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Model: Charles Moser
Gun: DRD's Kivaari
Photographer: Scott Wolff
Designer: Eric Knagg

THE SNIPER'S HIDE

BY **SCOTT WOLFF**

Snipers are a breed who have always captured the imagination.

They are the ultimate hunters, able to stalk and eliminate their prey with relative impunity. The mere mention of the word brings names like Hathcock, Kyle and Irving to mind—as well as so many others throughout history. They are men (and some women) who make their living hunting and killing others with the same mission as their own. A sniper possesses a peculiar combination of fortitude, innovation and the confidence to pull the trigger at precisely the right moment.

"If you love long-distance shooting, whether you do it for fun or for real, there's something for you within these pages."

Today's "Precision Marksman" is a creature with a highly-developed understanding of physics, ballistics, analysis and creative problem-solving. They are handed an incredibly difficult task and don't rely solely on the latest "perfect caliber," rifle design or high-powered scope to get the job done. A single moment, a single press of the trigger can change the outcome of a battle in a faraway land or put an end to an incident of savage violence in a normally tranquil community. Feared or revered, loved or loathed, one cannot help but hold tremendous respect for the person given that level of trust and responsibility.

In this issue, we look at the modern urban sniper, provided to us by a former U.S. Navy SEAL sniper who found his way onto one of the busiest police SWAT teams in the nation. We go inside a firefight in the heart of a Taliban stronghold and witness the birth of an incredibly deadly sniper with the 75th Ranger Regiment. Also illustrated are the importance of choosing the right rifle and the right glass for the job, as well as being prepared to eliminate threats from an airborne platform. We also go along with an incredibly fast and accurate pistol shooter as he leaves the handguns behind in hopes of taming the long-range shooting game. If you have ever wanted to learn the ins and outs of doing what few can do really well, you've picked up the right magazine.

Not to be ignored, we review some of the latest hardware built by FN and Desert Tech, take a quick look at a semi-automatic War Hammer chambered in .338 Lapua, and spend time dissecting the importance of gear selection. We also stress the importance of good training gained from reputable providers and hunting your prey in the dark with the latest night vision devices.

If you love long-distance shooting, whether you do it for fun or for real, there's something for you within these pages. **SJ**

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GEAR CHECK

STORY BY **A STAFF WRITER**

01. FEATURED PRODUCT: THE OMEGA

Company: Firebase Combat Studies Group
Product: Omega Knife
MSRP: $299
Web: www.FireBaseCSG.com

"Gator" is the real deal. Just consider what he has done.

In 2005, he founded Firebase Combat Studies Group, but he served first as a United States Marine. From there, he transitioned to civilian law enforcement, where he worked as a SWAT deputy with the Orange County Sheriff's office in Orlando, Fla. After the attacks on Sept. 11, 2001, he worked with the State Department's diplomatic protection services in the Middle East, and he was a U.S. Department of Defense contractor in Afghanistan and Iraq and eventually served as a protective special agent, where he led numerous missions in support of anti-terrorism operations.

And that's just a partial list of his resume. So, when it comes time to selecting gear, there is no one more qualified.

Gator will tell you that a compact fixed blade should be part of every professional's equipment line, and the first line is equipment carried on the body and supports the individuals' present mission or day-to-day profile. Items such as weapons, communications and medical make up the first line. One of those weapons is the Omega, which he designed.

In situations in which threats are within contact distance, the Omega is designed to serve as a back-up to your handgun or even a long gun during a retention situation.

"The Omega, which is a full-tang fixed blade, is your last, and possibly final line of defense," he says.

The Persian blade is a battle-proven design, he notes. With the addition of the retention ring, it makes for a unique fixed blade as it makes for a great striking implement. When carrying a firearm, this blade is meant to be drawn by the support hand. The sheath can be configured for a reverse or standard grip draw.

FAST FACTS

- **Overall Length:** 8.5 inches
- **Handle:** 4.25-inch skeletonized full-tang with ring and jimping on the spine machine from a single billet of 15mm Cryodur 2363 A2 steel that is Tufftride coated
- **Source:** ZU Bladeworx
- **Made:** This is 100% made in Australia, and it comes Kydex-ready for attachments

PHOTO BY JESSE CLEMENTS

02. TAKEDOWN FIREARM BACKPACK

Company: Copper Basin
MSRP: $99.99
Web: www.CopperBasinGear.com

Copper Basin has done it again.

The Idaho-based company just announced the 3rd generation of its Takedown Firearm Backpack. The low-profile backpack has been upgraded with new, more durable materials and unveiled in a customer requested gray-and-black color scheme.

To start, the pack has a quick-access top flap for rapid removal and deployment of firearm components and gear at the range or in the field. The backpack's dimensions have been designed to accommodate an even wider variety of firearms with installed optics and bipods, with newly added longer internal pocket lids.

The backpack also makes a good carry option for spotting scopes and other related gear. Layers of structural foam obscure the rifle's signature contours, and the interior of the pack's pockets have been lined with fleece to protect the firearm and reduce noise. Upgraded features include a new, heavier weight nylon and durable faux leather.

The Copper Basin backpack is ready for rapid deployment, more than ever before, says a company official.

FAST FACTS

The Takedown Firearm Backpack is compatible with a variety of firearms, including the following makes and models, which is only a partial list:

- Alaskan lever action takedown rifles
- AR & AK pistols
- AOW Shotguns / Compact Shotguns
- Century Arms AK pistols
- Kel-Tec Sub-2000 rifles
- Kriss Vector Gen II SDP and SBR
- Ruger 10/22 Takedown Factory Rifle, 22 Charger and 22 Charger Takedown
- SIG MPX SBR, MPX-K SBR, PMPX

03. MULTI-PURPOSE NIGHT VISION MONOCULAR PVS-15 51

Company: Armasight by FLIR
MSRP: $99.99
Web: www.Flir.com/ots

The Armasight by FLIOR PVS-14 51 is a single-tube night vision system with a 51-degree field of view (FOV) for broad peripheral vision in near-zero light conditions. It is compatible with a number of accessories, allowing it to be hand-held, mounted to a helmet, headgear, weapon or camera. A wider FOV increases situational awareness while requiring minimal head turning, thereby reducing fatigue.

FAST FACTS

- Eye Relief: 17mm
- Focus Range: 0.25m to infinity
- Built-in infrared illuminator
- Magnification: 1x (3x and 5x optional)
- Lens System: 19mm: F/1.26

04. BANG BOX

Company: G-Code
MSRP: $25
Web: www.TacticalHolsters.com

The Bang Box is a small multi-purpose transportable storage device that is perfect for the range when hauling a full-blown ammo box is more than you need. It also has a wide mouth, which makes it easy to access your ammo supply for an easy day of reloading your mags. And there's more. There is a pocket sewn on the inside of the lid.

There are no sharp corners on the "sturdy Kydex base," and you have a choice of several color combinations.

You also need to think outside the box. The Bang Box can also be used for cleaning gear, spare parts or anything else that you can think of. It is solid, efficient and a practical kit with an infinite number of uses.

What's in your box?

FAST FACTS

Approximate round count by caliber:

- 9mm x300
- .40 cal x200
- .45ACP x150
- 5.56 x200
- 5.45 x200
- .50 cal x10

05. FR ASSAULTER

Company: Vertx
MSRP: $69.95
Website: www.Vertx.com

If you're in the market for gloves that get the job done, check out Vertx's new tactical glove line that consists of four styles, including the VaporCore, Shooter, Rapid LT, FR Assaulter and FR Breacher.

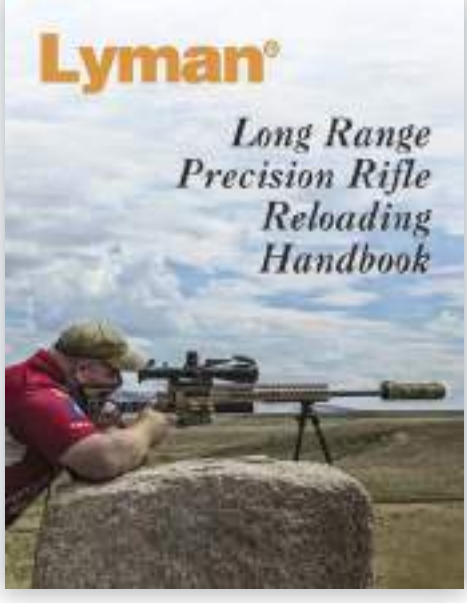
"With more than 175 years of experience in the military and tactical world, we combined expertise and research to develop a new line of gloves that would meet our standard of quality, provide superior functionality and address some of the top needs expressed by today's customer base," said Justin Roberts, Vertx brand manager.

All four gloves share similar features, including articulated pre-curved fingers that provide exceptional fit and dexterity necessary for comfort and functionality. Strong hook-and-loop wrist closures ensure a secure fit and double-needle topstitch reinforcement "in all key areas maximizes the gloves life-span."

The gloves mimic human skin through the use of natural goatskin suede, enabling a better sense of touch. The middle finger and thumb also include conductive touchpoints for use with smartphones and other touchscreen technology.

FAST FACTS

- The VaporCore Shooter has active particles permanently embedded within its fabric. What does this mean? It allows the glove to dry five times faster, keeping the hand cool and comfortable.
- The Rapid LT incorporates a lightweight design, pairing the suede with a two-way fabric, providing free range of motion.
- The FR Assaulter and FR Breacher both have flame-resistant qualities, as Kevlar thread knitted throughout the pieces provide excellent durability.



07. RELOADING HANDBOOK

Company: Lyman Products
MSRP: $16.98
Website: www.LymanProducts.com

You don't hang around for 140 years unless you're doing something very right. Such is the case with Lyman Products.

The company just released their latest reloading source book, the Lyman "Long Range Precision Rifle Reloading Handbook."

"As the leader in reloading data, we saw a need for an accurate and reliable source of reloading data for these precision, long-range loads," said Trevor Mullen, VP of global marketing and business development for Lyman Products. "This new handbook is truly a necessary tool for anyone seriously interested in handloading ammunition specific to the long-range sport or those looking for that edge in PRS competitions."

The new handbook includes articles by top PRS shooters and industry

06. MEN'S TACTICAL RIPSTOP CARGO PANT

Company: Dickies
MSRP: $42.99
Web: www.Dickies.com

Dickies has been going strong since 1922. Among those who turn to them for quality and dependability are beat cops and operators. Among their latest products are the new Stretch Ripstop Tactical pants, which are engineered to provide mobility and comfort in hot and humid climates. The lightweight design is designed to keep cool, while the flex Ripstop fabric ensures comfort regardless if you're running or sitting. And the cargo pockets? Can you say roomy? They also feature a hidden built-in mag pouch and front leg cell pocket for magazines and cellphones.

FAST FACTS

- 6.5 ounce Ripstop
- 65% Polyester/35% cotton
- Extra room in seat and thigh
- DuPont Teflon fabric protector repels water and stains
- L-shaped front pocket to clip your knife

experts. Interested in getting into the Precision Rifle Series competitions? Articles such as "PRS How-To" and "Rifle Systems for PRS" by Matt Gervais provide expert info and tips and techniques to start competing. Additionally, the handbook includes articles on the tools and gear to become successful at long-range shooting, such as Michael Baccellieri's "Reticles – Understanding the Tools within Your Field of View."

Tom Griffin, technical manager and Lyman Handbook editor, added long-range precision rifle shooting is one of the fastest growing areas of the shooting sports.

"This handbook is filled with data designed to provide the top-level accuracy these shooters demand," he said.

FAST FACTS

- Lyman's new "Long Range Precision Rifle Reloading Handbook" has all of the popular calibers used in long range shooting, including: 223 Rem., 6mm Dasher, 6.47 Lapua, 6XC, 6mm Creedmoor, 243 Win., 6.5x47 Lapua, 6.5 Creedmoor, 260 Rem., 6.5-284 Norma, 308 Win., 300 Win. Mag., 300 Norma Mag. and 338 Lapua.

- The data section is filled with the top performing Berger and Lapua target bullets, as well as Sierra MatchKings and Hornady ELD's. A wide range of the new powders from Accurate, Alliant, Hodgdon, IMR, Norma, VihtaVuori, Ramshot and Winchester are reviewed and explained.

SJ

BORN WIN

WORDS BY **TODD BURGREEN**, PHOTOS BY **TODD BURGREEN AND THE MANUFACTURER**

The FN Ballista was born in response to the 2009 United States Special Operations Command's (USSOCOM) solicitation for a new long-range, anti-personnel rifle.

In the following story, we'll delve into the background and reveal how it performed for us on the range.

NER

KEY FACTORS

One of the main priorities of the USSOCOM Precision Sniper Rifle specifications was caliber modularity. This shows through in the FN Ballista. The Ballista allows snipers the capability to change calibers without armorer support. While .338 Lapua was the primary cartridge of the desired platform, specifications also called for the ability to adapt over for firing .300 Win Mag and .308 Win. While it would make sense for a sniper to always use the most powerful long-range cartridge, many training venues and budgets do not allow full-time use of .338 Lapua ammunition.

An easily removable barrel also provides the tactical marksman the advantage of carrying the Ballista in smaller components, thus reducing the package footprint during transport. This is important for eliminating the visible signature of an oversized drag-bag and possibly compromising the mission.

As mentioned, the USSOCOM specifications were built around the .338; however, the military was also interested in maximizing logistics of using current cartridges, namely the .308 Win (7.62 NATO) and .300 Win Mag already in the supply chain.

Another important element of this modularity is the ability for designated marksmen to choose a cartridge which best suits the needs of the mission. Allowing snipers to swap to .308 Win or .300 Win Mag saves precious resources, all while still satisfying mission requirements. If ammunition resupply becomes a problem in a combat theater, snipers can count on the availability of various sources of the 7.62 NATO cartridge, compared to .338 Lapua or even .300 Win Mag. As a footnote, the ability to use .308 Win, and to a lesser degree .300 Win Mag, will find favor with law enforcement agencies.

The FN Ballista represents cutting-edge rifle technology with many innovative, patent-pending features, combined with time-proven elements, generating superior accuracy. One thing made abundantly clear: The Ballista's distinctive look affirms it is not an ordinary rifle. With the Ballista, FN has created a precision, modular long-range tactical rifle. FN's propensity for simplifying a complex problem, while retaining the ability to change barrels and accommodate mission-specific accessories, are key to its performance success.

FN partnered with Unique Alpine, a custom gun-maker in Bavaria, to create the Ballista. Due to the need for caliber modularity, the Ballista's bolt locks into the barrel extension, versus the receiver, which is typical of most bolt action rifles. The receiver chassis serves only to mate com-

The Ballista's distinctive aesthetics immediately puts one on notice that this is not an ordinary rifle.

ponents together, i.e. the bolt, barrel, magazine, scope base. The Ballista's mission flexibility is currently based on the .308 Win and .338 Lapua cartridges. The .300 Win Mag barrels will be a future offering from FN for the US market.

HANDS ON, DETAILED LOOK

It did not take long to appreciate the genius of the Ballista design. Barrel changes proved to be very simple. The procedure is quickly learned and easily accomplished afield, with only rudimentary tools carried in a drag bag or other gear. One set of captured Torx head bolts are loosened on the left side of the receiver, then another Torx bolt on the right side is adjusted, which allows for the Ballista barrel to be freed from the chassis. Cartridge-specific, labeled bolt heads are switched out via removing one pin on the bolt body.

Ballista barrels are hammer forged from chrome-moly steel and feature right-hand, constant-twist polygonal rifling. Ballista barrels are fitted with a proprietary ten-port muzzle brake device, which also serves as a mount for a Ballista-specific suppressor. A small critique here: While no doubt the FN system is efficient, most U.S. customers will probably prefer the flexibility of mounting their choice of suppressor.

The .308 Win configuration features a 26-inch barrel with a 1:11 RH twist. The .308 Win is fed by either 8- or 15-round detachable magazines. The .338 Lapua configuration's barrel also measures 26 inches, fed by 5- or 8-round detachable magazines. Further listing of Ballista dimensions includes an overall length of nearly 51 inches with the adjustable buttstock fully extended. The

BACKGROUND LAPUA

The .338 Lapua is considered an ideal military long-range anti-personnel cartridge, as it fills the gap between the 7.62 NATO and .50 BMG.

Initial development can be traced to 1983 with Research Armament Industries (RAI) in the United States. It began as a U.S. Navy project, but the Navy terminated their participation in the project before completion. After preliminary experiments, a .416 Rigby case necked down to take a 0.338-inch bullet was selected, since this diameter presents an optimum of sectional density and penetrating capability for rifle bullets. Difficulties with case development lead RAI to contact Lapua of Finland in 1984.

RAI was forced to drop out of the program due to financial difficulties. After cancellation of the original RAI production, the companies of Lapua, SAKO, and Accuracy International finished the development with a redesigned case more suitable to withstand the high pressures required to launch 250- or 300-grain bullets at nearly 3,000 feet per second.

ability to fold the stock reduces length by nearly 12 inches. The system's weight is around 15 pounds. The Ballista's fore-end system can accept additional rail sections for the mounting of night vision devices, laser designators, and anything else required for the mission.

The Leupold Mk8's 3.5-25X power range is nearly ideal supporting the full gamut of missions likely encountered.

TEST TIME

A tactical rifle system is made up of three components: the weapon itself, the optic, and appropriate ammunition. For this evaluation, a Leupold Mk8 3.5-25x56 with H59 reticle was mounted, utilizing Leupold's own 35MM integral base/ring mount. The Ballista's high-strength aluminum alloy receiver features a MIL-STD 1913 rail with a 20 MOA forward cant.

The Mk8 optic is expected to serve and perform all over the world under widely varying and harsh environmental conditions; whether under water, desert, arctic, jungle and finally, in urban terrain. The Mk8's 3.5-25X power range is nearly ideal, supporting the full gamut of missions likely encountered. The 25X still allows for proper light gathering with world-class clarity at extended distances. The lower-end 3.5X magnification aids in urban settings with a wide field of view (32.5 feet at 100 yards), as well as supporting any forward-mounted night vision optics required.

The most critical requirement for a precision rifle is repeatable accuracy. Along with a quality optic, ammunition is also major component of

"The Ballista's combination of accuracy and ergonomics performed flawlessly."

this. Testing was conducted with quality ammunition: Black Hills 175-grain match, Federal Premium 168-grain match, Hornady's 168-grain TAP, SIG SAUER's 168-grain match for the .308 Win. For the .338 Lapua, testing consisted of Black Hills' Sierra Match King 250- and 300-grain bullets; Hornady Match 285-grain round, and Lapua's own brand ammunition in both the Lock Base 250-grain FMJBT and Scenar 300-grain HPBT bullets. The thought process is simple—if these loads do not produce accuracy, nothing will.

The bench testing was done using a bipod and rear monopod. The accuracy figures are based on firing three, five-round groups and averaging group sizes. Not a lot of time was spent at the 100-yard range; 300 yards and out is the more indicative test of a weapon system like the FN Ballista. This generates useful ballistic information for the shooter, especially when it comes to elevation and windage data for log books and ballistic calculations.

The Ballista's buttstock is fully adjustable in terms of length of pull, cheek piece, cant along with being foldable. Sling adapters are also present.

SITES OF INTEREST

FN
www.FNAmerica.com

LEUPOLD OPTICS
www.Leupold.com

Echo Valley Training Center
www.EchoValleyTraining.com

BLACK HILLS AMMUNITION
www.Black-Hills.com

HORNADY MANUFACTURING, INC.
www.Hornady.com

FEDERAL PREMIUM AMMUNITION
www.FederalPremium.com

SIG SAUER
www.SigSauer.com

The FN Ballista was evaluated at the Echo Valley Training Center in various training scenarios.

Echo Valley Training Center's Long-Range Training area allowed for known-distance testing out to 700 yards. The FN Ballista was tested over an extended period, constantly producing sub-MOA groups with several different ammunition brands—an important logistic consideration.

Another sign of an accurate, dependable rifle is how cold-bore zeros compare over time, and if the point of aim shifts after a few rounds heat up the barrel. The Ballista showed no shifts in point of aim and cold bore zeros produced fine groups when overlaid together.

After testing innate accuracy from the bench, field tests were performed. This is where all the Ballista's technological innovation pay off for a law enforcement or military sniper deployed in the field. Tests consisted of shooting prone off a bipod or pack. After firing nearly 200 combined rounds of .308 Win and .338 Lapua, the Ballista's ergonomics—especially firing from the prone position—came to be fully appreciated.

The buttstock is fully adjustable for length of pull. Further tweaking can be accomplished with the cheek piece, able to be raised or lowered per individual preference. The FN Ballista's smooth bolt manipulation became evident on the range when having to quickly correct hold points based on the spotter's feedback and re-engage the target. The bolt's ease of manipulation aids a shooter with chambering a fresh round with minimal head disturbance. This enables a fast, accurate follow-up shot on a target not anchored with the first shot, or another separate aiming point if the shooter is in a target-rich environment. The various magazine capacities proved valuable in areas where more than one target presented itself.

PROVEN WINNER

Extremely accurate rifles do not always translate into effective tactical rifles, due to durability issues that arise when taken afield. The biggest question was whether the rifle could be banged around a bit and dirtied up, yet still produce exceptional results.

The FN Ballista was tested under various range conditions to determine just that. The Ballista's combination of accuracy and ergonomics performed flawlessly. The Ballista shot all the premium .308 Win loads tested with MOA or sub-MOA accuracy at 100 yards—5/8-inch groups were not atypical. The .338 Lapua produced similar and very impressive results.

Orientation and intimate familiarity with a weapon such as the FN Ballista are a must for the shooter/rifle pairing to achieve full potential. The modularity of the Ballista comes in very handy, able to convert between calibers. In fact, for most missions, especially in the law enforcement realm, the .308 Win-chambered Ballista is more than suitable for tactical applications. The .338 Lapua is best thought of as a specialized platform when needing to extend the engagement range beyond 1,000 yards.

The .308 Win still allows the trained marksman a ballistic advantage, especially when combined with the Ballista's gilt edge long-range accu-

Kit supporting the FN Ballista is impressive with multiple magazine and caliber conversion barrels.

SPECIFICATIONS

FN BALLISTA

CALIBER: .338 Lapua Magnum (Caliber conversion kits available in .300 Win Mag and .308 Win)

BARREL: 26 inches

OA LENGTH: 50.75 inches with stock fully extended
49.5 inches with stock fully collapsed
39.0 inches with stock folded

WEIGHT: 14.3 pounds unloaded

ACTION: Bolt action

FINISH: FDE ceramic coat

CAPACITY: Detachable 5- or 8-round .338 Lapua, 8- or 15-round .308 Win, 6- or 10-round .300 Win Mag

MSRP: $7,499

"Another important element of this modularity is the ability for designated marksmen to choose a cartridge which best suits the needs of the mission."

racy. The pending 300 Win Mag chambering in the FN Ballista fills the gap between the .308 Win and .338 Lapua. Many shooters feel it is the optimum chambering, offering extra horsepower compared to the .308 Win—but without the blast and recoil of the .338 Lapua. The key thing to remember with the FN Ballista is that you have a choice and flexibility to adapt to specific mission profiles.

Any department or individual contemplating a new tactical rifle would do well to consider the Ballista, not only for what it offers in performance, but also the advantage of having FN as a company backing it in terms of service, parts and accessories. SJ

BOLT ACTION VERSUS

SEMI-AUTO

Sniper Platform Options for Law Enforcement

STORY BY **JIM SMITH**, PHOTOS BY **JACOB IBACH**

In 2013, I was distinguished as the National Defense Industrial Association's Carlos Hathcock Award winner. This is a lifetime achievement award, given in recognition for my past work as a consultant with Leupold & Stevens on rifle scopes; precision rifle courses my company—Spartan Tactical—has offered to the U.S. military and a wide variety of law enforcement agencies and the design and construction of our range complex in Texas.

During our Law Enforcement Precision Rifle Course(s), I am often asked to recommend what type of rifle system a SWAT Sniper should use. My selection criteria for SWAT weapons and equipment are based on my personal operational experience, my unit's operational experience, my training and what I have witnessed with many hundreds of students over the years. Following are my thoughts.

The author spent 20 years in the U.S. Army … in various capacities within the 75th Ranger Regiment, a Special Forces Group and, ultimately, the Army's premier, Tier One Special Mission Unit.

“My selection criteria for SWAT weapons and equipment are based on my personal operational experience, my unit’s operational experience, my training and what I have witnessed with many hundreds of students over the years.”

A close look at a some of the author's rifles.

FACTOR 1: THREAT ANALYSIS

To ensure future public safety, the agency first needs to conduct a threat analysis in their jurisdiction to determine what tactical problems they should plan for. I recommend researching past engagements by SWAT snipers as a place to start—ground zero in their planning process. These engagements will show, historically, the threat presented and the outcome, either good or bad.

More importantly, I would recommend an analysis of possible future, emerging threats to public safety within their same jurisdiction. Currently in the U.S., we are seeing more extreme incidents, whether it be from ties to international terrorism or drug cartel-related violence, than we have in the past. These savage incidents are not restricted to large metropolitan areas but can be found in mid-sized and smaller cities as well.

Based on two decades of highly-specialized training and operational experience, I would say the threat to American cities from motivated, trained, and highly violent terrorist groups is extremely likely—and soon. Most often, these criminals will be working in groups from two to eight individuals working in concert. Attacks will be well-planned, coordinated and the perpetrators will be well-equipped.

FACTOR 2: TEAM ASSESSMENT

The other criteria to be assessed should be the quality, ability, and experience of the agency's SWAT team. Do you have full-time, dedicated and experienced individuals with the desire to be the best they can be?

Lastly, will the agency allocate enough resources to allow SWAT snipers to pursue mastery their craft? The agency's goal should be to prevent mass casualty incidents altogether; but, the response to such an attack should be to mitigate damage and loss of life as expediently as possible.

Public safety demands time and money be set aside to properly train SWAT technicians with the correct tools for the job. All too often, fiscal constraint trumps necessity, and a less acceptable solution is selected, putting public safety at risk.

Lastly, an assessment of accuracy levels is necessary for the SWAT sniper's mission. Too often we get stuck on accuracy standards which may not be necessary. Not necessary, you ask? Hold that thought—we will come back to that later.

BEST RIFLE

In my professional opinion, the best rifle for the SWAT sniper or police precision marksman would be a semi-auto, detachable-magazine-fed rifle. I would recommend the tried-and-true .308 Winchester (7.62mm NATO) cartridge, as there are reams of data and historical case studies to back up this selection. In the future, I would

like to see agencies transitioning to 6.5mm Creedmoor or the .260 Remington cartridge, as the ballistics of these cartridges are superior to the .308 Winchester.

The semi-auto, magazine-fed rifle is superior for several evident reasons:

- The ability to rapidly engage multiple targets in an accurate and timely manner is a large benefit.
- If operating in a city with thick plate-glass windows, having the ability to fire two shots in quick succession will ensure accurate penetration of the glass and elimination of the threat.
- If a SWAT sniper needs to disable a vehicle, the task will be much easier with precision semi-auto fire directed at the driver.
- The sniper's focus can be maintained on the tactical problem and not distracted by ammunition management, as bolt-action rifles are severely limited in their internal magazine capacities.
- I have personally witnessed the unreliable nature of metal floor plates and aftermarket detachable magazines in large segments of commercially available, bolt-action precision rifles.

