trigger Shoe". "Some people love flat triggers and some love curved, and it seems like the two sides will never agree," he said.

"The HTS was designed to offer the best of both worlds. The flat section in the center allows the finger to be placed comfortably near the tip, while the short curved section helps to reduce the chance of 'trigger bite' that some shooters can experience with smaller-framed pistols," he told me.

The trigger itself is machined from 6061 T6 aluminum for light weight as well as strength, and offers that cool "metal" feel that I so like with my pistols. The trigger is hard anodized black or silver, and Powder River offers either with the option of a black, red or blue trigger safety lever. The kit itself comes with a trigger, sear, disconnector, striker safety, two different sear springs, a disconnector spring and a striker safety spring.

After I thanked Daniel for his time, I set about selecting the variation of the trigger for my pistol. Ultimately, I settled upon the Hellcat Pro version with the black trigger and the red safety lever.



While the Hellcat Pro comes with a great trigger, the author wanted to see what the PRP Trigger Kit had to offer this excellent EDC pistol.

IMAGE: JAKE MILLER / SPRINGFIELD ARMORY

FITTING CHOICES

Regarding the installation the PRP Trigger Kit, I decided to enlist the help of an expert on my Hellcat Pro — Jeremy Sides, a Custom/Repair Tech with Springfield Armory, and also a member of the American Pistolsmiths Guild.

"This is a great choice," Sides told me when I asked him about lending a hand on this project. "I've been doing trigger jobs on our polymer-

framed pistols since 2004, and what I've found with the PRP kits is that they use very similar techniques to the ones I have used over the past nearly 20 years to get the best trigger pull possible."

Once I got the pistol and the trigger kit over to Sides, he dove in, explaining the process to me as he worked through it. "The PRP Trigger Kit overall is pretty easy to install," he said to me. "What is really nice about this kit is that all the parts are 'drop in' and do not need any fitting or adjustment. Daniel knows what he's doing, and it shows in this kit."

As Sides proceeded through the install process, he said, almost to himself, "Well that's new to me … ." I asked to what he was referring, and he explained to me that the kit gives you the option of leaving the original disconnector in for a "crisp" break, or employing the new disconnector for a "rolling" break. "Which do you want?", he asked me.

While I do understand the appeal of the rolling break (and Sides installed it for me to try out), I ultimately decided upon the "crisp" break of the original disconnector. While the new disconnector's trigger break was excellent, I'm a sucker for a crisper 1911-style break and will always lean toward that if given the choice. We measured the pull on a trigger pull gauge, and it broke consistently around 4.5 lbs.

HANDS ON

Once my pistol was done, Sides told me that, while the PRP Trigger Kit is extremely well made and installs easily, I should definitely get the pistol out to the range to ensure everything was running smoothly. He didn't have to tell me twice, as I was itching to try out the new trigger.

I packed up the pistol along with my BlackPoint Tactical DualPoint 2.0 IWB holster (in left-hand),



Jeremy Sides is shown here testing the pull weight of the new trigger, with it breaking consistently around 4.5 lbs.

some spare mags and some boxes of Hornady's excellent Critical Defense 115-gr. FTX 9mm ammunition. I carried two spare mags in my pocket, protected within Ammo Armor polymer cases. If you have not used these, they are a low-profile means for carrying back-up mags. Simply draw, place it in the crook of your primary arm (while keeping the pistol pointed safely downrange) and strip out the fresh mag.

After dry-firing the Hellcat Pro a bit to familiarize myself with the pull, I loaded up the pistol and began putting hits on a target 10 yards downrange. The Pro is clearly a shooter. I was able to, offhand, shoot groups in the .75" to 1" range. Benched, I have no doubt this CCW pistol could produce 1.5" or better groups at 25 yards.

While the Pro is a natural shooter, I believe the PRP Trigger Kit helped me squeeze a little bit more accuracy out of the pistol. My groups were quite good, and the "feel" of the pull was excellent. The pulls were smooth, and the breaks crisp. I also noted that the new trigger seemed to re-position the reach of the trigger slightly to the rear over the original. That, combined with the hybrid flat/curved shape, made for a very appealing arrangement. I was sold.

CONCLUSION

While the stock Hellcat Pro is terrific in every way, I could not be happier with the PRP Trigger Kit from Powder River Precision. It adds both a great "feel" to the pistol's already impressive trigger pull and a stylish look with the red trigger safety blade in the black trigger. The results at the range also speak for themselves. This is now my primary carry system, and I could not be happier. And, with an MSRP of just $165.95 for the trigger kit, it won't break the bank, either. Sounds like a winner to me!

