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The tactical world is overrun with useless gear. Here are some items that really work, helping you perform more efficiently.

BY KEN MATTHEWS, R.N.

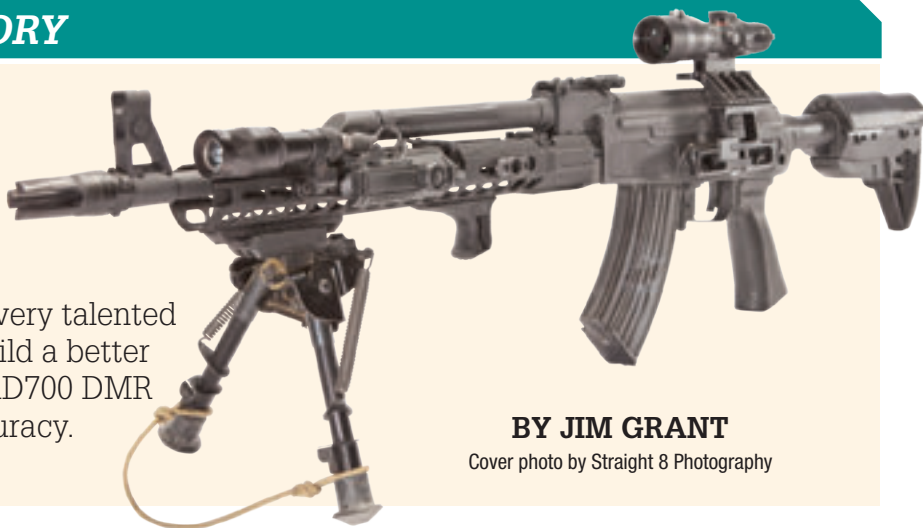


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Rifle Dynamics
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BY JIM GRANT

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BRIEFING ROOM

BY DENNY HANSEN

Terror in America

If you're one of those who say, "Get ready, terrorism is coming to America," you may be behind the power curve. It's already here.

Fort Hood, Texas; Garland, Texas; Chattanooga, Tennessee; San Bernardino, California; Boston, Massachusetts; Orlando, Florida; Dallas, Texas; Baton Rouge, Louisiana ... hopefully by the time you read this, the list has not grown longer.

These acts of violence against our citizens are often referred to in the mainstream media as "tragedies." Let's be clear: a family losing their belongings in a fire is a tragedy. A child dying of SIDS is a tragedy. The above attacks are not tragedies. They are atrocities.

I'm angry.

I'm angry not only at the terrorists but also at the Community Organizer-In-Chief and other gutless politicians who have turned once again to calling for more gun control. Let's call a spade a spade: it's not about gun control. It's about people control.

Guns were not the primary weapon in Boston. An ordinary pressure cooker was. In the attack in Nice, France, the weapon of choice was a truck.

This is a time to become armed, not to disarm American citizens.

But simply becoming armed is not enough. You must receive training from a *reputable* school or instructor. Thinking you're good to go after passing the minimum CWP requirements is akin to taking a single guitar lesson and believing you're ready to walk on stage and perform at the Grand Ole Opry. Minimum standards are just that: minimum.

Lately there has been a lot of talk about shooting terrorists in the head. And while a headshot will instantly deactivate an attacker, a few things need to be considered.

The human brain is roughly six inches long. Under stress, many shooters can't keep their shots inside that box at more than 20 to 30 feet. To further complicate matters, you will probably be moving, the terrorist will probably be moving, and bystanders fleeing the area will likely obstruct your line of fire.

Know your limitations on how far you can hit that six-inch box and then train to push it farther. By "train," I don't mean standing still shooting at a static target on a nice flat range. Incorporate moving—backwards, forwards, laterally, and diagonally—into your drills.

Finally, develop a mindset that won't let you quit until you are dead or the bad guy is neutralized. Although it has become dormant in most societies, we all still have the "mean gene" inside us that lets us confront danger and evil when required. Cultivate it and use it to your advantage.

Awhile back, my five-year-old grandson remarked that, "Grandpa carries a gun to protect us." And I intend to do just that.

Until next time, stay low and watch your back. ☉

Denny Hansen

SWAT

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KEEPING IT REAL

S.W.A.T. Magazine is one of only two periodicals I read on a regular basis. Two of the things that make it worth reading are your contributors' experience and their ability to share it in a way that's easily understood.

Early in my career, I recorded *COPS* and a few other police reality shows on VHS. I've started watching them again recently and saw an episode with Scott Reitz. He was teaching LAPD Metro Division officers combat shotgun techniques.

I remember his teaching style as an inspiration when I became one of my PD's firearm instructors. We hold live fire and scenario classes several times a year, and I've utilized S.W.A.T. articles many times as inspiration for my lesson plans.

It's refreshing to have ideas and scenarios to use that help us stay within our limited budget. Thanks to Scott, Brent Wheat, and all your other regular

writers. You help keep us safe.

Name withheld, email

Thanks for taking the time to contact us. We're very proud of the fact that our contributors have real-world experience.

GHOST GUN

I read with interest the article on completing an 80% lower AR-15 receiver (80% LOWERS: Worth the Trouble? August 2016 S.W.A.T.). Is this what California State Senator Kevin de Leon referred to as a "ghost gun?"

Even though the project looks interesting, with all the precise machining involved, it seems to be more trouble than I would care to undertake.

L. Conrad, California

With all due respect, I'd be surprised if your state senator could put on his own pants without assistance, let alone tie his shoes. Consider this from his press briefing:

"This is a 'ghost gun.' This right here has the ability with a .30-caliber clip to disperse with 30 bullets within half a second. Thirty magazine clip, in half a second!"

Despite his flawed terminology, that would give an AR-15 a higher cyclic rate than the M134 minigun!

No, the process is not as easy as some manufacturers would like people to think it is. A slot or hole machined slightly off-center or out of specifications would render it a useless hunk of aluminum. I believe this is a project to be undertaken by a skilled gunsmith, not a weekend hobbyist.

Denny Hansen

QUESTION FROM DOWN UNDER

Just read the June issue. Great stuff as always, mate. However, a question about Will Dabbs' article on Wild Geese weapons: He talks about the FN FAL, but the photos look suspiciously like the L1A1 version/copy used in the British Com-

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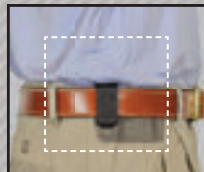


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monwealth. I used to carry an L1A1 SLR as well as the M16A1 in Southeast Asia, before we adopted the Steyr AUG. And I have used the FAL when training Indonesian forces, so I know the difference between the "imperial SLR" and "metric FAL." Or is the one in the photo another type of FAL that we are not familiar with down under?

As a side note, I am glad we (New Zealand) are adopting the U.S.-made LMT CQ16 to replace the Steyr AUG. When I joined, we had M16s and SLRs, so it's only taken 31 years for the wheel to finally turn full circle to another Stoner design. I can leave happy now.

Jim, New Zealand

Pleasure to meet you, brother. The SLR-ish rifle was a necessary bit of theater. I have admired the movie since I was a kid for a variety of reasons, not the least of which was the close involvement of genuine Wild Geese veterans Ian Yule and Mike Hoare as technical advisors. The FALs in the movie had no recoil, and blessed few magazine changes were depicted, but for a gun nerd like me, it

was a fun film to dissect.

The SLR/FAL is a hodgepodge parts gun. It originally began life as a post-ban (the American 1994 Assault Weapons Ban, which demanded guns sold during that time be bereft of flash suppressors, bayonet lugs, etc). The rifle was built up from a surplus parts kit. In its original state, it didn't have a threaded barrel. When the ban died a natural death in 2004, I adapted an SLR flash suppressor to slip over the muzzle and secured it with a blind pin. As a result, the overall length of the rifle is a wee bit shorter than original specs.

So you're exactly right. While the rifle in question comes from an amalgam of sources, it is closer to an SLR than a FAL. I just used a little poetic license to synchronize the gun with the movie.

Original Belgian-made FN FALs



show up for sale over here from time to time, but importation was banned by the first President Bush, so the few that were imported before the ban are astronomically expensive.

I spent a bit of time in Australia back in 1997 as part of Operation Tander Thrust. The diggers with whom I worked seemed taken with their F88 Austeyrs. I own a couple of semi-auto AUGs and admire the engineering. But as long as we don't get carried away hanging crap all over our rifles, it's hard to beat an M4 for lightweight portability when you have to hump the thing any real distance.

Will Dabbs, M.D. ☺

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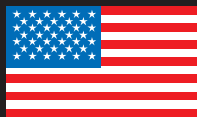


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Packing Big Revolvers

AS much as I like auto-pistols and believe they are generally better suited to self-defense, I confess to being an avid closet wheelgunner. The revolvers I like best are large ones. One of my favorites is the Smith & Wesson Model 325 Thunder Ranch (TR) chambered for .45 ACP.

One drawback to a large revolver, especially if it's going to be carried for self-defense, is weight. The 325 TR weighs 32 ounces unloaded. Compare that to an unloaded Glock 19, which tips the scales at a tad over 23 ounces. That extra half-plus pound begins to tug on the belt and can become uncomfortable after a full day.

COMBAT MASTER

The answer is a quality holster. One of my favorites is the Combat Master belt holster from Galco. Available for revolvers and pistols, the Combat Master is a traditional pancake design made from premium steerhide. The revolver's orientation in the holster has a slight butt-forward cant that, coupled with the pancake design, holds the revolver close to the body and makes it not much—if any—harder to conceal than a full-size auto pistol.

The Combat Master is molded to fit the specific model of handgun it is ordered for. The holster fully covers the barrel, cylinder, and most of the trigger guard.

It has a raised portion on the rear of the holster that keeps the hammer from abrading clothing or skin. The holster is double stitched next to the handgun and the entire perimeter with tough nylon thread.

The belt slots accommodate belts up to 1¾ inches wide.

STOCKS

The 325 TR comes with Hogue Mono-grip stocks (grips). In general, they are very good, but in my opinion rubber stocks are just a bit too “tacky” for concealed carry.

While visiting the Lyman Products booth at the 2016 SHOT Show, I no-



Front of Galco Combat Master with S&W 325 TR. Molded for specific firearms, the barrel, cylinder and most of the trigger guard are covered. Entire perimeter of holster is double stitched.

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Above: Full-moon clip and Galco Speedloader case. Tool at lower right makes it easy to unload spring steel moon clips.

Left: Galco 2x2x2 Ammo Carrier holds six rounds spaced so two cartridges can be easily withdrawn. Six-round QuickStrip can be used by dampening the leather, inserting QuickStrip and leaving overnight to dry.

ticed the just-introduced Pachmayr Renegade laminated wood stocks. They have a round butt profile and, when coupled with the pancake design of the Combat Master, will hardly print through clothing at all. I replaced the Monogrips with a set of smooth Rosewood Renegade stocks and have no plans to go back.

SPARE AMMUNITION

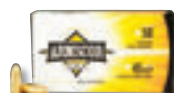
I'm a big believer in carrying spare ammo, and this is even more critical with a revolver than with an auto-pistol.

Being a rimless cartridge, the .45 ACP will not engage the revolver's extractor star. The original solution to this back in World War I was spring steel half-moon clips that held three rounds to facilitate extraction. In the years since the "War To End All Wars," quarter-moon (two rounds) and full-moon (six rounds) clips have been used, with the latter being the most popular. A full-moon clip will load a revolver as fast—some think faster—than any speedloader.

If you reload, an upside of using moon clips is that the spent shells stay together, making them easy to pick up.

Another option is to use .45 Auto Rim (AR) rounds. This round is essentially a .45 ACP, but with a rim to engage the ejector star.

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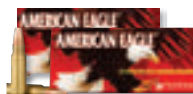
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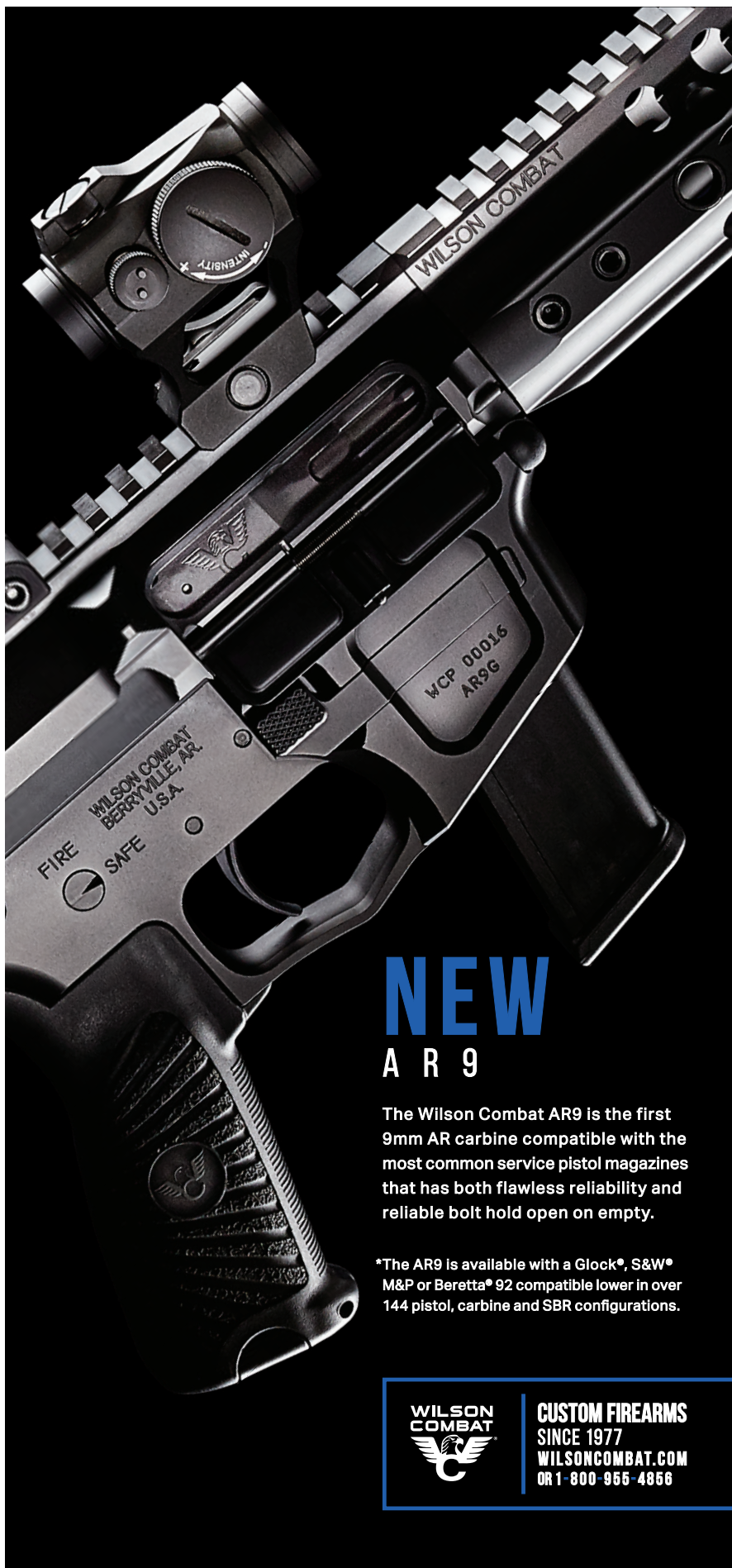
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Galco SB5 belt with Combat Master holster and spare ammo carriers. Author believes a good belt is the foundation for all other carry gear.