Every agency should do a threat analysis, says the author, because this enables them to determine the tactical problems for which they should plan.

To quantify, I would estimate 15 percent of the snipers I have seen come through our courses have feeding, loading or other related problems associated with metal floor plates and after-market magazines in their bolt-action guns. While there are some excellent, high-quality options detachable magazines available, I would be hesitant to bet my own life, the lives of my teammates, or the citizenry I am charged to protect on that configuration.

I am not saying that I haven't witnessed a

STELLAR BACKGROUND

Jim Smith spent 20 years in the U.S. Army, all occupied serving in various capacities within the 75th Ranger Regiment, a Special Forces Group and, ultimately, the Army's premier, Tier One Special Mission Unit. He attended the Special Operations Target Interdiction Course (SOTIC) while assigned to Special Operations, winning the Top Shooter award for the class.

Over the years, he has been involved in several large U.S. governmental training programs, which includes starting the Federal Air Marshal (FAM) training program. He was instrumental as several experts wrote, trained, and administrated the complete course for the FAA and TSA. The training course was implemented just a few days after the terrorist attacks on September 11, 2001.

After his time in the FAM program, Smith was back to work for the U.S. Army as a contractor, assigned to the Asymmetric Warfare Group (AWG). He was pivotal in starting a large-scale training program called the Combined Arms Training Course, or CAT-C. The simple mission statement given was to change the way the Army trained. AWG wrote a 5- and a 10-day Carbine Training Course that highlighted the format and methods pioneered by the Special Mission Unit where he previously served.

This CAT-C was widely successful, given to most of the deploying battalions downrange from the 82nd Airborne Division during 2006. The same holds true for battalions from the 101st Airborne Division in 2007. The CAT-C's insights were taught in the U.S. Army's service schools, to include career-enhancing schools and basic training.


Hornady

very skilled shooter with a bolt gun almost keep up with a similarly-skilled shooter with a semi-auto rifle. But this the exception and not the rule.

The historical reason more law enforcement agencies are not currently using semi-auto, detachable-magazine rifles lies with past performance: accuracy. Semi-auto rifles were not as accurate and reliable in the past as they are today. Sure, there were highly-tuned examples that were accurate, but across the board, this simply was not the case.

As an example, a decade ago, you could expect groups to be about 2 to 3 minutes of angle—on average—from semi-automatic rifles. Also, there were issues with reliably feeding live ammo and consistently extracting the spent shell casings. Bluntly, these older designs were not a safe bet to achieve the desired outcome of quick, effective resolution to mass-casualty incidents and ensuring minimal loss of life.

These issues are non-existent with the new generation of semi-automatic rifles manufactured in the past decade. CNC manufacturing and innovations with rifle designs have totally changed these platforms for the better. If a rifle is properly maintained, it should be reliable and capable of accuracy of one minute of angle (usually far less!) with high-quality ammunition.

I have had a positive experience with the following manufacturers:

- Triarc Systems
- Knight's Armament Company (KAC)
- JP Rifles
- Lewis Machine and Tool (LMT)

I personally own one of each of these, and all are very reliable and extremely accurate.

I want a SWAT sniper to be proficient in any position, with or without support, if necessary. Often, the heavier bolt-action rifles preclude this in various unsupported positions. This can also be said for some of the extremely heavy gas- or piston-operated rifles.

We can look at what our military has done for over a decade with the Knight's Armament Company M-110 sniper rifle. It was long and ungainly, but very effective if properly maintained and set up correctly.

THE QUESTION OF ACCURACY

What level of accuracy is required to perform the precision marksman mission in your jurisdiction? I often ask law enforcement snipers this very question. An agency should have published accuracy standards for both daylight and night engagements to which the SWAT snipers and their equipment must adhere. Additionally, the training plan must support this accuracy standard with appropriate allocation of time and resources.

Too often, when agencies are testing new rifles, the weapon system that wins the bid is the one that will shoot a ragged hole in sub-one or half-minute of angle. Honestly, in all missions the agency's snipers are called upon to perform, one and one-half MOA will suffice—which brings me back to my earlier point about how much accuracy is required.

An agency will want to shoot a variety of ammo from a bonded round for hard cover penetration, and then a match-grade round for neutralizing an open-air threat. Ideally, both rounds

Agencies should establish accuracy standards for daylight and night engagements, says the author.

"In the future, I would like to see agencies transitioning to 6.5mm Creedmoor or the .260 Remington cartridge, as the ballistics of these cartridges are superior to the .308 Winchester."

"All too often, fiscal constraint trumps necessity, and a less acceptable solution is selected, putting public safety at risk."

should be close to the same point of impact with minimal zero shift. The sniper's magazines need to be color-coded so as not to confuse what type of round is chambered at the moment of truth.

I prefer law enforcement snipers to think of themselves as a system: it includes the rifle, optic, ammunition, training, experience, and the unique traits of each marksman. Each facet of the system needs attention paid to it, from the planning and equipping phase to the operational phase. The sniper should be multi-position- and multi-role-capable, able to aggressively close with the threat if needed, and stop any threat to public safety as soon as possible.

RESOURCES

For department administrators and elected officials to completely trust and be supportive of their SWAT snipers, a precedent must be set for the procurement of appropriate resources; the ability to attend training administered by knowledgeable, experienced, and reputable providers; and developing tactics, techniques, and procedures based on the specific needs of their jurisdiction.

We can agree that budgetary considerations will always be a major factor in solving the equipment and training issue, but when lives are on the line—including those of the responding SWAT technicians, a wise administrator will tilt in the direction of making sure resources are in place for all possible contingencies. A semi-automatic sniper rifle of reputable manufacture is a fantastic solution to tactical problems across a broad-spectrum, and when time and money count, I believe it to be the best option for today's law enforcement sniper. **SJ**

The author's selection criteria for SWAT weapons and equipment are based on his personnel operational experience, his unit's operational experience, his training and what he has witnessed with students over the years.

A BRIEF HISTORY

Spartan Tactical was established in 2005. For the first few years, Smith worked Spartan Tactical part-time, while holding another full-time job. He decided to go full-time with Spartan Tactical at the end of 2007, and has enjoyed the hardships and freedoms of being a small business owner ever since. He has consulted within the firearms industry on many projects with various manufacturers throughout the past decade—most notably as a consultant with Leupold & Stevens.

Spartan Tactical is set up on a large range complex in Texas, located in Parker County for our training courses. The company has trained U.S. Army Rangers, Special Forces, U.S. Marine Corps MARSOC Raiders, and other forces there. They have also trained a wide variety of federal, state and local law enforcement agencies.

the MODERN URBAN SNIPER

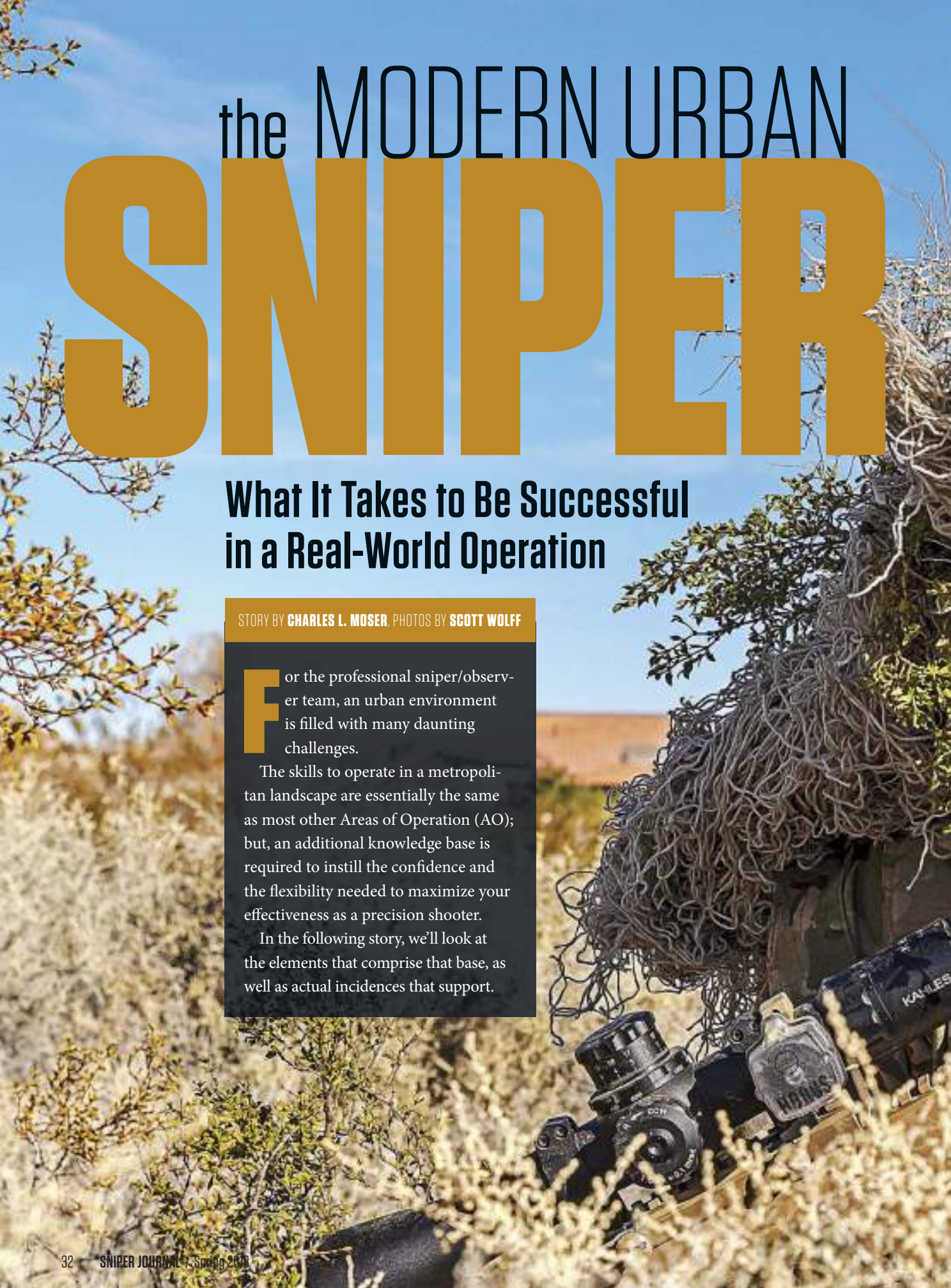
What It Takes to Be Successful in a Real-World Operation

STORY BY **CHARLES L. MOSER**, PHOTOS BY **SCOTT WOLFF**

For the professional sniper/observer team, an urban environment is filled with many daunting challenges.

The skills to operate in a metropolitan landscape are essentially the same as most other Areas of Operation (AO); but, an additional knowledge base is required to instill the confidence and the flexibility needed to maximize your effectiveness as a precision shooter.

In the following story, we'll look at the elements that comprise that base, as well as actual incidences that support.



"With the latest advancements in ballistic technology and manufacturing, a sub-MOA rifle with a variable-power optic should be your baseline."

ALL TRAINING IS NOT EQUAL

A few years back, we had a new technician on our team who had just returned from a sniper course hosted by an outside agency. We received a hostage call at approximately 03:30 one night, in which an estranged husband was holding his children in a house at gunpoint, threating to kill everyone.

I was the first sniper to arrive on-scene and immediately began looking for a Final Firing Position (FFP) on the front side of the suspect's residence. Directly across the street from the scene was a single-family, two-story house which had a large backyard surrounded with chain-link fence. Inside the yard were several large, potted plants scattered around. I pushed three of the plants together in a deep corner of the yard to build my hide site. That also allowed me to move several of the remaining plants to where I wanted to further obscure the FFP. This location allowed observation deep into the suspect's residence. Should the team use an explosive breach to make entry and conduct a rescue, I could still provide overwatch.

(top) Blending into your environment is of critical importance for a sniper, regardless if you're in an urban or rural environment. In some cases, you may be stuck somewhere in between—as is the case in this situation, where desert foliage permeates the open space in a neighborhood.

Once the FFP was established and appropriately concealed, I began directing the other arriving snipers to positions around the suspect's residence, which allowed us to cover all the angles. When our newest sniper arrived, he came up on the radio and I directed him to my position. As I was the senior marksman on the scene, I felt we could use the unfolding scenario as a learning opportunity.

When he arrived at my location, he began to tell me we needed to move our position due to the chain-link fence. I asked why, and he replied that we couldn't shoot through it. I smiled at his objection, and told him as soon as we were done with this mission, I'd take him to the range and teach him how to shoot through loop holes.

The point of my bringing up this specific situation is not necessarily about the fence, but to raise an important point about training: not all "sniper" courses are the same, and some do not prepare a precision marksman to be fully functioning on day one of that person's career. Most, if not all, law enforcement sniper courses focus on the pulling of the trigger. I can teach a

monkey to lay down on a square range and pull the trigger on a target at a known distance. That does not make the monkey a sniper.

What I try to teach to a new sniper is how to solve dynamic, tactical problems. The agency sending a sniper to me should have already taught that person to shoot. We will absolutely refine the established skills, but, there's no need to get caught up spending hours, if not days, talking about ballistics, weapon systems and optics. That is basic knowledge a marksman should know before setting foot in my classroom.

Next, we'll discuss the basics of choosing your weapons system.

BASICS OF WEAPON SELECTION

With the latest advancements in ballistic technology and manufacturing, a sub-MOA rifle with a variable-power optic should be your baseline. When having to shoot through intermediate barriers, or take shots to end volatile situations like a hostage taking, quality glass on a rifle accurate enough to consistently place shots within a couple millimeters of each other is a must.

Traditionally, a sniper would have five different rifles and optics, ranging from .223 Remington up to .50 BMG—with multiple rounds available per weapon system. It's hard enough to train with one weapon system weekly, and we'd be asking a sniper to train on all five every week? It's just not practical, or even necessary.

Now, snipers can carry a multi-caliber weapon system, allowing for greater versatility and lethality during operations. One of the key benefits of this functionality is the shooter can utilize the same optic and reticle for every available caliber. Not only does it create uniformity, but it is also very cost-effective—from both a training and operational perspective. Is it really necessary for a precision marksman to have all of those calibers available? It's a valid question, and the answer is absolutely, "Yes, it is."

On June 13, 2015 at approximately 12:30 a.m. local time, a man pulled up to the headquarters building of the Dallas (Texas) Police Department in an armored vehicle, where he began shooting at police with a semi-automatic weapon. SWAT responded to the scene, and one of their snipers employed his .50-caliber sniper rifle to disable the vehicle and neutralize the threat presented.

On May 17, 1995, just after dusk, another man went to a National Guard Armory in San Diego, California, and stole an M60A3 Patton tank. Once escaping the parking area in the Armory's yard, he went on a rampage with the tank, destroying cars, city infrastructure and even an RV. At one point, the tank became high-centered on a highway median, which allowed police officers to climb onto the tank, open the hatch, and shoot him.

These are just a couple examples of instances where law enforcement snipers would require heavier caliber weapon systems to stop specific threats. Not every call-out necessitates the presence of a .50-caliber sniper rifle, but as the saying goes: "It's better to have and not need,

(top) Is there a sniper in this SUV? Part of being able to operate effectively in the urban environment means being able to build hides in a variety of places—even vehicles.

(bottom) The interior of the vehicle hide, as seen from the sniper's perspective. Special attention needs to be made to controlling angles and light sources as much as possible or practical, maintaining the sniper's ability to be invisible.

than it is to need and not have."

So, how does a sniper determine which weapon to employ?

To determine that, a wide variety of factors needs to be considered. What is the nature of the mission? Is it a lone suspect barricaded in a house? A hostage situation in a bank? An active shooter in a high school? A counter sniper? What is the suspect armed with? What is the perpetrator's level of training? What is the likely engagement distance? What is the composition of the structure the suspect is in? What's the potential for collateral damage?

Once a sniper processes all these factors, a determination will be made on the weapon system. You want the caliber that can stop the suspect instantly under the given conditions; but, you would be wise to choose one that minimizes the risk of over-penetration, which could endanger hostages, other civilians in the vicinity or other first-responders on scene.

In December of 2015, my team was called out and responded to the north end of town to reference a barricaded suspect. A female subject had earlier pointed a firearm at patrol officers conducting a welfare check. Upon my arrival to the scene, I got into a position on the front side of the structure.

As the call-out continued, a fellow sniper rendezvoused at my location. We discussed the use of bonded ammunition for this incident, due to a mother with small children refusing to evacuate from their home, which lay directly behind the suspect's house. To minimize exposure, we opted to use a match-grade round in the event we might need to shoot. We also confirmed, via the snipers covering the rear of the target, the fence in the back yard was made of brick—not chain link. As it turned out, the female exited the residence with a shotgun and pointed it in the direction of the entry team. Snipers were forced to engage, neutralizing the threat.

During the engagement, one of the match-grade rounds passed through the suspect's body, continuing out of the residence through the sliding kitchen door, where it struck the rear block wall. The point of secondary impact was approximately 30 feet from the house occupied by the mother, who refused to evacuate with her children.

The light was turned on for illustrative purposes, but were this a real-world situation, the modern urban sniper would be impossible to see from outside the structure.

To reiterate: weapon and ammunition selection are absolutely critical to your mission planning as a sniper.

ROUND SELECTION

Choosing the correct round is always an area where it starts to get confusing. Law enforcement snipers will generally have the ability to choose the type of round needed for a particular operation—either match or bonded—but even that is limited to what the department has authorized, and any deviation from that may open disciplinary action and civil liability.

All snipers should be able to choose the best weapon and ammunition combination for the mission, due to their increased knowledge of

"Weapon and ammunition selection are absolutely critical to your mission planning as a sniper."

ballistics and barrier penetration. Most of the time, the person ordering the ammunition does not possess that same level of knowledge, or have an appropriate background to understand how complicated those choices can truly be. A lot of times, the supply officer simply orders whatever is the cheapest or what they can get a deal on, and then the marksman is stuck with it—which leads us into training.

THE TRAINING FACTOR

Training is a constant in the sniper's life. They are always trying to be the best they can be, knowing lives are at stake every time there is an activation.

Training must be a scheduled event, and it should be weekly to correctly maintain proficiency in all the requisite skills. Sometimes training can be as simple as a "tabletop scenario" discussion about a previous situation elsewhere, which forces the sniper to make shoot/no-shoot decisions based on the given tactical criteria, as well as discussing potential outcomes.

The list of topics where we, as snipers, need to build our knowledge and maintain proficiency is

RECOMMENDED GEAR

WHAT THE URBAN SNIPER NEEDS

Backpack (non-descript)	Phillips head screwdriver	6 x 6-foot piece of black screen
Binoculars	Tape: black, white and camo	6 x 6-foot piece of grey screen
Kestrel with Applied Ballistics software	Large push pins (20)	Extra water
Spotting scope	550-cord: 50-foot segments (2)	Extra food
Laser rangefinder	6 x 6-foot piece of black canvas	Tape measure
Lockpick set	6 x 8-foot pieces of large mesh (2)	Door chalks (2)
Multi-purpose tool	6 x 8-foot pieces of fine mesh (2)	White painter's jacket
Flathead screwdriver	6 x 6-foot pieces of white mesh (2)	

pretty much endless: moving targets, intermediate barriers, loophole shooting, man-tracking, engagement from aerial platforms, land navigation, ballistics, urban operations, vehicle hides, new technology, NVG and thermal optics; and the list goes on. Point being, a sniper's training must be both consistent and constant.

Our SWAT Team is broken down into two units. We have 24/7 coverage, broken into front half and back half of the week, with Wednesday as our overlap and training day. One team is very pro-training; the snipers would train two or three times a week, even if it required coming into work early. The other team worked the busier days of the week, which consistently hindered their training time.

In 2013, our team received a call about a male suspect in an apartment complex, brandishing a firearm while eluding patrol officers and attempting to get into apartments. One of the snipers from the other team arrived on scene first and was directed by patrol to the general location of the suspect. The sniper was also informed the suspect had already exchanged gunfire with the patrol officers.

The sniper soon located the suspect: he was on the third floor of the apartment building, standing in the breezeway between the south and north wings of the building. The sniper directed more arriving SWAT technicians to the north side of the structure—just in case the suspect ran. Once the suspect realized SWAT was setting up containment, he attempted to kick in the door of an apartment, which was occupied by a single female, home alone.

Our sniper chose to deploy with his bolt-action, .308-caliber sniper rifle loaded with bonded ammunition. When the suspect attempted to kick in the apartment door, the sniper was forced to engage—to prevent the suspect from taking the apartment's female occupant

MEET THE AUTHOR

Charles L. Moser is a police officer on a major metropolitan police department, where he has spent more than 10 years assigned to one of the busiest SWAT Teams in the nation. A former U.S. Navy SEAL, he has more than two decades of extensive education, training and operational experience in both military and law enforcement tactical arenas. His company, SWAT Concepts, provides basic-through-advanced training in a variety of disciplines, but the bread-and-butter discipline is long-range precision rifle employment. From basic concepts of terminal ballistics all the way up to scenario-based training and full mission profiles, SWAT Concepts is able to develop the skills and mindset necessary to set the modern sniper up for success.

"The most important factor for urban operations is adherence to Rule #1: ALWAYS blend into your surroundings, regardless of where the mission takes place."

hostage. Unfortunately, the fired round struck a metal railing, deflecting the bullet's trajectory enough that it went over the top of the suspect, through the occupied apartment, and exited the north side of the building, just a few inches above the heads of the entry team.

The suspect realized he was being shot at, so he ran north through the breezeway in the direction the entry team. There was an exchange of gunfire, and the suspect was neutralized. There were a lot of lessons learned on this operation, but the point is this: had the sniper been training consistently, despite the hectic schedule, I'm very confident the woman occupying the apartment and the SWAT technicians on the entry team would never have been endangered.

RULES OF ENGAGEMENT

In urban environments, there is higher population density, increased media activity, a myriad of visual obstructions, slope angles, pets, and all sorts of intermediate barriers to deal with. Precision marksmen must clearly understand the rules of engagement for aggressive animals, hostile civilians and the laws governing the use of deadly force. The most important factor for urban operations is adherence to Rule #1: ALWAYS blend into your surroundings, regardless of where the mission takes place.

Secondly, with high-resolution maps and

tools like Google Earth readily available, the sniper needs to plan discreet INFIL and EXFIL routes, as well as identify potential FFP sites. When determining those locations, a precision marksman must remember to make sure all the entrances and exits of the target location are covered. Depending on the availability of manpower and length of operation, the sniper/observer team may want to bring security personnel with them; however, this will increase the footprint and increase the likelihood of compromise.

Once the FFP has been established, the sniper/observer team must ensure the position does offer both cover and concealment, and blends into the surroundings. The team must relay their position back to the command post, along with any exigent intelligence. The pair must also finalize their cover/concealment, plan escape routes if things go badly, conduct detailed visual search of the target building via the rifle scope, spotting scope, or binoculars, and start a range card for distances between their position and known points on the target location.

FOCUSED ON MINDSET

A topic typically overlooked is what happens after a precision marksman pulls the trigger. I teach a class about the "sniper mindset," where we focus on several areas that allow a sniper to be prepared from beginning to end—no matter how the operation finishes. For example, we discuss the fact that a sniper engagement does not automatically mean the end of the operation. On the contrary, it may be just the beginning.

What if there are more armed suspects on the location? Even if it's a barricade with a single suspect who is successfully neutralized with the first shot, a sniper must still be ready to cover the entry team as they move to secure the suspect and clear the structure.

We also discuss what happens to the sniper after the mission concludes. For example, if it's a law enforcement agency, there will be a full investigation into the incident, step by step, start to finish. Even in a military sniper engagement, there will be questions to answer about why the trigger was pressed and rounds were sent downrange. A sniper may feel as though they're being second-guessed, and may end up questioning their own actions.

In March 2014, I was called to a freefall drop zone. There was a subject barricaded in an RV who had fired shots at the personnel manning the drop zone, and threatened the responding patrol officers. When I arrived at the scene, I put on the top portion and veil of my ghillie suit, and made my way to a position which allowed me to look inside the RV.

While I was in position and coordinating the other arriving SWAT technicians and snipers, I could see the suspect inside, watching the entry team as they arrived and prepared to move to a forward position. I could see the veins bulge in his neck as he was screaming at them. At one point, the suspect stepped out of the RV, armed with a Soviet-era SKS semi-automatic rifle. He chambered a round and began to shoulder the rifle, which indicated an intent to engage the entry team where they stood. I responded appropriately and negated the threat before he could fire on my teammates.

Snipers need to build their knowledge and maintain proficiency in an endless number of categories, including moving targets, loophole shooting, man-tracking, engagement from aerial platforms and more.

KEEP THIS IN MIND

The list of potential topics to discuss with urban sniping is pretty much endless. So, to close, I will leave you with this thought: Whenever you're moving out for a real-world operation, always approach it with the thought of, "I'm going up against someone who is better trained than I am."

First and foremost, that realization will keep you humble and eager to both learn and train as much as possible.

Second, it will keep you from taking a lackadaisical approach to the mission, thereby minimizing the risk of you or any of your teammates being critically wounded or killed. **SJ**

GO FARTHER

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CHECK THIS SITE

www.DRDTactical.com

STORY BY A STAFF WRITER, PHOTOS BY **SCOTT WOLFF** AND COURTESY OF **DRD**

GOING DEEP

DRD Tactical's All-New Semi-Automatic, Multi-Caliber Kivaari, Including .338 Lapua, Is a Hit

"The Kivaari ... is intended for military/police snipers, long-range target shooters and hunters."

Certain products generate a buzz.

It starts with a little rumbling. When word gets around, the rumbling gets a little louder. Before long, everyone wants to see what is creating all the excitement. Such is the case for the Kivaari.

Chambered in .338 Lapua Magnum (or .300 Norma Magnum) with a semi-automatic gas-operated system, the Kivaari is DRD's latest addition to their quick takedown rifles. During preliminary performances, this rifle reportedly scored .5 MOA out to 1,000 plus yards with 250-grain bullet.

This gem comes with a hard case or one of Tactical Tailor's backpacks, which enables you to carry the rifle for long distances. In the following story, we discussed this new rifle with an eight-year veteran of the company.

See what the buzz is all about.

01 MEET THE RIFLE

Q: For those who are just getting to know this rifle, tell them a little bit about it.
A: The Kivaari, from DRD Tactical, is a semi-automatic, multi-caliber long-range weapon system chambered in .338 Lapua Magnum or .300 Norma Magnum. It is intended for military/police snipers, long-range target shooters and hunters.

(above) DRD Tactical's multi-caliber Kivaari has scored impressive numbers on the range.

(opposite) When you purchase the Kivaari, you get your choice of a hard case or one of Tactical Tailor's backpacks.

Q: Tell us why you went this direction.
A: We went the semi-auto because it allows for faster follow-up shots. Lots of companies make bolt guns in .338LM so it made business sense to design a semi-auto.

02 THE UNIQUE PERSPECTIVE

Q: Describe the unique features of this new rifle.
A: The most unique feature is the patented quick-change barrel system, which allows the rifle to be carried in a small hardcase or backpack. Plus, it's a semi-auto in .338 Lapua. Most rifles in this caliber are bolt action. It also uses AR-15 type controls and some parts.