FOR MORE INFORMATION, VISIT:

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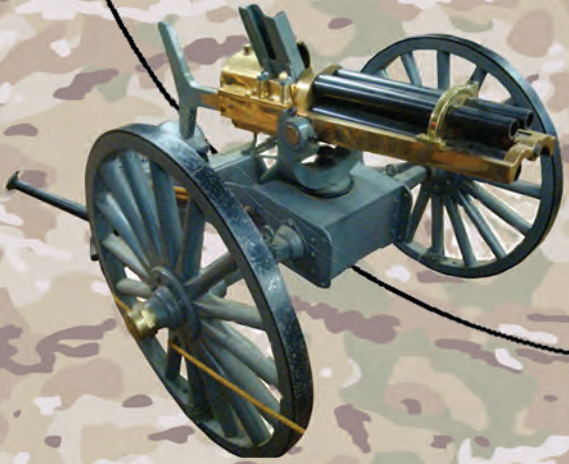
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SCAN ME

CHASING PERFECTION

HEIRLOOM PRECISION'S JASON BURTON TAKES THE SA-35 TO NEW HEIGHTS.

ROB LEATHAM

HAVE YOU EVER OWNED something really nice? I don't mean good, or even great. I'm talking about truly remarkable. I have handled — and shot — my fair share of guns over the years, so I think I have a pretty good idea of what works and what doesn't. I've also worked on many of them myself, so I also have a reasonably good idea of what's involved in customizing them.

First and foremost, a gun is a tool, so function is paramount. To have one that meets that requirement necessitates not only good design, but proper production of that design at scale, and — presumably — all done at a reasonable price. This is much easier said than done.

A company like Springfield Armory works very hard to make great guns at great prices, and at this it clearly succeeds. To achieve this, it produces large numbers of them on very expensive equipment to the tightest tolerances possible, all while keeping costs to a manageable level. The end result is a firearm that transcends just basic function, offering you a gun that is more than simply reliable. It features excellent quality as well as notable attention to detail.

But what if there were no "cap" on what the firearm could cost, or the amount of hand labor that could be put into it? It's at this point we move into the realm of "custom" firearms.

IMAGE : JAKE MILLER / SPRINGFIELD ARMORY



Jason Burton applied his artisan's skillset to the creation of this custom Heirloom Precision SA-35 pistol.



IMAGE : JAKE MILLER / SPRINGFIELD ARMORY

Heirloom Precision is renowned for Burton's attention to detail, which is clearly apparent with this custom SA-35.

A SINGULAR FOCUS

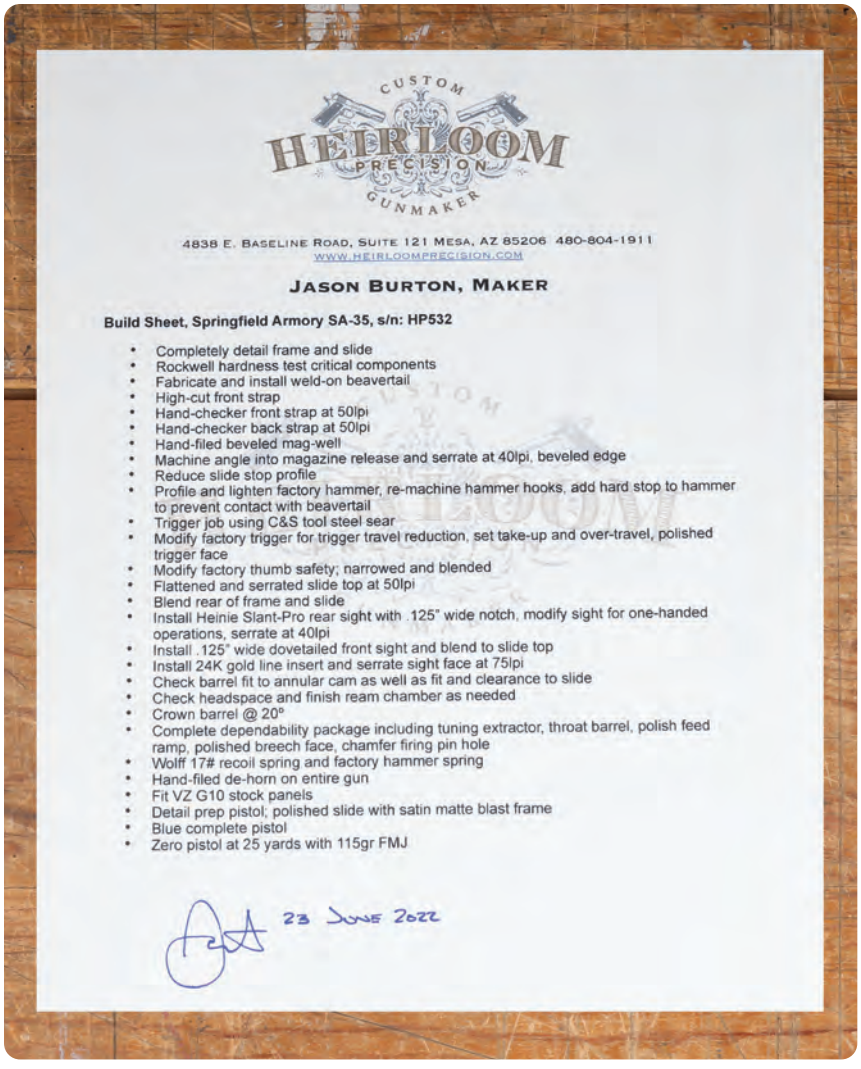
In the past, gunsmiths could find themselves addressing issues with firearms regarding their basic design and function. This could include projects of tuning a gun to run a specific loading to tweaking one for more capabilities in a specialized role. However, the advent of precision CNC machining has made getting a "basic" gun with advanced features and reliable functioning much more common.