When I carry the 325 TR, I use a Galco Speedloader case to carry a full-moon clip with .45 ACP rounds in conjunction with a Galco 2x2x2 Ammo Carrier with .45 AR cartridges. The 2x2x2 Ammo Carrier spaces the rounds so that two can be easily extracted from the case for a reload.

I also use the 2x2x2 Ammo Carrier with a six-round QuickStrip from Tuff Products. As bought, the 2x2x2 is too tight to accept a loaded QuickStrip. I dampened the leather and forced the loaded QuickStrip into the cartridge loops and left it overnight to dry. The result is that a loaded QuickStrip withdraws easily from the pouch.

THE FOUNDATION

It has been said that the perfect shot begins in the holster. I would go one step further and say it begins with a good belt designed to carry the handgun. The SB5 Sport Belt from Galco is one such belt, a sturdy belt made to hold the weight of a handgun. Fully lined with premium steerhide, the belt has a solid brass buckle and is available in 1¼-, 1½- and 1¾-inch widths. I wear the 1¾-inch version for maximum support.

None of these products are cheap, but neither are the firearms I carry. And no price can be placed on quality gear when your life is on the line. ☺

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Fighting Stance

Lately my email box has been relatively devoid of death threats, so perhaps it's time to jump back into the deep end of the controversy pool and shout a major heresy: I think it might be time to ban the term "Weaver Stance."

Now, before anyone starts concocting plans to roast my gizzard on a spit and serve it with fava beans, let me explain. If you've lived under a rock for the last half-century, the Weaver stance is the basic body position used as the foundational basis of the "Modern Pistol Technique" developed by Col. Jeff Cooper. He coined the phrase after watching Jack Weaver, a Los Angeles County Deputy Sheriff, figuratively kick everyone's fanny during Cooper's famed "Leatherslap" pistol competitions in the late 1950s.

Col. Cooper saw how much more effective Weaver's body position was (along with his use of the weapon's

sights) for pistol shooting as opposed to the other techniques popular at the time.

This led Cooper to incorporate the (then) unusual stance into the Modern Technique that he was developing to serve as the basis of the curriculum for his revolutionary American Pistol Institute in Arizona, now known as Gunsite Academy.

Today, even during this year's 40th anniversary of Gunsite, the Modern Technique, including the Weaver stance, is still the foundation of the Academy's teaching and remains the most widely accepted professional methodology for employing a fighting sidearm. But some folks are never satisfied with the status quo and have thus developed other means and methods for manipulating and fighting with a firearm. That in itself isn't necessarily a bad thing.

With all the trigger time gained during our latest series of war-to-end-all-wars, some of these alternative techniques were used successfully to perforate bad people and thus gained popularity, especially with the "new is always better" crowd.

Unfortunately, this added steam to the argument put forth by a loud minority who view the Modern Technique and the Weaver stance as outdated, old-fashioned, and the shrinking habitat of the endangered "Southwest Dinosaur League." In fact, on certain shooting ranges, using the Weaver stance is tantamount to admitting you still drive a Model T and rely on carrier pigeon for daily mail service.

Against this backdrop of current affairs, the Weaver stance has become a polarizing all-or-none proposition. Either you are for it, or you ain't. But the interesting thing I've noticed in my role



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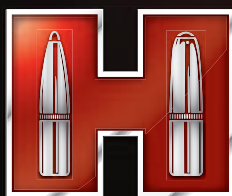
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 **LE APPROVED**

as a gun-media gadabout is that most of the critics don't really know what they are talking about in the first place.

When discussing the supposed weak points of the Weaver stance, they point to certain "facts" that either have no basis in reality or are simply exaggerated out of ignorance or malice.

The real truth is that even Gunsite, keeper of the Weaver flame, is always analyzing, adapting and updating things, and now considers the basic Modern Technique shooting position as a "Fighting Stance" rather than employing the strict "Weaver" of popular mythology.

This more-accurate terminology highlights the fact that the body position "discovered" by Jack Weaver was actually the same position that's been used by fighters since the first caveman bashed in the skull of a tribe-mate who tried to swipe the last brontosaurus burger.

All the great warrior groups of history have employed the fighting stance in various incarnations. In fact, if you superimpose the likeness of a Roman centurion preparing for battle over a

photo of Jack Weaver, the similarities are striking.

The less educated or highly dogmatic often incorrectly imagine or explain the Weaver stance as a strict set of geometric body positions. Contrast that rigid concept of Weaver against what Gunsite actually teaches: the natural fighting stance is achieved by simply dropping your strong-side foot back "enough" and lowering your center of gravity "enough" that you are stable.

In this position, when shooting a pistol, your strong-side arm is "mostly" straight and your support arm and elbow are pointed toward the ground in a comfortable manner.

However, notice there were no "elbow rigidly locked," "body precisely X degrees from the target," or "feet exactly 14.5 inches apart" instructions. That is not how Gunsite nor its impeccable multi-generational family tree of instructors explains the basic shooting stance. Rather, as described in the previous paragraph, you simply maintain a well-balanced, highly mobile fighting position that is comfortable to the way

your body is built and operates. Nothing more, nothing less.

Compare that less-is-more description with what you have might have heard from an Internet commando or erstwhile instructor who knows everything there is to know about the Weaver stance because he read the entire Wikipedia entry or watched a YouTube video.

Those are my reasons why, with all due respect to Weaver, I believe it might be time to entirely drop the moniker that goes along with the position. I sorely hate rewriting history for reasons of expediency, but the name Weaver has been so spindled, folded and mutilated in shooters' minds, assisted by the "popular gun press" and Internet, that it might be time to respectfully retire the honorific in order to shuck all that unnecessary baggage.

Jack Weaver was an innovator who applied age-old fighting techniques to the art of pistol shooting at a time when everyone else was doing something very different. For that, he deserves to be applauded and remembered. But perhaps it's time to give Jack a rest. ☺



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The Slingshot Redefined

THE slingshot is a competent weapon with a long history. It has also proven itself very effective at harvesting small game in the right hands. As a fan of the slingshot, I never considered it could effectively be any other platform than the traditional “Y” shape with two bands and a pocket.

Then one day as I was wasting more time than I probably should have on Facebook, I came across a video that made the wasted time worth it. The video showed a few guys shooting this crazy contraption that was quicker and easier to load than a slingshot, launched the projectile faster than a slingshot, and looked to be as accurate as a slingshot. I had to see for myself if this was real or just another “survival” gear gimmick.

THE NUTS AND BOLTS

The Pocket Shot package consists of the main outer ring with screw-on cap (for carrying ammo in the pouch), one standard pouch, and one blue pro-pouch. The container it all comes in isn't much bigger than the unit itself and would be perfect for carrying your Pocket Shot, spare pouch, and ammo together in your pack, allowing you to keep the Pocket Shot protected during travel.



Pocket Shot's container is perfect for carrying the Pocket Shot, spare pouch, and ammo in one handy cylinder.

Although it is made of sturdy material, nothing is impervious to wear and tear.

The outer ring and cover are constructed of a durable, very substantial-feeling polycarbonate. Color choices are orange or black. The cover also acts as a sort of wrench for changing pouches. The pouches are constructed

of high-quality latex for maximum durability and longevity.

The standard (black) pouch is a slightly thinner material and delivers its payload at approximately 275 feet-per-second (fps).

The pro-pouch (blue) is a thicker material and is a little tougher to draw, but sends the ammo downrange at approximately 350 fps. In comparison, a standard slingshot has a velocity of 200 to 250 fps.

The Pocket Shot website offers bags of ¼- and 5/16-inch steel shot ammo at a decent price. The ¼ inch comes in 100, 500 and 1,000 count bags, while the 5/16 inch comes in 100 and 500 count bags. You can also purchase extra standard and pro-pouches.

A very cool add-on is an arrow whisker biscuit that screws right onto the outer ring in place of the cover. As of this writing, they have not completed the arrow pouch, but they are working on it and it will be out soon.

TESTING

The Pocket Shot instructions recommend stretching it out about 30 times before use to break it in and make it a little more user friendly. While doing that,



Standard pouch allows you to draw back about 1½ feet and shoots at roughly 275 fps.

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Pocket Shot comes with outer ring, cover, standard pouch, and pro-pouch.



Whisker biscuit and nock sleeves will let you shoot arrows from Pocket Shot with arrow pouch (when it is available).



Collapsed Pocket Shot is indeed small enough to slip into a pocket.

I could tell the pouch was very durable, but it is thin enough that I don't recommend shooting out of it anything with rough edges, such as a rock. This is definitely made for small, smooth ammo.

For testing, I went to a friend's house and we set up a 1.5x1.5-foot target on an old car hood and started taking shots at it from 16 yards. Loading the ammo is extremely easy: drop the ammo into the pouch and you are loaded.

While using it, I remembered all the times I had ammo drop out of the pouch of a normal slingshot, which

only enhanced my feelings about how easily and consistently I was able to load the Pocket Shot.

The draw with the standard pouch was quite good: we were able to draw it back about 1½ feet. Shooting 5/16-inch steel balls and one-inch marbles, we got some decent dents in the car hood we were using as our backstop.

But with the grip being cylindrical and not offering a traditional slingshot grip, the aim was not intuitive, and it took us a little time to zero in on the target. Eventually we were hitting it fairly

consistently, but not with enough accuracy to zero in on a kill zone of small prey, although I did find that my hits increased when I just brought it up and fired right away.

Due to the cylindrical grip, the Pocket Shot will be harder to use for anybody with arthritis or injury to the hand holding the outer ring. This proved to be especially prevalent with the pro-pouch, as it was much stiffer. It did send



Above: Straight out of the box, we were able to start zeroing in on center target from about 16 yards. Dents just to left of target are from Pocket Shot.

Right: After practice, author could hit a can with some consistency from 10 and 15 yards. Round went all the way through the can even when it was full.





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the shot downrange at a much higher velocity, but with the arthritis I have in my thumb from an old injury, I found it hard to get a full draw with it.

Since I had the whisker biscuit, I wanted to try shooting an arrow, though the standard pouch is not designed for arrows and the pro-pouch isn't long enough.

With the shortness of the pouch, I can see it will need the pouch designed for arrows. I was not able to get a draw the full length of the arrow, which caused it to be a little lackluster when heading toward the target. I was able to hit the target at about ten yards, but it was a bit wobbly in the air and not consistent enough to trust just yet. I believe it will do a better job with the arrow pouch.

For some final playtime, I took it out to a lake with a few friends and we shot one-inch glass marbles across the lake to see how far they would travel. Shooting straight (as if shooting at a target), the marbles stayed in the air for approximately nine seconds before hitting the water. Using the standard pouch, at 275 feet per second, we figure that our ammo was traveling roughly 2,475 feet before hitting water. We were all impressed and a little tickled by the whole thing.

CONCLUSION

Overall, I was impressed with the Pocket Shot for what it is: a small, portable piece of gear that takes up far less pack space than awkward Wrist Rockets. Being a pretty good shot with a Wrist Rocket, I am apprehensive about replacing it in my gear too quickly, so I'll be taking both with me until I get more comfortable and consistent with the Pocket Shot. With some practice, I see it happening in the not-too-distant future.

However, the Pocket Shot is not for everyone. Although the friend who shot it with me at his house had fun, he was not sold on it. It's worth noting that he is not a backpacker and was looking at it from an entirely different point of view.

I personally think the Pocket Shot is a great solution for backpackers and bug-out bags for its light weight and small footprint. I recommend it to anyone when they ask me about a good slingshot for that purpose. And at only \$25, you can't go wrong. ☺

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FUNCTIONAL GEAR

To Solve Tactical Problems

BY KEN MATTHEWS, R.N.

THE tactical world is overrun with gimmicks, useless bolt-on trinkets, and various snake-oil peddlers. Some of these items are ridiculous, and only good for a laugh by those who might need to rely on their gear in the real world. Other items could actually hinder functionality and become a risk to life and limb.

At the same time, some items can really make a positive difference. The trick is discerning what makes sense and what works for you in your specific environment. Here are a few items I've found useful and inexpensive, and have come to rely on over the years.

LET THERE BE LIGHT

I train a lot in the dark. The team I worked for was active almost exclusively at night. And in truth, bad guys roam and bad things happen in the dark at a generally higher incidence rate than during the day.

I've always been a proponent of carrying multiple light sources. Weapon-mounted lights are great, and I've got them on all my serious weapons. High-lumen handheld flashlights are mandatory in your kit too. You don't want to point a lethal weapon at everything you want to illuminate, do you?

While high-intensity lights are great for many tasks, I've found that movement to the objective or target, setting up a hide, or dealing with minor tasks can often be better accomplished with low-lumen Light Emitting Diode (LED) lights that keep your exposure profile to a minimum.

My chest harnesses and web gear have small clip-on LED lights, generally on the left shoulder strap, for navigation and minor tasks. And they get used—a lot! While there are several manufacturers of these little lights, my current preference is for the CountyComm S.O. LED with a sand-colored body and a six-to-eight-position rotating clip fastener.

These little guys provide a low-profile but usable amount of light for setting up targets on a dark NVG range, illuminating paths and hallways as you navigate into position, grabbing med gear or adjusting comms. They are invaluable.

Author carries miniature LED lights clipped to his load-bearing gear.



TIE UP THE LOOSE ENDS

You've heard the saying: "It's the little things that kill." Loose straps, comms wires, and antennas can get in the way and create problems. Often it's just a nuisance and you readjust gear or tuck in the "hangers." But if those straps or wires interfere with weapon manipulation or mag changes, or get you trapped on obstacles, it could be a catastrophic event.

In training I've had incidents that have identified potential life-threatening equipment failures and issues that could have gotten me killed if they had happened in a "non-permissive" or "terminal" learning environment.

My "ah-ha" moment came during an NVG live-fire training evolution. I was in the process of a pistol mag change while transitioning between two high-threat targets. While reaching for a fresh pistol mag off my belt-mounted mag pouch, I inadvertently also grabbed the lower tensioning strap of the chest rig I was running.

As I brought the mag (and strap) up to the pistol, an invisible hand (the strap) stopped my forward motion and delayed the insertion of the mag, leaving my weapon pretty much useless for several valuable seconds.

Additionally, hung-up loose items can pull out gear from packs and pouches and leave you with an empty spot where you thought you had a mission-critical piece of equipment.

Fix or tie off those loose ends with tape or strap-keepers to stay streamlined and secure. I like the 3/4-inch Coyote Brown vinyl tape from Battle Systems. It is functional; sticks to webbing, plastic and metal; is a subdued color; and works well in hot and cold climates.

For straps or cables that need special handling or might have to be adjusted on the fly, I like the ITW/Nexus "Web Dominator" devices. These allow you to secure the base to webbing as found on MOLLE gear, and then to use the elastic cord keeper to secure straps, wires, or cables with the capability of a quick release and adjustment. These shine for rifle slings, pack straps, and comms cables.



Loose straps can interfere with mission-critical gear.



Heavy-duty vinyl tape has many uses.

HANG ON



ITW/Nexus has some excellent organizational problem solvers.