Q: Explain why "15" parts make it easy for the consumer.

THE BOTTOM LINE

MSRP: $5,000
Black anodized or Cerakote FDE

MSRP: $5,400
NiB Battle Worn

MSRP: $8,995
NiB Battle Worn with Tracking Point

A: It is an AR-type direct gas system so using AR-type lower parts/controls makes it easy for the customer to operate the rifle. The AR is the most popular type of rifle.

03 INSIDE ENGINEERING

Q: When this in the planning stages, how much input do you seek input from outside sources, such as LE or the military?

A: Yes, we do get input from law enforcement and military users. We have done meetings in person and via email and calls.

When we contact an agency, they ask for a demo unit, which we provide. Once they test it, they let us know if there are any items they would like enhanced or changed to better fit their needs. We try to make those changes, if possible.

Kivaari is in service with law enforcement agencies in the U.S. It has also been exported to Canada, the United Kingdom, France, Malaysia and the United Arab Emirates. There are other countries in tender process for this rifle.

04 RANGE DATA

Q: Describe how this rifle has performed.

A: With match ammunition, it shoots between .5 to 1 MOA. In one test, using Lapua factory ammo, the results were right in this ballpark. With 250-grain HPBT, the shooters recorded 1-MOA or less.

05 TALKING WEIGHT

Q: How about the weight?

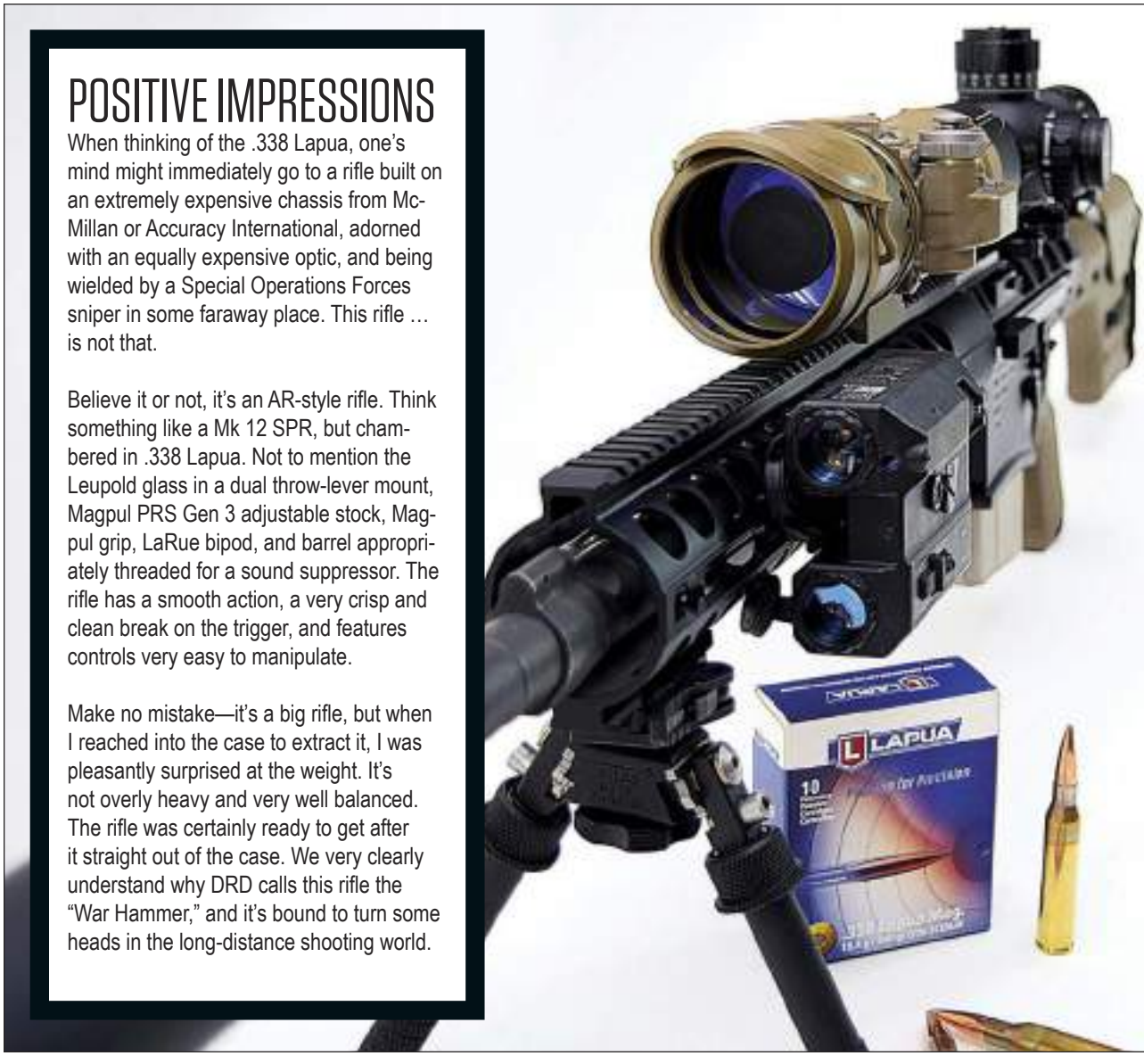
A: Weight is a factor on large-caliber rifles, and our comes in at 13.6 pounds. That is empty in semi-auto.

POSITIVE IMPRESSIONS

When thinking of the .338 Lapua, one's mind might immediately go to a rifle built on an extremely expensive chassis from McMillan or Accuracy International, adorned with an equally expensive optic, and being wielded by a Special Operations Forces sniper in some faraway place. This rifle … is not that.

Believe it or not, it's an AR-style rifle. Think something like a Mk 12 SPR, but chambered in .338 Lapua. Not to mention the Leupold glass in a dual throw-lever mount, Magpul PRS Gen 3 adjustable stock, Magpul grip, LaRue bipod, and barrel appropriately threaded for a sound suppressor. The rifle has a smooth action, a very crisp and clean break on the trigger, and features controls very easy to manipulate.

Make no mistake—it's a big rifle, but when I reached into the case to extract it, I was pleasantly surprised at the weight. It's not overly heavy and very well balanced. The rifle was certainly ready to get after it straight out of the case. We very clearly understand why DRD calls this rifle the "War Hammer," and it's bound to turn some heads in the long-distance shooting world.

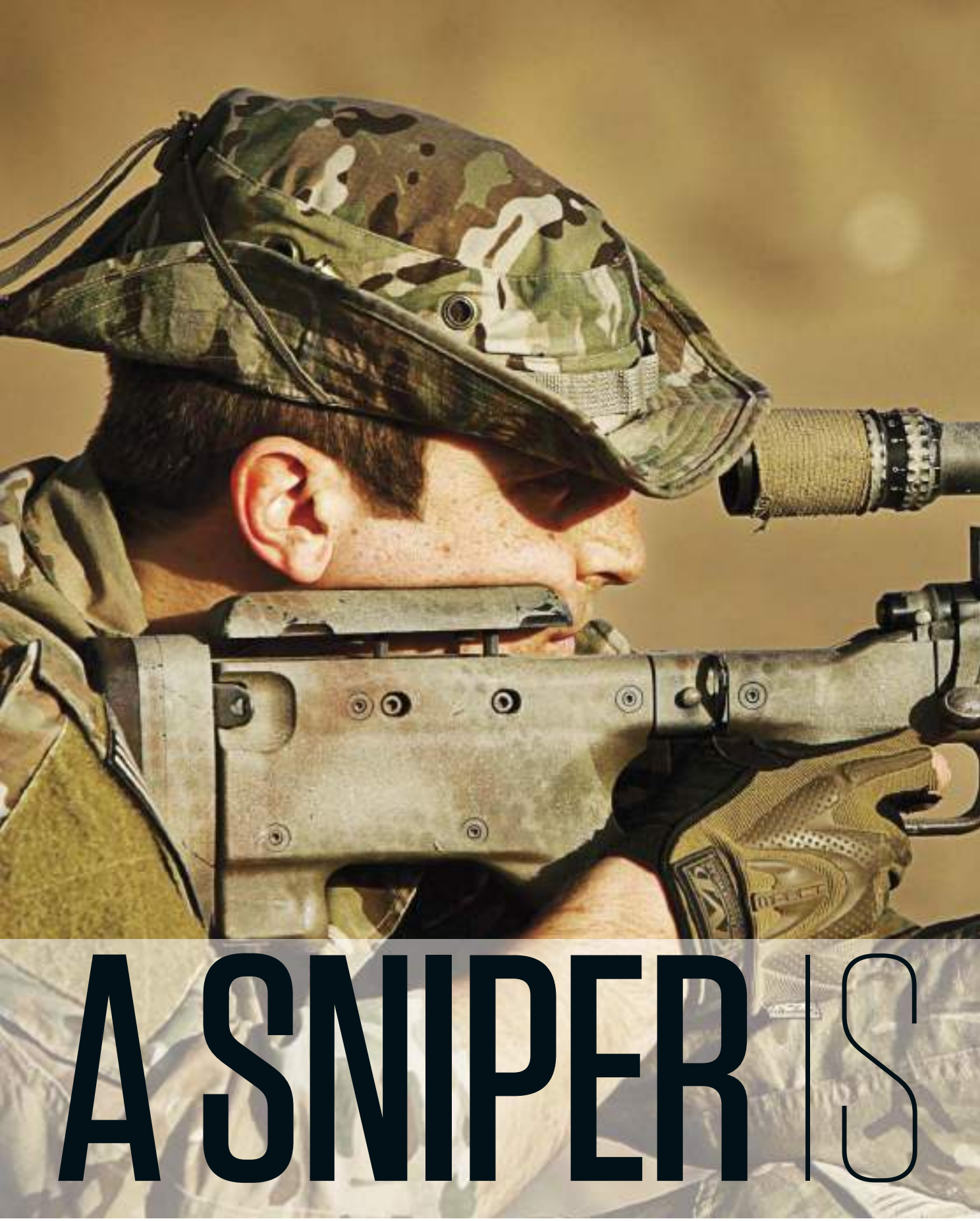


“The most unique feature is the patented quick-change barrel system, which allows the rifle to be carried in a small hardcase or backpack.”

The Kivaari weighs in at just less than 14 pounds.

THE SPECS

Action: Semi-automatic direct gas operated
Receivers: U.S. billet aircraft aluminum
Barrel: Patented quick takedown 24-inch barrel system with 1/10 twist
Accuracy: 1-MOA with Lapua ammunition
Controls: Ambidextrous safety
Trigger: Wilson Combat 2-stage match trigger
Handle: Non-reciprocating left-side charging handle
Stock: Magpul PRS fully adjustable stock
Rail: 17-inch QD rail with Magpul M-LOK for accessory mounting
Weight: 13.6 pounds empty with bipod
Overall Length: 47 inches fully assembled
Magazine: 2- 10-round box magazines
Muzzle: SilencerCo QD muzzle brake
Storage: Choice of hardcase or Tactical Tailor Trekker backpack **SJ**



A SNIPER IS

STORY BY **PAUL MARTINEZ,** OPENING PHOTO **COURTESY OF THE AUTHOR**

BORN

I've been on more missions than an I can count. Somewhere between 500-750 objectives attained during my years of service, there is one which shaped my entire life.

It was on that particular day in the Summer of 2009 when I decided I wanted to become a sniper. I'd never given it any thought before then and, in fact, I had plans to leave the military entirely later that year.

THE MISSION THAT CHANGED THINGS

All it took was one mission into the heart of Marjeh, in southern Helmand province, Afghanistan. We had launched our mission from Kandahar Airfield, which was much more than an airfield: a bizarre Babylon of coalition nations coexisting, trying to make the best of the desert steppe that was either blisteringly hot, or ungodly cold—and sometimes both in the same 24-hour period. Not many places on earth get both snow and 130-degree heat. It was mid-summer; we had the pleasure of experiencing of those 130-degree days, and the nights were no better. Honestly, I couldn't tell the difference.

My buddy Nicholas Irving (yes—The Reaper) and I were attached to Charlie Company, 3rd Battalion, 75th Ranger Regiment. He was a sniper, I came as a squad leader of a Mortar Section, but we had gone to Ranger School together, and were in the same Headquarters and Headquarters Company, or HHC. As part of a new strategy, our company's Task Force was additionally augmented with a squad of Afghan Soldiers, hand selected and trained by some secret-squirrel guys whose names and units we didn't need to know about.

(opposite page) Department of Defense/Combat Camera

These Afghans were vetted by the Ranger Regiment's personnel as well, so—the briefing said—we were to trust them as allies. They needed a Ranger counterpart to their own Afghan "commander," who was essentially a Platoon Sergeant. This was both an undesirable and dangerous job, but this Afghan squad was mission-essential and would go out on every single mission. I volunteered without hesitation; any chance to go out of the wire was worth it to me, regardless of the risk.

We landed four klicks outside of Marjeh city, in hopes that we could gain some element of surprise. A small chance in the thin desert air. The whirly-birds flushed like grouse back to KAF after depositing our Ranger platoon and my afghan squad in barren moonscape.

We started walking towards "Taliban City," as the Afghan commander Amin called Marjeh. Never during the war had any coalition forces made a move to control Marjeh. It was a stronghold, a den of iniquity and as dangerous as any place on the planet in the history of dangerous places on the planet. About a klick out, we started to hear chatter on the Taliban's radio frequency.

"The Americans are coming. Get the big guns ready!"

"Get the big guns ready … we will kill the infidels … praise be to Allah!"

"It came screaming down with a whistle while the muzzle flash of the machine gun team strobed death at us."

It wasn't the first time we walked into a trap or an ambush, it also wouldn't be the first time the Taliban attempted their own version of psychological operations—feigning greater forces and preparedness than what they actually had. Walking into Taliban city, we all knew this would not be the case. Yet, the quiet desert night gave us no clue either way. The stars shone down impartially on the same sand as they had for thousands of years' worth of summer nights.

INTO THE CITY'S HEART

We were coming to a point in our route where we would change direction and move into the heart of the city. There was a man crouching by a ditch, staring up at us from maybe 25 meters off the road. We could see him plainly and he us, yet he did not move, and he did not appear to be armed. It might be Taliban City, but even here the civilians were trying to live their lives, hoping the war would pass and they could go back to raising crops and children. This guy could have just been a chicken crossing the road; he had no visible weapon, he was outside of suicide-vest range, and his posture was passive.

My friend Nick held back, watching the man through his sniper scope from an unseen vantage point. When the last of us passed him by, the man near the ditch pulled a radio from his dish-dash (commonly referred to as a "man-dress," the long tunic that was custom Afghan garb). As he did, it revealed the butt-stock of a shoulder-fired weapon. Nick's sniper rifle, already trained on the man's face, coughed through its suppressor, abruptly ending the threat to our mission.

"Sierra, EKIA," Nick calmly spoke into his radio.

It was my first crash course in being a Ranger Sniper. Nick seemed to have a sixth sense, always looking where we were not, always finding the gap in the battlefield that our own highly trained scrutiny overlooked. It was an essential skill for a Ranger Sniper who, more often than not, must do his work alone—and on the fly.

We walked another 800 meters, and stopped on broken terrain. Mounds of fill dirt and manure provided much of us cover. We had altered our route to hopefully flank the ambush the Taliban was laying for us. We all went to ground, finding cover where we could.

Nick and his partner climbed a small outbuilding—the equivalent of an American corn crib or a tool shed—to provide overwatch for our ground positions. Platoon sergeants tasked several teams to probe forward in the directions the attack was likely to come from. I stood up from my covered position behind a mound of dirt to cross a narrow "road" that separated myself and my squad of Afghans, and something stopped me short.

MISSION NOTES

Who

Paul Martinez, squad leader attached to Charlie Company, 3rd Battalion, 75th Ranger Regiment

What

Capture or Kill an HVT in "Taliban City."

Where

Marjeh, in southern Helmand province, Afghanistan

When

Summer of 2009

The biggest, most orange harvest moon I had ever seen caught my eye, but … it was wobbling, and growing larger very quickly. I dove to the ground and flattened myself. I had no idea what was incoming, but I knew it was bad. That meant grab the earth, point your armor at the threat, and cover your vulnerable parts with your meaty ones. The Afghans shrunk to nothing, becoming one with the mounds of fill dirt they were using as cover. The RPG burned past us, right as the line rangers called out "RPG!"

The warhead screamed past Nick's position and detonated harmlessly a few meters past the now-compromised sniper perch and detonated with a terrifying "CRACK" I could feel in my lungs. Like a boxer ducking his opponent's punches, Nick braced for the overpressure from the explosion, then sent a 175-grain counterpunch—center mass—into the enemy who fired the rocket. Nick's partner followed suit, putting down the two-man rocket team in short order.

We picked up and continued movement, as we had—according to our INFIL plan—8 klicks to go. All we had were drone imagery and Russian maps, which were about equal in resolution and detail, back in 2009. We turned our route 180 degrees, heading into the heart of the city. We made it maybe another 800 meters, when we started hearing AKs firing, answered by cracks of M4s. It seemed to come from every house, every window, and every doorway at once. The guys silenced the enemy quickly, saved by their expert training and finely honed reflexes.

I was in the middle of our column with a C2 (command and control) element, a radiotelephone operator (RTO), a platoon leader (PL), and our 60mm Mortar team—Monkey and Bacon. As the roaring ambush up front turned into a trickle of pops and snaps, we were ambushed by a machine gun team in a wood line, maybe 250 meters away. Their Russian-made belt-fed was chugging through ammo, firing at our lead elements before they turned their attention to us.

Monkey, the mortar team leader, yelled to the PL that he was ready to engage with mortars, which would be faster than we could work up a Close Air Support mission with one of the helicopters overhead. All they would hear from our mortars is a death whistle an instant before high explosive and white phosphorous cracked them open and burned them to a crisp.

The PL yelled to Monkey that he was clear, so the mortar team leader lined up his cannon while his assistant gunner, Bacon, fished a round out of his pack. Monkey was a new Team Leader, but he was as smart as the come. Still, I couldn't help myself from butting into his fire mission—we were in the same platoon and I outranked him.

"You going to hit them with Willy Pete (white phosphorous) right?" I barked.

Even in the dark night, I could see his eyes light up.

"YEAH!" He called back, then asked a bit sheepishly, "How far do you think that is?"

"ASK SIERRA!" I suggested, which he did instantly. Our sniper team gave him their best estimate—which would be better than ours. Their training and experience had calibrated their eyes more precisely for the task. We were an area fire weapon, after all.

Monkey tipped his cannon to account for range and launched the white phosphorous round straight up, as if the little metal football of death was an escape pod trying to exit the bullshit that was happening on the ground around it. It came screaming down with a whistle while

the muzzle flash of the machine gun team strobed death at us. We heard the distinct CRACK of white phosphorous creating an oxygen-sucking, 5,000-degree conflagration in the center of the machine gun emplacement.

AN AK ENCOUNTER

Monkey and Bacon were packing up their cannon while I called to Amin, our afghan squad leader, and he gathered up his men. I saw my interpreter moving toward me, and I turned once again to face the heart of Taliban City, somewhere out there in the darkness. I scanned in front of me, rooftops first.

Suddenly, for the first time in that ungodly Afghan summer, I felt cold; less than 100 meters away, I saw the unmistakable silhouette of a man in a dish-dash, his AK pointed dead at me. My M4 was moving, but it was slung muzzle-low and pointing a full 180 degrees away from the Taliban fighter who was about to take my life. I felt like I was encased in mud. Underwater. I had to make a gross movement to point my M4, move the selector switch from SAFE to SEMI, find my sights, and click on my laser—all before he made a single movement to press the trigger on his rifle and kill me.

I had read about this moment in Louis L'Amour novels half a dozen times. He definitely had the drop on me, and I was "Dead to Rights."

The thick, creeping time—a phenomenon known as "tachypsychia"—suddenly abated, and my brain brought me back to the present as it registered a loud "SNAP" from off to my left.

I saw my assassin's head scarf flail into the air and he dropped behind the low wall on the rooftop like someone had cut the string suspending him. My tunnel vision dilated back to a normal human field of view and I saw Nick Irving's silhouette to my left. His SR-25 sniper rifle—affectionately named Dirty Diana—was shouldered, and the muzzle was lowering slowly. He turned his head to me with a half smirk and said, "Damn, I'm good."

"His SR-25 sniper rifle—affectionately named Dirty Diana—was shouldered, and the muzzle was lowering slowly. He turned his head to me with a half smirk and said, 'Damn, I'm good.'"

CONTINUE MISSION

I took a deep breath and watched Nick sling his rifle and head out into the heart of Taliban City, following Charlie Company's lead elements as they swept forward. I turned quickly to make sure my Afghans and "Terp" were following me, and then I followed him. I knew something important had just happened, but I wouldn't understand exactly how until much later.

We opted to "Charlie Mike," or Continue Mission. In the remaining 2 or 3 klicks to our target building, we took fire repeatedly, and each time, by some miracle, we pressed on without injury. Finally, as dawn was turning into day, we reached a nondescript adobe compound with a big metal gate. There was nothing unusual or distinct in any real way; however, from the well-worn footpaths coming to and from the house, you could guess this was a hub of some sort.

As soon as we were close enough to cordon off, several men fled the house. Our Platoon Sergeant dispatched a chase team—including our dog handler. The rest of us moved into the structure, conducting Sensitive Site Exploitation, or SSE. Digging through the house, we found documents, propaganda, weapons—we were on the right track.

I didn't know, due to my low rank and limited experience, if we had gotten what we came for; but, we collected ourselves to begin our exfiltration from the city. Without the cover of darkness, in a city filled with Taliban, and with our air support out of gas and ammunition, we found ourselves on less-than-equal footing with an enemy that had defied even the great Russian

(opposite page) Photo by Sgt. Brian Kohl

"The Cobra flared in a turn at full speed and screamed towards the rocket team and sniper, sending another lethal volley to pulverize what was left of our would-be ambushers."

armies. I remembered from our mission briefing that we had 4.5 klicks to go to our extraction HLZ (helicopter Landing Zone).

We moved out through the city. Civilians, as well as Taliban sympathizers, began clogging the streets in front of us. Some of them attempted to go about their day. Others were clearly trying to bog us down long enough for an ambush to be set along our course.

I was called to take my Afghan squad and push to the front of the formation. We moved out at a "Ranger Trot," a rapid, barely sustainable running pace that would kill ordinary men in the blistering desert heat. I was now walking point, with a squad of indigenous soldiers I barely knew. Luckily Nick, with his sniper partner, our K-9, and another team leader were up front with me.

Leap-frogging with my Afghans, Nick and his small ad hoc team processed the battlefield in front of us. They looked far ahead with their sniper scopes to clear our next move. They often fell back, or found a hasty overwatch position while my Afghans intervened with the civilians—encouraging them back into their homes, or grabbing suspicious men and passing them back to be interrogated on the fly by the main force behind us.

I wanted to be up front focused on the fight with Nick's tiny band, but our platoon sergeant made one thing clear: my job was to make sure the Afghans were doing their job of deconfliction, and keep them tactical, spread out, behind cover when we could. It was a delicate balance of speed and caution. Break neck-pace and scrutiny. We may be in Taliban City, but we couldn't simply blast our way through and cause civilian casualties, which was always our highest imperative.

Army Rangers conduct live fire training under night vision in Afghanistan. Photo courtesy of the U.S. Department of Defense.

We finally fought and cajoled our way to the edge of the city, when we got a call from an unarmed drone overhead. There was a possible RPG or mortar team, as well as an enemy sniper, waiting for us in the high ground that would be at our flank as we moved into the desert.

Nick and his partner ran forward without hesitation, and the TL went with them to make sure they could focus on the distant threat while he covered everything closer. Nick immediately identified the threat and he and his sniper partner went to work a mental flurry of math, range estimation and target identification, reporting exactly what they observed at the same time.

A Marine Corps Cobra gunship, the only air support available since we had expended everything the Air Force and Army had allotted us, was dispatched to help. Nick and his team took the sniper out first, neutralizing the threat at almost a kilometer. They pinned the rest of the enemy ambush team to the ground with rapid, accurate shots in even intervals.

The helicopter rolled in next; he was just above the trees and rooftops, a stone's throw from the ground and pointing his considerable arsenal straight at me. The gunner loosed two rockets, and my brain processed every movie memory I had of friendly fire incidents. I yelled for my Afghans to get down, sure we were about to get fragged. The 2.75-inch rockets ripped over our heads and pulverized the second story of a building less than 25 meters away. The Cobra crew called their target destroyed.

THE KILL ZONE

Unbeknownst to us, a machine gun team had been on the roof, hidden from my view, and was seconds away from annihilating me and my group of Afghans—and trapping our entire unit in a textbook "Kill Zone."

The Cobra flared in a turn at full speed and screamed towards the rocket team and sniper, sending another lethal volley to pulverize what was left of our would-be ambushers. The helicopter then turned back the way he came and screamed away from the city, where he would wait, out of range of enemy fire, until we needed him again.

"I was dehydrated, bleeding through my boots, and I was coming up on 24 hours without any sleep or food."

(above) U.S. Army National Guard photo by Spc. Tawny Schmit

INTO A HORNET'S NEST

The men chasing us were seasoned desert warriors, most of them fresh from sleep in the comfort of their own homes.

Finally, 5 klicks into the desert, the enemy gave up their chase. On wobbly legs, we crouched down and formed a perimeter in the blinding sun. Soon we heard the whopping of heavy rotor blades, indicating the sweet, merciful approach of 160th SOAR's chinooks. In seconds we were airborne, the air rushing into the open aircraft cooling us as we sped towards Kandahar.

As my mind drifted, I pictured a head scarf flailing into the wind, the sweet taste of life returned when Nick cut the man's strings before he could have killed me. I pictured Nick and his team, shouting wind corrections to each other while rockets flew overhead. I added up the effect of one man firing one round at a time through a precision rifle.

There were fighters, and there were hunters, and I knew I had been one and not the other. I knew I would not be getting out of the Army in the fall like I had planned. In fact, I told myself, I would not be getting out of the Army until I could be that man, with a precision rifle, Overwatching the finest infantrymen that have ever been fielded. **SJ**

Extreme QUALITY

Bushnell's XRS II H59 Scope Is a Top-Rate Performer

STORY BY **DREW PRUHS**, PHOTOS COURTESY OF **BUSHNELL**

"It became readily apparent that this scope was designed for making hits out past 1,000 yards."

More than 65 years.

That's how long Bushnell has been in the optics market. In that time, they have established their brand, and they have evolved as the market changed. Originally making their mark in the hunting world, in the last several years Bushnell has re-emerged as a leader in the world of long-range rifle optics.

Their current offerings include the Elite Tactical series, which was developed with direct input and feedback from the military, law enforcement and the competitive shooting community. The XRS II is the premiere model in the Elite Tactical series and Bushnell's flagship optic. It has just about every feature Bushnell puts in a scope, and I was excited for the opportunity to try the XRS II 4.5-30x50 optic with the tried-and-true H59 Horus Improved Sniper Reticle.