A Springfield Armory 1911 Ronin is an excellent example of this. Priced at an MSRP of $917, it gives you excellent parts and pieces (forged frames, slides and barrels) so expertly assembled that someone like me could win national and world championships in competition pistol shooting with it right out of the box. Sending this one to a gunsmith for tuning or tweaking could arguably be a waste of your money. So, what to do with these gunsmiths' idle hands?

How about having an experienced artisan who truly loves his craft, and one with a focus on the most minute of details, apply endless hours of attention to a firearm? I am not talking about them focusing on the function or design of the pistol, but strictly on the details. This is the type of customer for whom price is not an object, and one who demands a master of the trade work on their firearm.

They want not only the big things to be right, but also the tiniest of details — down to the smallest minutiae. Let's be frank, these are things that won't show up in our normal measurements of performance like accuracy, reliability or durability. This person wants to be able to look over every surface of the firearm with a 10X loop and be incapable of finding a single flaw, inside or out.

For this customer, I would introduce Jason Burton of Heirloom Precision (to see our full interview with Mr. Burton, please visit page 18). Simply put, Heirloom Precision is Jason. There is no major production facility backing him up. He's not sending frames out to be checkered, etc. He does every step of the work with his own two hands the old-fashioned way. You know, that whole "sweat and tears" approach? For him, this way is the only way to produce a product that would satisfy his personal demand for absolute perfection. Jason has taken the perfection of detail in a custom 1911 to a degree that few can reach.



CUSTOM HEIRLOOM PRECISION GUNMAKER

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www.heirloomprecision.com

Jason Burton, Maker

Build Sheet, Springfield Armory SA-35, s/n: HP532

- Completely detail frame and slide
- Rockwell hardness test critical components
- Fabricate and install weld-on beavertail
- High-cut front strap
- Hand-checker front strap at 50lpi
- Hand-checker back strap at 50lpi
- Hand-filed beveled mag-well
- Machine angle into magazine release and serrate at 40lpi, beveled edge
- Reduce slide stop profile
- Profile and lighten factory hammer, re-machine hammer hooks, add hard stop to hammer to prevent contact with beavertail
- Trigger job using C&S tool steel sear
- Modify factory trigger for trigger travel reduction, set take-up and over-travel, polished trigger face
- Modify factory thumb safety; narrowed and blended
- Flattened and serrated slide top at 50lpi
- Blend rear of frame and slide
- Install Heinie Slant-Pro rear sight with .125" wide notch, modify sight for one-handed operations, serrate at 40lpi
- Install .125" wide dovetailed front sight and blend to slide top
- Install 24K gold line insert and serrate sight face at 75lpi
- Check barrel fit to annular cam as well as fit and clearance to slide
- Check headspace and finish ream chamber as needed
- Crown barrel @ 20°
- Complete dependability package including tuning extractor, throat barrel, polish feed ramp, polished breech face, chamfer firing pin hole
- Wolff 17# recoil spring and factory hammer spring
- Hand-filed de-horn on entire gun
- Fit VZ G10 stock panels
- Detail prep pistol; polished slide with satin matte blast frame
- Blue complete pistol
- Zero pistol at 25 yards with 115gr FMJ

23 June 2022

13-round capacity in the original configuration, and a flush-fitting 15-round-capacity magazine in the new SA-35. I'd argue that if the 9mm is your round of choice and you want a single-action firearm, it's hard to beat this pistol.

The only downside to the original is that they could have slides and frames that are not quite up to handling high round counts. The Springfield Armory SA-35's used of forged parts addresses this concern, while its other tweaks to the design (like the aforementioned increased magazine capacity, along with other enhancements like improved ergonomics, better sights, no magazine disconnect safety to bring it in line with Springfield's other offerings, etc.) really help take it to the next level.

So, Springfield did all the big (and several of the "little") things for you on the P-35 design. But what about all those extra tweaks you might want that would not have been even remotely possible

Burton thoroughly inspected the SA-35 and found it be an extremely well-made pistol.

SOLID FOUNDATION

When Springfield Armory introduced the 9mm SA-35, I was ecstatic. This is a firearm design I have always deeply admired. While I already had a few custom versions of this gun in my collection, I knew that this one from Springfield would offer shooters a great adaptation of the design with solid, high-quality parts and rugged primary components like the slide, frame and barrel.

The P-35 design was basically the last project on which the legendary John Browning worked, and many argue it is the perfect gun for the 9mm cartridge. The pistol is downright svelte in the hand, while still allowing for a



IMAGE: HEIRLOOM PRECISION



IMAGE: HEIRLOOM PRECISION

The SA-35's slide was flattened to feature 50 line-per-inch serrations, and adapted to fit a Heinie Slant-Pro rear sight.

for Springfield to do and still offer the gun at an MSRP of $799?