Many small quick-access or often-used items need to be readily available on your gear but not necessarily tucked away in a zippered or Velcroed pouch. ITW/Nexus GrimLoc and Tac Link carabiners, with GhillieTEX IR signature reduction work great for attaching a variety of items to your belt, chest rig, plate carrier, or other load-out platforms without increasing weight or being too obtrusive.

I use them to attach gloves, ear protection, and tape (medical and repair) to my load-bearing equipment and find them extremely useful. The GrimLoc and Tac Link have different attachment profiles, gate openings and locks and capabilities, and are crazy functional. Their uses are limited only by your imagination.

CHECK YOUR NOTES



Rite in the Rain notebooks let you do exactly that.

Whether I was flying with a patient, taking notes in a pre-mission briefing, or logging observations on a call-out, having a small notebook and pen made a world of difference for keeping track of details.

I've got notes going back to the early 1990s with flight details, SWAT call-outs, and target specifics logged. I've found that they are a great way to augment my internal memory for writing reports, tracking details for after-action debriefings, and keeping notes of lessons learned.

The Rite in the Rain series of products is my hands-down favorite for these tasks. With a multitude of waterproof paper options, loose-leaf refills, and notebooks, they make a size and format to fit most every need. I've kept a small notebook in my flight-suit, BDUs, or in a utility pouch on my web gear since I started in public service in the mid-1980s, and the Rite in the Rain variants are the most durable and long-lasting of all I've tried. Add a water-resistant pen or mechanical pencil and you're ready to notate details that might otherwise get lost in the shuffle of events.

NOW YOU SEE ME, NOW YOU DON'T

Cover and concealment: both are valuable tactical tools with different applications and usefulness. Cover stops things, concealment hides you. Cover is hard to carry, but concealment can be relatively portable. Shape, shine, shadow, silhouette, and movement are the primary identifiers that compromise someone trying to hide and should be considered when planning concealment.

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tifiable outline and help you blend in with the natural surroundings and color of your area.

The nets currently available on the surplus market come in three colors: Desert, Woodland, and White. I always carried the Desert and Woodland ones in my sniper rifle drag bag or deployment pack, and found they worked well for rapid concealment. During winter months, I'd swap out the Desert one for the White, as that combo worked well in the city.

While you may be able to find them in your area at various surplus stores, a great online source is Army Surplus Warehouse in Idaho Falls, Idaho. Prices are very reasonable. Newer commercial versions with different color schemes are sometimes available but may be harder to find. When trying to hide from prying eyes, anything that minimizes your chances of being compromised can be a game changer, and worth its minimal weight in the proverbial gold.

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Ken Matthews is a former SWAT team member with a Utah police department, where he fulfilled collateral responsibilities as a sniper and team medic depending on the mission. He has been an underground miner, EMT and Ambulance Commander, and a Flight Nurse and Air-Medical Program Director with over 1,000 patient missions.

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Aloha Gun Rights

IN May, the Hawaii legislature approved a bill that would impose a de facto requirement on Hawaii gun owners to be registered to, and monitored on, an FBI database, simply for the “crime” of owning a gun. On June 23, rabidly anti-gun Governor David Ige signed the bill into law.

In other words, Hawaii now requires gun owners to be entered into a *federal* registry—something, ironically, that the federal government is prohibited from doing on its own.

The way the FBI database, called “Rap Back,” works is that state and local law enforcement agencies can request that a person be entered into the system. Once in, any legal trouble the person subsequently gets into (even an arrest without a conviction), anywhere in the country, is reported to the requesting agency.

The Hawaii legislation will require a

“Rap Back” request every time someone in the state attempts to register a firearm with the state (required for all guns in Hawaii).

Interestingly (and rather ominously), the FBI, despite the above-mentioned prohibition on a federal gun-

Yes, gun owners are to pay to come under the malevolent gaze of Big Brother’s unblinking eye.

owner registry, lists “firearms” as one of the limited number of appropriate reasons for making a “Rap Back” request. It would seem the FBI is not unaware of this opportunity to have its own record of gun owners and does not intend to allow that opportunity to be wasted.

“Gun control” advocates are predictably excited about the law, with an at-

torney from the radically anti-gun Law Center To Prevent Gun Violence describing the law as “groundbreaking,” and stating that she is unaware of any such proposals in other states.

That will no doubt change, though, as states like New York, California, Connecticut, and others vie for the mantle of “leader” in restrictive gun laws

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GAFREESHIP



(which supporters of the law in Hawaii claim should now go to that state).

As one might have guessed, all this new bureaucracy has to be funded *somehow*. As one may also have guessed, the Hawaii law makes certain that funding comes from just where the gun-ban zealots want it to come from—an as of yet unspecified fee, paid by the gun owner.

Yes, gun owners are to *pay* to come under the malevolent gaze of Big Brother's unblinking eye.

Legal experts expect the law to be challenged, but there would seem to be little reason to expect those challenges to succeed. Certainly the Supreme Court's refusal to hear recent challenges to various state gun laws bodes well for the law's supporters, and ill for gun owners.

And it's happening against a backdrop of gun-ban zealots emboldened to attack gun rights with the kind of unbridled savagery we have not seen since the early 1990s, and the now-defunct federal ban of so-called "assault weapons."

Democrat presidential nominee Hillary Clinton has made draconian

gun regulation and demonizing gun owners and the "gun lobby" centerpieces of her campaign. Gone are the days when she felt the need to try to trick gun owners into believing she supports our rights, and that, shucks, she has happy memories of hunting when she was a kid.

"Gun control" was perhaps *the* issue on which she could run to the left of Senator Bernie Sanders, and in the Democrat primary, left was better. But with the nomination won, there will be no tack to a more centrist position on guns.

She no longer believes she needs the gun owner vote, and is thus free to pander to the most extreme gun prohibitionists of the so-called "progressive" Democrat base.

And pander she has, going so far as to state that the Supreme Court's *Heller* decision, in which the Second Amendment's protection of the right to keep and bear arms was ruled to not be contingent on membership in any government-sanctioned militia, was "wrongly decided."

The next President will likely appoint several new Supreme Court jus-

tices, and she will certainly leave no room for doubt that her nominees will decide future Second Amendment cases in accordance with her idea of what's "right." And what's "right" in her eyes is no Constitutional protection at all for private gun ownership.

Now imagine a Clinton presidency at a time when the Hawaii legislation has metastasized to several other states, with an aggressive and lavishly funded movement to bring such laws to yet more states. She would be thrilled to be at the top of a federal government that registered every legal gun owner in a database. She would know, however, that merely having that information does not help her unless she uses it.

And there's really only one way to use that information.... ©

A former paratrooper, Kurt Hofmann was paralyzed in a car accident in 2002. The helplessness inherent to confinement to a wheelchair prompted him to explore armed self-defense, only to discover that Illinois denied that right. This inspired him to become active in gun rights advocacy.

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TOPS KNIVES

Heavy on the Handgun

I have been asked through the years which weapon system to concentrate training upon when such a choice exists. Unequivocally it would be the handgun.

For over two and a half decades, I have been involved in defending in the courts individuals who needed to use deadly force. Only a very small fraction of these cases involved the shotgun or rifle. The extremely high 90 percentile involved employment of the handgun.

Within a uniformed deployment, the handgun is oftentimes the only weapon system on scene.

Many shootings resolve themselves around totally unexpected, extemporaneous scenarios that are initiated on one level and within moments devolve into deadly force evolutions. One does not always have access to the long arm. Three of my own shootings involved the handgun and two the shotgun,

both pump and semi-auto. Statistically speaking, this is not the norm.

The vast majority of departments concentrate on the handgun as opposed to the rifle or shotgun. The LAPD is a prime example, as all officers must qualify every other month with 30 rounds from the handgun and twice a year on the shotgun. The only rifle training is for those limited officers who are voluntarily equipped with the patrol rifle.

In an off-duty capacity, the only obvious choice is the handgun. While cut-down rifles such as Steve McQueen's lever-action in the early 1960s TV series *Wanted: Dead or Alive* are inherently Hollywood sexy, they would not wash well on a night out on the town.

Shortened shotguns slung with para-cord under the jacket would be a bit cumbersome as well. Cool perhaps, but far removed from practicality.

Nope, you're pretty much relegated to the handgun.

With all this established, it is imperative that officers grasp the fact that it will most probably be the handgun and not the rifle or shotgun that will be called upon when the ball goes up.

Remarkably, quite a few officers have related their take on this subject to me in the following manner: "Well, I'll just take the shotgun/rifle if it gets dicey." This is a solid formula, but only if one can accurately predict the future. Virtually any situation can go south when dealing with other humans, and that which initiates in a benign manner can transcend into unmitigated chaos within seconds or fractions thereof. I know.

The pistol should be solid, reliable, clean, and practiced more heavily with. It must be capable of being run "at speed" and at distance when called upon. A 15- or 25-yard qualification phase of fire will

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One should get to know the pistol such that it is as intimate a process as one could imagine.

be mildly interesting when confronting an active shooter at 100+ yards. The LAPD has had a number of shootings in the past in excess of 25 and even 50 yards employing the handgun. And that's just one department.

In olden times, one could observe officers deploying a plethora of handguns on any given force, and they ran the gamut in terms of models and quality. The problem was that some pistols mostly used insufficient calibers/loads. Most departments now issue quality firearms and better loads. This is a good thing.

Some departments allow for additional training if an officer so desires. Unfortunately, many do not take advantage of this.

Another subject is cleaning and maintaining the pistol. This requires discipline and attention to detail. In the midst of a lead-throwing party is neither the time nor the place to discover that the magazines or pistol are not functioning properly. When cleaning, one is also looking for fractures, defor-

mation, fouling build-up, or unusual wear that demands attention.

Magazines are often overlooked in the maintenance phase. The magazine is the weak link in the anchor chain. If the follower does not operate smoothly, you could be down to a single-shot pistol, which is rather sporting and fair to the bad guy but not necessarily in your best interest. Ammunition should be changed out at least every six months as well.

I have long advocated marking one's sights to ensure that a quick visualization of them shows they have not shifted. This can be accomplished with something as simple as a spot of nail polish on the rear sight running onto the slide. Any subsequent shift would evidence a displacement or crack in said marking. (I prefer a deep red "Moonlight Madness" coloration.)

The same can be applied to either side of the front sight as well. It would be very frustrating indeed to discover one had done everything correctly yet missed in the field due to the simple

fact that, unbeknownst to the shooter, the sights had shifted.

One should get to know the pistol such that it is as intimate a process as one could imagine. You're going to bet your life, your partner's, family's, or citizen's life on that simple piece of ordnance. You may only get one shot at it (no pun intended), and it has to be right, onboard, and dependable.

No one can accurately predict which firing solution you will be called upon to perform or solve correctly and on demand when the pressure is both imminent and life altering.

Were I given a single choice, I would train heavy on pistol. ☺

Scott Reitz is a 30-year veteran of the Los Angeles Police Department and director of the highly acclaimed International Tactical Training Seminars. Course information and schedules are available at their website at www.internationaltactical.com. Looking Back, a free monthly newsletter, is available by email at itts@gte.net.

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GeoBallistics WeatherMeter and BallisticsARC

I originally learned some very basic methods for a ballistic solution for a longer shot. You know, watching trees sway or dropping a piece of grass or leaf for windage, using mil dots for ranging, and maybe checking the temperature.

As time has passed, technology has made calculating long-range shots easier, and the use of .338 Lapua and .50 BMG sniping rifles has made it possible to dope a shot to 1,500 meters or more. I've progressed from filling out individual ballistic cards on rifle/ ammo combinations and annotating them with temperature and other data to using ballistic calculators and laser rangefinders.

Anyone tasked with taking long-range tactical shots needs to learn how to figure out all his data himself and create his own dedicated ballistic tables first. That way, if for one reason or another the high-tech devices don't work, he can still take his shot.

I need to make a few comments for those who may not be familiar with all that goes into getting a ballistic solution for a longer-range shot. For mid-range shots of 300 to 600 meters, typical .308 sniper distances, generally elevation and windage adjustments are all that are needed.

I like scopes with B.D.C. (Bullet Drop Compensation) and I especially like

Leupold's Custom Dial System. With one of their dials designed for the cartridge I always use, once the scope is zeroed, I can quickly dial in my range and, unless it's very windy (when some windage adjustments are needed), send a round downrange to 500 or 600 meters.

But at longer ranges, other factors become important. For example, spin drift, which occurs as the bullet slows down, from a right-hand twist barrel can cause the bullet to drift eight to nine inches at 1,000 meters. The Coriolis effect comes into play at longer ranges. This is the effect the rotation of the earth has on the bullet in flight as the earth rotates beneath it. Temperature, altitude, humidity, and barometric pressure also affect the flight of a bullet at longer ranges.

Ballistic coefficient is the measure of how well a bullet can overcome air resistance in flight. It is a function of mass, diameter, and drag coefficient. Ballistic coefficients are based on "Standard Metro" figures of 59 degrees F for temperature, barometric pressure of 29.53 inches, and humidity of 78%.

Higher humidity and higher temperature make for a higher ballistic coefficient. The higher the ballistic coefficient, the less a bullet will drift. An increase in temperature or altitude increases the ballistic coefficient, while an increase in barometric pressure decreases the ballistic coefficient.

That's probably more than many readers want to know, but if you want to know even more, the Internet has plenty of info. It should be obvious, though, that having a device that quickly calculates data for you when shooting long range is advantageous.

I recently evaluated the WeatherMeter device and the BallisticsARC app. I recommend purchasing the WeatherMeter and then purchasing the app. It is possible to get weather data with the ARC app by accessing the nearest weather stations to the shooter's position, but this presupposes you will have Internet access. With the WeatherMe-



WeatherMeter can be plugged into a mobile device to gather info hands free, but Thompson prefers holding it in the air to catch the wind better.

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Above: Target solution from BallisticsARC and WeatherMeter shows adjustments for elevation and windage. No windage adjustment was necessary for this shot. **Right:** WeatherMeter plugged into iPad for hands-free taking of data.



ter, readings can be put into your Android or Apple device and incorporated directly into your ballistic solution.

The WeatherMeter measures:

- Wind velocity, while wind direction is measured by the compass on your mobile device
- Barometric pressure
- Temperature, wind chill, heat index, and dew point
- Humidity

■ Density altitude

This information may be directly integrated with the BallisticsARC app. This app uses the very powerful JBM ballistic calculator, which allows you to select among 2,500 projectiles and save your bullet and muzzle velocity for future use.

For long-range shooting, taking your muzzle velocity with a chronograph might be advisable, but for testing I've

been using the advertised muzzle velocity of the Black Hills 190-grain .300 Win Mag; 2,950 feet-per-second.

Targets may be ranged automatically on maps or charts accessed via the Internet, with shot bearing and shot angle immediately displayed.

As the BallisticsARC software incorporates the ability to overlay ballistic data, taking the shot is very quick. For example, once you have laid in your shooting position and your target by "dropping pins" at those positions, you can bring up an overlay showing your distance and how many miles you need to adjust for windage and elevation by pressing the target pin.

Weather data is automatically incorporated if you use BallisticsARC in conjunction with the WeatherMeter.