THE TUBE

XRS stands for "Extreme Range Scope," and that is exactly what it is. Ideal for those looking to deliver precisely-aimed rounds at extreme distances, the Bushnell XRS II comes in a big package. At nearly 14 1/2 inches long and weighing in at just under 38 ounces, the XRS II features a 50mm objective lens, heavy-duty tactical turrets and 30x magnification.

The forged aluminum 34mm main tube has 80 percent more interior volume than a 1-inch tube. This larger size accommodates larger internal optics, more complex magnification rings and sturdier reticle adjustments. In this case, good things come in a big package.

The eyepiece also has a quick-focus diopter ring to adjust for farsighted or nearsighted shooters. This tends to be a "set-it-and-forget-it" adjustment, and the scope's focus remains stable at every magnification.

The author, who is a LEO, says the XRS II is a high-end optic that is ideal for those who take long-range shooting seriously.

THE TURRETS

The T-Lok locking turrets are super-sized and offer side-adjustable focus and parallax. The T-Lok turrets are "tactical" and can be quickly lifted for quick adjustments and immediately locked into place by depressing the turret to its standard position. In short, the turrets do not move unless you pull up the caps and make it move.

The parallax is marked regularly from 75 to 1,000 yards and then to infinity. The windage and elevation turrets have an adjustable zero stop, a feature that is often requested and definitely noticed when it's not there. The turrets are graduated in tenths of a mil, so each full twist of the dial give you 10 full mils of adjustment. From top to bottom, you get approximately 28 mils of adjustment. The big turrets are clearly indexed, heavily knurled, and have a distinctive click so that you can easily access and manipulate them without removing your eye from your target.

THE OPTICS

The XRS features ED Prime Glass, which means that every glass-air lens surface is coated with multiple layers of anti-reflective, extra-low dispersion fluorite coating. This results in decreased surface reflection, so that the lens delivers the brightest, highest-contrast images, even in low light conditions. Additionally, the 50mm objective lens gathers 50 percent more light than a typical 40mm hunting scope, and that means you will benefit from the least amount of eye strain because only a very small percentage of light is lost before it reaches the viewer's eye.

CONTACT INFO

www.Bushnell.com

THE BOTTOM LINE

XRS II H59 Scope MSRP: $3,149.95

With a 3.74-inch eye relief, you get a 24-foot field of view at 4.5x and approximately 3 1/2 feet at 30x.

The entire scope is purged and filled with inert argon gas to prevent internal fogging, and the objective and ocular lenses are both coated with Bushnell's Rainguard HD, a patented, permanent, water-repellent coated material that causes moisture to bead up and scatter less light in adverse conditions.

THE RETICLE

The H59 Horus Improved Sniper Reticle is the "field-tuned" version of their well-known H58. The center cross has been turned into a "broken cross" so groupings are less obscured and more easily seen. It also has a widened horizontal grid for increased wind holdover.

In truth, there is a lot going on in this reticle. It is a First Focal Plane (FFP) optic so the reticle expands as magnification increases. When you crank the magnification all the way down to 4.5x, the detailed reticle shrinks down to simple, sharp crosshairs with the grid minimized underneath. When magnification is cranked up to 30x, the full capabilities of the H59 are revealed.

For speed shooting out to 600 yards, you can use the Horus Rapid Range Bars. These are used for holds on moving targets located along the main horizontal crosshair. The Horus Grid lets you visually place the target on the appropriate horizontal and vertical grid lines to correct for elevation and windage visually without turning knobs. Secondary horizontal lines allow precise elevation holds.

The standard spacing between the secondary horizontal lines is exactly .1 mil. To compensate for environmental variables, each secondary horizontal stadia line is calibrated with a large hash mark spaced 1 mil apart. Between each of the large hash marks, there are smaller hash marks that are 0.2 mils apart. That Horus Grid allows you to quickly and accurately make a second follow-up shot if your first shot misses.

Finally, holdover dots extend wind and elevation hold points beyond the Horus Grid while maintaining a clear, uncluttered view. The central dot at the crosshair intersection is unobscured to allow the clearest view.

Another scope from the line is the XRS2 4.5-30x50 III G3. Available in grey, this goes for $3,289.95.

PRODUCT SKU

ET46305Z

HOW DOES IT SHOOT?

Precisely, as one would hope. And you can add "Repeatable" to that. Once dialed in, the optic does its job and allows the shooter to focus his or her job. The optic is bright and clear. The larger tube and ED Prime Glass ensure a bright, high-contrast target field. The amount of usable light also means that you can maintain more clarity in poor light or twilight.

Looking through the optic at 4.5x, you get a wide field of view with excellent clarity from edge to edge. At 30x you still get a 1.7mm exit pupil with enough brightness to address targets at range. It became readily apparent that this scope was designed for making hits out past 1,000 yards.

SPECS

Finish: Black
Power x Obj. Lens: 4.5-30x50mm
Lens Coating: Fully multi-coated
Rain Guard HD: Yes
Tube Diameter: 34mm
Parallax Adjustment: 75 yards to infinity
Field of View (ft @ 100 yards):
24 @ 4.5x/3.6 @ 30x
Weight: 37.8 ounces/1,070 grams
Length: 14.5 inches
Eye Relief: 3.74 inches/95mm
Exit Pupil: 9.3/1.6mm
Adj Range: (in. @ 100 yards/mm @ 100 yards): 15/9
Mounting Length: 6.4mm
Focal Plane: First Focal Plane

The XRS2 4.5x50 G3 FDE, available for $3,197.95, is available in flat dark earth.

Adjustments were easy and accurate using the heavy-duty turrets. Each click snapped into place with no wiggle room in between. Getting .1 mil per clink and 10 mils per complete turn for elevation and windage made calculating adjustments easy and the adjustable zero stop made it easy to bring the turrets back to home at the end of the day.

FINAL THOUGHTS

The XRS II is a high-end optic that is ideal for those who take long-range shooting seriously. You get high-end performance in a rugged rifle scope at a competitive price. As Bushnell's flagship optic, the XRS II sets the bar both for the competition, as well as standing as one of the premier options for serious shooter who demands and requires a lot from their gear. For the discriminating shooter, the XRS II 3.5-30x50 meets those demands and will not disappoint. **SJ**

HEAVY HITTER

EXTEND YOUR LIMITS WITH RISE ARMAMENT'S NEW 1121XR ALL-PURPOSE, AR-STYLE PRECISION RIFLE

STORY BY **STAFF WRITER, PHOTOS COURTESY OF RISE ARMAMENT**

Sniper.

It's a magical six-letter word that gets your juices flowing … every time. When we had the opportunity to interview Garrett Grover—product specialist with RISE Armament, U.S. Army sniper, firearms instructor and professional 3-Gun shooter—we seized the opportunity.

To top it off, we also got Matt Torres, RISE Armament's president.

In the following interview, you'll go inside the engineering of their brand new 1121XR rifle with these two men.

— Editor

The 1121XR goes for less than $2,500 MSRP, and the company just released this gun in 6.5 Creedmoor.

01 DESCRIBE THIS RIFLE FOR US. WHO IS IT INTENDED FOR, ETC.?

MATT:

The 1121XR is an incredibly reliable and accurate rifle, available in .308 and 6.5 Creedmoor calibers. We created it for people who want a mobile, supremely accurate gas gun for anything from hunting to long-range precision shooting and PRS competitions.

GARRETT:

The 1121XR is an all-purpose, large-frame AR-style precision rifle that is appropriate for anyone wanting an accurate and dependable

extended-range semi-automatic rifle. Weight was reduced where it could be, making the gun very packable while still guaranteeing sub-MOA accuracy. This is a great rifle for hunting and competition, and would also be appropriate as a semi-automatic sniper system (SASS).

02 WHAT MAKES IT UNIQUE?

MATT:

#1: Accuracy. It hits levels of accuracy that a gas gun has never seen. All its parts—from the RA-535 Advanced-Performance Trigger to the 416R stainless steel barrel and RA-901 Compensator—go into that. With the 1121XR's emphasis on accuracy, it helps shooters remove their limits, making virtually any shooter better. Plus, the MLOK-compatible handguard with a Picatinny rail make it incredibly customizable. In addition to your scope, you can easily add a sling, light, camera, you name it.

"... would also be appropriate as a semi-automatic sniper system (SASS)."

The rifle can be used for hunting and competition or as a semi-automatic sniper system (SASS).

GARRETT:

We reduced the circumference of the handguard to allow mounting optics with large objective lenses without having to get overly tall rings. This is useful, as it allows the shooter to

When RISE set out to make this rifle, their goals were to build a lightweight, accurate rifle that looks great and performs in any environment.

obtain appropriate cheek weld and achieve a comfortable firing position. The trigger—the award-winning RA-535 Advanced-Performance Trigger—comes standard on the gun and speaks for itself. This is the trigger of several top-tier competitive shooters and has seen service overseas with Special Operations units.

03 WHEN YOU SET OUT TO MAKE THIS RIFLE, WHAT WERE THE GOALS?

MATT:

Our goal was to provide a lighter, more accurate, durable, reliable heavy-caliber gas gun. We set out to translate the key benefits that have been successful in all our smaller caliber .223s to larger calibers. Our number-one goal was to prove that a larger caliber gas gun can be reliable and incredibly accurate. Combine those features with its low weight and customization, and it doesn't get any better than that.

GARRETT:

As with all RISE products, the goal was to maximize the shooter's potential and enhance the shooting experience, but it goes beyond that. We wanted to create a lightweight, accurate, and dependable rifle that not only looked great, but also could be counted on to perform under any circumstances and in any environment. We tested this rifle in the heat and the cold, the sun and the rain, the wind and the snow, and with multiple types of ammunition. The gun shot and performed to standard in all the tests we subjected it to. The last few years have seen a larger demand for higher-caliber AR-platform rifles, and the interest in long-range shooting is at a peak. We wanted to put a tool on the market that fulfilled this need and was pleasurable to use. All our rifles guarantee sub-MOA with match ammo, so obviously that was a goal, but we wanted more. We wanted bolt-gun accuracy in a gas gun.

04 WHY DID YOU SEE THE NEED FOR THIS TYPE OF RIFLE, AND HOW DID YOU ADDRESS THOSE NEEDS?

MATT:

There was a need for a highly precise gas gun, and we achieved that through top-of-the-line components. It comes down to everything from having a supremely stable platform to our upgraded, high-performance trigger to a barrel that's finely tuned and hits crazy-high tolerances. By designing and manufacturing the components in-house, we've been able to achieve and maintain higher levels of innovation and quality.

GARRETT:

Several states now allow hunting with suppressors, and the threaded barrel of the 1121XR allows the mounting of most suppressors on the market. Additionally, hunters are starting to discover the benefit of using a semi-automatic rifle when in the field for faster follow-up shots and less movement between shots. In the sniper world, it is becoming standard practice for team leaders or spotters to carry a SASS for situations when rapid, multiple-target engagement is called for, and a bolt gun is at a disadvantage. Last but not least, with long-range competitions now offering gas gun divisions, the 1121XR was a no-brainer. We had to do it!

05 HOW LONG IN THE DEVELOPMENT PHAS- WAS IT? DID YOU ENCOUNTER ANYTHING OUT OF THE ORDINARY DURING THIS PHASE?

The T121XR is a great-looking gun that breaks down nicely into the case.

MATT:

It was in development and testing for two years. We applied some of the innovations we made on .223/5.56 to the larger calibers and then finely tuned it. Like anything, you have your bumps along the road, but surprisingly enough for this platform, it went incredibly smoothly. We figured we'd have to make a lot of modifications to hone the accuracy, but our first prototype was incredibly accurate, and we continued to develop and improve it from there. We reached a point where it was more accurate than most companies' standards, but it wasn't there yet for us, so we continued to enhance the design to make it even more accurate.

“ ... hunters are starting to discover the benefit of using a semi-automatic ...”

06 TALK ABOUT PERFORMANCE.

GARRETT:

The first thing you'll notice is the incredible accuracy. Throughout our testing phase, I was shooting tighter, more consistent groups than I could with the bolt gun I carried in Afghanistan! I was hitting consistently at 1,000 yards with 175-grain match ammo—with a gas gun! The compensator works wonders for the recoil, despite the reduced weight. And with the addition of the 6.5 Creedmoor this year, recoil is a complete non-issue.

07 ELABORATE ON THE FOLLOWING: "FOR THOSE WHO WANT MORE OUT OF A HEAVY-CALIBER GAS RIFLE."

MATT:

The 1121XR can literally help you go farther and gain more yards, and it's more reliable and accurate than other gas rifles. When compared to bolt-action rifles, it has the advantage of being built around the AR platform, which is by far the most versatile. The customization with the MLOK handguard is nearly limitless. You can get more effective use out of the 1121XR from competitions to hunting.

GARRETT:

Let me say this first: I love my .223 guns, like, a lot. However, I understand that .223 isn't always appropriate for every situation. There are a multitude of reasons why someone would want/need a heavy-caliber gas rifle. For example, I wouldn't take my .223 on an elk hunt, nor would it be my first choice when providing overwatch for an entry team from 600 meters away. Not to mention, a lot of people just like bigger guns.

During testing, the gun impressed. Garrett reported that he was shooting tighter, more consistent groups than he could with the bolt gun he carried in Afghanistan.

"I was hitting consistently at 1,000 yards with 175-grain match ammo—with a gas gun!"

08 HOW DID YOU MAKE THIS LIGHTER?

MATT:

We pushed the boundaries. We started out as light as we thought it could possibly go, while maintaining accuracy, and built it from there. We won't compromise on materials, so we had to use stainless steel barrels and 7075 aluminum, which are inherently more dense, heavier materials. So, we had to get creative with the design to take down the weight without sacrificing the structural integrity and dependability or accuracy. Part of that was done through our proprietary profiling and design.

GARRETT:

I already mentioned the handguard; that helped a bunch. We also used our proprietary lighter barrel profile, which we were initially concerned might affect accuracy, especially when hot, but have discovered it wasn't an issue. The gun shoots great regardless. We also removed material in the receivers where it wasn't needed. This added some machine time, but it was worth it. We ended up with a rifle that comes in at well under 10 pounds and that fills all the roles that would normally be filled by a much heavier gun.

09 WHAT ELSE COMES TO MIND?

MATT:

Whether it's for tactical uses, hunting, or competitions, the 1121XR is a great all-around weapon. Even if you don't have somewhere where you can shoot it to 1,000 yards, you'll see the benefits of its accuracy.

GARRETT:

We chose to use the PRS stock by Magpul on this gun due to the adjustability of both length of pull and comb height. The PRS stock is where a lot of the weight comes from, but we felt it was the best choice for the application of this type of gun. We were also able to keep the price down, under $2,500 MSRP, which makes it more accessible than many similar guns on the market. We just released this gun in 6.5 Creedmoor, and everyone is very impressed. It performed remarkably well at Industry Day at the Range at SHOT Show and enabled many people to hit targets farther than they ever had before. **SJ**

SPECS

RISE ARMAMENT'S 1121XR

- Magpul PRS adjustable stock
- Weight: 9 lbs., 8 oz.
- 20-inch 416R stainless steel barrel, air gauged and tested
- 1:11¼ twist, button rifled, free floating for improved accuracy
- Precision machined 7075 aluminum billet receivers
- Stainless steel RISE Armament RA-701 compensator
- 15-inch slim, streamlined billet aluminum handguard, MLOK-compatible with Picatinny upper rail system
- www.RiseArmament.com

RISE selected Magpul's PRS stock by Magpul due to the adjustability of both length of pull and comb height.

STORY AND PHOTOS BY **JARED CLAWSON**

PASSION FOR

Hitting a target at short range isn't really a gamble for me; I can usually count on coming up aces high.

I've spent countless hours shooting handguns, sending hundreds of thousands of rounds downrange. The odds are in my favor when it comes to hitting targets consistently with a handgun. Throw long-range shooting into the mix and … well, let's just say there was a time when I didn't like my odds of hitting targets reliably at distance. It just wasn't an arena I was familiar with. I decided that needed to change, so I set out to become a player in a new game.

Here's how I did it.

PERFECTION

The Keys to Learning How to Shoot Effectively at Distance

DEAL ME IN

My first foray into long-range shooting involved a basic Remington 700 rifle chambered in .308 Winchester, equipped with a Vortex Viper PST Optic. It was a good, solid starting rig. I read good reviews about the rifle and optic, and felt it was a good place for me to start. My budget at the time also told me it was the perfect option!

I understood little to nothing about ballistics, atmospherics, grain weights or stable shooting positions. I started slowly by dialing my rifle in, zeroing at 100 yards. I graduated to hitting targets further and further out, making DOPE adjustments and using up a lot of ammo in the process. I recorded my DOPE in a notebook for future reference, having no clue ballistic apps even existed.

After several hours, I finally reached the point where I could hit targets consistently out to 900 yards. Anything beyond that was still a struggle; but, I felt like I was becoming quite the long-range shooter! Little did I realize, the game had just begun—and I was still very much a novice.

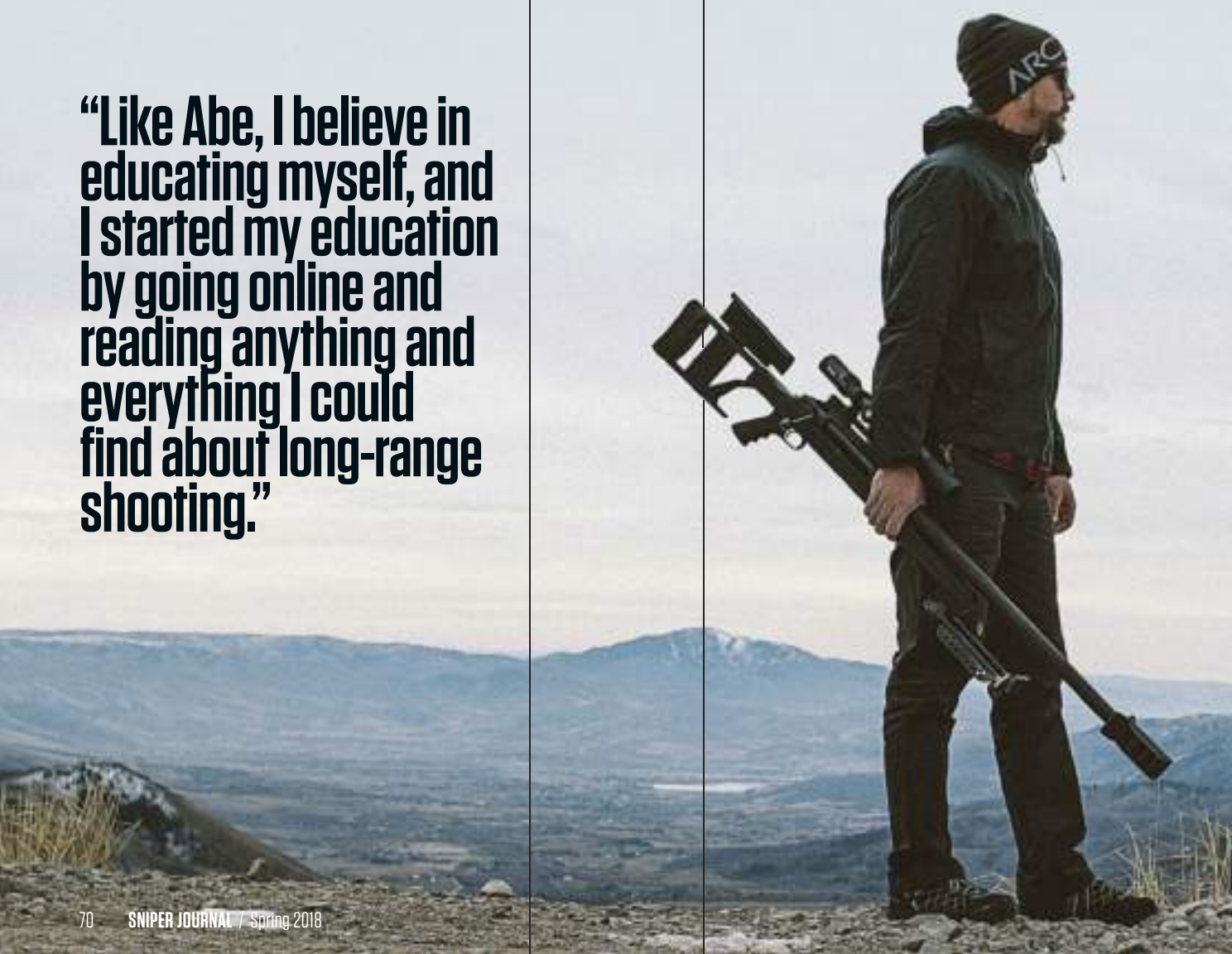
"Like Abe, I believe in educating myself, and I started my education by going online and reading anything and everything I could find about long-range shooting."

Living and working in the mountains of Utah provides plenty of opportunity to hone my long-distance shooting skills.

CALLING MY OWN BLUFF

On my second long-range outing, I returned to the location where I first dialed in my rifle, set a target at 900 yards and sent a cold-bore shot down with confidence. As the saying goes, the shot was "off by a mile," hitting far to the right and a little short of the target. I sent another round down, hitting even further to the right! How could this be?

I checked my DOPE settings against my records, everything seemed to be in order. I wondered if my optic had somehow shifted after my previous outing. There was a very slight breeze that day, negligible at best, or at least I thought. At the time my budget had no room for a kestrel



wind meter, so I set up a small wind flag 300 yards out.

That flag was barely moving, so how could wind be the problem? I decided to hike out and place another flag next to the target. When I got out there I was surprised that at 900 yards, the wind was far stronger than it was at 300 yards—thanks, big rock formation!

I hiked back to my shooting position, made a few adjustments and soon was hearing the satisfying ring of rounds impacting steel. I knew then that I still had a lot to learn if I wanted to be consistent.

PLAYING THE GAME

Abraham Lincoln was a self-educated man who rose from humble beginnings to become a successful attorney and, eventually, President of the United States. How he did it without the internet, I'll never know. Like Abe, I believe in educating myself, and I started my education by going online and reading anything and everything I could find about long-range shooting.

I consumed and digested volumes of information; I say "digested" without apology, because there's a lot of garbage online that should be eliminated from your system quickly. I also took every opportunity to talk with everyone I could who knew something about long-distance shooting—including former military, law enforcement officers, competition shooters, and a lot of hunters. I was learning a lot.

Believe it or not, there are people who have gone before and done things you haven't done, and know things you don't know. Shocker, I know. Some know quite a bit from highly specialized training, others from personal experience; however, no matter how much you think you know about something, there's always someone who can teach you a thing or two you didn't know before. I found myself in a position where the more I learned, the more there was to learn.

Don't ever let arrogance and pride keep you from learning something new to improve your competency. By the same token, don't ever let another person's arrogance and pride keep you from learning all you can from them. It's like being a sponge: soak it all in, and squeeze to purge what you don't wish to keep.

HIT ME—I NEED NEW CARDS

I loved my Remington/Vortex setup. All in all, it was a good, solid platform that performed very well—mostly meeting my expectations. The .308 Winchester round has a proven track record at distance and is still in wide use today for military and law enforcement applications, but it's not without its limitations.

After careful consideration, I decided if I really wanted to get serious about the long-range game,

THE PATH TO **TIER 1**

Jared Clawson is the founder and CEO of Tier 1 Concealed, LLC.

He was raised in the same high-mountain valley where Utah's oldest continuously operating bar is located, and highly recommends the Starburger. While Jared hasn't actually attended a university, or received any advanced degrees, he identifies as a PhD in the field of Firearms Management. That seems to be good enough these days!

The truth is, Jared is a regular guy who developed a passion for shooting excellence at an early age and has managed to create a business that supports his passion. He's a big believer and staunch defender of the right to keep and bear arms. He still resides in Northern Utah, and spends most of his time outdoors, usually pursuing the perfect shot, and occasionally hanging out with his family.

I needed some new cards, which were dealt in the form of a custom-built rifle chambered in 6.5mm Creedmoor.

The rifle has a KRG chassis, Tikka action, and a fluted Bartlein barrel. To complete the package, I mounted a Minox Zp5 5-25x56mm optic and added a DeadAir Sandman L Suppressor. I found not having to wear hearing protection made cozying up on the rifle more comfortable and my cheek weld more consistent. I like to think of it as a "Royal Flush" solution to my long-range problem!

Opinions vary, and you and I both know opinions are the second most common thing people have. But, I really like my 6.5 Creedmoor, and I'll tell you why: It cuts through the wind better, and drops substantially less at 1,000 yards in comparison to the .308. I've found I can hit long-range targets more reliably, with greater accuracy with the 6.5. Don't misunderstand, I can shoot both effectively, but the 6.5 makes it seem easier somehow. As for you? Shoot whatever the hell you want—we can still be friends.

Don't make the mistake of thinking the most important factor in effective distance shooting is fancy new equipment or high-tech rounds. I'm not going to lie—it makes the job easier, but my father once told me that a gun will only shoot as well as the man behind it. I think he was trying to say the weapon is only part of the equation, and usually not the most important part. The best available equipment in the hands of a mediocre shooter will still result in a poor shot. Believe me, I've seen some very nice

KEYS TO **LONG-RANGE** PERFECTION

1 Do your research. Reach out to experienced shooters, who can help you.

2 Buy the best equipment your budget will allow.

3 Practice consistently.

4 Desire is a key. Your ambition to improve must be a passion.

5 Accurate distance shooting requires patience. Evaluate your shots, one at a time.

There's a saying out there about "training in realistic conditions." That means, even when it is cold and snowy, you can still go out and send it.

equipment pathetically misused at the range, and some very basic equipment masterfully used.

A stacked deck and no skill still equals a losing hand. What equipment do I recommend for distance shooters? The best equipment your budget will allow, and faithful practice until you learn to use it masterfully. In a nutshell, whether you shoot with your grandfather's rusty old military .30-06, or with a sweet new custom rifle with the latest optics, the secret to shooting success is the same: practice, practice, practice.

IF YOU WANT TO WIN BIG ...

I've loved shooting guns my entire life. When I was younger, if I wasn't shooting guns, I was sending something at a target. It may have been an arrow, a throwing knife, a spear, or a plain old rock. I just loved when I could hit what I aimed at reliably. I may have been a little obsessive with the time I spent doing it, but I would keep after it until I could make the shot I wanted. Not much has changed since then. I always notice a difference in my results when I haven't spent enough time working on my craft.

The best way to become proficient is to practice. The story is told of a man who, after watching a concert pianist perform, approached the artist, saying to him, "I'd give anything to be able to play like you do," to which the pianist replied, "I've given everything … I've given my entire life."

The point is, if you want to be great at something, you must put in the time. It must be a passion. Fortunately for me, shooting was a lot more fun than playing the piano (Sorry, Mom!), so the practice came easy. You can't become a great shot by playing video games, and you won't acquire shooting skills by hitting the range every other month.

It's true, some people come by skills more naturally than others; but, from my experience, hard work and practice trumps natural ability every time … all the time.

DON'T COUNT YOUR MONEY

With distance shooting, you can certainly spend some money. You'll pay a little more for precision match-grade ammo. You'll pay a little more for top-shelf equipment and reloading gear. It can really add up fast, but what you really need to count are your shots.

"Accurate distance shooting requires patience, and if you want to perfect your game, shots can't be taken lightly."