Frankly, as good a design as the P-35 is, it can be very hard to do custom work on. Checkering, for instance. The gun has a remarkably slim and petite grip frame area for being a double-column magazine design. This is why it feels so good in the hand. But, it also requires you to do a great deal of measuring before you do any cutting. It's very difficult to do it in a production environment with machinery because you have to measure it over and over again to ensure you don't cut too much away.

The trigger is another unique part of the design. Springfield managed to take what has been known as a very mediocre trigger in the original design and make it excellent. Want to take it to the next level beyond that? It requires an expert that understands the design and how best to approach it.

SNAGGING A MASTER

This brings us back to my buddy, Jason. Luckily, Jason understands this design extraordinarily well. While he may be known for his work on the 1911, he is no stranger to the P-35 platform. In fact, he is quite a fan.

It was during a recent conversation with him that we arrived at the project you are reading about today. I had been curious about what would happen if you gave one of the new, improved SA-35 pistols to a magician like Jason Burton. I brought up the subject of him working on an SA-35 and making it exactly the way he would want it. He was intrigued.

Jason looked the gun over in detail and was very impressed, especially after he measured the Rockwell hardness of the slide and the frame. He told me it is by far the hardest one of these from this design he had ever seen. Right off the bat, we were ahead of the game. He also noted that the internal machining of the pistol was extremely good. This, combined with the proper hardness of the slide and frame, ensured it could be a great canvas for his artistic efforts.

The more he inspected the pistol, the more interested in the project he became. Soon, he had agreed to

Burton gave the barrel a 20° crown, as well as a thorough polish to everything.



IMAGE: JAKE MILLER / SPRINGFIELD ARMORY


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take on the project. Basically, Jason went to town on the pistol. He worked on it for months, doing it as a side job and fitting in hours on the weekends to get it done.

I've known Jason for a while, and I can always tell when he is "into" a project. How? Because he wants to talk about it. And we talked a lot about this gun. I had the privilege of seeing it being built, and I was able to see much of the incredible detail of effort Jason put into the pistol. I picked up that many, many hours of obsessive attention to detail were being applied to this pistol. This included inspecting it, polishing it and removing minute scratches that I often wondered if only he was seeing. I couldn't see them, but he could.

And when it was finished, it was easy to tell it was something truly special. Not just that it was put together well, which it is, but that the whole package was even better to look at closely than it was at a distance. In comparison, if you were to look at one my competition pistols I have been shooting for many years, it would be at the other end of the spectrum. It would have dings and scratches, and you would see where I have taken a belt sander to it as well as all the little tweaks and mods I apply to it to make sure it fits me perfectly. I do all this work as expediently as possible with little regard for what it looks like, and it shows. This is not Jason's approach. Honestly, this custom SA-35 should be in a museum or shadow box in some millionaire's gun room. I think the phrase "exquisite in detail" is appropriate here.

From giving it a thorough dehorning to modifying just about every angle and shape of control on the gun, Burton tweaked and tuned to his heart's desire. What can a master do when you truly set him loose? I think the results speak for themselves.



IMAGE : JAKE MILLER / SPRINGFIELD ARMORY

Note the 50-lpi hand-checkered backstrap as well as the extended beavertail.

AN IRRESISTIBLE PULL

I know some of you are going to cringe at what I am getting ready to write, but I could not resist. I shot the gun. And the old adage of the "proof is in the pudding" could not be more true here. The gun functioned perfectly, of course, and it was very accurate. But there is more. It just felt … perfect. I don't really know how to better describe it. It was a joy to just be able to hold it, and it was extremely satisfying to shoot.

The coolest thing about a custom gun like this is that even though it is extraordinarily valuable and quite expensive to make, in the realm of "very nice things" it is relatively inexpensive. You'd spend hundreds of thousands of dollars to get a watch of this same level of quality. But for less than the cost of a well-used car, you can truly own your own piece of perfection with Heirloom Precision.

Want to take your own shot at having Jason Burton of Heirloom Precision work on a pistol project for you? Be sure to visit his website listed at the end of the article and check out the "Imagery" section to see some more of his projects and what he can do. If you do decide to commission an Heirloom Precision custom gun project and are lucky enough to get on the list, be prepared to be patient. He takes his time to get the projects "just right" — and this principle shows in his project guns. Works of art don't happen overnight.

I can't speak highly enough of the custom SA-35 from Heirloom Precision. The fact he took on the project speaks to the quality of the basic gun, and what he turned out shows the heights to which the pistol can be taken. Heirloom Precision's Jason Burton chased perfection once again with this SA-35 project, and if you ask me, he captured it!

FOR MORE INFORMATION, VISIT:
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YOU KNOW THE TYPE OF HANDGUN OWNER you are. You're that person who owns just about every type of accessory available to tune and tweak all the performance out of your pistol. But what about that one last bit of gear? That one that doesn't add something, but actually help take something away?



Are you the type of shooter that likes to trick out their pistol with every possible accessory? Have you tried out a suppressor yet?