Other overlays include:

- **Max Vital Range:** the maximum range a bullet strikes within a desired vital area without adjusting elevation
- **Energy Threshold:** the minimum energy the shooter wants to deliver on target
- **Velocity Threshold:** the minimum velocity the shooter wants to maintain to a target

Custom range cards can be built and archived for future use and especially designed for specific AOs (Areas of Operation). A police urban sniper could pre-develop range cards for a multitude of possible incident sites (airport, port area, sports stadiums, et al).

Walker's Razor Series Muffs

Because I was wearing and testing the Walker's Razor Series Slim Shooter Folding Muffs while testing the WeatherMeter and BallisticsARC, I would like to give them a quick mention.

First, they are slimmer than many electronic muffs I have used in the past, which is a good thing. The two omni-directional microphones and HD speakers allow conversations around you to easily be heard, while Sound Activated Compression kicks in with a 0.02-second reaction time if a shot is fired. Since I was shooting a .300 Win Mag while testing the Razor Muffs, I appreciated that sound was immediately deadened.

Another plus is that the volume control knobs are recessed and out of the way. The external battery door is a feature that appeals to me, as I have had bad experiences with some internal battery compartments jarring open and dumping the batteries without my realizing it. Maybe I'm a klutz, but I like the external compartment.

Cost is very reasonable, at a suggested retail price of \$79.95.

One final comment: since a lot of pictures of me shooting are taken for books and articles, I like the fact that the Razor Muffs look good, even if I don't always!



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As I write this, the BallisticsARC app is dependent upon real-time Internet access, which can be a problem in some AOs, but I am assured that by the time you read this, an update will be available that allows maps of an AO to be downloaded in advance and archived.

I am still learning to use the WeatherMeter and BallisticsARC combo, but I am quite impressed. As mentioned earlier, I believe a tactical shooter needs to know how to develop his data, use a laser rangefinder, and use mil dots or other ranging systems within his scope. But with this device and app, he will not have to use them most of the time.

I use my iPad Mini because I can see more detail of the area in which I will be putting a shot. Some readers may be more likely to use an iPhone or Android device. I find that my iPad Mini easily slips into a pocket of my gun case along with the WeatherMeter, which comes in a hard plastic case and stores easily.

Each time I've used the BallisticsARC app and the WeatherMeter, I've become more cognizant of how I can quickly gather all my data to dope a shot. Anyone who has a basic understanding of ballistics and rifle shooting and uses a mobile device can quickly learn to use them.

Total investment for the device and app is only about \$100. Not only will they help you shoot more accurately, but for many they will also teach you more about how you take that shot.

I recommend purchasing the WeatherMeter through Brownells, as they always give great service. ☺

Leroy Thompson has trained hostage rescue, close protection, counterinsurgency, and anti-terrorist units in various parts of the world. Prior to Operation Desert Shield, he trained U.S. Army protective teams and hostage rescue units. He is the author of over 50 books on weapons and tactics and between 2,500 and 3,000 magazine articles.

SOURCES

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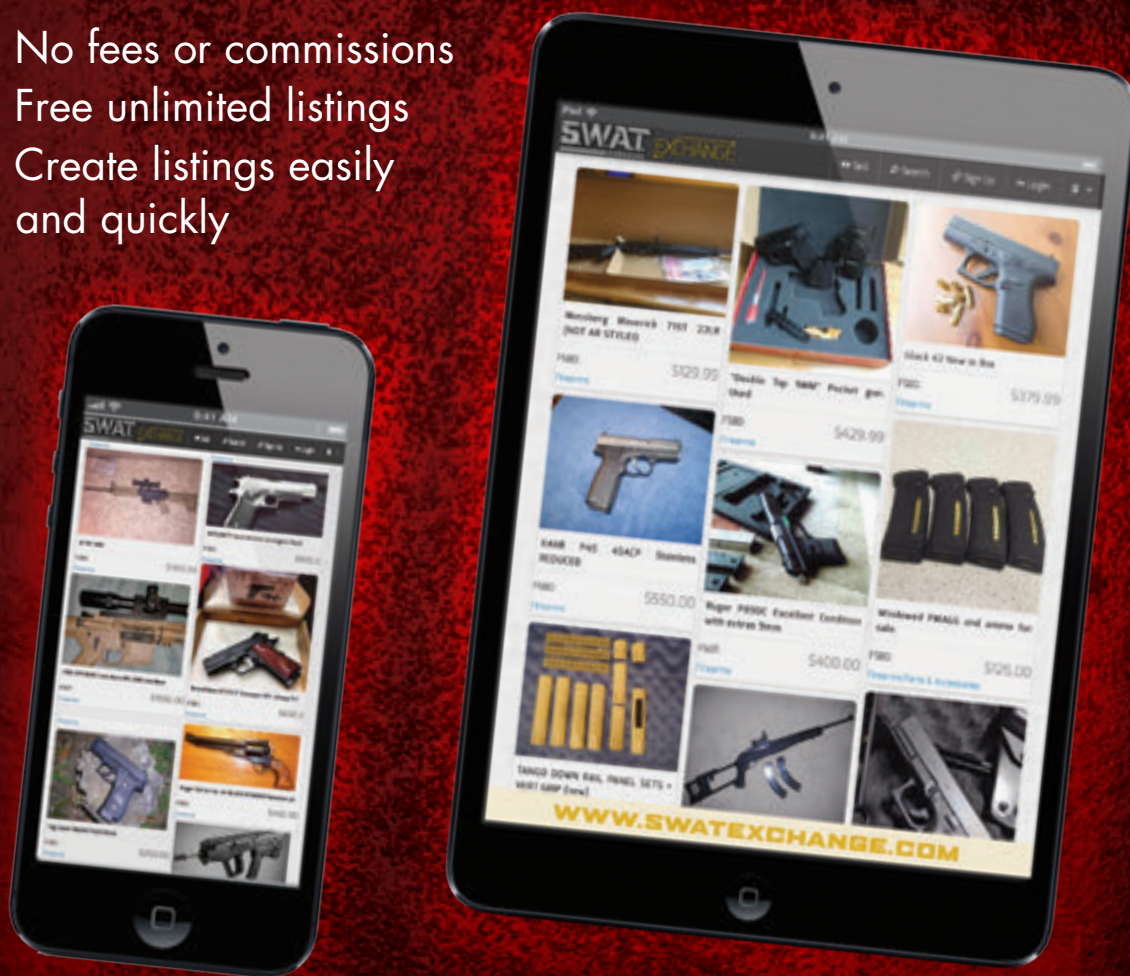
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AK



Passing storms made for rough skies, yet I managed to steal a few precious hours of shut-eye on my flight to Las Vegas, though the sudden shaking of the aircraft destroyed any hope of appreciation for it.

“Ladies and gentlemen, the Captain has turned on the fasten seat belt sign. We’re experiencing some turbulence.”

“No kidding,” I thought to myself in far cruder terms. Prying my laptop from under the child’s car seat in front of me that passed for coach accommodations, I began reviewing information on the Sharps Brothers’ new AK receiver I was en route to evaluate.

On paper it seemed a lot like any other tacticoool’d AK on the market. Some manufacturer had decided they knew better than Mikhail Kalashnikov and tried to shoehorn the AK into an M4-looking contraption. But the addition of a threaded peg for an AR-15 lower receiver extension (buffer tube) and the receiver’s Galil/Sako RK 95 appearance piqued my interest.

THE FULLER AK MAN

Unlike most modernized Kalashnikovs, this one had the backing of and co-development with industry legend Jim Fuller. Fuller had founded Rifle Dynamics, a small custom AK builder with a reputation for unparalleled build quality and uncompromising eye for detail. If Jim put his name and reputation behind this new rifle, there must be something to it.

PRECISION

Rifle Dynamics RD700 DMR

RIFLE

BY JIM GRANT

PHOTOS BY STRAIGHT 8 PHOTOGRAPHY



I took an overpriced taxi through the depths of the neon-drenched city to my hotel. After scribbling a few notes, I headed to bed. Sleep lasted a few seconds at best. Somehow midnight became sunrise in an instant, the surrounding desert's heat dominating the Strip an hour or two later.

After an indulgent breakfast, Sharps Brothers owner, John Sharps, and I headed over to Rifle Dynamics to see the first production rifle and meet with Jim Fuller. John's friend and prolific

photographer Jason Swarr was with us and positively glowing at the prospect of meeting Jim in person. Truthfully, so was I.

The outside of Fuller's shop is surprisingly plain.

I don't know what I was expecting, but a matte beige building devoid of writing was not it. Externally unimpressive, the inside is awe-inspiring. The shop is lined with dozens of one-off projects and rare Kalashnikov components. If Santa's elves built AK rifles, this would be their workshop.

But the on-site elves were actually highly skilled AK builders, and their master not an obese old man in a poorly fitted red suit, but Jim Fuller. A man whose face shows the lines of smiling too much—and who can blame him? Doing what he loves while making a living and capturing the adulation of other enthusiasts tends to have that effect on people.

His perpetual smile contrasts with the severe unkempt grey-black hair, appearing as storm clouds surrounding the whirlwind of brilliance exploding from the man's head. I took a second to regain my composure before introducing myself to this intense-looking man. He responded with a big smile and the sort of warm welcome normally reserved for old friends.

Touring the small workshop for a few minutes, I was struck by how quiet and organized the chaos inside was. Larger factories look like soulless mass-production assembly lines, devoid of character or attention to detail. This shop was more akin to an artist's studio, craftsmen laser-focused on building each

SureFire Scout light was used as a white-light source on the RD700 DMR.



Below: KeyMod SLR handguard makes it easy to add accessories.



PRECISION RIFLE

Right: Rifle was fitted with RS Regulate modular side mount and Trijicon optic.

Below: Receiver designed by Sharps Bros eliminates need for third-party M4 stock adapters. Integrated AR buffer extension is a novel and patent-pending idea for the AK platform.





MB47 receiver is machined from a billet block of 4140 steel then heat treated to a Rockwell C of 45.

RD700 DMR FEATURES

- MB47 receiver
- Custom-made 18-inch 1-in-10 Nitrided barrel
- Bulgarian bolt and carrier, top cover, small parts
- Bravo Company stock with LaRue riser
- Russian pistol grip
- AKT trigger
- RPK rear sight
- RS Regulate scope rail
- Trijicon TA-33 scope with 7.62x39 BDC
- SLR rail
- IWC flashlight mount
- SureFire Scout light
- Tuned for the Silencerco Saker suppressor

project perfectly. The whole scene was incredibly, wonderfully distracting, but I came here for a reason: the MB47, the result of more than two years of R&D from Sharps Brothers and many late-night phone calls between Sharps and Fuller. Dubbed the RD700 DMR, the rifle handed to me was the culmination of these two very talented individuals' efforts to build a better milled AK receiver.

RD700 DMR

John had years of experience and commercial success building his line of high-end AR-15 receivers featuring milled skulls and tiger teeth. These receivers don't just look great, their fit and finish are outstanding. The only thing higher than their quality is the demand for them. Try to find one locally and many shops will laugh. Most places can't keep them in stock for more than a few days—sometimes hours.

John hoped to bring this level of precision to a platform many people erroneously believed to be crudely made and unrefined. Like any good leader or business owner, John knows what he knows and, more importantly, what he doesn't. So he reached out to Rifle Dynamics to ensure he wouldn't make any costly mistakes along the way, but rather spend more time innovating and improving and less time troubleshooting.

The result is a rifle that truly shatters my expectations and redefines what's possible with AK rifles and carbines. The first example shown was built off a Yugoslavian barrel/gas system, and as such features an adjustable gas valve.

On milspec versions of the Yugo/Serb PAP rifles, this valve is designed to facilitate the launching of rifle grenades. Since these grenades are launched with expanding gas and not a projectile, blank rounds are used as a propellant. To maximize the amount of gas directed toward the muzzle, a gas cutoff valve was in-



MB47 receiver can be built out with a standard AK parts kit. You just won't need the trunnion—Sharps Bros has machined that in for you.

PRECISION RIFLE

stalled on Yugo-pattern infantry rifles.

Rifle Dynamics takes this cutoff and modifies it into an adjustable gas system. It does this to make the platform easier to suppress. Another indication the rifle is designed for this is the thread pitch on the end of the rifle. The RD700 features a 5/8x24 threaded muzzle, and the example at the shop was topped with a Silencerco Saker Trifecta muzzle brake. It also greatly expands the amount of available muzzle devices, as this is the same pitch used by AR-10 rifles.

On the other end of the RD700 is the most obvious departure from the original AK design—the M4 stock interface. Where most milled AK rifles use a pair of tangs to screw into a wooden or polymer stock, the MB47 receiver made by Sharps Brothers features a circular cut threaded for a milspec M4 lower receiver extension.

As an AK traditionalist, I'll admit I wasn't initially excited at the thought of the carbine, but after seeing it in person, I was won over by its appearance.

Most AK carbines that feature some sort of adapter for M4 or AR-15 stocks look very tacked on, as if the entire concept was an afterthought. But the Sharps Brothers MB47 receiver looks destined for modern AR-style furniture.

When John received the first production example from Rifle Dynamics, his face lit up like a father being handed his son in the delivery room. Understandably so, as the whole ensemble looks gorgeous. The Sharps Brothers persona shines through, working in tandem with the high build quality Rifle Dynamics is known for.

Dressed to kill, the RD700 DMR was impressive to behold. But could it perform as well as it looked?

SHOW TIME

We packed up two examples of the rifle and headed to the desert to find out. With crosswinds in excess of 25 mph, distance shooting was going to be tricky, so initially I limited my evaluation to firing on steel silhouettes at distances between 50 and 200 yards. The first MB47 rifle we fired was the carbine version, sporting a 16-inch barrel. It wore an SLR Rifleworks railed handguard and Magpul UBR stock.

» Continued on page 88



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This month's sweepstakes features a 9mm Smith & Wesson M&P Shield and is brought to you courtesy of Davidson's Gallery of Guns.com. Davidson's unique website, GalleryofGuns.com, allows consumers instant access to tens of thousands of firearms in Davidson's huge inventory. All gun purchases are backed up by Davidson's exclusive Guaranteed® Lifetime Replacement Program.



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Christensen Arms TFM is a prime candidate for anyone considering a precision bolt-action rifle.

TACTICAL FORCE MULTIPLIER

**Christensen Arms
TFM Rifle**

BY TODD BURGREN



Any

mention of Christensen Arms inevitably brings forth an association with their precision bolt-action hunting rifles featuring carbon-fiber wrapped barrels.

Various models of Christensen weapons have been brought forward since Dr. Roland Christensen saw a way to apply his career experience to his passion for firearms. His doctorate in mechanical engineering led the way to his understanding of how to apply carbon fiber to the benefit of shooters.

Christensen developed and marketed a carbon-fiber wrapped barrel that has significant advantages over solid-steel barrels in weight and heat dissipation. Christensen hunting rifles are well-known and respected. Not resting on previous success, the company now builds a full range of firearms, including tactical bolt-action rifles.

The adage "if you want it done right, do it yourself" typifies Christensen Arms' endeavors with sporting rifles, 1911 handguns, precision bolt rifles, and AR rifles.

I recently evaluated the Christensen Arms take on the precision tactical bolt-action platform as embodied by the Tactical Force Multiplier (TFM) chambered in .300 Win Mag. The same Christensen Arms quality and attention to detail in providing highly accurate, rugged and reliable bolt-action hunting rifles have been turned toward improving the tactical bolt-action. Other TFM chamberings are .223 Rem, .308 Win, and .338 Lapua.