Productive distance shooting requires a thoughtful review of all the shots you take. In other words, make sure there's "time enough for countin', when the shootin's done."

One of the first lessons I learned about distance shooting is the amount of ammo required for a good day at the range was way less than what I was used to. Generally, the more rounds spent during a distance session, the worse your day will be. Accurate distance shooting requires patience, and if you want to perfect your game, shots can't be taken lightly. It's tedious to evaluate your shots one at a time, to be slow and intentional, but it pays off faster than the hit-and-miss game.

I shot long-range with a buddy of mine who isn't exactly a patient guy, at all. He quickly shot one round after another, until he finally hit the target. True, he eventually hit the mark, but he wasn't learning how to shoot proficiently; he was merely walking his rounds to the target. There's no honor in that.

I once heard the definition of insanity is doing the same thing over and over, expecting different results. I tell you, it was insane how many rounds he sent versus how many hits he got. With distance shooting, you will fail if you don't take your time and evaluate what's happening. If you want to send thousands of rounds downrange with reckless abandon, get a machine gun. If you want to shoot well at distance, take your time in setting up the shot, taking the shot, and reviewing the results after the shot.

It's a patient man's game. If you're not a patient person, chances are slim that you'll become a great distance shooter. Don't feel bad, you may still make one hell of a machine-gunner! **SJ**

EYES ON THE PRIZE

Improve Your Aim by Checking Out Some of the Newest Rangefinders on the Market

STORY BY **AMELIA EARL,** PHOTOS COURTESY OF THE MANUFACTURERS

Whether you're a hunter, a long-range rifle competitor, or a precision marksman on a SWAT team, adding a new rangefinder to your gear bag can be one of the best choices you can make.

Over the years, rangefinders have dramatically improved through rapid advancements in technology and enhanced manufacturing processes. These upgrades make precision shooting at long ranges easier, better, and more accurate than ever before.

View your prey up close while standing at a distance to prevent compromise of your position, therby sending your target scrambling for cover. Use a rangefinder to eliminate distance guesswork, positively identify your quarry, improve your visual estimation, and make your day successful.

Check out some of the newest, most advanced rangefinders available on the market below and discover what other benefits such a small device has to offer.

01 MONARCH 7I VR
NIKON

Setting itself apart from other competition, the MONARCH 7i VR utilizes an optical VR (Vibration Reduction) system. This technology works to minimize image vibrations caused by hand movements by approximately 80% in the viewfinder, while synchronously aligning the viewed image with the laser beam. The result is a clear-cut image with faster and more accurate ranging.

Receive distance readings from 8-1,000 yards, which are displayed in 0.1-yard increments. When measuring under 700 yards, the level of accuracy is +/-0.5 yards and +/-1 yard for distance readings over 700 yards. The MONARCH 7i VR features Tru-Target Technology, which enables you to select between two different ranging modes.

SPECS
Weight: 7.1 oz
Height: 3 in
Length: 3.9 in
Width: 1.9 in
Range: 8-1,000 yds
Magnification: 6x

FEATURES
- ID Technology provides the horizontal distance to the target
- HYPER READ tech measures with fast, stable response
- Wide field of view, long eye-relief and bright optics

MSRP: $399.95
NikonSportOptics.com

02 RX-1600I TBR/W
LEUPOLD

Released in February 2018, the RX-1600i TBR/W is one of the newest rangefinders available on the market. With a maximum range of 1,600 yards, the RX-1600i is one of the longest ranging units in its class and has an accuracy of +/- ½ yard. Featuring True Ballistic Range with Wind (TBR/W), the RX-1600i has a ballistic compensation system and wind management software to keep each shot on target.

The rugged design allows for use in harsh conditions, while the lightweight aluminum chassis keeps your burden light. Waterproof and fogproof, the RX-1600i delivers elite performance wherever you go. Optical features include: 6x magnification, scan mode, high light transmission, a built-in inclinometer, and a high-contrast red OLED display.

SPECS
Weight: 7.8 oz
Height: 2.8 in
Length: 3.8 in
Width: 1.3 in
Range: 1,600 yds
Magnification: 6x

FEATURES
- Available Reticles: Plus Point, Duplex, or Duplex with Plus Point
- Ergonomic housing design
- Proprietary advanced ranging engine

MSRP: $519.99
Leupold.com

03 KILO2400ABS
SIG SAUER

Featuring some of the most advanced technology currently found in rangefinders, the KILO2400ABS makes hunting easier than ever. Sync with a smartphone and use the free Applied Ballistics' Ballistic Solver app to calculate long-range rifle trajectories. HyperScan provides a refresh rate of 4 times per second in scan mode, even at distances over a mile. AMR (Angle Modified Range) uses an on-board inclinometer to modify the effective shooting range according to the incline/decline angle between you and the target.

Range up to 2 miles for reflective steel, 1,800 yards for trees, and 1,400 yards for deer. Real-time environmental sensors (temperature, pressure and humidity) are input into the embedded ballistic calculator for enhanced accuracy, but a sensor override option is available.

SPECS
Weight: 7.5 oz
Height: 3 in
Length: 4.2 in
Width: 1.3 in
Range: 2 miles
Magnification: 7x

FEATURES
- LightWave DSPTM Technology
- AB Ballistics Engine
- Available sensor override option
- Android/iOS/PC Compatible
- Tripod adapter, lanyard, carry pouch, stylus and more

MSRP: $1,799.99
SigSauer.com

04 PROWILD
TECTECTEC!

This budget-friendly rangefinder measures up to 540 yards in continuous scan mode and features advanced speed technology. The ProWild has an accuracy of +/- 1 yard and provides a crisp, clear image through the multilayered optical lens with 6x magnification.

Measuring both distance and speed, the ProWild provides you with all the basic information you need to improve your game without breaking the bank. Water- and dust-resistant, the durable build will prove its worth over the years to come. The ProWild comes with a 2-year warranty and a 30-day full refund return policy.

SPECS
Weight: 6.53 oz
Height: 2.83 in
Length: 4.09 in
Width: 1.61 in
Range: 540 yds
Magnification: 6x

FEATURES
- 6x magnification and multilayer coating
- Measurement accurate within +/- 1 yard
- 2-year warranty

MSRP: $129.99
Us.TecTecTec.com

05 RX-2800 TBR/W
LEUPOLD

Released in January of 2018, the RX-2800 TBR/W is one of the newest rangefinders on the market. This model has been specifically designed to pair with modern long-range rifles and ammunition. Reaching a ranging distance of 2,800 yards, the RX-2800 TBR/W allows you to extend your hunt like never before. Experience clear and powerful optical performance with 7x magnification.

Featuring Leupold's True Ballistic Range® (TBR) technology, users may account for incline, range to target, ballistics data, and develop wind compensation solutions. Built with an impact-resistant polymer armor, the RX-2800 is rugged and reliable, and completely waterproof. Despite its rugged exterior, it is lightweight and is equipped with a high-contrast red OLED display for easy viewing.

SPECS
Weight: 7.9 oz
Height: 2.9 in
Length: 4.3 in
Width: 1.5 in
Range: 2,800 yds
Magnification: 7x

FEATURES
- Purpose-built to be paired with the latest long-range rifles
- Lightweight, skeletonized aluminum chassis interior
- Capable of accurately ranging targets out to 2,800 yards

MSRP: $649.99
Leupold.com

06 RANGEMASTER CRF 2700-B
LEICA

Available to the public in October of 2017, the new Leica Rangemaster CRF 2700-B is capable of measuring distances up to 2,700 yards. Utilizing the renowned ballistics system ABC® (Advanced Ballistic Compensation), the CRF 2700-B provides superior shot accuracy. Air pressure and temperature sensors, in addition to an integrated inclinometer, work to increase the precision of the ballistic values output.

The Leica Rangemaster CRF 2700-B offers three ballistic outputs, along with the measured distance. An integrated microSD memory card slot allows you to upload your ballistic data to the rangemaster. User-specific results are displayed within a fraction of a second on the LED display, which automatically adjusts to ambient lighting conditions for easy viewing.

SPECS
Weight: 6.5 oz
Height: 2.25 in
Length: 4.5 in
Width: 1.25 in
Range: 2,700 yds
Magnification: 7x

FEATURES
- Equivalent horizontal range (EHR) up to 1,200 yards
- Fast scan mode records environment/targets every 0.5 seconds
- High-precision ballistics program enables point-of-aim correction

MSRP: $899.00
LeicaStoreLV.com

07 A3 UINEYE

Powerful and compact, the A3 by Uineye is a great rangefinder to use on the golf course or during an afternoon hunt. Range up to 1,600 yards with 0.33 yard of accuracy. Access multiple measurement mode and view distance, angle, height, and horizontal distant measurements. SCAN mode is also available, which allows you to enable continuous ranging of moving or multiple targets. The A3 gives you the option to easily switch between measurements in either meters or yards.

A built-in electronic compass calculates the angle, height, coordinate azimuth and magnetic azimuth. By downloading the Uineye APP to your smartphone, you can connect the rangefinder to your mobile phone and transmit the measurement data between the two. Uineye offers a one-year warranty for this product.

SPECS

Weight: 7.05 oz
Height: 3.03 in
Length: 4.25 in
Width: 1.73 in
Range: 1,600 yds
Field of View: 7°
Magnification: 8x

FEATURES

- Advanced electronic compass technology
- 0.33 yard of accuracy
- Transmit the measurement data to your smartphone

MSRP: $169.99
Uineye.com

08 G7 BR2500 BALLISTIC GUNWERKS

The new 2017 G7 BR2500 Ballistic Rangefinder has an effective range of 2,500 yards and a tighter beam divergence for increased ranging accuracy. Let your senses take a break and enjoy the BR2500's complete ballistic solver capabilities for drop and wind. Choose your output: MOA, MRAD, and BDC or Shoot-To compensation. According to Gunwerks, this is the only ballistic rangefinder currently available on the market that offers customizable "Shoot To" outputs for custom BDC turrets.

With a press of a button, measure range, temperature, pressure, and incline to produce the best wind and drop solution based on your programmed Muzzle Velocity, Zero Range, Ballistic Coefficient, and Sight Height. An on-board ballistic solver determines present drop and wind calculations up to 1,400 yards with accuracy to 0.1 MOA.

SPECS

Weight: 14.4 oz
Height: 4.5 in
Length: 5.2 in
Width: 2.1 in
Range: 2,500+ yds
Magnification: 7x

FEATURES

- TruPulse Targeting Modes: Basic, Near, Far, Scan
- Measurement/Ballistic Solution Time: ≤ 4sec
- Rugged weatherproof housing with GORE-TEX membrane

MSRP: $1,599.00
Gunwerks.com

09 W600 LASER
WOSPORTS

The W600 Laser by Wosports is the least expensive rangefinder in this guide. Providing all the basics you need, without the extra fluff, the W600 Laser will measure up to 600 yards with a 5-yard accuracy level. It also measures speeds from 20 to 300km/h.

Wrapped in a rubberized armor, the W600 Laser has proven durability and a non-slip grip. Weatherproof and lightweight, you can easily take it with you wherever you go. The W600 Laser comes with a carrying case, wrist strap, cleaning cloth, and battery.

SPECS
Weight: 8.25 oz
Height: 3.15 in
Length: 5 in
Width: 1.69 in
Range: 600 yds
Magnification: 6x

FEATURES
- Measures speed and distance
- Rubberized armor for added durability
- Affordable price tag

MSRP: $89.00
Wosports.com

10 DRAGON EYEZ
SA SPORTS

Ready to take on a variety of situations, the Dragon Eyez rangefinder is truly versatile. Shoot a buck at 31 yards with a crossbow, take a 600-yard shot and claim a trophy caribou, or hit the golf course and sink a 143-yard shot—all with the help of Dragon Eyez.

The 7x magnification allows you to see reflective surfaces up to 1,500 yards out. A water-resistant design allows you to go out rain or shine, and it even includes a Rain Mode for more accurate readings. Dragon Eyez has a LCD display and it comes with a case, lanyard and lens cloth.

SPECS
Weight: 6.6 oz
Height: 5 in
Length: 7 in
Width: 3 in
Range: 1,500 yds
Magnification: 7x

FEATURES
- LCD display for easy reading even in low light
- User-friendly, requires no complicated setup
- Suitable for crossbow, golfing, fishing, pistol and rifle use

MSRP: $199.99
Sa-Sports.com

11 RANGER 1800 VORTEX OPTICS

Go the distance with the Ranger 1800 and accurately range targets up to 1,800 yards out. Designed to be easy to use, the menu is straightforward and simple. O-ring seals prevent water and harsh weather conditions from stopping your hunt, and a rubber armor will keep the rangefinder protected while providing a non-slip grip.

Three modes make the Ranger 1800 versatile. Line of Sight (LOS) mode provides you with the actual line of sight range. Scan mode features continual distance readings when tracking an animal's movement or while panning across a terrain. Horizontal Component Distance (HCD) mode permits angle-compensated ranging. Depending on your preference, choose to view measurements in either yards or meters.

SPECS

Weight: 7.7 oz
Height: 3 in
Length: 3.9 in
Width: 1.5 in
Range: 1,800 yds
Magnification: 6x

FEATURES

- Simple, clean illuminated display
- Diopter adjusts for precise focus
- Tripod adaptable

MSRP: $579.99
VortexOptics.com

12 GOLF & HUNTING LASER WITH SLOPE WOSPORTS

Perfect for those who enjoy both the thrill of a hunt and the oh so satisfying hole-in-one. The Golf & Hunting Laser Rangefinder with Slope from Wosports is versatile and budget-friendly. Choose between six different modes—ranging, flagpole lock, speed, fog, scan, and golf distance correction—to best suit your day's needs.

PinSeeker technology is built into this rangefinder to allow golfers the ability to easily identify the flagstick, which is particularly useful when the flagstick is partially obscured. With a ranging ability of up to 600 yards, the Golf & Hunting Laser Rangefinder with Slope is a great tool to improve your aim on both the golf course and during an afternoon hunt.

SPECS

Weight: 7.87 oz
Height: 3.15 in
Length: 5 in
Width: 1.69 in
Range: 600 yds
Magnification: 6x

FEATURES

- 1-year warranty and lifetime customer wupport
- Class 1 laser product
- Great for both golfing and hunting

MSRP: $104.99
Wosports.com

13 RX-1200I TBR/W
LEUPOLD

Equipped with a DNA® (Digitally eNhanced Accuracy) engine, the RX-1200i provides increased accuracy, speed and range, and enables archers to view True Ballistic Range® (TBR) readings up to 125 yards. One-handed controls allow you to use the RX-1200i TBR/W while holding your gun or other equipment.

The RX series rangefinders have a built-in inclinometer with TBR that can calculate the ballistic range to your target, then display it as a holdover aim point, an MOA adjustment, a Milliradian adjustment, or the equivalent horizontal distance.

SPECS
Weight: 7.80 oz
Height: 3 in
Length: 3.8 in
Width: 1.4 in
Range: 1,215 yds
Magnification: 6x

FEATURES
- Fully multicoated lens system OLED technology adjusts to changing light conditions
- Three different reticles to choose from

MSRP: $499.99
Leupold.com

14 FURY HD 10X42 LASER
VORTEX

The new Fury HD 10x42 is the result of an angle-compensated rangefinder combined with a high-definition binocular. This union brings forth speed, convenience, efficiency, and dual-purpose functionality. Choose between Scan mode for continual distance readings, Line of Sight (LOS) mode for actual line of sight range, or Horizontal Component Distance (HCD) mode for angle compensated ranging. Displays results in either yards or meters on an easy-to-use menu, and right-side controls allow for single handed operation.

Waterproof and fogproof, the Fury HD 10x42 can be used in all environments. Air-to-glass lens surfaces are fully multi-coated to increase light transmission and maximize brightness for clear visibility.

SPECS
Weight: 31.8 oz
Height: 5.75 in
Length: 5.9 in
Width: 2.5 in
Range: 1,600 yds
Magnification: 10x

FEATURES
- High quality optics and long-distance ranging
- XR anti-reflective coatings
- Rainguard, tethered objective lens covers, neck strap, carry case, and battery

MSRP: $1,599.99
VortexOptics.com

15 GEOVID HD-B 42 "EDITION 2017"
LEICA

The Geovid HD-B 42 "Edition 2017" features long ranging capabilities of up to 2,200 yards. Advanced Ballistic Compensation (ABC®) technology allows you to view the distance to the target, the correction needed and the required deviation at point-blank range. Upload your own specific parameters for hand-loaded or special ammunition from a microSD memory card.

The Geovid HD-B 42 "Edition 2017" features a very bright, clear and easily legible LED display with automatic adjustments to any lighting conditions. Aqua Dura Coating prevents dust and dirt from sticking onto the lenses, making it easier to clean.

SPECS
Weight: 33.3 oz
Height: 4.9 in
Length: 7.0 in
Width: 2.8 in
Range: 2,200 yds
Magnification: 10x

FEATURES
- Point-of-aim correction for various reticles
- Integration of custom bullet trajectories using microSD card
- 12 fixed pre-installed ballistic trajectories

MSRP: $2,999.00
LeicaStoreDC.com

16 VICTORY RF 8X42
ZEISS

Bringing together the best of both worlds, the new Victory RF gives you all the benefits that binoculars and rangefinders have to offer, in one neat little package. The innovative design of the Victory RF resists hand fatigue during extended viewing sessions and features a sleek, compact build. The two control buttons were deliberatively placed in a position that provides comfortable hand placement during use and has the option to be programmed for either right- or left-handed operation.

B.I.S.® II technology uses an on-board ballistic calculator and on-board environmental sensors to produce exact data output. An internal ballistic solver processes this data to generate a relevant "shoot to" range solution.

SPECS
Weight: 31.6 oz
Height: NA
Length: 6.5 in
Width: 4.8 in
Range: 2,500 yds
Magnification: 8x

FEATURES
- Control and adjust illumination intensity for the data
- Bluetooth® enabled and can sync to the ZEISS Hunting App
- Features ZEISS' ComfortFocus™ Concept

MSRP: $3,249.99
Zeiss.com **SJ**

WANTS VS. NEEDS

CHOOSE THE **RIGHT OPTIC** FOR THE MISSION

STORY BY **BROOK HAMMOND, PHOTOS BY SCOTT WOLFF**

"So, how much does it cost?"

Yep. That's the most common question I got asked as a member of the Leupold Pro Staff working SHOT Show for 5 years. It was also usually the first question most folks asked. I'd always smile and say, "Well, that depends on where you buy it."

What you can afford is ultimately up to you—the shooter or agency buyer—and everyone wants to get maximum bang for the buck. The best way to maximize those hard-earned dollars is to know exactly just how much bang you need. It's the elephant in the room, so let's talk about how to get the scope you need, versus the one you might want, and not just the one on sale.

FIRST UP

Whether you're a hunter, competitive shooter, or military/police sniper, it's all about bullet placement. Shooting open sights at Camp Perry and holding 1 MOA (Minute of Angle) groups at 1,000 yards is impressive to watch. Few can compete at that level. For the rest of us, there are magnified optics. As precision shooters, we want to really tighten up our groups, and magnified optics are a huge step in the right direction.

THE BIG PICTURE

So, if a little magnification is good, more is better, right? Not necessarily.

Magnification carries costs other than just dollars. The first cost is Field of View (FOV). Every shooter who's tried to find a target on that far hillside knows that scanning with high-power selection is really tough. Snipers on overwatch are tasked to potentially cover large areas, and that entire zone must be visible. That's why we have variable power optics today. Scanning for your target on the lowest useable power selection, then dialing up the magnification to the necessary degree ensures precise shot placement.

Magnified optics are also key to getting better Positive Identification (PID) of the target. The standard magnification range has historically used a power factor of 3x, meaning your optic can vary its magnification from 3-power to 9-power (3x9, 4x12, 5x15 etc.). Demand drives the market, and recent need for increased magnification ranges have spawned ranges

"... if a little magnification is good, more is better, right? Not necessarily."

Top Left: Rangerproof has a new 1-8x24 that's worth a look. Second Focal Plane (SFP) reticles only present accurate holdover on maximum power.

of 4-, 5-, 6- and even 8-power (1x8, 3x24). A SWAT sniper with a 6x scope can cover the entire building or area of interest on 1x, then dial up 6x when needed. Moving more lenses across larger ranges usually costs weight, size, and money.

Magnification carries additional costs. The "Eye Box" is a point in space where the shooter's eye sees the best picture through the optic. That little sweet spot on the stock where you get the best picture from your scope is a simple math

PRO TIP 1

When buying that optic over the counter, ask the sales person to follow you outdoors. Take a couple of scopes with you and have the sales rep carry the rest. If you're really in the full-service mode, take a tripod with you. Once outside, look through the different optics in the sunlight. Make sure you're comparing the optics using the same level of magnification. You'll also want to make sure to pivot your optic from one horizon to the other. Looking towards the sun and then away from the sun will show you how that optic handles glare. Yes, there's a coating for that, too.

exercise. The objective lens size divided by the magnification selected gives you the exit pupil size. So, a 44mm objective lens on 3-power gives you 14.6mm or roughly 3.7 inches to play with. If your eye is somewhere in that eye box, you've got a full scope of light without shadow or vignette.

Now, take that same 44mm lens and crank the power up to 18x. Your exit pupil is just 2.4mm (44 divided by 18), or just 1/10-of-an-inch. If your head is skewed just the tiniest bit, you'll have issues seeing the full image. This is not unique to any manufacturer. It's just math. More magnification demands a bigger objective lens, which usually translates into more weight and—quite frequently—more money. It's worth noting any exit pupil smaller than 2.4mm is not user- friendly. It's just too easy to lose the image during recoil, or while shooting from non-standard positions.

Above: The Masterpiece Arms and Leupold Mk8 3.5-25 make the long shot happen. Before dropping big bucks, you need to understand exactly what you're getting.

Above: Being able to dial your hold while staying on target can be critical.

Left: Having tactile feedback from your turrets is key to making exact corrections. Try it with gloves on to make sure your corrections can be managed in harsh conditions.

PRO TIP 2

If you plan on ever shooting into shadows or low-light conditions, such as those encountered while hunting, find a shadowy spot under a car or dumpster, and look into it with each scope. Every reputable manufacturer will gladly accept the challenge, but only your eyes can reveal your champion.

KEEPING OUR FOCUS

Some folks can see up close, but wear glasses for distance. Others (like me) can see a gnat at 100 yards, but can't see the second hand on their watch. Neither shooter is lost, as almost all magnified optics have an adjustable focus on the eye piece for correcting prescriptive error. To make the reticle in your scope clear, you can adjust the eyepiece to suit your prescriptive needs; but, that adjustment doesn't sharpen the magnified image of your target.

For lower magnifications, the difference is usually not that noticeable, but as you increase magnification, you increase the difference in focus between the reticle and target. To focus the optical image for varying distances, you'll need a side focus adjustment, also called parallax adjustment. For most shooters, this is not a "nice to have" but rather a "must have," especially if shooters are engaging targets beyond 600 yards.

CATCHING RAYS

When folks see a 56mm objective lens, they're

"The best way to maximize those hard-earned dollars is to know exactly just how much bang you need."

impressed and usually remark, "Wow! I bet that thing really catches the light!"

Optics don't really catch the light as much as they just filter it. Some types of light are filtered out intentionally. Other light is filtered out (lost) due to material selection and processes used in manufacturing. Almost every optic on the market has a coating on the lens. Not only does it protect the lens from scratches, but it usually determines which frequencies of light are filtered out. An example of this is filtering out the higher frequencies, which are typically glare.

Harken back to those early school years when you learned about the color wheel while tasting the crayons and eating paste. You'll remember that adding colored filters blocks out other colors. So, how does adding a color filter to your lens help or hurt the image you see?

The dirty little secret is that some low-end optics companies add colors to the filter that appear to enhance your image while viewed under fluorescent light. Anyone who has taken photos can attest that those light waves are very different than natural sunlight. This makes their product look great while you're standing at the counter in Walmart. When you take that same scope out into the great outdoors, you'll be less excited about what you see. For more information on this, see the Pro Tip in the accompanying sidebar.

A couple of years ago, I was working the Fallen Brethren 3-Gun Challenge and was hanging out at the Leupold headquarters between tasks. A friend walked up to me, beaming a smile from ear to ear. He was anxious to show me the new optic he had snatched off the prize table at a 3-Gun match earlier in the season.

After I had admired his new acquisition, he sounded off with, "This little bad boy is just as good as yours and costs less than half the price."

I smiled at him, held up my hand as to say, "Just a minute," and retrieved my rifle from the stats shack. I then asked him to shoulder his rifle, scan into a tree line about two hundred yards away, and tell me how many stumps he saw in the shadows.

He eagerly complied and reported back with, "Four stumps and a fallen tree."

I asked him if he was sure of his answer and he repeated the same number. I then handed him my rifle and asked him to perform the same task. His exact words were unfitting to publish here. He could count all seven stumps in the shadows. He handed my rifle back to me and quietly said, "Well, mine's good enough for what I do."

It seems you do get what you pay for! For more information on this, see Pro Tip 2.

Other factors that affect your perceived clarity include the quality of glass used and other proprietary processes unique to the maker. It all comes down to looking through the optic and seeing for yourself in an actual shooting environment.

THE ULTIMATE QUESTION

"What does this reticle do for me?" is second only to the cost question, and is perhaps where I spend most of my time when showing an

Warranty is a must. Even the best optics can get damaged or develop an issue. Some companies are renowned for their service while others can leave the buyer frustrated.

Left: adding a red dot to your spotting scope makes getting on target fast and easy.

RED DOT SYSTEMS ON A SNIPER PLATFORM

We all love red dot sights, right? They're fast to get on the target, focused at infinity, and intuitive to shoot; however, for precision work, they really don't provide the accuracy we demand. Sure, we've seen companies put magnifiers on their red dots, but when the target is not big enough to see unmagnified, the red dot has hidden the target. Why, then, would we talk about Red Dot Systems (RDS) on a sniper setup? Here are several ideas which may have you mounting that holographic hardware on your precision setup.

Spotting scopes are great to use with their variable power settings, but even on the lowest magnification levels, finding a target in the distance can take some time. Mounting an RDS just to your high-powered spotter can make getting on target fast and easy. If properly adjusted, it can even allow you to leave your spotter dialed up to those higher magnification settings.

Just like the spotter, finding a small target in your precision optic can be time-consuming. Why not mount an RDS on top of or to the side of that monster scope? Placing the RDS over the target and then lowering your cheek into position on the stock should place your target in the field of view, even on mid- to high-magnification settings. The seconds you save in finding the target are seconds spent refining your shot placement.

With the latest advances in accuracy for today's modern semi-automatic rifle, more snipers are choosing to run Direct Gas Impingement (DGI) guns. Autoloaders that can consistently shoot groups of less than 1 Minute of Angle (MOA) are becoming commonplace. The speed at which you can re-engage a target is nearly instantaneous. This translates into the ability to engage more targets in a shorter period of time.

Right: Good posture practice with head and neck can speed you in finding that sweet spot for your optic. Cheek weld is everything.

Bottom Right: Note how the black (etched) reticle disappears even on the brightest days when looking into shadows. Illumination can be critical.

optic. To make matters worse, the complexity of the answer can be dizzying.