IMAGES: JOHN MCKENZIE / DOWN RANGE PHOTOGRAPHY



WILL DABBS, MD

PUT A L.I.D. ON IT?



Suppressors like this Gemtech can help ensure that your pistol's report does not damage your hearing.

We are of course talking about sound suppressors for handguns. These wonderful contraptions offer unique benefits as well as comparably unique challenges. The cans, as they are known, do not add a great deal of bulk or weight, but do substantially enhance control of the firearm as well as reducing sound.

A state-of-the-art pistol like the Springfield Armory XD-M Elite Tactical OSP (optical sight pistol) is born to accept a sound suppressor along with some rarefied accessories. Adding a can, a proper tactical light and a red dot sight to the gun turns an already exceptional pistol into a close quarters racecar. The modern handgun sound suppressor sports about as much technology as the space shuttle.

PISTOL PHYSICS

The speed of sound in dry air is about 1,125 feet per second. Anything traveling faster than that magic number is going to make a troublesome sonic crack. And that big honking hole in the end of a pistol can is going to let a fair amount of racket escape no matter how fancy or high tech a sound suppressor's entrails might be. Subsonic ammo is available in most all common pistol calibers, but the exit pupil will typically be larger in pistol cans than in their rifle counterparts.

MECHANICAL PRACTICALITIES

Autoloading handguns are relatively delicate little machines. The construction and materials science may be tougher than an M1 tank, but the physics of turning recoil energy into a reciprocating action is always going to be a little tight. Pistol rounds just don't have a great deal of excess spunk to drive an action. An answer to this sticky quandary is the Linear Inertial Decoupler (L.I.D.), or Nielsen Device.

The vast majority of the duty- and defensive-style pistols in the world today run off of John Moses Browning's inspired tilting-lock recoil-operated action. When you hang the extra mass of a sound suppressor onto the barrel, however, the action will typically fail to cycle. The L.I.D. captures a little bit of the excess chaos at the muzzle and uses it to give the front of the gun a helpful little tap. The Nielson Device is the most inspired human contrivance since the flush toilet.

Different pistons inside the device can allow the same can to swap between different platforms. A dirty little secret in the suppressor industry is that a .45 ACP can works almost as well on a 9mm platform as might a dedicated 9mm suppressor. This means a .45 ACP suppressor with a couple of spare mounts can service a wide variety of host firearms with a single transfer tax.

ENTRAILS

The internal design of a pistol can is fundamentally similar to that of a rifle or rimfire suppressor. While there are literally dozens of ways to skin this cat, the most common is by use of stackable K-baffles.

These baffles slow the escaping muzzle gases and cool everything down to excise the snap from a pistol shot. If applicable and safe for your suppressor, to



This XD-M Elite Tactical OSP 9mm is a great host for a sound suppressor, as well as a red-dot optic and weaponlight.

really enhance the efficiency of a pistol suppressor you can squirt a little ablative material down into the thing before hitting the range. Adding something that can be vaporized substantially increases the capacity of the suppressor to dissipate heat and kinetic energy, subsequently diminishing the noise.

Wire-pulling gel works well but is messy. So is Vaseline. WD-40 is good for a few shots but doesn't last. Urine works in a pinch, but so long as I'm not humping the Hindu Kush in search of trouble, I'm not peeing into my sound suppressor.

OPTIONS

Suppressors like the Gemtech GM-45 are monocore designs wherein the entire baffle stack is cut from a single cylinder of aluminum. This facilitates disassembly and cleaning. These cans are lightweight and sufficiently thin to allow you to use suppressor-height sights like those on the Springfield Armory XD-M Elite Tactical OSP 9mm.

The Gemtech Lunar 9 is a modular design that allows the suppressor to be configured as a high-efficiency 7" unit or an ultra-compact 4.7" can. The baffles are removable for cleaning, and the Lunar 9 is truly hard core.