I have written several articles covering Christensen AR-pattern rifles and 1911 handguns. It was only natural that, with my favorable impressions of previous items, my interest spiked when I spotted the TFM.

PRECISION TACTICAL RIFLES

Christensen has chosen to go a different path with the TFM by balancing accuracy, weight, and enhanced cartridge capability compared to heavyweight tactical rifles. One overarching theme with Christensen Arms, stemming from their carbon wrapped barrels, is keeping weight down so as to maximize operator efficiency.

Schmidt & Bender 3-20x50mm PM II was mounted on Christensen Arms TFM with AWP rings.





The high-stress precision tactical realm is a demanding environment. Christensen is known for their innovative approaches in maximizing a weapon's performance. Much of this stems from Christensen's atypical background associated with founder Dr. Christensen and his endeavors in the aerospace industry.

The desirable characteristics for a tactical rifle are cold bore zero, repeatable accuracy, effective range, reliability, and handling. Tactically, when not only the shooter's life is at stake, but also others such as teammates or hostages, there can be no compromise in terms of consistent accuracy.

The Christensen TFM is the cutting

Above: Christensen carbon-fiber stock on TFM is designed to excel in the tactical realm with adjustable length of pull and comb height that allow marksmen to custom fit it to individual needs.

Below: Christensen has designed stock to facilitate most efficient pull of Timney three-pound trigger.



edge of bolt-rifle technology, combining many innovative features with time-proven accuracy-producing enhancements. The TFM's distinctive aesthetics immediately put one on notice that this is not an ordinary rifle.

The standard Christensen bolt-action is constructed of high-strength 17-4 stainless steel, making it 1.5 times stronger than most receivers. Extraction is accomplished by an M16-style extractor. The TFM is conducive to long-range accuracy due to extremely stiff and rigid design and high quality control during manufacturing. The TFM I evaluated featured the optional titanium receiver for greater weight savings.

The integrated Picatinny rail has a 20 MOA taper and offers very stable scope mounting. The fluted bolt is



Above: Radial titanium muzzle brake is threaded on the Match carbon-fiber wrapped barrel via 5/8x28 threads.



Initial bench testing was from Champion pedestal rest and rear bags. Initial 25-yard paper sighting was followed by 100-yard groups.

Below: Fluted bolt is Nitride coated at 70 HRC for extreme wear protection. Rifle is fed via five-round detachable magazine. Leupold RX-1200i laser rangefinder supported field testing.

Nitride coated at 70 HRC for extreme wear protection.

The carbon-fiber stock on the TFM is significantly modified to excel in the tactical realm, with adjustable length of pull and comb height that allow a marksman to custom fit it to individual needs. Christensen has designed the TFM's stock to align the shooter's grip so as to facilitate a straight rearward pull of the trigger.

A Picatinny rail section under the TFM's forend is for mounting a bipod or other accessories. A detachable single-column magazine offers a five-round capacity. A Timney trigger comes adjusted at a crisp three pounds. The carbon-fiber wrapped 26-inch bar-



rel is mounted in the Christensen stock secured to the action. These are all integral to the ½-inch MOA guaranteed TFM rifle.

A radial titanium muzzle brake is threaded on the barrel via 5/8x28 threads. The TFM rifle weighs only eight pounds. Upon first picking it up, everyone makes the same surprised face because they expect a much heavier rifle based on aesthetics and prior experiences.

A tactical rifle weapon system is made up of the rifle, optics, ammunition, and shooter.

OPTICS AND AMMO

For this evaluation, a Schmidt & Bender 3-20X50mm PM II was mounted on the TFM via AWP rings. In the past few years, Schmidt & Bender has made powerful statements by winning multiple U.S. military optic contracts.

Jerry Ricker of Schmidt & Bender pointed out that S&B's reference list does not stop with the U.S. military. Accuracy International actively promotes fitting the Schmidt & Bender PM II/Military MK II product line as sighting components on their family of sniper rifles by selling S&B optics as package deals with their platform.

The first requirement of a tactical precision rifle is accuracy. Ammunition used for testing the TFM consisted of .300 Win Mag Black Hills Match 190-grain BTHP, Federal Premium 190-grain Sierra Match King, and Hornady 178-grain A-MAX TAP loadings. The thought process is simple: if these



Echo Valley Training Center's prepared dug-in firing positions are unique features facilitating a user standing behind Christensen TFM while maintaining advantage of prone-like support.

loads do not produce accuracy, nothing will. Prior use of these loads backs up this belief. The TFM shot all the premium loads tested into one MOA or better at 100 yards, with the Federal 190-grain generating near ½-inch groups.

BENCH TESTING

Bench testing was done from a Champion tripod front rest and rear sand bag. The accuracy figures are based on firing five three-round groups and averaging group sizes. Not a lot of time was spent at the 100-yard range. Three hundred yards and out are the more indicative tests of a weapon system like the TFM. This generates useful ballistic information for the shooter, especially when it comes to

elevation and windage data for log books and ballistic calculations. Accuracy out to 300 yards was MOA or better.

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 Christensen TFM showed no shifts in point of aim, and cold-bore zeros produced fine groups when overlaid together.

The TFM's light weight for a precision rifle translates into a weapon that can be carried afield without fatiguing the user and is easier to adapt to non-standard firing positions—even off-hand if needed.

I have evaluated tactical rifles

Christensen TFM was tested with a variety of ammunition types to make sure it could handle all with equal aplomb. Various .300 Win Mag loadings from Black Hills Ammunition, Federal, and Hornady provided basis for accuracy tests.



weighing significantly more than the TFM and, while accurate from a fixed prone position, all were challenging to shoot in any other position, even if employing shooting sticks or other means of support.

The 26-inch barrel is a solid compromise, balancing weight, velocity performance, and field handling for the precision marksman. The TFM had no problems with shifting points of aim, even when firing five aimed rounds in relatively rapid fashion. Let's face it, the majority of tactical precision rifle scenarios will not require this many rounds fired during one mission or call out, especially for law enforcement.

FIELD TESTING

After testing innate accuracy from the bench, field tests were performed at Echo Valley Training Center (EUTC). This consisted of shooting prone off a bipod or pack from EUTC's fixed firing positions overlooking a multi-stepped berm arrayed with various targets of opportunity.

I performed some of my normal field tests, including shooting at clay pigeons at 300 yards. I worked the bolt and acquired the next target as quickly as possible. The Christensen brake, combined with the ergonomic stock, proved potent.

Other range work consisted of shooting B-27 man-targets out to 500 yards. The TFM's accuracy plus the clear, powerful Schmidt & Bender optic made center-mass shots routine and head shots feasible on the stationary targets.

Another of my favorite drills encompasses the use of MGM Targets steel silhouettes with flip-open head and center chest plates. The goal is to "open" and "shut" the plates as quickly as possible. The EUTC range has two such steel targets placed at 200 and 300 yards. The Christensen TFM performed remarkably during this drill as well.

Extremely accurate range rifles do not always translate into effective tactical rifles due to durability issues that arise when taken afield. After firing over 100 rounds, I came to fully appreciate the TFM's ergonomics, especially firing from the prone position.

The radial muzzle brake is very effective at taming recoil. While my shoulder is not a scientific instrument, the light-weight .300 Win Mag TFM felt like a

.270 Win. The brake was quite effective, allowing for quick follow-up shots and, if the shooter was in a stable shooting position, spotting his own hits was possible. This makes it easier to fire multiple rounds accurately and quickly.

The TFM's oversized bolt handle further supported the ability to fire aimed rounds in quick succession based on spotter feedback or if in a target-rich environment.

UP FOR THE JOB

For most missions, especially anti-personnel, the .300 Win Mag chambered Christensen TFM is suitable for a wide range of sniping and tactical applications. It provides a ballistic advantage over most adversary weapons encountered. The .300 Win Mag is such an accurate platform that the TFM can extend accurate fire beyond 1,000 yards, filling the gap between the .308 Win and .338 Lapua.

The TFM in .300 Win will prove a popular Magnum chambering based on established acceptance in tactical circles and the wide range of premium factory ammunition available. ☺

Todd Burgreen has been a freelance writer for 20 years, with articles appearing in several publications. He has attended numerous personal defense, team tactics, firearms, and driving courses over the years from some of the most influential training personalities and schools in the country.

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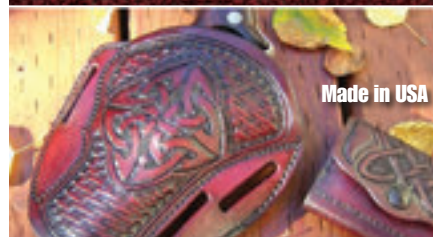
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Frankengun Accessories and Ammo

BY NED CHRISTIANSEN



Gunwriters' credibility is sometimes called into question when they have only good things to say about the guns and gear they review. As a freelance writer, I am generally not given assignments. I have the luxury of testing what I want to, when I think it may be of benefit to readers and students. I write it up and hope it makes it into print, and yes, I have returned products to manufacturers and politely told them it was useless. When there's not enough time and page space to cover what's worthy, why use any of it on the inadequate, irrelevant, and uninteresting?

Sometimes by chance, sometimes by design, I find I have accumulated almost enough parts, gear, accessories, and ammo to comprise a report. I scout new products that may be of interest to fill in the gaps, and I borrow or buy them.

THE MONSTER MASH

A Frankengun is a rifle that has been assembled with parts from different manufacturers for one of three reasons: 1) to save money, 2) for the simple joy of tinkering, and 3) to get as much out of a platform as possible.

The most recent basket-o-goods became my training rifle for the 2015 season. I wrung it out in the Chicago-area Law Enforcement Patrol Rifle classes for which I am part of the instructor staff, and numerous personal range sessions. I named it TB-15: *Test Bed*, 2015.

The complete lower receiver was one I've been running for

a couple years now, from Detroit Gun Works. It has been giving good service in a few different configurations. Except as noted below, I used it as was with Magpul furniture from a previous article (*THROTTLING DOWN FOR SUPPRESSED FIRE: The Innovative Arms WAR Upper Receiver*, April 2014 S.W.A.T.).

The Trojan Firearms barrel and upper receiver found their way to me with a very low round count. The previous owner had had a ka-boom with it (ruptured case blow-up) and sent it to me for examination: was it the gun or the ammo (definitely the ammo)? I replaced the possibly compromised barrel extension. The M4 profile barrel is turned from a Lothar Walther blank with a 1:8 twist and is nitrided. The upper receiver is a signature item for Trojan, machined from 7075 bar stock with thicker wall sections and a unique anodized-on camo finish.

For a forend, I traded my way into

a Centurion Arms CMR rail. It's great when a product is designed and ram-rodged into existence by someone with real-deal gunfighting experience. Such is the case with Monty LeClair, owner of Centurion Arms. He happens to be a recently retired SEAL.

The CMR has an integral full-length Picatinny rail and myriad tapped holes for installing sections of rail elsewhere as needed. Like most aftermarket forends, it attaches via a proprietary barrel nut. This small inconvenience in installation is worth it in terms of durability and stability.

The CMR clamps to the beefy new barrel nut via three fine-threaded flat-head socket screws. Screws on guns like to come loose, but sometimes there's little choice in how to attach things. The CMR's screws are well chosen: finer threads are more vibration resistant, and flat-head screws have a certain self-locking quality. Dry them off and Loctite them, and you're looking good.



Author's TB-15 rifle set up as tested.



Just to be sure, I demoted fine threads, flat heads, and locking compound to “insurance” status by also staking mine, creating metal-to-metal interference.

OPTICS

For glass, I used a Millett DMS-2 (1-6X), the logical next step from the DMS-1 (1-4X) that has been available for about eight years now. My two DMS-1s have given years of good service, one having gone through some hard knocks plus a year on loan in Afghanistan.

Surprisingly, the DMS-2 measures ½ inch shorter than the DMS-1. Like its predecessor, the DMS-2 has a circle-dot reticle, upgraded to include aiming dots for 200, 300, 400, and 500 yards, located for 5.56 ammo in a 16-inch barrel. Certainly, one’s point of impact (POI) changes with different barrels, loads and conditions, but the dots get you right in the neighborhood, right away.

To use the dots for aiming at these ranges, the scope must be set to 6X. Set to 1X, they are also useful at close range to compensate for the high line-of-sight-over-bore of the AR-15. An

Midwest Industries backup sights on angled Yankee Hill Machine adapters are an attempt to get iron sights on the carbine with what was on hand; setup works but is less than ideal. LaserMax laser is well protected between scope and sights. Grooves are milled into YHM adapters for beam to pass through. Suppressed Armament Systems can, UTG throw-lever-mounted bipod, Insight MX3 light, Viking Tactics sling.

AR zeroed at 100 yards typically prints about two inches low at five to seven yards and 1 3/8 inches low at 25 yards. Using the 400-yard dot at five yards and the 150-yard “space” at 25 yards gave me near-perfect point of aim/point of impact coincidence at those ranges.

Using a 2032 battery, DMS scopes offer reticle illumination with 11 intensity settings. Glass connoisseurs may turn their nose up at the DMS line for not being made in Europe (China, unfortunately) but mine have been well up to the application.

There are several scopes of the type out there at up to six times the price. I’ve tried three of them and, no surprise, the glass is better, and one presumes better overall durability. But all suffered from barely lit reticles and/or first-focal-plane circle reticles that are

tiny and hard to pick up at low magnification when you need them big and bright for fast targeting, and when dialed up in magnification, big enough to drive a tank through when you want a fine point of aim for something hundreds of yards out.

I don’t get free anything for saying it: I’d take a DMS-1 or -2 over any of them.

To mount the DMS-2, I courageously broke out of my LaRue comfort zone and used a Weaver SPR Mount. It is inexpensive and still gets the job done, solid, but not exactly “quick detachable.” More like, “detachable without tools, maybe,” using two thumb nuts backed up by lock nuts that tighten down over the thumb nuts.

It mounted the scope at the very rear limit of my personal eye relief range. This is no issue on 1X but gets more crit-

ical at 6X. I'd have preferred the scope another inch-and-a-half forward, but placing the mount half on the receiver and half on the forend is not ideal. I got used to the setup soon enough. My biggest complaint is too many sharp edges, but it is very affordable, and hallelujah, it's made right here in the USA.

TRIGGERS

When it comes to triggers, I have become a stick-in-the-mud purist. I have seen many shooting novices who, after their very first session at the range, are asking about getting a lighter trigger to "improve" their shooting.

Even for experienced shooters, I don't favor feathery aftermarket triggers for patrol rifles or anything else "serious." Some are so light that, no matter how mechanically perfect, they can cause doubling simply by the movement of the rifle against the shoulder, bouncing the trigger back into the trigger finger. Many come up short on durability. Some have multiple adjustments that are likely to self-adjust at the wrong time. I simply have no tolerance for equipment that is unsafe or so poorly conceived that it breaks or malfunctions during or immediately after installation.

But I try to keep an open mind and occasionally test my own dogma. Certain trigger offerings in recent years have been very good on the quality and durability side, and I confess to having been tempted by them. I bought a



Weaver mount for Millett DMS-2 was adequate and reasonably priced at \$75 and made in the USA. It attaches by dual thumbnuts backed up by lock nuts so is not quite quick-detachable. Author finds the scope a good value at under \$350. It features aiming dots for out to 500 yards.