The world has come a long way from the days of fastening crossed horse hairs to an open tube. That system evolved by tying knots in the hairs to represent holding points for different distances. But even the evolution of a "Standard mil-dot" reticle branched in different directions between the Army and the Marine Corps.

These reticles gave way to modern ballistic reticles that give the shooter exact holds for different distances, but are usually tied to a specific bullet and muzzle velocity. That brings us to your first question in reticle selection: "Dial vs. Hold."

Many precision shooters prefer to dial-in the distance correction on their optic for each shot, but that takes time. Others use a series of dots and lines to make distance corrections, but this takes a lot more practice. To help the shooter speed his understanding, I break it down like this:

If you're going to be dialing your distances, look for turrets that have a crisp "click" between each unit of change. The turret should also be easy to read and manipulate while staying down on the rifle. Choose the optic that has your preferred unit of correction—either mils or MOA.

If you're looking for a reticle that has holds in it, there are two types.

The first is the ballistic reticle. Ballistic reticles are tied to a specific bullet type and velocity. The advantage here is speed. Hold the specified yard marker on the target and you get the hit. Tactical

shooters generally prefer these type reticles. They're fast. The disadvantage of ballistic reticles is change. If you change bullet specifications, you lose the accuracy of those etched lines in the glass. They become close—but not exact. Another factor in a ballistic reticle is it should be intuitive to use, but that usually comes with much practice.

The other type of reticle is angle-based since it's calibrated in either milliradians (mils) or minutes of angle (MOA). Since we're talking about precision shooting here, we need to look at the Mil/MOA reticles. These reticles give you lines that represent angles to the target. Those angles translate into distance from the center of the reticle at a given distance. A reticle with 1 MOA lines gives approximately 1 inch of correction or hold at 100 yards. The same line approximates 10 inches of correction at 1,000 yards and so forth.

I won't cover Mils versus MOA here, as that is an entire volume on its own, but civilians trend towards MOA, while military-trained shooters trend

"That little sweet spot on the stock where you get the best picture from your scope is a simple math exercise."

ENTER THE RDS

Place the hallowed red dot atop your magnified optic, and you can immediately transition roles from stand-off sniper to multiple-target shooter out to 200 yards, needing only the shift of your cheek position. Now your 18-inch precision rifle can cover both roles of SWAT sniper as well as door-kicker, a feat no bolt-action shooter would dare attempt.

No longer do agencies have to equip shooters with both a bolt action precision rifle and a carbine. The officer can have both in one rifle by simply adding the RDS to the top of his precision optic. Beyond the speed increase to the precision shooter, the cost savings and flexibility that this brings to law enforcement agencies is becoming a driving force for RDS purchasing.

"When buying that optic over the counter, ask the sales person to follow you outdoors. Once outside, look through the different optics in the sunlight."

towards Mils. If you understand your corrections to the target need to be given in the same units you're seeing in the reticle, you're good to go. It's also worth mentioning if you're working with a spotter or using a spotting scope yourself, it helps to be using the same units of angle in each optic.

FOCAL PLANE

Focal plane has to do with where the reticle is projected to the shooter—either in the first focal plane (FFP), or the second focal plane (SFP). Your grandfather's first optic was probably a fixed level of magnification, while the next generation optic was variable power. If you're using a standard cross-hair duplex reticle, the center of the reticle is exact for all levels of magnification. If, however, you have any other lines presented such as wind holds or Mil dots, those holds only represent their intended value at maximum magnification. That's because the target image is managed on one focal plane, while the reticle is managed on the *second* focal plane. As you increase the size of the image, the reticle stays the same size.

On FFP scopes, the image and the reticle are managed on only one focal plane. As the image of the target gets bigger, so does the reticle. This means your holds are accurate at every level of magnification. The advantage of this is obvious, especially when shooting across high ranges of magnification.

But this awesome feature comes at a price. At the lowest levels of magnification, the smaller reticle image can be difficult to see, while at the highest levels of magnification, the reticle can be so large as to obscure the target. These limitations can be addressed with intelligent reticle design. Look for a reticle that gives you a simple reticle at low magnification, while providing all the most needed information at the highest power settings. Additional negatives of FFP scopes are typically increased weight, overall size and cost. In the end, it comes down entirely to shooter preference.

When shooting with a spotter, having a ballistic reticle pays big dividends. Corrections are fast and exact. Shooter and spotter see the same picture when talking about corrections.

SHEDDING LIGHT ON THE RETICLE

Illuminated reticles are all the rage, but are they really necessary? Our eyes can only focus on one thing at a time. Period. This is called your focused vision. When you're looking through the optic, you're focusing on the target. Our eyes use non-focused vision to pick up the reticle. If the reticle is illuminated, our eyes can pick up those lines faster. Illumination is also a must while shooting in low-light situations, when seeing thin black lines against a darkened target can be problematic.

When you look through your prospective illuminated optic, make sure the illumination exactly matches the etched reticle. You'll also want to check the presentation at the low and high end of illumination levels. On the lowest setting, it should be crisp and clear while being barely visible. You don't want the optic to blur out during low-light usage. On the brightest setting, you don't want to see blurring, sometimes called "flare" or "bloom." If you're engaging targets in reduced lighting conditions, spend the money.

PRECISION SHOOTING, PRECISION EQUIPMENT

Scopes are a collection of tiny gears and springs that hide amongst all that glass and machined tubing. Those small gears and springs must be very precise in windage and elevation dialed into each shot. Lower-quality scopes may have a reticle that jumps or sticks when dialing in adjustments. If you're serious about getting that great optic, take it to the range and try the box drill below.

You should expect to be back at original zero. Fire 3 additional rounds to confirm this. Examine the rounds you fired around the box. At 100 yards, 1 mil (or 3 ½ MOA) equates to 3.6 inches. If your rounds do not impact back at zero, you MAY have a tracking issue.

THE BOTTOM LINE

So, what's the bottom line when choosing that long-range optic? Never buy an optic based on hype. Get behind the optic in your anticipated shooting environment and evaluate what you see based on the criteria above. Buy 10 percent more magnification than you think you'll need and then keep the power factor (magnification) spread to the lowest number that you can employ on the low end.

Make sure you understand the reticle features before you buy. Some reticles are packed with loads of fantastic features, but require hours of study to master, and carry license fees of hundreds of dollars.

If you're shooting in the dark, spend the money for illumination. Make sure the adjustments are crisp, smooth, and accurate.

Finally, look at the company's warranty policy regarding "try before you buy." Call the company and see how long it takes to talk with a real person. Ask something like, "Hey, I've got an optic with an adjustment problem. What's the current turn-around time on getting this scope back?" You should be able to get a feel for what kind of company you'll be dealing with based on that call.

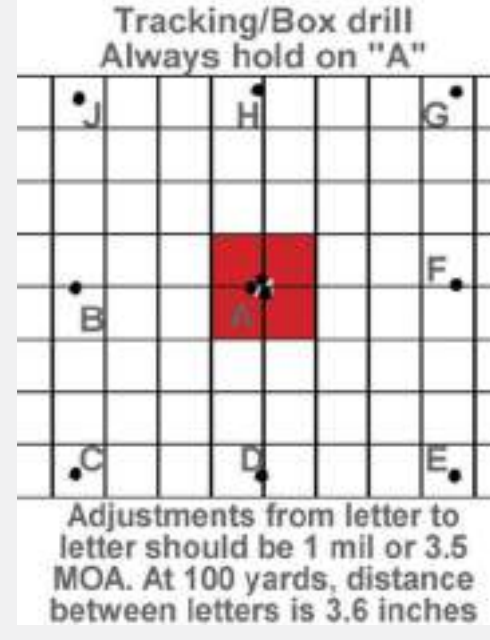
In the world of optics, there are a bazillion options, and not all of them are good. Only you know what your requirement is, just as you are the only one who knows your budget. Find the sweet spot between the two, and buy the best optic you can with your money.

You will get what you pay for, so if you make your living behind a gun, don't sell yourself short. **SJ**

A quick exercise to verify if your optic is tracking properly is shown here. This can help you cull out cheap scopes and diagnose problems should your 'ole faithful' develop issuers. It's all about being exact and repeatable.

TRACKING/**BOX DRILL**

1. Hold center of target (A) and shoot 3 rounds to verify proper zero.
2. Dial 1 mil (or 3 ½ MOA) left and shoot 1 round. Expect impact B.
3. Dial 1 mil (or 3 ½ MOA) down and shoot 1 round. Expect impact C.
4. Dial 1 mil (or 3 ½ MOA) right and shoot 1 round. Expect impact D.
5. Dial 1 mil (or 3 ½ MOA) right and shoot 1 round. Expect impact E.
6. Dial 1 mil (or 3 ½ MOA) up and shoot 1 round. Expect impact F.
7. Dial 1 mil (or 3 ½ MOA) up and shoot 1 round. Expect impact G.
8. Dial 1 mil (or 3 ½ MOA) left and shoot 1 round. Expect impact H.
9. Dial 1 mil (or 3 ½ MOA) left and shoot 1 round. Expect impact J.
10. Finally, dial 1 mil (or 3 ½ MOA) down and 1 mil (or 3 ½ MOA) right.




3M

AERIAL OVERWATCH

HOW AIRBORNE SNIPERS ENHANCE PUBLIC SAFETY

STORY **BY JAMES SMITH**

It needs to be aggressive, well-trained and command-supported.

It's an Aerial Precision Rifle program, and we're going to discuss the various points a law enforcement agency needs to address, so public safety is enhanced.

In today's high-threat environment, public safety demands that a dangerous perpetrator is neutralized as quickly as possible to end a violent situation. Putting well-equipped and well-trained snipers on a helicopter will do this, but that's just part of the program.

Spc. Jared Wriedt, Wisconsin Army National Guard, engages targets from a UH-60 Black Hawk Helicopter during the 2017 Winston P. Wilson Sniper Championship Armed Forces Skill at Arms Meeting Championship at Fort Chaffee, Arkansas. (U.S. Army National Guard photo by Staff Sgt. Tim Morgan)

WHO IS JIM SMITH?

Master Sergeant (Retired) Jim Smith's background as tactical firearms instructor spans more than two decades. He began his career in the U.S. Army in 2nd Battalion, 75th Ranger Regiment, and he went on to earn his Special Forces tab as well, as an engineering sergeant (18C). After that, Smith went through a rigorous selection and assessment process, earning an assignment to a Special Mission Unit. He trained and served with the most elite units throughout various theaters around the world.

His core skill sets include being an accomplished breacher, with years of experience employing explosives to solve tactical problems. He is probably most well-known for his acumen as a sniper. During Operation Gothic Serpent, the well-known battle in Somalia documented by the book titled, "Blackhawk Down," Smith was a primary airborne sniper aboard Super 61, one of the helicopters shot down during the engagement.

A highly-respected member of the Special Operations community, Smith earned a Silver Star, Purple Heart, Legion of Merit, and numerous other military awards during his career. Since his retirement, Smith has earned a place as one of the most respect tactical trainers in the law enforcement community.

For more information about Jim Smith and his courses, please visit: **www.SpartanTactical.com.**

Army Sgt. Chuck Riegel, 1st Battalion (Airborne), 501st Infantry Regiment, 4th Infantry Brigade Combat Team, 25th Infantry Division, U.S. Army Alaska, engages a target with a M107 .50-caliber long range sniper rifle from an aerial platform in a UH-60 Black Hawk helicopter. (U.S. Air Force photo by Justin Connaher)

THE WHY

To answer that question about bolstering security, first we will look at current and emerging threats around the country. In the past few years, worldwide radical extremism has grown by leaps and bounds. The threat to America's public safety in medium and large cities is the highest ever. These threats being from violent felons, foreign-based drug cartels, as well as homegrown and overseas-supported terrorist organizations.

In the last few years, there have been several significant violent incidents around the country. A few of the more horrible incidents are the Las Vegas shooting, San Bernardino terrorist couple, the Boston Bombers, and the Orlando nightclub shooter.

Some agencies plan their strategy and long-range policy based on what has occurred in the past decade. This isn't meant to be a criticism on American law enforcement in general. In reality, most agencies do the threat assessment and strategy planning correctly.

I would like to see all agencies being a little more proactive and looking at what emerging threats could be an issue to the public safety in

"The communications and integration/deconfliction piece will need to be practiced incessantly."

the coming years. In doing so, they move their stance from being more reactive to proactive. If law enforcement officers are expected to stay at least one step ahead of the criminals, being proactive is a huge move in the right direction.

Except for September 11, 2001, we fortunately have not witnessed larger terrorist-sponsored attacks on American soil. If we look worldwide over the past two decades, there have been much bigger mass-casualty incidents. A few of the larger attacks that could occur in any of our American cities would be something along the lines of the Beslan school terrorist attack, the Moscow theater terrorist attack, Bataclan Concert Hall terrorist attack, and the Charlie Hebdo terrorist attack—the latter two of which occurred in Paris.

There are numerous others to list, but this is not about worldwide terrorism. I list these to show the potential for much larger incidents than we have thus far seen in America.

WHY AERIAL SNIPER PLATFORMS?

If an agency has a well-funded, trained and supported Aerial Sniper Platform program, this program would greatly enhance public safety in many ways. The time to reach a violent incident can be greatly reduced. The flexibility to move, follow, and contain a complex and developing scenario could be better addressed than with vehicle-mounted teams on the ground.

Conceptually, it's very easy to understand: the faster a violent incident is stopped, the more lives can be saved. What if we have an incident like the one in San Bernardino, but with eight skilled and experienced terrorists? The body count could be staggering.

COMMAND SUPPORT

If we're being honest, the prospect of "snipers in helicopters" over a civilian population center could be scary. Consider a public with a lack of understanding for the need, agency administrators with a highly risk-averse or passive mindset, and elected officials whose political agendas run contrary to the interests of developing and maintaining specialized capabilities to respond to a nightmare scenario.

None of that factors into a recipe for success of developing such a program; however, while all of those may be valid discussion points, there isn't a single one which could not be overcome with a thorough, well-researched, and well-delivered initiative. There is an inherent level of risk to operations involving an airborne precision marksman, but education and ceaseless, restless training in the pursuit of excellence can overcome the fear of adverse outcomes.

A proactive agency looking to implement an airborne capability will need to ensure their use of force policy and other regulatory articles will support an aerial intervention to stop a violent incident. That is ground zero: studying applicable case law; federal, state, and local statutes; and departmental TTPs. Once the legal and procedural backstopping is in place, the program can move forward.

Agency administrators will also need to allocate additional resources in man-hours and training dollars to support an aerial precision marksman initiative. Additional flight and aircraft maintenance hours will be needed to be considered as well, as they are absolutely critical to support the training required to ensure program success.

COMMAND AND CONTROL

If the response plan to an evolving, violent scenario could involve both ground-based and airborne elements, command and control are critical to achieve a successful outcome. The bridge between command and control is communication, which means there would need to be an extremely detailed, well-coordinated, and well-rehearsed radio comms plan.

Additional radio frequencies would be required for the aerial platform to work. The baseline flow of information from the incident commander to and from both the air unit and ground-based units needs to be both clear and concise, with a mechanism to integrate and deconflict both elements as the situation changes.

"The flexibility to move, follow, and contain a complex and developing scenario could be better addressed than with vehicle-mounted teams on the ground."

A Marine Scout Sniper prepares his rifle and final firing position during an aerial sniper course. Photo courtesy of the United States Marine Corps.

That requires a well-coordinated plan on how the information needs to flow from the teams on scene back to their command element. Additionally, a plan would need to be in place for the air unit to pick up or drop off the ground team(s) in response to that specific situation.

Command elements would also need to determine the different missions the aerial unit is tasked to accomplish. More importantly, a determination needs to be made as to what criteria will implement an aerial response to assist with a critical incident. Simply stated, it is identifying what needs to happen in order the team launches for a professional and expedient intervention to a critical incident.

TRAINING

The team's training should consist of shooting skills for every situation where they could be called upon to respond. The various situations I normally teach would be subjects on foot, subjects in a vehicle, subjects in a structure, and subjects in a hardened vehicle.

This training needs to be initially conducted on the ground, static, and working on the control measures to keep the shooter oriented and focused on the threat. Initially, we will conduct static training in the aircraft, working on communication with the pilot and observer. The observer will be working in tandem with the shooter, and can also be a shooter—but the observer's main function is safety of innocents in the area, communication with the command element, and maintaining big-picture situational awareness (SA).

The next training will be range work, developing a rapid and accurate rate of fire, starting slow and gradually increasing to a high rate of fire—almost to the point of being considered "suppressive." In a law enforcement capacity, "suppressive fire" is a very dangerous concept, but when correctly implemented with consideration given to collateral damage, it is viable.

In my courses, I video record each training pass and critique the shooter immediately after each run, helping to accelerate the learning curve. A reverse lead is used, and the lead will increase with the helicopter's forward airspeed. I recommend 40, 50 and 60 knots as being a good compromise between accuracy and safety.

The team and helicopter crew need to train both daylight and at night, using the various night optics available to them. The helicopter crew and aerial sniper team need to train on various techniques for various threat levels. These techniques will vary the altitude and speed of the helicopter to mitigate the risk of being hit, should the suspects train their weapons skyward.

Training on various observation techniques for both day and night will need to be rehearsed for both the helicopter crew and the aerial marksmen. The communications and integration/deconfliction piece will need to be practiced incessantly. Information as in any tactical situation needs to flow both directions in a concise and efficient manner, especially in those situations where lethal force could be employed.

The rigging of the aircraft itself needs to be done to ensure the safety of the aerial marksmen, in case the aircraft needs to conduct evasive maneuvers. Each aerial team member needs to wear a safety harness and a quick, detachable safety lead we refer to as a Personnel Retention Lanyard. This safety device should be attached to a hardpoint in the aircraft, and should allow the shooter freedom of movement, but keep them in the aircraft if wounded and during aggressive maneuvers.

AIRBORNE SNIPER ESSENTIALS

- TRIARC Systems, LLC TSR-15S Rifle
- Hornady 75-grain TAP Ammunition
- SureFire 60-round Magazine
- Leupold Mk 6 Scope
- BAE Systems Oasys SkeetIR Thermal Scope
- Knights Armament Co. UNS-Ti clip-on Weapon Sight
- Knights Armament Co. AN/PVS-30 "Knight Vision" Intensifier
- BAE Systems UTBx Thermal Binoculars

SWAT Sniper Jason Teague takes aim from a police MD-500 helicopter during training. Photo courtesy of author's collection.

EQUIPMENT AND PREPARATION

The recommended equipment that my company recommends is based on years of operational experience. I recommend a semi-automatic 5.56mm NATO rifle with high-quality ammunition, such as Hornady's 75-grain TAP.

For penetration of hard cover, I would also have available to the shooter a 7.62mm NATO semi-automatic rifle platform, again shooting Hornady TAP ammo.

We have been shooting Triarc Rifles with great success, and these are the 5.56 and 7.62 rifles we recommend. High-capacity magazines, like SureFire's 60-round 5.56 magazine or Magpul's D-60 are very helpful, should a high volume of fire become necessary.

The recommended optic is a Leupold Mk 6. This optic gives the shooter more accuracy and flexibility, having an inherent ability to be used as an RDS at one power, then adjusted to six-power magnification. The higher magnification comes in handy if dropped off on a building or structure, or for PID of a suspect. I prefer to shoot at approximately 1.5 magnification while moving.

The Leupold Mk 6 works great with the available clip-on inline night vision devices and clip-on inline thermal optics. The Mark 6 is 100-percent better in conjunction with a thermal or night vision than a standard RDS.

We recommend and professionally use BAE OASYS SKEETIRx and Knights Armament UNS-Ti thermal clip-on optics. We use and recommend Knights Armament AN/PVS-30 Night Vision clip-on optic.

For handheld thermal observation, we use and recommend the BAE UTBx Universal Thermal Binocular.

Infrared lasers are also a necessary piece of kit for the aerial team member, for both command and control, signaling to ground members and for an aid in night engagement while wearing NODs.

A new piece of gear we use in training to evaluate the sniper's accuracy, and as a video AAR tool, is the Side Shot iPhone mounting device. This allows me to mount a phone to the rifle scope, so I can easily record what I see

"... education and ceaseless, restless training in the pursuit of excellence can overcome the fear of adverse outcomes."

Insertion and extraction of ground elements needs to be practiced, if this is a mission set the team feels is necessary in their jurisdiction. The ability to access various structures and buildings from the air could be of great benefit to the tactical plan.

while I am engaging targets during training. After the training run we can easily play the video back during the After-Action Review for the shooter. This presents visual confirmation of where the reticle was in reference to the target at the time of the shot, and impacts are visible if the training area is not thickly vegetated.

CLOSING THOUGHTS

There are several techniques which limit the exposure of the aircraft and team to the threat, as well as providing surprise to help contain a dynamic, violent scenario as it unfolds. Our Helicopters in Law Enforcement Course expands on these concepts in depth, providing an excellent baseline of capability.

Current thinking in law enforcement involves deploying snipers for large public venues as a precaution in the event of a terrorist action. In the future, agencies should plan on deploying airborne precision marksmen near the event, with the helicopters parked and on standby in the event an incident happens. This would dramatically reduce response times in the event of an incident, and would enhance public safety.

I recommend an agency get the outside training it needs to assist with setting up an aerial precision marksman program. This training could save the agency time and money in correctly establishing TTPs for airborne sniper employment.

Conducting a real mission can be dangerous to the helicopter, the aircrew manning it, and the onboard sniper teams. Law Enforcement professionals are tasked to go into harm's way daily to protect the public. All personnel assigned to this mission need to understand this, and do what they can to stop the loss of innocent lives when the time comes.

We must always remember what these brave men and women due for our cities, to "Protect and Serve." Their job is difficult and, most times, thankless. I greatly appreciate what they do for us, and make it my mission to ensure they have the training and resources they need to perform difficult tasks—and with the level of excellence and precision the public demands. **SJ**

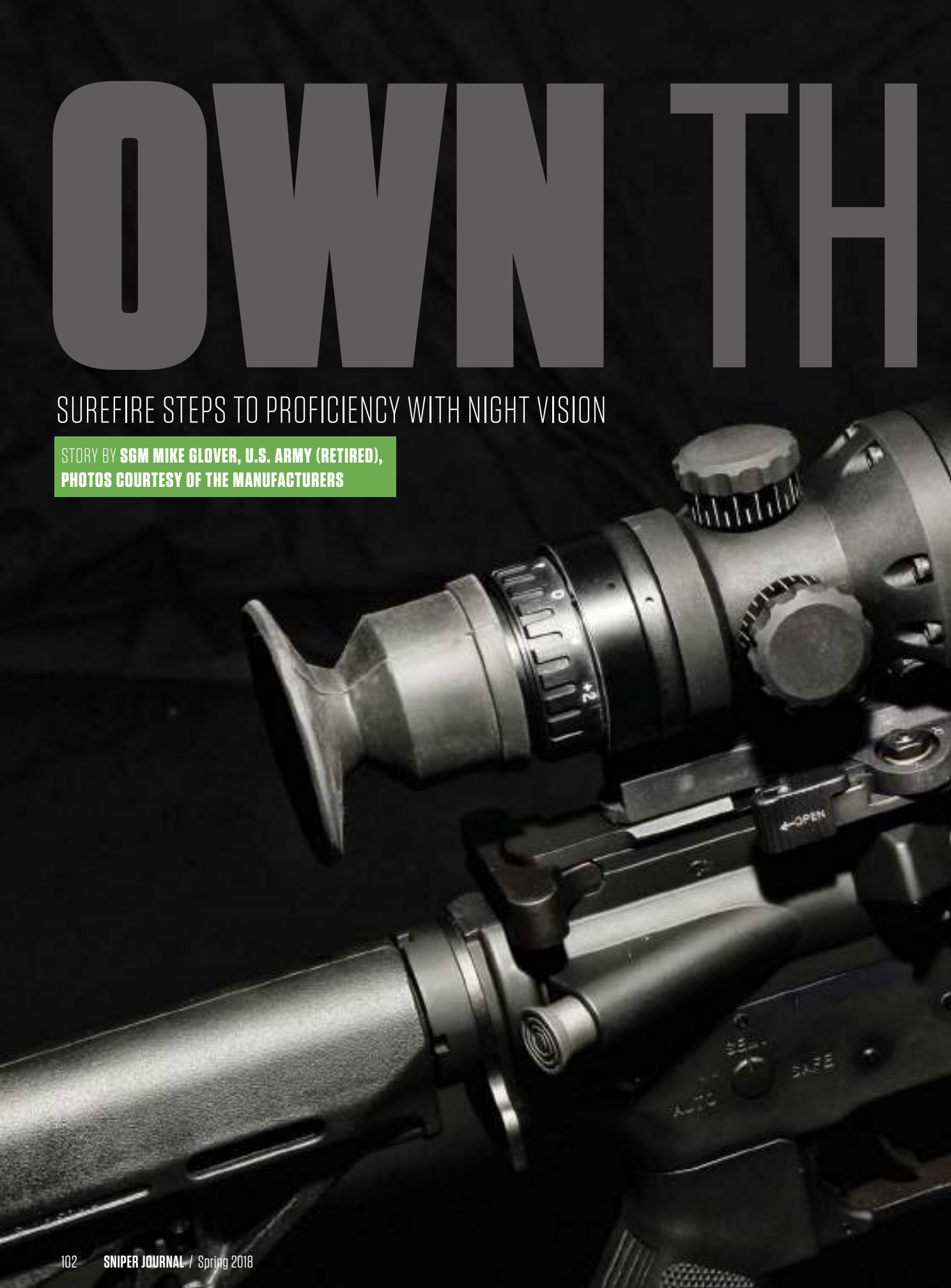
Jim Smith seen here with a SWAT Team he put through his Airborne Precision Rifle course in Gwinnett County, Georgia. Photo courtesy of author's personal collection.

"This would dramatically reduce response times in the event of an incident, and would enhance public safety."