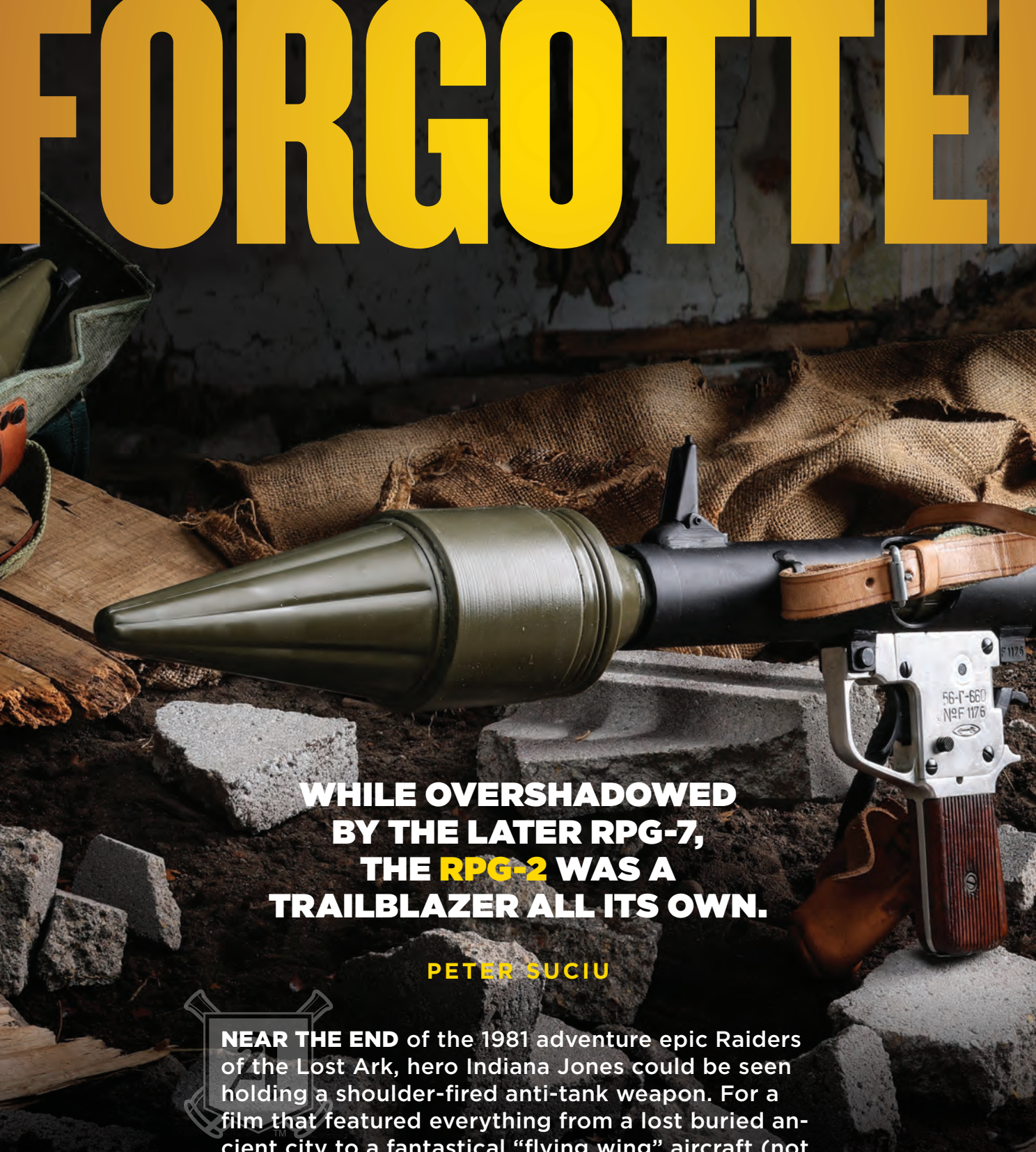
DENOUEMENT

You don't buy a pistol can so you can quietly infiltrate some evil despot's secret lair. You get a pistol can so as not to unduly offend the neighbors and still retain the capacity to communicate should you ever have to run your pistol indoors. I still wear earplugs with mine when I'm just out having fun. However, in addition to all that good neighbor stuff, a quality pistol can hanging on the snout of your XD-M Elite Tactical OSP does indeed look undeniably awesome.

So, maybe your pistol really does need a L.I.D.?

FOR MORE INFORMATION, VISIT:
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FORGOTTEN



WHILE OVERSHADOWED BY THE LATER RPG-7, THE RPG-2 WAS A TRAILBLAZER ALL ITS OWN.

PETER SUCIU

NEAR THE END of the 1981 adventure epic Raiders of the Lost Ark, hero Indiana Jones could be seen holding a shoulder-fired anti-tank weapon. For a film that featured everything from a lost buried ancient city to a fantastical "flying wing" aircraft (not to mention the tablets that contained the 10 Commandments), that weapon is probably not the most unrealistic item to be seen on the screen. However, it is a serious anachronism that history buffs will notice immediately.

NWARRIOR



While admittedly crude and quite basic, the RPG-2 was light, powerful and effective. It also paved the way for later anti-tank weapons such as the infamous RPG-7.

Set in 1936, no nation had actually developed a "man-portable" anti-tank rocket launcher at that time, and it wasn't until 1943 that the American M1 "Bazooka" was first deployed on the modern battlefield. A rocket launcher like the one Indy was seen holding was still a few years over the horizon.

However, the plot called for the tomb-raiding archaeologist to have a weapon that potentially could destroy the biblical Ark of the Covenant and the Nazi soldiers surrounding it. Thus, the movie's armorer, Simon Atherton, created a custom — and non-functional — rocket launcher that was actually based around a Chinese Type 56, a copy of the Soviet RPG-2.

Atherton did a good job with his mock-up, which was outfitted with a shoulder grip similar to the M9 "Bazooka" along with a venturi tube-style rear muzzle. The resulting design closely resembled the conceptual Panzerfaust 250, a reusable variant of the single-use Panzerfaust that Nazi Germany developed at the end of World War II.