Tactical Trigger Unit (TTU) from Wilson Combat when I discovered it was offered in several configurations. Wilson Combat does not equivocate as to the intended use of their several models of TTU. Some are described as not being appropriate for LE applications, and I applaud them for that.

The Wilson TTU I selected was the second heaviest they offer, the H2 "Paul Howe" model, rated at 4.5 to 5 pounds. Mine breaks right in the middle. Their heaviest offering is rated at 5 to 5.5

pounds, and their lightest, intended for competition only, is rated at 3.5 to 4. Of the five models offered, three, including my H2, are two-stage. The first stage is clean and shorter than any I've tried. You know exactly when you're at the second stage, which is perfectly crisp and consistent, like a good 1911 trigger. Throughout the firing of about 600 rounds and maybe an additional 100 dry-fires, there were no problems or changes in feel whatsoever.

The Trigger Puritan in me secretly



Which setting Gemtech bolt carrier is on is visible through the ejection port, but carrier must be removed to adjust between suppressed and unsuppressed settings. Arrow forward means unsuppressed.



Sharps Relia-Bolt's unusual lug profile and NP3 plating are evident. Gemtech's new gas-adjustable carrier also features hard Isonite QPQ finish. Wilson Combat's unitized TTU trigger performed as advertised, delivering a crisp second-stage pull that was an aid in grouping.



Beck, IMI, Magtech, and Corbon ammo, all using Sierra Match Kings, made 20 for 20 on Widener's steel target from 500 yards almost a sure thing on a calm day. Large plate on left shows four 500-yard ranging shots using two different loads, holding Millett DMS-2's 500-yard aiming dot on the top red square. Dot seemed perfectly placed for drop at this distance with these loads and under these conditions.

enjoyed the guilty pleasure of a fine trigger pull.

STITCHING IT TOGETHER

I used the Relia-Bolt from the Sharps Rifle Company. It departs from conventional bolt design in both material and configuration: S-7 tool steel with Robar NP3 plating is used.

Carpenter Steels information says of S-7: "air-hardening tool steel with high impact and shock resistance." Digging deeper, one finds that the tensile and yield strengths of S-7 are greater than those of the milspec Carpenter 158.

The locking lugs are full-profile on the actual locking surfaces but reduced toward the front, the idea being that more space is available for debris where it might otherwise cause a malfunction. The "root" of each lug, where it meets the bolt body, is not reduced.

I see some merit to the idea and, having used a lot of S-7 in my tool-making days, I can attest to its qualities in that application. Is S-7 better for bolts than Carpenter 158? On paper yes, by a wide margin. But this can be truly known only after thousands of bolts survive boatloads of ammo. Mine, at 3,000 rounds in three different carbines, is not the ultimate test, but so far, so good.

The bolt carrier is something recent from Gemtech and features a "switch,"



Few bullets do it all. All-gilding-metal Hornady GMX bullet (loaded by Hornady and Black Hills) mimics the impressive Barnes DPX all-copper bullet against barriers, at a lower cost, but is not match grade. Magtech, IMI, Beck, and Corbon loads using Sierra Match Kings are very accurate but can't hang with the GMX in defeating barriers. Osage oranges got what they deserved at 300 yards.

allowing the user to regulate the gas actuating the action, thus adjusting for suppressed/unsuppressed use. Selecting either setting is as easy as removing the carrier and rotating the small valve 180 degrees (a cartridge rim works). It's a clever design and an easy, drop-in way of dealing with the additional recoil and gas-in-the-face that come with suppressing an AR-15. An arrow engraved on the valve, visible in the ejection port, shows which setting it is on.

AMMUNITION

Ammo-wise, anything with 75- to 77-grain bullets is what interests me most these days. Given a seven, eight, or sometimes nine twist, it is the best 5.56mm factory ammo bet for wind-resistant long-range accuracy.

I fired six to ten groups each with IMI, Magtech, and Beck Ammunition, each using the 77-grain Sierra Match King (SMK), and with Corbon's load using the 69-grain SMK. Finally I grouped ammo from both Hornady and Black Hills using Hornady's GMX bullet made completely of gilding metal—the copper alloy that bullet jackets are made of.

All three of the 77-grain SMK loads tested gave one inch or smaller groups at 100 yards and all gave 2.2 inches or smaller groups at 200 yards. It's not for nothing that the "K" in SMK stands for "King," although in true match-grade ARs with well-tuned handloads, the SMK can do ¼ inch at 100. All three of these are duty-grade loads and one MOA is satisfactory, especially in a barrel salvaged from a blow-up.

No single group ever went over two MOA and all three 77s were neck and neck on average at about 1.3 MOA and better, with the Magtech having a slight edge.

Getting tight groups is a function of many things and is technique-intensive. My best groups are off a bench, but all the above groups were fired prone, suppressed, with a front rest or bipod and a rear sandbag to steady the stock. Given a one MOA dot reticle and a two-inch circle for a target, I was able to pretty well center the reticle, but more magnification and a finer reticle are always conducive to tighter groups.

The Corbon 69-grain SMK load seems a well-kept secret. Most people go to Corbon for butt-kicking defensive ammo, but I've had great accuracy from their 77-grain SMK load, and this



Centurion rail attachment is as good as any, but screws like to come loose. Author staked the three clamping screws for added security.

69-grain SMK load is no less impressive, hovering at one MOA and never exceeding 1.2 MOA.

Hornady's GMX bullet is meant as a barrier-blind bullet, and that it is. We fired a few rounds during our semi-annual FBI-protocol ballistic gel testing and found its barrier performance closely mimics the superb all-copper Barnes TSX. And it appears that GMX ammo and bullets are significantly less expensive than the Barnes counterparts.

One would think a monolithic bullet—constructed of a single piece of a single material—would have an accuracy advantage. But targets showed the GMX, in both 55 and 70 grains, again mimics the Barnes TSX in that they are just not as accurate as a boat-tailed hollow point. Groups with all GMX-topped ammo ran 1.5 to 3 MOA.

Given that the 70 grainer is longer for its weight than it would be if made of lead, I gave it a second chance in a 1:7 twist barrel, a known grouper with a 16X scope on it—and found no improvement. Not for target shooting, perhaps, but perfect for a roadblock.

I love grouping a long gun with primo ammo, but sometimes ya just gotta hear a clang. Widener's is the main source of the IMI ammo I tested, and on their site I noticed some reasonably priced steel targets.

All loads tested had nearly the same point of impact, so on a calm day I put the Millett's 500-yard holdover dot and the IMI, Magtech, and Corbon loads to the test on the Widener's steel.

After a few ranging shots, I determined I could hold the 500-yard dot at dead center of the 9X12 plate and managed to hit it 26-for-30 from the roof of

my vehicle. After examining the target and coming one click right, 20-for-20s became almost a gimme—until the breeze kicked up.

Time to get back out for more practice doping the wind. ☉

Ned Christiansen is known for his custom 1911 pistols and unique AR-15 armorer tools. A lifelong student of all things related to firearms, he has many years of competition shooting under his belt. He is a police firearms instructor, inventor, and firearms consultant to agencies, industry, and individuals. His AR-15 and 1911 Armorer classes have been well received by clubs and agencies around the country.

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DETROIT GUN WORKS

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TROJAN FIREARMS

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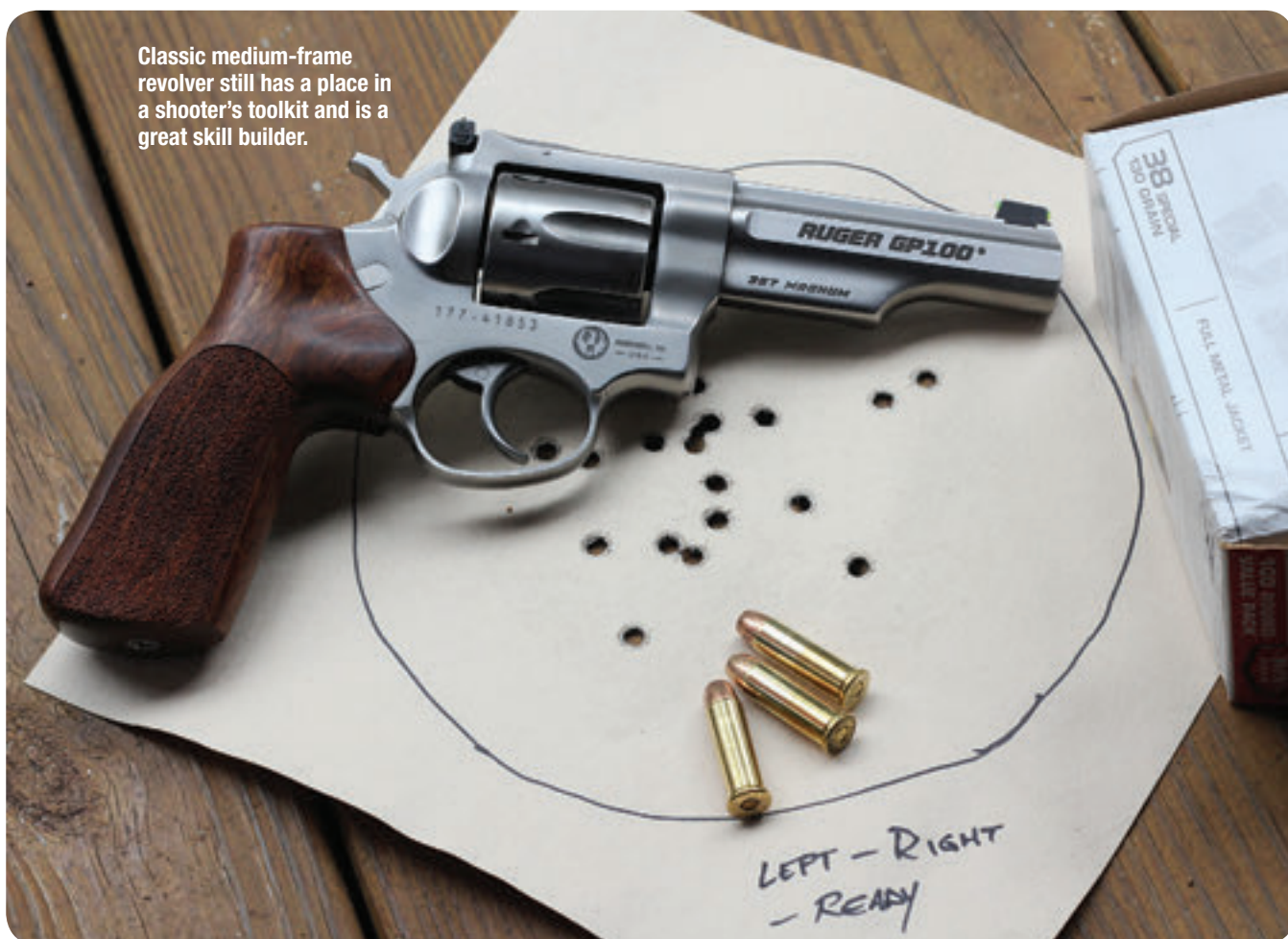
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REDISCOVERING THE WHEEL

Revolver Drills To Improve Shooting

BY ETHAN JOHNS

Classic medium-frame revolver still has a place in a shooter's toolkit and is a great skill builder.



Ah ... the wheelgun.

Asking where it fits in an iPhone world draws interesting responses. Many shooters who have come into the community in the last decade view the service revolver as

a throwback one-half step ahead of cowboy action shooting. Others view it very specifically as a pocket and/or ankle gun à la the five-shot J-Frame.

Is there a place for the sixgun in the modern world? In a word, yes!

SEMI (SUITABLE) AUTOMATIC

As great a choice as the modern service auto is for most gun owners, it is not necessarily the best choice for everyone. For those whose hackles just shot up—settle down. There are always going to be a group of people (not shooters) interested in having a firearm for self-defense but wholly uninterested in and more than a little intimidated by those same handguns. These are often ideal revolver people.

A buddy of mine was overseas flying Marine helicopters when his wife suddenly changed her stance on having a gun in the house. A late-night drunk banging loudly on the wrong door can have that effect.

I showed her a few choices and gave her pick of the litter. This was a sharp, intelligent lady. She wouldn't even discuss a long gun. She wasn't the least bit interested in understanding how a Glock worked, ditto a SIG P239. When I showed her the Colt Cobra, she immediately appropriated it and put it on home guard.

On the other end of the spectrum, I have a family member who is attached to a Glock 23 as a nightstand piece and has shot it maybe twice since Bill Clinton left office. Although comfortable and functional with the operation of a semi-auto, this person is generally uneasy with the pistol in Condition One bedside, even holstered. You may not agree, but that is a pretty common concern for the non-enthusiast/non-professional.

When visiting, I occasionally check the Glock. Over time I have found it Condition One, Condition Three, and vague non-conditions such as partially filled mag halfway inserted,

chamber empty and pile of rounds scattered nearby. When queried on the last, the individual admitted to several instances of chambering a round upon "bump in the night" noise, then clearing the chamber and kinda-sorta reinserting the mag as they went back to sleep.

An old-fashioned double-action (DA) revolver that sits ready to go and unfussed with may be preferable to the latest, greatest auto pistol that the human in the loop has rendered less effective by inconsistency of condition and lack of confidence in its safety at ready.

To that end, the nickel Smith & Wesson Military & Police in the photo below has been in active use for four generations. Generation one was a town constable in the Deep South and "carried it" on the seat of his car, retrieving it as needed. Generations two through four have had the old Smith as a house gun. It is woefully behind in comparison to almost any pistol you will see in this issue, but is also likely still equal to the task. Does the revolver have issues? You bet. Night sights are uncommon and hard to retrofit, capacity is modest, and the DA trigger is hard for the average shooter to hit with past egg-toss range.

TRIGGER TRAINER

If you see me *shooting* as opposed to training, chances are very strong that it will be with a revolver. I very much *enjoy* shooting the wheelgun. To me some of the most relaxing shooting there is comes behind a quality double-action .38 with mid-range loads. However, there are real benefits to actually training on a medium-frame revolver. I am conspicu-



This .38 S&W M&P has reliably served four generations.

ously “unpicky” when it comes to triggers on my pistols and rifles. I attribute this to many thousand cylinder revolutions of double-action revolver shooting.

On one deployment, I had possession of a captured Model 10 Smith & Wesson with a two-inch barrel, and a gold-plated Colt Detective Special. No ammo, just the guns. I dry fired those two—a *lot*. I was already proficient with DA triggers, but the extended time clickety-clicking those .38s to relieve boredom or stress made a big difference in my overall trigger control across *all* platforms.

When you’ve gotten to the point where you can smoothly cycle a DA trigger strong or weak hand, a two-stage creepy AR trigger is suddenly much more manageable. Quality time on the “trigger-cocking” wheelgun can help a shooter find a whole new level of capability with all firearms.

Still skeptical? If ten readers acquire a decent revolver and make a short pile of brass with the following drills, nine will write in and thank me. And the tenth? Well, there’s no helping that sourpuss.

DRILL 1: LEFT, RIGHT, READY

The goal of this drill is simply to learn the stroke of the double action and combine it with movement. The shooter sets up an IDPA-type silhouette or a plain eight-inch circle at a convenient distance. Five to seven yards is a decent starting point.