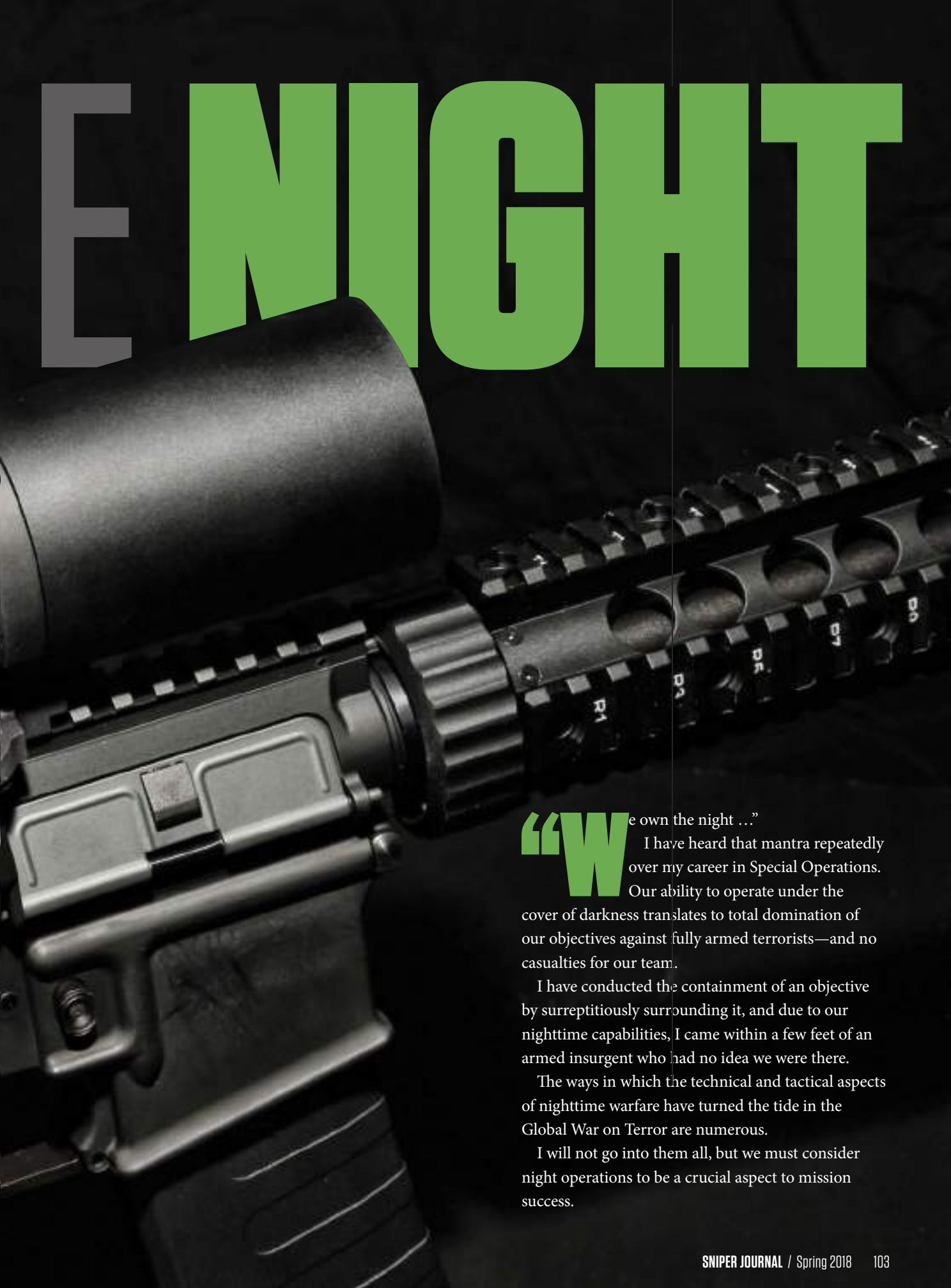
OWN TH

SUREFIRE STEPS TO PROFICIENCY WITH NIGHT VISION

STORY BY **SGM MIKE GLOVER, U.S. ARMY (RETIRED),**
PHOTOS COURTESY OF THE MANUFACTURERS



E NIGHT



"We own the night …"

I have heard that mantra repeatedly over my career in Special Operations. Our ability to operate under the cover of darkness translates to total domination of our objectives against fully armed terrorists—and no casualties for our team.

I have conducted the containment of an objective by surreptitiously surrounding it, and due to our nighttime capabilities, I came within a few feet of an armed insurgent who had no idea we were there.

The ways in which the technical and tactical aspects of nighttime warfare have turned the tide in the Global War on Terror are numerous.

I will not go into them all, but we must consider night operations to be a crucial aspect to mission success.

Understanding the importance of nighttime operational proficiency needed to "own the night," you would think that the training cycle in the months leading to combat would be saturated with nighttime training. Unfortunately, that is not the case.

NIGHTLY ATTACKS

In 2005, I was in a remote American fire base in Afghanistan. We were attacked nightly by nasty and destructive 107mm rockets. I was a young 18B or Special Forces Weapons Sergeant, and I was on a "mountain team" in 3rd Special Forces Group.

Lee, my bunkmate, and I were thrown out of our beds by a rocket that was danger close—fatal range for most. Lee was the 18C - Special Forces Engineering Sergeant. Our entire room shook violently. The sandbags surrounding my bunk shifted and emptied; our room filled with a thick, brown cloud of Afghan sand.

I was exhausted, and my mind was cloudy, but repetition of immediate action drills in the event of something like this, drove me to search for my gun. It is as if I operated on muscle memory alone—full autopilot. I threw on my kit (plate carrier, helmet, etc.) and grabbed a 240B Machine Gun. On my gun, I mounted a thermal scope with the ability to differentiate heat signatures in the darkness. It displayed them, bright white against the cold black background.

A close look at the Trijicon SNIPE-IR, a thermal clip-on.

HELLO, INSURGENTS!

Our fire base had a battle drill for such an event, with priority being to prevent a direct attack from the ground. From where we were on the base, the second story of our mud hut would give us the best advantage to keep over watch and prevent such an attack. Lee and I made our way up to the rooftop with night vision mounted to our helmets. Along with my thermal scope on my gun, there was nothing we could not see. As I set up, I looked through my scope and I tried to identify the Point of Origin of the rocket attack—the POO. Yes, the POO.

The 107mm rocket has advantages, depending

"Because I was a sniper, I started studying every type of optic, laser, and rangefinder I could get my hands on to understand how night vision could give us the upper hand in combat."

on which end of the projectile you find yourself. It can be launched off a rock shelf and stabilize itself for a flatter trajectory, which is great for a shoot-and-run style of attack. Therefore, typically, POO sites were unoccupied; but, I was hoping for the best. In a gunfight, you want the high ground; yet as I traversed our surroundings under night vision, I saw we were surrounded by mountainous ridgelines.

I saw a heat source that looked like a potential launch site. I began to communicate its location to Lee so he could "paint it" in order to provide me with an infrared (IR) beam leading me to any potential insurgents at the site.

Thermal and night vision are very different technologies, so this was problematic to say the least. The IR beam on Lee's gun was not able to translate into anything visible within my scope I could not track the IR beam without giving up the thermal sight picture. I could see the IR laser through my helmet-mounted night vision, but that turned everything green, which meant no heat signatures. I had to raise those up to then look through my thermal scope. I moved back and forth between optics until I built up the confidence that what I saw through each was the same and I had a valid target.

Once I was satisfied with my sight picture, I let off a short five- to seven-round burst of 7.62mm rounds at the target. Some of these were tracer rounds, which are rounds, mixed with a very small amount of organic fuel that causes an incendiary effect. The round is then traceable

Flir's Thermo Sight T75 (right) can be used in front of a day optics as a clip-on, rail-mounted thermal weapon sight.

NIGHT VISION VS. THERMAL

Thermal Optics detect radiation or heat, and because the subject's temperature is higher than its surroundings, the thermal optic will provide an image. Since they detect radiation, thermal optics do not require visible light.

Night vision requires a light source to provide an image. In many cases, the stars and moon provide enough light to produce an image, but shadows make it difficult to see small details.

Heat radiation and light are both parts of the electromagnetic spectrum, but an optic designed to amplify light won't see radiation energy, and vice versa.

INSIDE
FIELDCRAFT SURVIVAL

Observing that the average citizen is not properly equipped to preserve life in worst-case scenarios and with a continual desire to serve in some capacity, Mike Glover forged Fieldcraft Survival in 2015. Eighteen years of experience, coupled with lessons learned, paved the way to provide American Citizens with the tactics, techniques, and procedures to survive in potential disasters. Fieldcraft offers information gathered by former Special Operations soldiers and subject-matter experts in their field of expertise to build better Americans.

Web: www.FieldcraftSurvival.com

from the gun to the target with the naked eye.

As we shot into the pitch-black Afghan night, it occurred to me that from the enemy's perspective, it would be relatively easy to identify my location by following the tracer, back to my gun … with me behind it—a potentially fatal scenario. Though our enemy had no night vision capabilities, tracer rounds were now a potential danger.

Every time I fired a burst of rounds, the trajectory of my rounds was not only clear, but I became a visible POO to the enemy who would eventually do to Lee and me what we were attempting to do to them.

As I was formulating that conclusion, I heard a loud WOOSH, as a 107mm rocket roared over our heads. Before Lee and I could react, the rocket impacted into the rear of our base—again danger close.

With the use of a single Generation 3 Auto-Gated image tube and a dual eye configuration, the USNV PVS-7 provides "outstanding" night vision performance.

The ATAC 360° (Advanced Thermal Acquisition Camera) is a low-cost, high-resolution vehicle mounted thermal imaging system that allows the user to see in total darkness. Utilizing a 320 x 240 resolution FLIR camera, the system can easily see man-sized targets from over 1,500 feet. The thermal core uses long-wave infrared sensor technology and can easily see through smoke, fog, rain and many other atmospheric conditions that could not easily be penetrated with other technologies.

"That was close!" I screamed over the explosion to Lee.

With such a large kill radius upon contact, had that rocket impacted anywhere in front of us, it would have meant certain death. I looked at Lee; we did not need to say anything for us both to know it was time to get off the roof ASAP.

LESSON LEARNED

In this one isolated situation, I gleaned some very indispensable knowledge about modern, nighttime warfare. I quickly learned what would work, and what would not, and that there is a comparative relationship between you and the enemy which must be understood to succeed.

"Our equipment versus theirs" is one relationship that must be understood immediately. How can you gain fire superiority? The rest is a learned ability to know who your enemy is and to guess what their reactions to your actions may be, always staying one step ahead. Luckily for me, I would spend nine more months that year in Afghanistan, where I would train, learn and fine-tune my combat skill set while serving with America's finest warriors.

TRAINING

In my nearly 20-year career in Special Operations, I have been to almost every U.S. Army Special Forces school available. I have been to advanced close-quarters battle (CQB) training, Sniper school, and air controller school, where I learned to direct aircraft in the middle of a fight—which can be a crucial skill in large-scale nighttime warfare. I have attended advanced Military Free Fall (MFF) School and technical surveillance courses. Regardless of the curriculum offered, I had great leaders that kept

"... you must understand how night vision operates, how your gun operates and how they operate together.

me proficient by sending me to these schools and training me well. I honed my skills outside of combat.

Every single school I have been to never really emphasized night training paired to that skill set. Nighttime operations were still relegated to something we learned on the teams—outside the schoolhouse. I remember thinking it was probably an administrative or safety protocol that kept us from doing a lot of night training, but whatever the reason, we were not capitalizing on the opportunity to become proficient in such a crucial aspect of modern combat operations. Our training time, in my mind, was not being fully optimized.

U.S. Night Vision's AN/PVS-14A Night Vision Monocular is "issued to U.S. war fighters in all operational theaters worldwide," company officials said.

TRANSITION TO FIELDCRAFT

When I separated from the military and transitioned into running Fieldcraft Survival, my business based in Durango, Colorado, I started to realize that civilians did not have a structured process to learn the proper mindset or technical skills needed to overcome what life throws at them. The skills were there to learn, but there was no readily available mode of delivering those skills to potential students.

I started my company keeping in mind that to effectively impart knowledge to someone and instruct them you must Keep It Simple, Stupid (KISS). I came up with Isolate, Rehearse, Repeat (IRR). The premise behind IRR, is that the end state in training is typically a culmination

"... let us say you want to learn how to shoot with night vision and an IR laser ... Although it seems like two separate and simple tasks, it is complex ..."

of several sub-tasks, smaller skills, and specific training principles that must be mastered individually before the student can be considered proficient in the culminating event.

For example, let us say you want to learn how to shoot with night vision and an IR laser, much as you would during nighttime combat operations. Although it seems like two separate and simple tasks, it is complex, and you must understand how night vision operates, how your gun operates, and how they operate together.

Therefore, you may start with learning the capabilities of night vision. I would suggest walking around with the night vision on to build your understanding of depth perception, loss of peripheral vision, how it reacts to different light sources, what familiar things look like under night vision, so you may begin to differentiate objects—and how all of this may hinder or benefit you. Once you have isolated any task that is to be learned, you will then rehearse the task until you are unquestionably proficient at it.

YOU ARE NOT DONE YET ...

You will repeat the task until there is uninhibited muscle memory. Once you think you have completely ingrained that task into your memory, conduct an honest assessment of yourself—what we call an After-Action Review (AAR). What can you improve on? Isolate those areas for retraining. What can you sustain when translating from training to operational environments? Every time you have a culmination exercise for a new skill, you must do this. It is the best way to constantly improve, and remember to go back to the drawing board with things that need work.

The USNV-PVS-14A is the "optimum" night vision monocular for users who require a multi-purpose night vision device. This system can be used hand-held, weapons mounted, camera/camcorder adapted, or head/helmet mounted for hands-free operation.

VALUE OF NVD

Night vision is one tool of many that, when utilized with other equipment, can greatly increase your chances of operational success.

When I was in Special Forces Sniper School, we were exposed to a few night iterations that were more for familiarization than perfecting a craft. The takeaway was that once you are given a taste of what right looks like, you need to take your own time to perfect your craft. Learning skills takes a great deal of personal responsibility and work ethic. You will never be spoon-fed proficiency.

I use this same concept when I teach survival tactics for Fieldcraft. I can philosophize and

give you really great information in a class, but if I don't give you the tools and wisdom on how to implement those Tactics, Techniques, and Procedures (TTPs) in your own environment, then I'm not doing you any good and you will not leave the class better than you came.

It reminds me of the old saying, "Give a man a fish you feed him for a day, teach a man to fish you feed him for a lifetime." That statement is at the core of my teaching philosophy and training methodology when I seek to mold others into becoming better trained and proficient modern survivalists.

The Army taught me that I could be trained in anything. I could be and would be a jack-of-all-trades, if I wanted to; however, if I wanted to perfect a skill set, if I truly wanted to be a master, then I would have to train on my own—when nobody is there watching. So, that is what I did. Once I understood the concepts and familiarized myself with them, I was able to take the specific tactics and perfect them as it applied to my job in Special Operations.

Likewise, for your own career or even hobby you can follow those same steps to proficiency. Always repeating the tasks until they are innate actions. Because I was a sniper, I started studying every type of optic, laser, and rangefinder I could get my hands on to understand how night vision could give us the upper hand in combat. I started to discover, as I evolved as an operator and shooter, that I was only scratching the surface.

Remember, once you receive a block of instruction from an individual, institution, or other entity, when you leave the classroom that was only the beginning of the process. It is what you take away from that experience and begin to train early and often that makes the difference in mastering that skill. You do not have to be a Special Forces sniper to understand the best way in which to tackle a problem, you just need to be teachable, and disciplined enough to commit to, and trust the process. **SJ**

Above: The PVS-14A in action. Features include a variable gain control which allows the user to adjust image tube brightness and a built-in IR illuminator that enhances viewing in the darkest conditions. The PVS-14A operates on a single AA battery with an approximate run time of 40 hours.

FACTS
ABOUT THE AUTHOR

Sergeant Major Mike Glover, U.S. Army (Retired)

A former Special Forces disabled veteran with more than 18 years of military service, Mike has served in the following positions within Special Forces: Weapons Specialist, Sniper, Assaulter/Operator, Recon Specialist, Joint Terminal Air Controller (JTAC), Team Sergeant, and Operations SGM.

Considered a Subject Matter Expert (SME) in planning and executing Special Operations in a myriad of complex environments, Mike has taken his 18 years of experience and is giving the American citizen the applicable training tools and training necessary to better protect themselves and their families here and abroad.

Desert Tech's SRS A-1 Covert Features 7 Calibers and Insane Accuracy

TINY TACK DRIVER

STORY BY A STAFF WRITER, PHOTOS COURTESY OF **DESERT TECH**

You have two gun safes.

It took you quite a while to get here, but you've made it, and the second one is already half-full thanks to a newfound love for precision rifles.

You're definitely all for loading this second safe up. Done paying off college loans, you have a steady job. The only problem is buying a third gun safe. Specifically, your wife says the third safe comes with a set of divorce papers. And, just like that, one mention of divorce, possibly a joke (you hope), and your local gun shop no longer feels like a candy store but more of a car dealership.

A trip to the local gun range with fellow shooters feels less like perusing a bar for your next one-night fling and more like talking with financial planners carefully weighing all options. This focus on real estate leaves you more selective. You gather more opinions and fondle fewer rifles, lest ye fall in love prematurely.

GOOD SITE

www.DesertTech.com

One of the features of the rifle is you get seven calibers, which you can swap out to whatever the range or the hunt requires.

SPECIFICATIONS Desert Tech 6.5 Creedmoor SRS A-1 Covert

Caliber: 6.5 Creedmoor
Barrel Length: 18 in.

Rifle Length: 29 in.
Weight: 10.2 lb.

Magazine Capacity: 6 rounds (10 round mag optional)

Perhaps Desert Tech's new addition of the 6.5 Creedmoor SRS A-1 Covert can help.

FIRST LOOK

It has an 18-inch barrel, and the total rifle length is only 29 inches, meaning it's not going to take over a huge chunk of your safe. Truly, it is just a few inches longer than your standard SBR, and with a ½ MOA guarantee, it's able to punch four-leaf clovers in paper at 200 yards all day long.

That alone is impressive, but what really pushes it over the top is that its compatibility with all of the standard SRS A-1 barrels, so should you want to stretch out to a 26-inch 6.5 Creedmoor barrel later on to eek out every foot per second, you can.

The barrels are hot swappable and return to zero, meaning they can be switched out at the range in just about 30 seconds with only one tool, and swapping out to another caliber and later swapping back, never requires touching your turrets to zero back in.

That said, you can now have one rifle in your safe and over seven different barrels in your rifle case and still not need to Google divorce lawyers in your area.

Desert Tech has been building precision bullpup bolt guns for a decade now, and they have perfected the bullpup trigger. It's fully adjustable so you can perfectly tune it to your specifications once. From that point on, it will be the same light, crisp break you set it at.

The same is true for the scope. Admittedly, you could save a ton and buy one inexpensive scope like you may have always done. Or, if you splurge and drop a few thousand on expensive optics, it will then be available on every caliber you move to from then on. Obviously, going that route doesn't necessarily save you money, but it saves space in your gun vault, and you get to enjoy the benefits regardless if you're plinking steel at 1,000 yards with .308 Win or 6.5

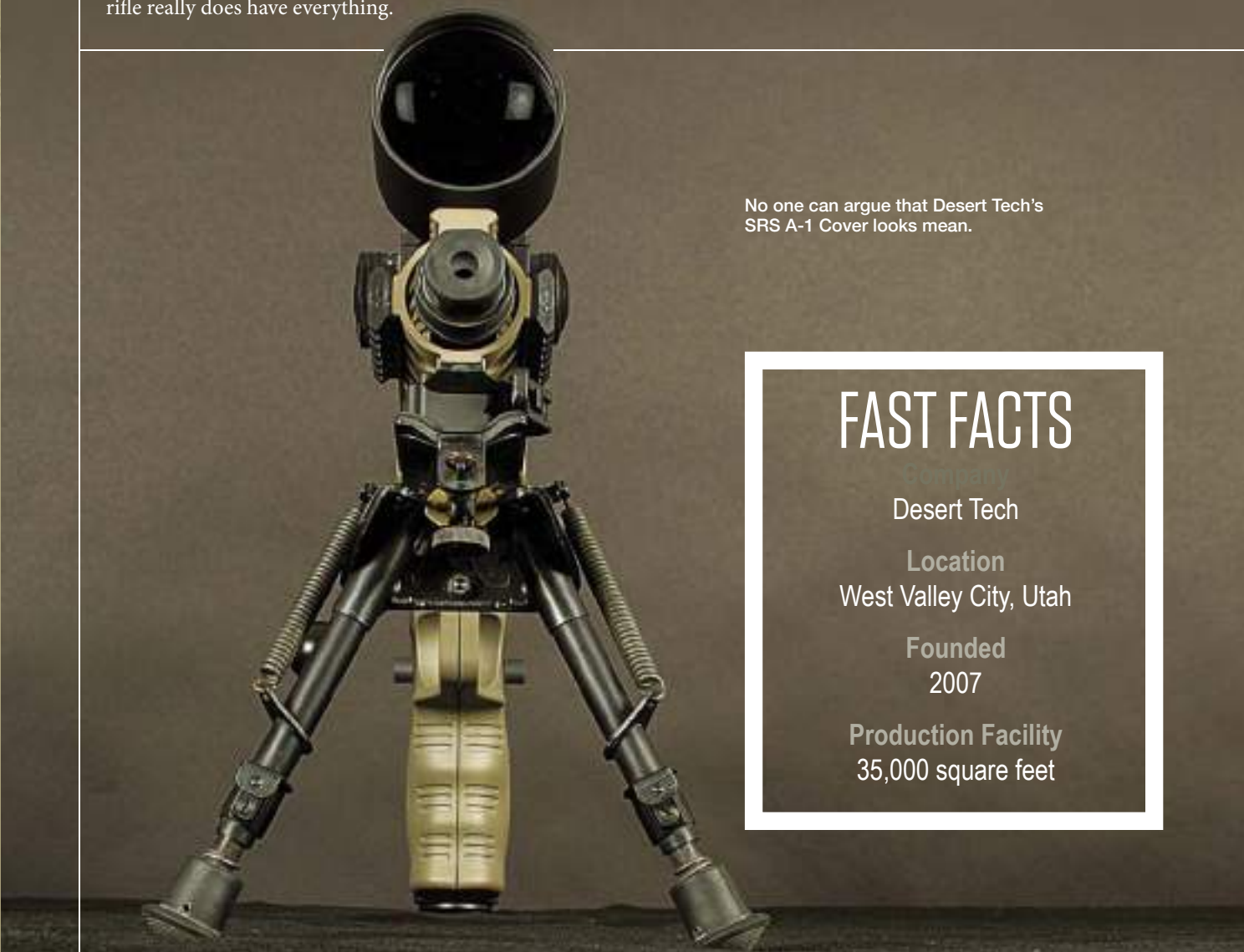
"The barrels are hot swappable and return to zero ..."

Creedmoor, ringing gongs with .338 Lapua at a mile plus … or going big game hunting .300 Win Mag.

YOUR NEW CONFIGURATION

The only thing that takes a little getting used to is the bullpup configuration, which means you're reaching back next to your cheek to run the bolt, instead of out in front of you. But, honestly one box of ammo later and it feels as normal as any other rifle.

That aside, with a guaranteed ½ MOA rifle carrying that perfect scope, and a trigger perfectly tuned to you, 7+ calibers, you can swap out to whatever the range or the hunt requires, in under a minute, all in package shorter than your dad's old hunting rifle. Did I mention there is even a built-in adjustable monopod nestled in the buttpad? This rifle really does have everything.



No one can argue that Desert Tech's SRS A-1 Cover looks mean.

FAST FACTS

Company
Desert Tech

Location
West Valley City, Utah

Founded
2007

Production Facility
35,000 square feet

DESERT TECH TRAINING

Desert Tech does more than rifles.
The Desert Tech Training Facility, which covers 25,000 acres in northeastern Utah, is designed for operators and shooters to enhance their shooting skills. Their instructors have an abundance of real-world military and law enforcement experience, and that means you'll leave there with an abundance of new skills from these practical training opportunities.

Designed to provide military, law enforcement, armed citizens and contractors real-life scenarios that induce stress, the classes will make you a better gunfighter.

"Every course is focused on developing the skill sets required for peak performance under the stress of real situations," says Dustin Stark, Desert Tech's marketing and events manager.

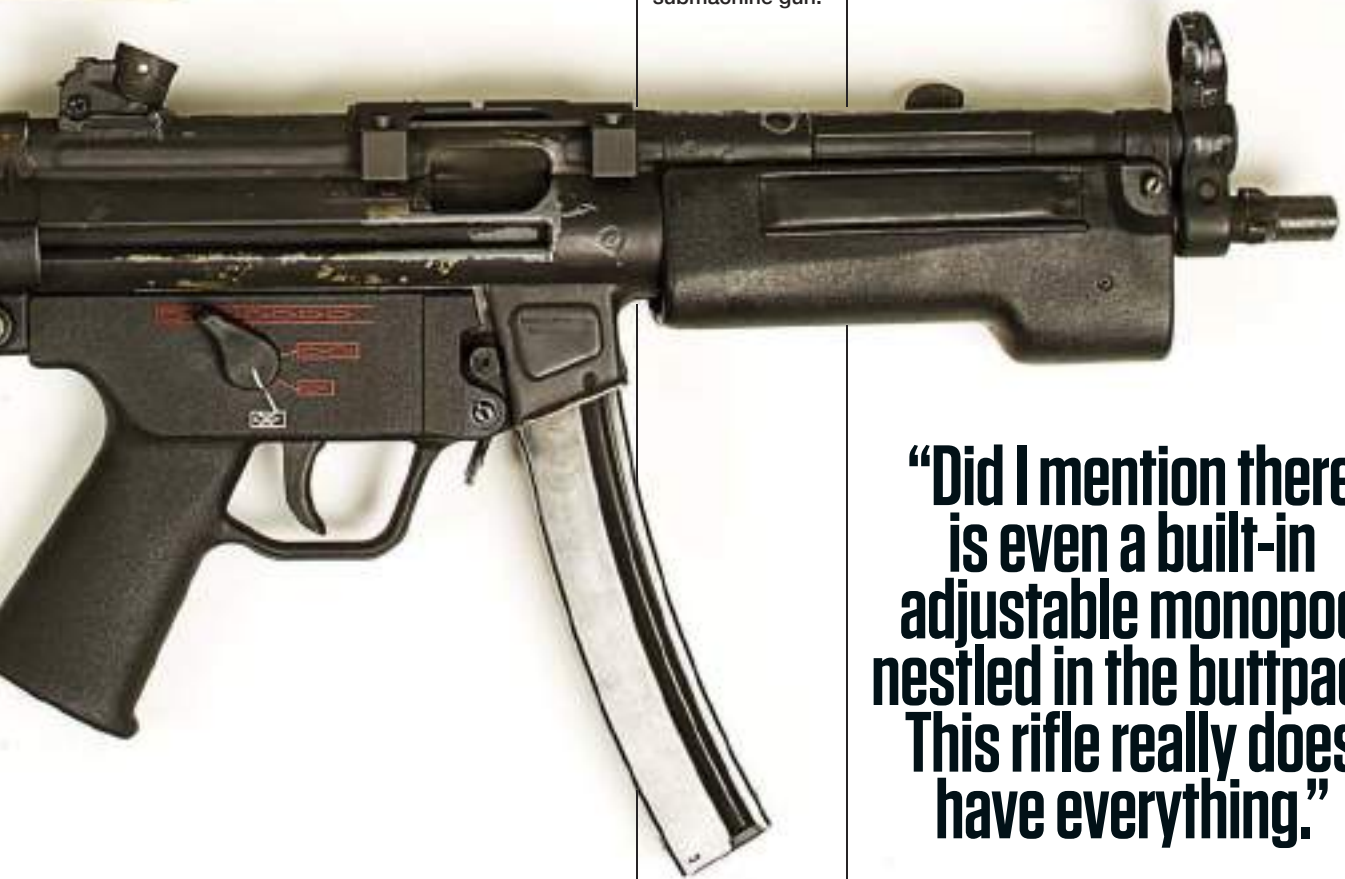
Classes include breaching, high-angle counter sniper, sniper team course, designated marksmanship course, low-light marksmanship, long-range precision rifle, concealed carry and pistol/carbine.