While Jones couldn't have carried such a launcher, the RPG-2 on which it was based was notable for being among the first truly successful anti-tank weapons of its type.

IMAGES: JAKE MILLER / SPRINGFIELD ARMORY





Rockets (dummy rocket shown) were inserted in the muzzle of the RPG-2 for firing.

THE ORIGIN

During the early stages of the Second World War, the British military were among the first to see the need for a man-portable anti-tank weapon and subsequently developed the Projector, Infantry, Anti-Tank (PIAT), which was based on the spigot mortar system. It came with a number of trade-offs — while it had no back-blast and was simple in construction, it had considerable recoil and was rather difficult to cock, especially for a prone soldier.

The United States military, which also saw that infantry soldiers lacked a capable means of countering tanks, went another direction and developed the M1 Bazooka. Despite some early issues, it proved to a successful rocket-propelled anti-tank weapon that could be employed by a lone soldier, and not surprisingly was widely copied.

The Soviet Red Army, which had come up with various ways of countering enemy tanks — including strapping bombs to dogs trained to run under the tanks, and then detonating the explosives from a distance — devised a unique man-portable anti-tank platform that borrowed liberally from other designs, notably the American Bazooka and Germany's improved version, the Panzerschreck; but also the aforementioned disposable Panzerfaust.

In 1944, the Soviets started work on the RPG-1 — Ruchnoy Protivotankoviy Granatomyot-1 (handheld anti-tank grenade launcher-1) — a lightweight anti-tank weapon that was equipped with a shaped charge warhead. Unlike the American Bazooka, which featured a tube where the rocket-powered round was loaded from the rear of the muzzle, the RPG-1 was loaded from the front more like the Panzerfaust. But unlike the single-shot German weapon, the RPG-2 could be reloaded.

As noted, the Germans had considered such a weapon, the Panzerfaust 250, but never really made it past the prototype stage. How much inspiration that weapon lent to the RPG-1 design is unclear, but as the AK-47 likely borrowed at least some aspects of the StG44 — Germany's infamous assault rifle — one can only speculate that German designs were at least reviewed at some point.

Work on the RPG-1 continued for a few years, but it failed to meet expectations — most notably the fact that it was accurate only to about 160 feet (50 meters) and couldn't penetrate the armor of late-war tanks.



The simple and rugged RPG-2 clearly represents the "form follows function" principle. Note the unit's slim and surprisingly petite dimensions.

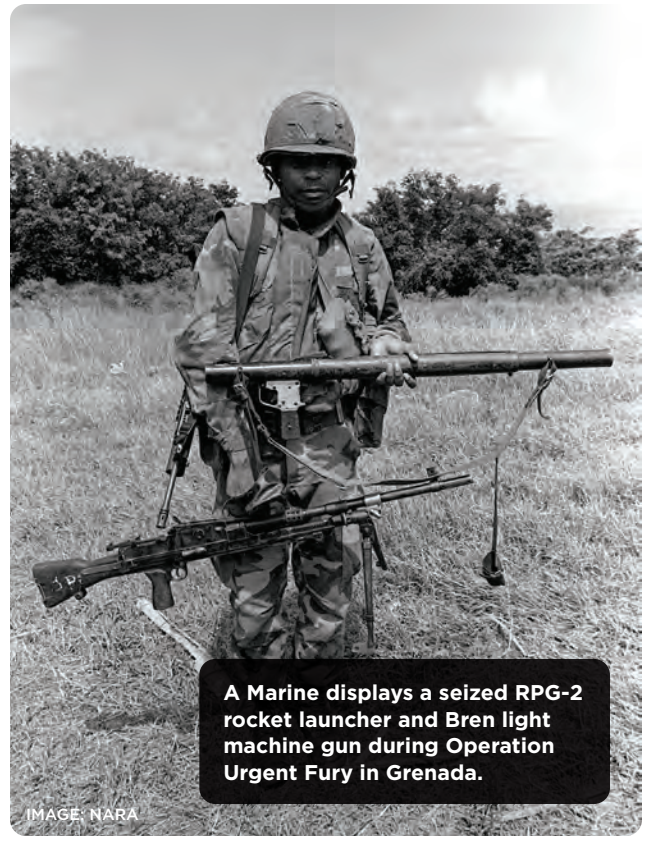
Instead, the designers began anew, and the result was the RPG-2. It is important to stress that the moniker was not for "rocket propelled grenade," but essentially it was an abbreviation of Russian that translated to "hand-held anti-tank grenade launcher". In many ways, it was essentially meant to provide the best characteristics of the M1 Bazooka and the Panzerfaust, including being low-cost to produce, easy to load, compact to transport, and offering a high rate of fire.

It was made of steel that was covered with wood to protect the operator from heat during firing. It was also light and compact enough that it could be comfortably carried and used by a single soldier. However, in practice, at least two people were really needed to operate the weapon to its maximum effectiveness.

As with many Soviet weapons, it was designed to be easy to operate. The RPG-2 round would be inserted into the front of the barrel/tube, a hammer on the pistol/trigger grip was cocked, and then it was ready to be fired. It was effective against moving targets out to ranges of 100 meters, but could be employed against stationary targets such as buildings and fortified positions to upwards of 150 meters. Its sights were in a word, "basic," and involved just flip-up iron sights.