The aspiring revolver-ero begins holding the wheelie at full extension aimed generally about 18 inches off the left edge of the target. When ready, he starts moving the gun to-

ward the circle as he begins to roll the trigger backwards. Ideally the trigger moves smoothly to the rear at an even pace and the shooter controls the speed of the lateral movement so the shot breaks at some point inside the eight-inch circle.

I am perfectly happy for the shot to break right as the gun crosses the edge of the circle.

Timing and coordination are more important here than trying to cut a rathole in the center inch of the circle. As the left-to-right movement begins to shape up, switch over to—you guessed it—18 inches off of the right side. Now the shooter repeats moving from right to left.

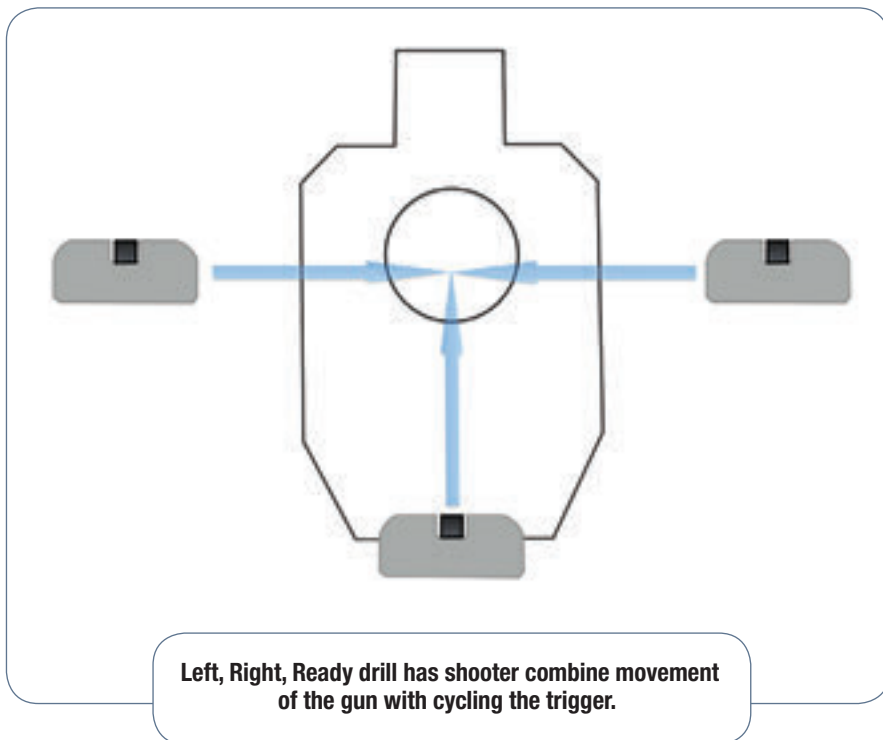
When that is solid (typically slightly more difficult for the right handed), the shooter shifts to a low-ready stance 18 inches below the six o’clock edge of the circle. Some shooters find the raising motion more difficult to smoothly cycle the trigger, while others pick up a lot of speed and tempo here and are quickly “rolling” shots into the circle from below.

This is not a tactical drill. It is simply a mechanism to demystify the heavy trigger and help combine the manipulation of the trigger with movement of the revolver. When a shooter can do this well, the DA pull is no longer intimidating and the tendency to snatch the trigger all the way from the hamstrings decreases.

This drill translates very well to semi-autos with triggers that have take-up or weighted pre-travel before the “wall” or break. There the shooter executes similarly, with the goal to get through the take-up on the movement and break through the wall just as the front sight crosses the circle’s edge.



Fifteen-yard steel used in Rolling Out drill with this Model 15.



DRILL 2: ROLLING OUT

This drill is best conducted on a steel plate, but an eight-inch paper circle will work. The setup is ten yards with a goal to earn some extra yardage as skill improves.

The shooter begins with the sixgun at the ready, muzzle downrange wherever his hands join in his drawstroke. On the buzzer, the shooter begins pushing the gun out toward the steel. The objects are to get pressure on the trigger as soon as the front sight is visible, and get it rolling to the rear as the front sight settles into the rear notch.

The shot should break as or shortly after the sights get deep into steel. Two seconds is a good starting marker for time to ensure there is no halting, staging or getting all the way out and then powering through the entire trigger weight. If the trigger is exceptionally heavy or the sights or lighting poor, 2.5 seconds may be excusable.

Quality of the sights and trigger will affect the time it takes, but most of the



Medium-frame revolver remains a solid choice for many non-enthusiasts who want a home-defense gun.



Garden-variety \$300 pawnshop Model 10 has excellent trigger and accuracy, as this 25-yard group shows.



Some gun owners are not ideal semi-auto people. This pistol is in a non-standard state of “readiness” due to its owner’s inattentiveness: mag not topped off nor fully inserted, chamber empty.

time is spent getting a bunch of muscles, joints, and senses to coordinate. As an example, I was running this drill with a vintage Model 15 that had a pretty standard trigger in times that ran from .94 second on the low end to 1.25 on the slow end from 15 yards using Black Hills wadcutters.

Swapping over to a circa 1920s Colt Army Special with a smooth but heavier trigger that stacks the weight differently as it cycles and sports tiny peep sights bumped the time up nearly 1/4 second. The Colt clanged steel reliably in a bracket from 1.2 to 1.4 seconds.

This drill is also an excellent learning drill on a J-Frame snubbie. If the shooter isn’t making it happen with the Airweight’s tiny grips and sights on an eight-inch paper target at seven yards, increasing the ten-yard steel size to the foot-long center of a Pepper Popper may be more useful.

Over time, the snubman can absolutely run the drill as originally laid out. I ran it with the same 15 yards/eight inches as above with a 1960s vintage Colt Detective Special with no issues, at nearly the same bracket as the K-Frame Smith.

I CAN DO THAT?

The real magic in a medium-frame revolver for many Glockenshooters is in the typical accuracy and “wait-a-minute” single-action trigger.

In working one on one with a few hardcore operational shooters over the past year, I've had a similar scenario play out. Training is winding down, we're in the "cooldown" phase, and I break out the wheelgun.

In several cases, the shooter had never really fired a revolver. They pick it up and immediately shoot a slow or timed fire group that rivals or exceeds their personal best on the service auto. Huge confidence booster!

The double-action revolver tends to come with a single-action (SA) break that leaves no excuses. Measuring across a dozen or so second-hand K-Frames, the average SA weight was 3.3 pounds and every single gun had the kind of break you pay a quality gunsmith to achieve in a 1911.

Coupled with the typical "inch and a half-ish" accuracy with good ammo that a revolver brings, a shooter can do great accuracy work at 25 yards to build skills. Once a shooter has easily held the bull with the .38, he tends to more easily tackle accuracy training with the auto.

My personal standby accuracy drill is the Tuf n Ruf (*TRAINING WITH A CLASSIC*, July 2015 *S.W.A.T.*). The shooter has five timed-fire shots in 20 seconds and five more shots in a ten-second rapid-fire string at 25 yards for a 100-point possible. With a wheelgun, I habitually shoot the timed fire

single-action to see what I can do. The results usually rival my best 1911 runs and exceed my Glock/M&P runs. For the rapid fire, I roll all five shots double-action.

Running a DA trigger on a 25-yard bullseye is strong medicine. It is humbling at first, but a shooter's will to excel kicks in and takes over. That's when real learning occurs.

Both the earlier drills allow a fairly coarse level of sight alignment, where 25 yards requires the shooter to rotate the cylinder and drop the hammer while keeping the sights as they should be. I'm not aware of anything that better teaches a shooter the connection between sight alignment and trigger control than to shoot from 25 yards double-action.

There you have it. I've done my best to convince you to pick up a revolver. When you've made a drag line on the cylinder from dry fire and running these drills, your trigger finger will be stronger and you will likely be a better shooter.

And I suspect you may find out you actually enjoy the wheelgun too! ☺

Ethan Johns is a military professional with worldwide experience in specialized units. He has taught and been responsible for numerous advanced skills and weapons courses within multiple organizations.



Wheelgun remains a great ankle gun, like this Ritchie Leather Co. ankle holster and Colt Cobra.

BUDGET-MINDED MARKSMAN

BY TOM MARSHALL

Mossberg MVP-LC Rifle

IN

a market flooded with modern sporting rifles, bolt guns are sometimes relegated to the fringes. This is not necessarily without good reason.

True precision shooting is both a science and an art. For those who were not formally trained in this disci-

pline, the prospect can be intimidating. There are complex mathematical formulas for everything from bullet drop to mil-ranging and the Coriolis Effect.

Then there is the seeming backpack full of accessories you may need, like wind meters, inclinometers, bubble-levels, tripods, bipods, and bean bags. A dozen



Mossberg MVP Light Chassis rifle in 5.56x45mm.



Silencerco Saker Trifecta brake reduces already mild recoil and is suppressor ready.

popular manufacturers make scopes, several produce bipods, and so on. For beginners, the sheer volume of information and the intensity of the gear requirements can be overwhelming—and overpriced. A high-quality precision bolt rifle can start at \$5000 without so much as a sling to go with it.

Mossberg, a company not typically known for bolt-action rifles, understands this dilemma and has seized the opportunity to assemble a ready-to-shoot bolt-gun package that offers incredible value on the dollar for those looking to get their foot in the door—or behind the bench.

NEWEST MVP RIFLE

Mossberg introduced their MVP line of rifles several years ago and have steadily added to the product line with a number of configurations available in the two most popular American rifle calibers: .308 and .223.

The most recent complement to the line is the MVP-LC, or Light Chassis rifle. These are, as the name implies, lightweight bolt guns of a thoroughly modern design, with an eye toward modularity and an impressive list of features for their price point. The MVP-LC is offered in both .223 and .308, with the test gun being chambered in the former.

Two configurations are available for purchase. The first is the standalone rifle, which comes standard with Picatinny scope rail and bipod for around \$1200—not cheap, but quite





Bolt is spiral fluted—a premium feature usually reserved for more expensive rifles.



Forward half of LC's barrel is lightly fluted, reducing weight.

reasonable considering the average price bracket for guns of this type.

The second is a rifle/optics combo package with a pre-mounted Vortex optic, the Viper 4-16X HS-T, a second-focal-plane scope with tactical-style MRAD turrets and a corresponding drop-compensated reticle. This combo carries a suggested retail just below \$2,000, making it well within the grasp of anybody who can afford a quality AR-15.

The rifle itself seems to have taken some serious design cues from the recent SOCOM sniper rifle contract bid. Its chassis is minimalist, modular, and skeletonized. The 16-inch barrel is free-floated, of medium contour and fluted along roughly half its length. The 1:7 twist will tend to favor heavier slugs.

Its short forearm is not necessarily ideal for field shooting, but I was able to run it off hand using both a magwell grip and using the bipod legs as a forward grip.

Another great feature is that it comes tipped with a Silencerco Saker Trifecta muzzle brake. Not only will this minimize recoil, but it doubles as a quick-mount for Silencerco cans, making this gun suppressor-ready out of the box.

All together, the MVP-LC with bipod and mounted Vortex HST comes in at a diminutive ten pounds, which is easily managed in the field.

Right: Mossberg's trigger-in-a-trigger design makes it easy to pre-load the bang switch for precision shots.



Below: Vortex 4-16X optic is equipped with tactile, positive-click MRAD turrets.



MODULARITY

In the modularity department, the MVP-LC has gone out of its way to be customizable by the end user. With traditional rifle stocks, you get what you get for the most part. You may have the option of butt spacers to adjust length of pull, but otherwise you best choose your stock carefully.

On the MVP-LC, the stock and pistol grip are standard AR parts. The included furniture is Magpul—a safe and economical choice on the part of Mossberg. Should you desire something different, those parts are drop-in and require little more than a screwdriver and five minutes' worth of elbow grease. The AR tube-style stock mount gives you plenty of adjustability for the whole family.

The .223 rifle even feeds from AR magazines, allowing some great cross-compatibility with their carbine. I'm a big believer that the fewer parts and accessories you have to keep on hand, the better.

What's even more interesting is that the .308 version is capable of feeding from both M14 and LR-308/SR-25-style mags. Switching from one to the other requires you to remove the action from the chassis and adjust a fitting tab built into the bottom metal. We were assured that the shooter can easily do the switch. This very unique feature affords some opportunity to scavenge magazines, if that becomes necessary in a collapse of traditional supply means.

The slots in the chassis are not M-LOK spec, but multiple holes for sling studs are along the length of the 6 o'clock. The trigger is user adjustable from two to seven pounds by factory specs, and also requires the action to be removed. Ours came from the factory breaking at just over three pounds.

FROM THE BENCH

But all these great stats and features are of little impact if the rifle doesn't perform. To be honest, I was wary when I sat down at the bench. After all, Mossberg is not a company built on its precision rifles.

Given the 5.56mm chamber, 16-inch barrel, and my own lack of formal training behind bolt guns, I wasn't convinced I could get "precision" groups out of the LC. To give the MVP every chance to excel, I tested four bullet weights from some of today's most accurate ammunition. All groups were shot at 100 yards, seated, off the bipod.

The first load tested was also the only non-match load: Hornady 55-grain boat-tail full metal jacket. While not designated as a match cartridge, Hornady's tight QC and use of quality components produce cartridges of above-average accuracy in just about all their loadings. My best group with their 55-grain FMJBT—out of a box of "blem" ammo—was just under $\frac{3}{4}$ inch. This is *with* a flier. My first two rounds were touching, just under $\frac{1}{4}$ inch from center to center.

Next up was the first of two loads from Black Hills. Their 52-grain open-tip match (OTM) is known for its excellent aerodynamics and is used by several authors I know as their standard for .223 accuracy testing. Shooting this round out of the MVP, I learned why. My first two rounds went through the same hole. I pulled the third one, opening up my group to just about one inch.

The second load from Black Hills was their 62-grain TSX, a solid copper projectile, also open-tipped. For those interested in a .223 round for defensive use, the TSX has shown excellent weight retention through intermediate barriers like auto glass and plywood. For me, the 100-yard groups held pretty steady around the one-inch mark. No stacked rounds or touching holes with this load, just evenly spaced one MOA lateral strings.

Similar past experience tells me I may have been slacking

on trigger control (no pun intended), but sometimes a rifle just doesn't like certain rounds as much as others.

The fourth and final load, Federal 77-grain Sierra Match-King open tip, was the heaviest load tested. It also turned out the best overall group size at $\frac{1}{2}$ inch for three rounds. Again, two rounds punched through the same hole, with one about $\frac{1}{4}$ inch to the right. While this group fell into my persistent "two-and-one" pattern, it was still the smallest margin of error out of the four rounds tested.

The 1:7 twist found in the MVP's barrel typically tends to favor heavier bullets. This is partially why the military created its Mk 262 load with a 77-grain OTM projectile.

IMPRESSIVE ACCURACY

Even within my own limitations as a marksman, this rifle still proved to be $\frac{1}{2}$ MOA accurate, with three out of four loads stacking multiple rounds through one hole. I can say with confidence that this gun is absolutely $\frac{1}{4}$ MOA capable, even if I wasn't able to get it there myself.