CONSIDER EVERYTHING

It's just so hard to find something not to like, well, until the price tag comes out. It goes for $4,995 and that is definitely no small amount to pay. Even with all of the benefits the rifle carries, and the additional bells and whistles, best estimate is it's a break even at two or three different caliber conversions.

However, if you factor in the savings on both a divorce lawyer for you and your wife, it's almost like Desert Tech is paying you to pick up one of these tiny little tack drivers. **SJ**

As you can see in this side-by-side comparision, the SRS-A1 Covert occupies approximately the same space as the venerable MP-5A3 submachine gun.



"Did I mention there is even a built-in adjustable monopod nestled in the buttpad? This rifle really does have everything."

DARK HORSE

IN THE BLACK RIFLE INDUSTRY, LANXANG TACTICAL IS MAKING A RUN FOR DOMINANCE

STORY BY **PAUL MARTINEZ,** PHOTOS COURTESY OF **BECKSHOT, LLC**

I've trained with and competed against some of the best shooters on this planet. If you compete, you know that the highest level of precision shooting is an *any-given-Sunday* sort of proposition.

The first time I heard of a Lanxang (pronounced LAN-ZANG) Tactical rifle doing well at a notable competition, I thought to myself, "that's pretty cool." I was vaguely aware they were built by a former U.S. Army Ranger, but I didn't give it much more thought after that.

Rangers would build guns out of old car parts if they had to, and I've seen excellent shooters win with unlikely weapons and vice-versa—myself being the "vice-versa."

When you purchase a gun from Lanxang Tactical, you get some bang for your buck. For example, the company finishes their guns with a compliment of Magpul Furniture, a model-appropriate Geissele trigger and an Armageddon Gear bag.

Then I saw that Lanxang Tactical showed up in the top three at USASOC Sniper competition. The USASOC competition organizers design a downright cruel course of fire, pitting the "who's who" in Special Operations against each other, pushing man and equipment to the ragged edge of their performance envelope. Lanxang Tactical's bronze-medal finish was proof that they could throw down with the big dogs.

In the very same year, they took second overall at the International Sniper Competition, as well as top military team, and top special operations team. In 2017, with active duty Rangers from

3rd Battalion, 75th Ranger Regiment driving their guns, Lanxang Tacticals took first place at the Mammoth Sniper competition and a sweep of the top three at Purgatory Sniper Challenge. They closed out the year by coming back to the International Sniper Competition, this time for a first place overall win. This wasn't a lucky streak—this was absolute domination.

I was a Sniper in 3rd Battalion, so I know what's in that arms room: there is almost no limit to the precision rifles and accompanying gear they have access to. The fact these Ranger Snipers were choosing Lanxang Tactical rifles when their reputation was on the line is a very compelling endorsement.

Shortly after the International Sniper Competition, I got a chance to talk to Travis, Ryan and Rick about how this enterprise came together, and what they were doing that was making them stand out from their competition with such distinction.

SNIPER JOURNAL: So, what were you trying to create at the outset of this?

TRAVIS: I wanted to build your dream rifle, *Travis replied, and as a fellow Ranger, I had an instant idea of exactly what he would go on to explain.* Kham and I wanted to make a premium-brand rifle, made *by* guys who hunted people at night, *for* guys who still hunt people at night. I had seen plenty of inexpensive ARs. I made it clear I didn't want to build budget ARs, which was the page he (Kham) was on as well.

RYAN: We wanted to create a rifle that—unlike most AR platforms—didn't need any tweaking. With our guns, all you need to do is properly mount your scope, buy the proper quality ammunition, and you're ready to get out and shoot.

RICK: We had to bridge the gap between precision and tactical reliability. Many rifles in this platform shoot impressively small groups, but they can only do it with one type of ammo. We wanted to defy the convention that so often says, 'you either get a rifle that is reliable, or you get a rifle that is accurate.'

SJ: That really speaks to the Ranger in me guys. I love a gun that shoots, no excuses and no special provisions.

RICK: That's a big deal, to all of us. We make a gun more accurate than most people can shoot, but it will cycle bad ammo with no problems.

TRAVIS: We've put some real cheap stuff (ammunition) through our guns. This gun wants to eat; it doesn't care what you feed it.

The roster at Lanxang Tactical features the best of the best. Their credentials include an Army Ranger, a USMC scout sniper and a veteran LEO, among others. They have also fared well in competition, as their resumes proudly show. Credit for the rifle coating: Camo Concepts.

"... he tapped Travis, also an Army Ranger with a wealth of current combat knowledge, earned in multiple deployments in Afghanistan and Iraq."

LANXANG TACTICAL: **A HISTORY**

So where did this dark horse come from? I knew, vaguely, they were "built by a former Ranger." We were from the same Ranger Battalion, so I reached out to him. The Ranger connection ended up being merely the tip of a Titanic-sized iceberg.

Let's start with the name, "Lan Xang Hom Khao." In Lao, it means, "1,000,000 elephants under a white parasol"—the name of their dominant historic empire. Like the United States, this empire believed it should, "Speak softly and carry a big stick." Lanxang Tactical is named for the 1,000,000 war elephants part, and it's a fitting name, given Lanxang Tactical President Kham's background. Kham was raised during the Vietnam war and his family worked with U.S. forces. Mainly by enabling cross-border missions for MACV-SOG.

After the U.S. withdrawal from Vietnam, Lao and Hmong people waged a bloody guerrilla war, an insurrection against Communist regimes until the 80s. Finally, Kham came to the United States as a refugee. Here he started a machine shop with just a single metal lathe. In time, he was machining parts for Northrop Grumman and NASA, among others.

At the peak of the civilian AR fervor, Kham saw a gap that he wanted to fill. See, he knew firsthand a fighting rifle was more than a look—it was reliable performance. He also knew precision came from carefully dedicated and hand-fitting of each individual component.

He set out to build a team with the real-world experience to make this happen. For product development he tapped Travis, also an Army Ranger with a wealth of current combat knowledge, earned in multiple deployments in Afghanistan and Iraq. Lanxang Tactical wanted to make battle rifles you could confidently bet your life on. Like most Rangers, if there's a way to break it, Travis will do just that in short order. Unlike most Rangers, Travis had the tools (and talent) necessary to fix what he broke, and improve whatever weak point so it wouldn't break again.

You can't have precision without consistency and Kham knew just where to look. If you consistently want the "Best of the Best," you need look no further than the United States Marine Corps. Lanxang Tactical tapped Ryan, a USMC Scout Sniper and Security Contractor to run the Quality Control program.

Rounding out this all-star cast is Rick, a 20-year law enforcement veteran who earned his stripes going head to head with Mexican drug cartels. He was also on the first DEA tactical team in Atlanta. Rick has been living by the AR since it was a justifiably maligned platform known for anything but being "robust" or "dependable." Rick also worked for Accurate Ordinance, making precision bolt guns. His standard of just what precision accuracy entailed was high.

FIND OUT MORE

These firearms, as well as accessories and gear, can be found at www.LanxangTactical.com.

"We make a gun more accurate than most people can shoot, but it will cycle bad ammo with no problems."

SJ: What is it about your build process that sets your guns apart?

TRAVIS: We put together every single rifle by hand. Every rifle that comes out of Lanxang Tactical is hand-fitted by someone who has firsthand, real-world knowledge of how these things work.

RYAN: In any machining process, there is a 'run out' range. It doesn't matter how precise your manufacture is. Hand fitting means we find those minuscule variables and essentially eliminate them.

RICK: It's not just hand fitting of parts that makes our rifles special. We use what we think are the best barrels on the market and matching bolts.

TRAVIS: Also, you're purchasing customer service, as well. We stand behind every single rifle. If your firearm isn't performing for you, we'll work with you until it is. We had one customer, and it seemed no matter what we did, he just couldn't get the performance he expected from that rifle.

Whether a precision marksman is required on the ground or in the air, Lanxang Tactical's rifles, like the VL34 above and the CAS-22 below, are definitely up to the challenge and able to deliver the type of accuracy you'd expect.

SJ: You can't make everyone happy all the time. So, what did you guys do?

TRAVIS: We eventually bought the rifle back, no questions asked. We all know what it's like to pay a premium and get lackluster performance. There's nothing more frustrating than having a precision rifle that doesn't work for you.

SJ: I couldn't agree more, that's a hell of a guarantee. What happened to that gun? Was it just a lemon?

TRAVIS: It wasn't a lemon gun at all. That's one of the guns we prefer to give out for demos and competitions. It has WON competitions.

Once again, I was impressed. But we hadn't talked about one important thing. Every precision shooter, military or civilian knows it's all about the "stick." Very little matters as much a barrel; it's the component that has more interaction with your projectile than all the other components of your rifle combined. —Paul

SJ: Let's talk about barrels, guys. Are you guys making those in-house as well? I could tell the guys were smiling, and I could guess why. I know my favorite barrels like l know my favorite truck or motorcycle.
RICK: No, we don't make barrels. There are so many good barrel makers, and we didn't want to reinvent that wheel. We're using Lothar Walther barrels and matching bolts.

I knew Lothar Walther barrels are as good as they come, but my firsthand experience with them was limited. —Paul

SJ: What made you go with L/W?
RYAN: They are the best steel. And they have the longest barrel life. And they don't copper foul.
TRAVIS: Like we start our guns with a block of 7075 Aluminum, Lothar Walther starts with a proprietary steel blend and then hardens it. That fine grain steel doesn't foul for 1,000 rounds. We don't use solvents, just a very methodical break-in procedure.
RICK: AND, that break in procedure happens at Lanxang Tactical. We fire 15 rounds, and you get the group proof, along with perfect copper bedding in your barrel. We have guns with 15,000 rounds through them that hold .75 MOA. We know of a Lothar Walther barrel with a credible 20,000 rounds through it and it still holds sub minute.

15,000 rounds at .75 MOA is a good stick indeed! —Paul **SJ**

THE OTHER **ELEMENTS**

So, what else do you get when you buy a Lanxang Tactical Rifle? Well, the guys finish their guns with a compliment of Magpul Furniture, the bang button is a model-appropriate Geissele trigger, and then they wrap it up in an Armageddon Gear bag to keep it safe on its journey to you. You also get a group proof, a .75 MOA (although Travis, Rick and Ryan all say they consistently group around .6 MOA with Gorilla Ammo).

As Rick said previously, when you buy Lanxang Tactical, all you have to do is properly mount your scope and buy the right ammunition. If you have any problems with their product, they'll take care of you.

Currently, Lanxang Tactical offers their International Sniper Competition winner and flagship model, the VLAD VL34 in 7.62 (20-, 18-, and 16-inch barrels), and 20-inch-barreled 6.5 Creedmoor or .260 Remington. The VL34 is a labor of love, evolved from the singular vision of a rifle that would shoot .75MOA with match-grade ammo, and still eat up all the cheap stuff you could throw at it.

Is it a sniper rifle? Is it a battle rifle? It's the gun that started it all, and—I think—may just be the standard for others to follow. Why compromise accuracy for reliability? With Magpul furniture, Lanxang Tactical's own dust cover, charging handle, handguard, and forged bolt catch, this is gun is ready for the Apocalypse. Or a long-range sniper competition. Or anything else that comes your way.

If you're a man of the times, then a DMR will be to your liking. For your own force multiplier, Lanxang Tactical offers the CAS-22 Precision Battle Rifle in 5.56mm NATO (18-inch barrel), named for Sergeant Antouine "Cas" Castaneda. Sergeant Castaneda was a member of 3rd Ranger Battalion and Blackwater Worldwide. He tragically lost his battle with PTSD on 23 July 2015. A portion of the proceeds from the sale of every CAS-22 continue to support the family of Sergeant Castaneda to this day.

If you're in need of carbine, Lanxang Tactical has a unique offering in this category as well. The LTE42 in 5.56mm NATO and .300 Blackout in 10.5-inch, 14.5-inch and 16-inch barrels. I agree with Lanxang Tactical's philosophy "that a battle rifle should be light and fast, but most of all, dependable. While we were at it, we went ahead and made it consistent enough to hold Minute of Angle or better." An OSS Banner muzzle brake, a Geissele two-stage trigger, and billet 7075 aluminum upper and lowers should make Lanxang Tactical's "small gun" both smooth AND fast.

NO COMPROMISES

STORY AND PHOTOS BY **KEVIN REESE**

Building Your Own Long-Range **AR-10** Can Reap Huge Benefits

B.R.A.S.S. The acronym for Breathe, Relax, Aim, Stop and Squeeze was beat into our brain-housing groups mercilessly as young Marines—marksmanship being important and all. This advice continues to help me today.

Hailing from a long line of shooting enthusiasts, I started plinking early. My father gave me my first rifle at age 10; I still have it. My mother also has always been handy on the trigger so I grew up with some solid civilian coaching that bode well when I decided to dial up my trigger time in the Marine Corps.

Over nearly eight years of service, I had grown pretty fond of standard issue gas-impingement semi-auto rifles and the battle-proven 1911 platform; before then my experiences had been limited to bolt guns and revolvers, save one WWII-era Walther P38 my father still owns today.

My affinity for AR-platform rifles continues today. While I own and love running precision bolt guns, too, the opinion that long-range precision shooting is best accomplished using, or should be left to such systems, is one I don't buy. I've seen some pretty amazing shots with gas guns, even with many that won't break your bank; of course, the sucker's gotta run.

Whether you're into gas guns or bolt actions, the right combination of equipment and shooter is a given if you're looking to go long. That said, I spent countless hours combing through semi-auto systems I thought would or could consistently ring steel out to 1,000 and beyond. My search turned up some impressive rigs, but pricing was an issue, especially considering what I was after: a solid mix of lightweight hunting and long-range precision—a jack of all trades with only one exception—no compromises. Let's face it, if you're paying top dollar, you want it your way … at least until you find a system better than one you can dream up on your own. So, dream up I did.

DREAM FULFILLED

I set out to build an AR-10 6.5 Creedmoor system my way—the way I wanted it. My search was pretty aggressive, but after a few days, my jack-of-all-trades dream turned into an action plan. It took weeks for everything to come in, but as my pop used to say, "The juice is worth the squeeze."

Along with some carefully selected parts, I brought in some new AR building tools from Real Avid to make a few (normally frustrating) aspects of the build a bit less of a pain. Smart move, to be sure; builds are about to get a whole lot easier, and I'm excited to see what they've got planned for the workbench in future innovations.

STARTING THE BUILD

The long hunt for the right foundation ended when I caught a glimpse of Grey Ghost Precision's Grim billet AR-10 receiver set and handguard. GGP's reputation for premium quality components was not lost on me, and the Grim's robust, lightweight, yet balanced 7075-T651 billet construction assured me it was the right piece of real estate for the build.

Ever the artsy guy, I had the set finished in battle-worn bronze Cerakote. Don't let GGP fool you; their Cerakote work is pristine. The body for this project turned out better than I could have ever hoped.

To keep weight down, I headed straight for carbon-fiber-wrapped barrels and ran into a newcomer … BSF Barrels. It's hard not to notice these aggressively designed barrels moving into the carbon-fiber landscape, but, in true one-of-these-is-not-like-the-others fashion, it's not wrapped at all. Roughly only 5 percent of the carbon-jacketing actually makes contact with the 416R stainless steel barrel, and the combination is loaded under tension to not only improve stiffness but to increase stiffness as the barrel warms.

Barrel production mastered in the company's short life, less than a year in business, has resulted in head-turning, match-grade performance. While BSF guarantees sub ½-MOA performance hot or cold, I believe these barrels are consistently capable of much better.

While carbon-fiber-wrapped-barrels have had a checkered past when it comes to warming and delamination, BSF's carbon jacketing eliminates this problem with an array of elongated slots. The slots and the jacket's air-foil effect result in

After the work is done, the play begins.

"I've nearly run the gamut on stocks, or so it seems, but I've become a big fan of the Command Arms Accessories (CAA) Sniper Stock."

ridiculously fast heat dissipation. Even after full magazine dumps, the barrel can still be grabbed barehanded. The perfect match-grade barrel storm for ARs? Maybe, either way, it appeared to do what I wanted. It was exceptionally badass and the owner, Aaron Painter, not only knows his stuff, the guy's passionate about zero tolerance for defects. Good in my book.

I capped my BSF barrel with a ZRODelta Gen 2 Cowl Induction muzzle brake. I've used a couple of Gen 1 brakes over the past year, most recently on a Bergara B-14 BMP 6.5 Creedmoor that won my heart, and I love it to no end. The level of mitigated recoil and muzzle rise the Gen 1 delivers has been exceptionally impressive. Seriously, a five-year-old would have no problem jumping on that Bergara for some trigger time. The Gen 2 earns its title as quite a successor.

During my first shooting experience, recoil and muzzle rise seemed comparable to the Bergara, even though this rig is quite a bit lighter. I made a call to Clint Walker about it afterward and confirmed my suspicion. The Gen 2 is averaging a 12-percent reduction in recoil, and the ports are angled up to better suppress rise—a win-win.

I've nearly run the gamut on stocks, or so it seems, but I've become a big fan of the Command Arms Accessories (CAA) Sniper Stock. I used this stock on a 6.5 Grendel build and love it. As the name implies, CAA had precision shooting in mind for this model.

The rifle features a ZRODelta Gen 2 Cowl Induction muzzle brake.

The stock's micro-adjustable comb height and length of pull make it a perfect fit for just about everybody and the rock-solid folding, telescoping monopod has been my squeeze bag's worst nightmare. While it's not lightweight, it's not heavy or bulky either—I'll go with mid-weight. Everything I look for on a stock finally came together, and I'm looking forward to using it on future builds.

TRIGGER TIME

When it comes to triggers, I've worked with many and keep coming back to Timney. I've used them for years and currently run Timney 510s in my McRees G10 and two BR10s, as well as an AR Calvin Elite and several AR-10/AR-15 Competition models. If it ain't broke don't fix it. I like the feel, travel and crisp break Timney triggers offer.

While the 510s in my McRees Precision

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Here's a look at the WMD Guns NiB-X coated bolt carrier group.

bolt-guns run about 2.2 pounds and the AR Calvin Elite is fixed at just 1.5 pounds, my AR-10 and AR-15 competition models break pretty consistently at an ultra-comfortable 3.3 pounds.

The trigger on this build actually breaks lighter than previous models at 2 pounds 10 ounces, according to an average of 15 pulls on my gauge.

BOLT CARRIER

Like a number of other past build projects, I stuck with a WMD Guns NiB-X coated bolt carrier group. Call me a loyalist? Maybe, but I've burned countless rounds and have never seen any measure of concerning wear with WMD's BCGs. Their parts have been bulletproof and reliable in my systems so, like Timney, I happily stay the course. There's a lot to be said for consistent performance … and my inability to break something.

If you haven't built an AR-10, especially a 6.5 Creedmoor with a 22-inch barrel, you haven't experienced the brutal task of finding a gas system. BSF Barrels, and a number of others, require a +2 gas system for this type of setup. Good luck finding one! Good thing you have a guy who's been there, done that.

"Barrel production mastered in the company's short life ... has resulted in head-turning, match-grade performance."

Let me make it easy for you—White Oak Armament. In fact, White Oak Armament was the only place I found offering a "rifle +2" gas tube after several hours of searching; in fact, I even made a few calls. Fortunately, not only is White Oak Armory one of the few actually carrying this special-sized tube, their parts are top notch … and a perfect fit for this build. Remember, no compromises!

BROWNELLS STEPS UP

Once again, Brownells turned into my home away from home for all things ancillary. One of the benefits I realized later while investigating buffer systems was that in researching various buffer weights and spring tensions/coil counts I could take a look at nearly all my options in one place.

When I mistakenly ordered a buffer assembly with 3.5-inch buffer, they quickly replaced it for the 2.5-inch part I needed for my carbine-length tube. Building a precision AR-10 can be a bit tricky, especially when it comes to the buffer assembly and gas system. Do your homework. While at Brownells, I also went with a Radian Raptor ambi charging handle.

B.R.A.S.S.

Maybe it's just me, but settling in behind a new build always has me a little on edge, even AR platform rifles built modularly. Like you, I have an affinity for long-range shooting and mounted a Sightmark Pinnacle 5-30x50 TMD First Focal Plane Riflescope on a ZRODelta M4 DLOC scope base. The combination has routinely delivered rock solid stability and a razor-sharp edge-to-edge clarity, even at 30x.

The buttstock is fully adjustable in terms of length of pull, cheek piece, cant along with being foldable. Sling adapters are also present.

The author is running a Sightmark Pinnacle 5-30x50 TMD First Focal Plane Riflescope.

It's the same system I run on my precision bolt guns.

After quickly boresighting at close range to ensure I was on paper, I settled behind the rifle, established a solid cheek-weld and natural point of aim, breathed, relaxed, paused and squeezed. The 10s report shattered an otherwise eerily quiet morning.

The shot was roughly 6 inches high and a couple more right. With the first shot under my belt I was much more relaxed. Within a few rounds I was center punching and easily established a sub-½ MOA five-shot group using Hornady's 123-gr Black ELD Match ammo.

At 200, the rifle turned in sub-½ MOA accuracy again and the trend continued out to 1,000 yards on a chilly and overcast yet still afternoon. I would have taken it further, but the weather conditions were such that I could not see well enough beyond 1,000 yards to establish what I felt would have been a fair measure of the capabilities of either the rifle or the dude lined up behind it, although the Triple C Shooting Range does boast four 2,000-yard lanes—it's a perfect proving ground.

My trigger time on this rifle was almost euphoric. I generally get excited anytime I can get on a trigger, but shooting a rifle I built specifically on the premise of "no compromises" took my gas gun experience to new heights. The Timney Competition Trigger broke cleanly with consistent weight. The BSF Barrel performed as

“The benefit of a micro-adjustable monopod over a squeeze bag is undeniable ...”

promised, actually better—ringing 1,000-yard steel consistently with 1-MOA accuracy—is quite respectable and this setup performed a far sight better.

Beyond accuracy, some of the most recognizable attributes of my first experience on this AR-10 were the unshakable stability of the Sniper Stock and Firefield Stronghold bipod to keep me relaxed and on target. The benefit of a micro-adjustable monopod over a squeeze bag is undeniable and worthy of consideration for any project or upgrade.

I was also impressed with the ZRODelta Gen 2 CI brake’s mitigation of both recoil and muzzle rise. A Girl Scout or Cub Scout would have no problem sending rounds down range and let’s face it, tracking a bullet blazing a trail never gets old. Unfortunately, a series of compromises, even on high-priced rifles and first-focal-plane optics, often leaves you guessing or relying heavily on a spotter.

THE FINAL SHOT

The takeaway through this build is this: If you’re planning on dropping your giant stack of greenbacks on a production rifle, consider building your own. Sure, there are some amazing systems to be had, but why not take the leap and challenge yourself?

Get your rifle your way … and you might even shave off a few bucks. **SJ**

U.S. ARMY PHOTO BY **STAFF SGT. ARMANDO R. LIMON, 3RD BRIGADE COMBAT TEAM, 25TH INFANTRY DIVISION**

FINAL FIRING POSITION

Heroes. There isn't one who puts on a military uniform who isn't one.

A sniper assigned to the 2nd Battalion, 27th Infantry Regiment, 3rd Brigade Combat Team "Broncos," 25th Infantry Division, scans the horizon with his sniper rifle prior to the start of a live fire exercise at the Battle Area Complex on Schofield Barracks, Hawaii.

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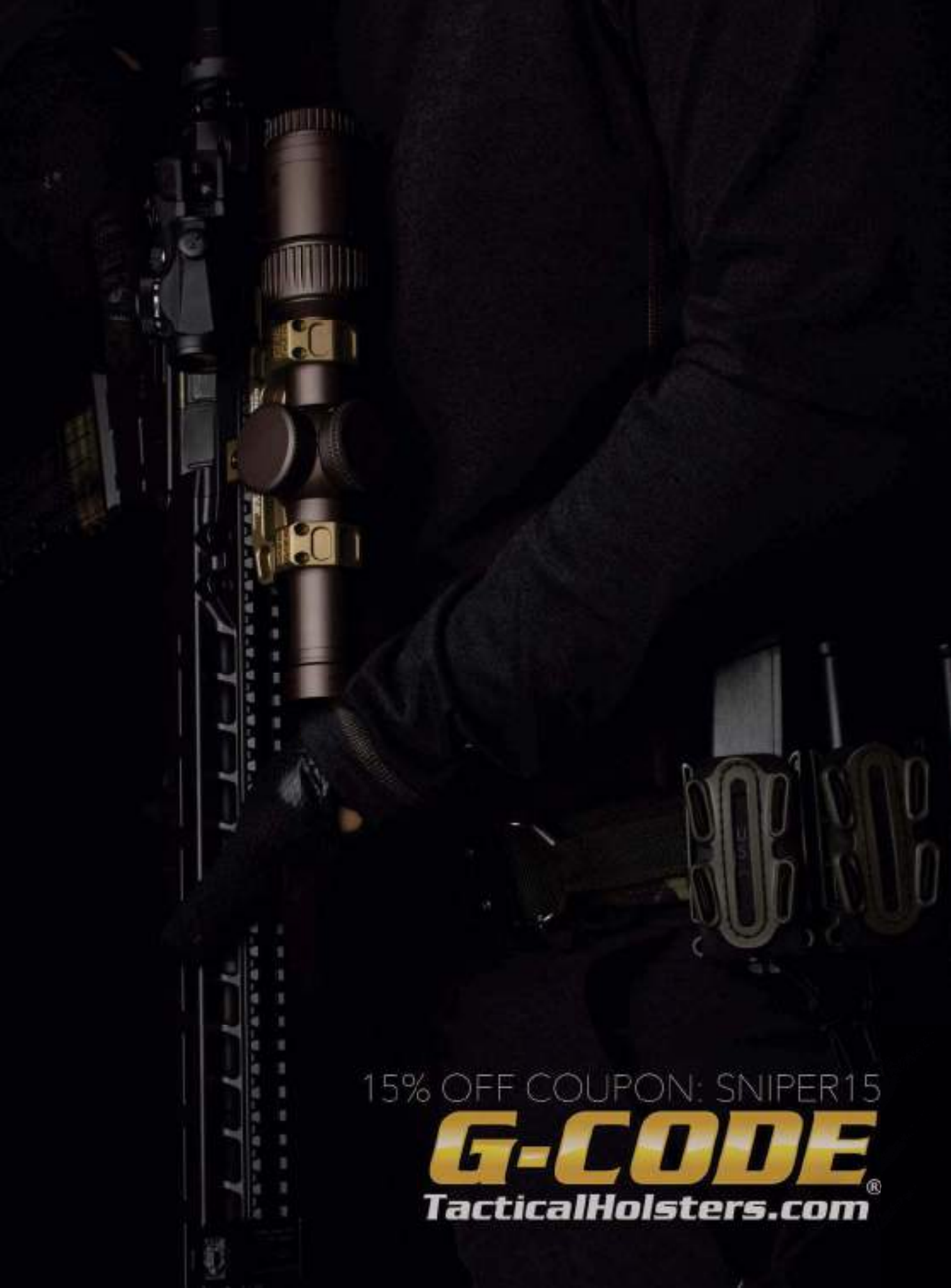
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