Unlike with other anti-tank weapons, the RPG-2's ammunition was only a fin-stabilized High-Explosive Anti-Tank (HEAT) round. It was designed to be able to penetrate upwards of 200mm of rolled homogeneous armor (RHA), which meant that it lacked the capability to take out a main battle tank (MBT).

However, the weapon's simplicity, light weight, low cost and ease of use made it a popular option.

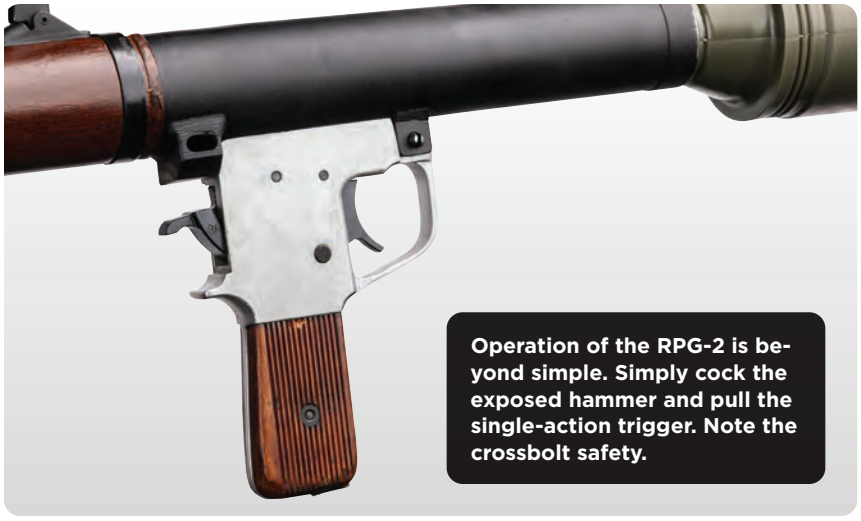


A Marine displays a seized RPG-2 rocket launcher and Bren light machine gun during Operation Urgent Fury in Grenada.

IMAGE: NARA

GOING TO WAR

While it was officially introduced into service in the late 1940's, production was slow and, as a result, none were reported to have been used in the Korean War (1950-53). It would have likely been fairly effective against the armor employed by the United Nations coalition, but by the time the weap-



Operation of the RPG-2 is beyond simple. Simply cock the exposed hammer and pull the single-action trigger. Note the crossbolt safety.

on was produced in large numbers in the mid-1950's, the RPG-2 was largely already obsolete.

Tank armor — notably with the American Patton series — had increased, making this anti-tank weapon obsolete. The Soviets went on to develop the more powerful and capable RPG-7, but the RPG-2 still remained in use with many Communist Bloc nations.

Cost was likely a factor, and it was copied and produced by the People's Republic of China as the Type 56, by North Vietnam as the B40, and several others. It was used extensively against U.S. and allied forces during the Vietnam War, and proved effective at targeting fire bases and bunkers, but was also used against trucks and helicopters.

The launcher was produced until 1960, but with hundreds of thousands (at least) being manufactured, the weapon saw use in the Somalia Civil War, Yugoslav Wars, Libyan Civil War, Iraq, as well as in the ongoing Syrian Civil War. There are also reports that insurgent/guerrilla forces had used the weapon during the months-long armed conflict in the Philippines in 2017.

COLLECTING THE RPG-2

The iconic Soviet-designed anti-tank weapon was largely unavailable in the collector's market in the United States throughout the early post-Cold War era. While U.S. soldiers certainly would have encountered the RPG-2 in Vietnam, few likely made it back to the United States — and one can only imagine the difficulty in attempting to smuggle back the nearly three and a half foot long launcher home.

This author has never seen — or even heard of — a live transferable (legal) RPG-2 being offered for sale. Due to import laws, it would seem highly unlikely that any legal operational models are even in the country outside of what the United States military might have for testing and evaluation purposes. I'd certainly love to hear if anyone knows of any that are in private collections.

That said, many RPG-2 units from Bulgaria, Poland and Romania have been offered for sale in the United States as deactivated military surplus. After those nations joined NATO, it appears that their stocks of the Cold War-era Soviet Bloc weapons were sold off. Various online retailers continue to offer these for sale — and the author has seen a demilled RPG-2 for sale on GunBroker.com. The prices have steadily increased, however. Dummy rockets are also offered for sale.

As with other rocket launchers, to be legal, a hole should be cut in the tube that is at least equal to the diameter of the muzzle, and a pin welded in place to make it impossible to load a live round (not that those should even be in the country in the first place). The firing pins should also be removed.

While you can't take it to the range (at least not to shoot), these are still a notable weapon from the Cold War, and one that was carried (and is still carried) in conflicts around the world. And it makes for one heck of a conversation piece!



The folding sights of the RPG-2 are as simple as the weapon itself. Note the post front and ladder rear unit.


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