This level of accuracy out of a gun barely larger than an AR-15 is noteworthy. What I find even more impressive is that all these groups were shot with the scope's out-of-the-box zero. I didn't turn either adjustment knob a single click from the time I opened the box. Not only are you getting a rifle that's quarter-inch capable, but when it shows up at your FFL, it's already dialed in to do so.

Depending on your level of experience, this may not make a huge difference for you. I've lost an entire range day chasing a zero more than once and, for those who are just getting their feet

Buttstock and pistol grip are from Magpul but can be easily replaced with others of your choice.





Sixteen-inch barrel is free-floated in skeleton chassis. Bipod comes standard from the factory.

wet with magnified optics, a dead-on factory zero can save a lot of time and frustration.

CONSTRUCTIVE CRITICISM

Was there anything about the MVP Light Chassis I *didn't* like? Two things, both having to do with the operation of the bolt itself, made me scratch my chin.

First, the bolt's throw, or arc of travel, seemed to have two parts. Rotating the bolt handle halfway was buttery smooth and could be done with a flick of two fingers. But at said halfway point, the bolt hit a sort of wall, which had to be pushed through to completely unlock the action. It was still smooth but there was noticeably more resistance. I want to emphasize that the action was not gritty or scratchy, and the bolt did not hang up on anything. It was smooth all the way through. It just seemed to stack, like a double-action revolver trigger. I don't have a whole lot of time behind bolt guns but had never experienced this before.

The second idiosyncrasy was that when I pulled the bolt all the way back, there was a very noticeable amount of play in the bolt. With the chamber completely open, I could wobble the bolt

back and forth what seemed like a good ½ inch in any direction. When I cycled the gun dry the first couple of times, this gave me some serious concern. But in firing close to 200 rounds through the MVP-LC, it never once proved to be a problem.

I did not have any hang-ups or mis-feeds of any type. I fed the rifle from its factory ten-round PMAG, a 30-round PMAG, and a 30-round USGI mag. And even running the bolt as fast and hard as I could, it never did anything but cycle smoothly every time. So while these two quirks gave me some pause, I do want to reiterate that they caused no problems whatsoever while testing the rifle.

THE BOTTOM LINE

The MVP-LC is not as tight or as smooth as a custom hand-lapped action, but it's not competing at those price points either. The rifle was accurate. It went bang every time I pulled the trigger. And it was just plain fun to shoot.

Who is the MVP Light Chassis for? I would say anybody who's in the market for an affordable, high-value rifle package and is working on a limited budget should give this rifle a very hard look.

I want to place particular emphasis on those who are newer to the long-range shooting disciplines. I think this package is a great starter kit for those who maybe don't know what they don't know yet when it comes to shopping for components.

Regardless of your knowledge or experience level, the Mossberg MVP-LC is a light, accurate bolt-action that won't break the bank. ☺

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FEDERAL PREMIUM AMMUNITION

(800) 379-1732
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HORNADY MFG. CO.

(800) 338-3220
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MAGPUL INDUSTRIES CORP.

(877) 462-4785
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VORTEX OPTICS

(800) 426-0048
www.vortexoptics.com

A man with a beard, wearing a black tactical cap, safety glasses, and a black jacket, is shown from the chest up. He is holding a black handgun with a long, cylindrical suppressor attached to the barrel. He is aiming the gun towards the left. The background consists of a brick wall with two large, light-colored rectangular targets hanging on it. The floor is a dark, polished surface. The overall scene is set in what appears to be an indoor shooting range.

SILENT HOME DEFENSE

Author shooting his Glock 19 equipped with an Advanced Armament TiRant 9 suppressor.

**Suppressed Auto-Pistol
Shooting Techniques**

BY CAMERON BENZ



utfitting your home-defense gun with a sound suppressor is an approach worthy of serious consideration. Defense against a home invasion will likely be a very short duration affair. You won't have time to grab hearing protection, and firing multiple rounds out of a serious handgun (much less a rifle, but that's a different topic) inside an enclosed dwelling can lead to permanent hearing damage.

The sound suppressor (often referred to as a "can") is an obvious remedy to this dilemma. The problem is that on an auto-pistol, the top of the suppressor body rises up considerably above the height of typical sights. You won't be able to aim the gun unless you have "suppressor sights"—extremely tall front and rear sights designed to be visible over the suppressor body.

Or will you?

In this article, I will detail three techniques that do not require suppressor sights for aiming a suppressed auto-pistol.

Few auto-pistols come out-of-the-box with a barrel threaded for a suppressor. Therefore you need to buy one. The good news is that, for numerous pistols from several major manufacturers, a replacement threaded barrel does not require fitting. It's a drop-in unit.

For most people, just buying a suppressor is a significant outlay of cash (\$1,000-plus) especially if the host handgun didn't include an appropriately threaded barrel. It also requires jumping through federal Class III hoops and paying additional money to get licensed.

Let's assume you've done all that, because you *really* want a suppressor for your home-defense gun.

GUN CHOICE

Certain suppressor designs, like the Silencerco Osprey and AAC (Advanced Armament Corp) Evolution, are "eccentric" in design, meaning the suppressor is oval or rectangular and when installed, the "short" side of the suppressor faces up, specifically so you can use standard sights. Most suppressors are "concentric": the barrel is centered in the circular suppressor body, like the AAC TiRant and Silencerco Omega 9k. With those designs, standard-height iron sights will not clear the suppressor body.

My preferred defensive handgun is the Glock 19 Gen4. I have two of them, one for carry and one dedicated to home defense. This way I don't have to pull the suppressor off my home-defense gun every time I leave my home, turning it into a carry gun, then reinstall it before I go to bed so it magically turns into a home-defense gun.

For home defense, the threaded-barrel G19 wears an AAC TiRant. I didn't want to put suppressor sights on this gun for a couple of reasons.

First, this would change the height at which I had to mount the gun to fire. With suppressor sights, I'd need to hold the gun considerably lower than with standard irons to aim it, and vice versa.

Second, it is not beyond the realm of possibility I might need to pull the suppressor off the gun and use it as my concealed-carry piece should my primary-carry G19 break or for some other reason be unavailable. I didn't want sights so high the gun wouldn't fit in a standard holster.

Smith & Wesson, SIG, HK, Glock, Kimber, and a few others offer handguns already equipped with threaded barrels. If your gun is from a major manufacturer and doesn't have a threaded barrel out-of-the-box, you can probably get one anyway. SIG has



Sights set up to shoot with Cirillo Silhouette Point technique, to ensure author couldn't use a conventional sight picture.

them available on their website. A factory Glock threaded barrel may be had through Gemtech, and aftermarket barrels are available from various makers.

WORKING WITHOUT SUPPRESSOR SIGHTS

Some of these units come complete with suppressor sights tall enough to clear the suppressor body. Many of them do not. If you don't have suppressor sights, you have three options:

- Use a slide-mounted mini red dot sight (MRDS). The dot rides high enough to clear the suppressor body. Unfortunately, this approach tends to result in pistol downtime while it's sent out for machining the slide to accept an MRDS, unless an aftermarket already-machined slide is purchased. This option gets pricey fast.
- Buy suppressor-height sights. This is a viable option, but you may already have some nice tritium sights. Buying them wasn't all that cheap to start with ... do you really want to pull them off the gun? Also, the sights you like may not be available in a suppressor height. A good example is my preferred AmeriGlo CAP sights.
- Learn how to use standard-height sights with the suppressor.

I began going this final route because I wanted to keep my sights the same height across all the auto-pistols I might use

for home defense or concealed carry. I generally use one of a few Glock 19s, but I recognize there are many other great handguns.

I have found three techniques that work well with standard-height sights on a suppressor-equipped Glock 19. The first I use for faster shooting up close: the Cirillo Silhouette Point (though I'm not sure the late Jim Cirillo ever envisioned his technique being used with suppressors). The second is the Bindon Aiming Concept. The third is shooting "through" the suppressor.

CIRILLO SILHOUETTE POINT

The Silhouette Point was developed by Jim Cirillo of the famed NYPD Stakeout Unit. Jim felt that using the sights in self-defense might slow the shooter down, but he also didn't advocate unsighted fire. What he came up with was the idea of using the silhouette of the gun itself—in essence one very large sight.

The silhouette of a gun changes—if it's pointed to the left or right, it gets significantly wider. To learn the Silhouette Point, first make sure you remove the magazine from your gun, then clear the chamber. Place all ammunition in a different room. Now, with the suppressor affixed to the gun, find a safe direction and a safe target.

Open both eyes and look at the rear of the gun and get a



Results after author used Bindon Aiming Concept, fired at seven yards as fast as sights could be acquired.



Seven-yard rapid-fire group was fired "shooting through the suppressor." One hole is a double.

sense of its overall shape—its silhouette. Shift the gun/suppressor to one side or the other, and you'll see that the shape of the silhouette changes. Start out using the sights to verify gun alignment while learning Silhouette Point, then progress to placing a piece of tape over the rear sight notch so you can't "cheat" by using the sights. Learn to use only the silhouette of the gun, not the sights, to align it.

Jim felt the Silhouette Point was not unaimed fire or point shooting. Rather than using your eyesight to consciously pick up the sights, by focusing on the shape of the gun instead, you free your mind to *subconsciously* pick up the iron sights. The subconscious mind is capable of working much faster and more flawlessly than the conscious mind.

In my experience, Silhouette Point is a quick 'n' dirty technique that with practice works well for fast center-mass shots inside ten yards or so.

BINDON AIMING CONCEPT

If you need finely aimed fire and/or are shooting at longer distances (ten-plus yards), this is where occluded-eye shooting comes in. The occluded-eye concept typically refers to covering over a dot optic on a rifle and shooting with both eyes open, taking advantage of our natural binocular vision.

You pick up the dot with one eye, your other eye picks up the target, and your brain superimposes the two so what you see is a dot on the target. The basic concept of occluded-eye sighting has been in use on mortars and various field guns since World War I.

In years past, Trijicon produced a sight for carbines using this idea, which they called the Bindon Aiming Concept (BAC), named for the late Glyn Bindon, the founder of Trijicon. We will borrow this technique and apply it to handguns.

As before, start with all ammo removed from the gun and placed in another room. Next, determine a safe direction for pointing the gun. Close your non-dominant eye (the one you don't use for sighting) and acquire your sights with your dominant eye.

This is where having a very visible front sight comes into play. I use the AmeriGlo CAP front sight, which is bright yellow on its face and shows up well against the black rear of the suppressor body. Now, open the non-dominant eye. Suddenly you can "see through" the suppressor body. Your mind will automatically merge the two images, and you'll see a sight picture over the target. Now you can acquire a sight picture using both eyes and still be able to aim effectively.

Using this technique and my suppressor-equipped Glock 19, I've found head shots on a USPSA target at 15 yards to be no real challenge.

SHOOTING THROUGH THE SUPPRESSOR

The major problem with shooting any auto-pistol equipped with a suppressor *and* standard-height sights, if the front and rear sights are black-on-black, is that you lose a black sight picture against the black back of the suppressor body.

Thus I have equipped my Glock 19 with the previously mentioned AmeriGlo CAP front sight, the bright yellow face of which stands out well against the black suppressor body. To "shoot through the suppressor," I simply use a standard sight picture, put that where I want the bullets to go, and just ignore the suppressor. Again, we practice this extensively in



Results from using Cirillo Silhouette Point technique rapid fire at seven yards. Weaponlight is SureFire X300 Ultra.

dry fire before we ever progress to doing it with live ammo on the range.

In my experience, this technique is considerably more accurate than the Silhouette Point in close-range, fast-and-furious shooting: an apple-sized group versus having all the bullet holes *somewhere* in center mass. It doesn't require learning any new shooting technique. You just do everything as you're used to doing with normal sighted fire.

This is the simplest approach to shooting a suppressor-equipped auto-pistol with normal-height sights. Simple is good.

When using this technique, there can be a tendency to aim using the sights, but still lower the gun enough you can see where you want the bullets to go over the top of the suppressor. This leads to shots being well centered for windage but a bit low. You can see this in the target photo for shooting through the suppressor. This tendency can be overcome with practice, but it's something to be aware of.

SUMMARY

Depending on the shooter, one of these techniques may work better than the others. Everyone's mind and body are different. Experiment and find what works best for *you*. Know different techniques to deal with different situations. There is no "one size fits all" approach for everything that could possibly happen.

Using a suppressor-equipped auto-pistol with non-suppressor height sights is not impossible, nor is it even particularly difficult. You just have to know the right techniques. ©



SIRT Laser Training Pistol

BY MONTE GOULD



a professional law enforcement and military instructor, I have seen many training tools come and go over the years. It is important to vigilantly evaluate promising tools and new theories to stay relevant.

Recently I met the owner of Next Level Training, Mr. Mike Hughes. He is a competitive shooter, firearms instructor, and Season 3 finalist on *Top Shot*. Mike founded Next Level Training and created the SIRT Pistol. He is larger-than-life, focused on human performance enhancement, and constantly seeking improvement.

As a competitive shooter, instructor, and practitioner, I endeavor to remain aware of emerging technologies. The most convincing remedy to improvement is personal recognition of deficiencies. We must be able to self-identify and analyze.

Frequent, well-executed, and repetitive manipulation develops reflexive proficiency under stress. To support practice, we need to perform self-diagnosis, maintain interest, and have fun. Yes, I said "fun!" Sometimes people focus too much on the work aspect and lose the fun. This reduces motivation and creates labor from what should be mentally stimulating and enjoyable.

I advise my students to dry practice at least three times a week for 10 to 15 minutes per session. When students complete a course of in-

struction and return home, they practice as recommended for a couple weeks. But slowly they lose motivation and begin to reduce or totally eliminate dry practice sessions. The NLT SIRT Pistol brings back the fun!

NLT SIRT PISTOL

The NLT Training Pistol is designed for "high-volume self-diagnostic firearms training." The SIRT (Shot Indicating Resetting Trigger) Pistol is a replica gun that emits a laser when breaking the trigger (no need to rack the slide). The SIRT Training Pistol is an inert training tool incapable of firing real rounds.

It is equipped standard with a second "take-up" laser that activates when the trigger is indexed, held and depressed, but not broken (taking the slack out). This second take-up laser is primarily for the instructor or assistant to diagnose shooter performance during dry practice sessions. The device physically resembles the Glock 17. It will fit in all holsters and equipment as needed and required for like designs. You can attach your light on a rail of the SIRT.

The newest version resembles a Smith & Wesson Sigma. You can remove the stock sights and replace them with your preferred sight. NLT also produces a replacement bolt for use in your AR-15/M4 platform that projects a laser. It comes standard with one magazine weighted to simulate a fully loaded real magazine. However, the SIRT Pistol emulates the

functional features of real firearms for the most beneficial training effects. The lasers fully adjust for elevation and windage using a small Allen wrench.

The device comes with a fully charged battery that lasts hundreds of hours and is ready to use out of the box. NLT provides detailed instructions for use, plus a CD and hard plastic case. Per the enclosed instructions, check zero when you receive the pistol. Adjust the lasers to the sights, not vice versa. The trigger is fully adjustable as well for take-up and break, and relatively easy to accomplish.

My initial perception was that it is a training tool for beginners. This misconception was promptly disproved.

I began using the device for personal skills development. Instead of dry fire sessions with real weapons, I used the NLT SIRT Pistol. I have used it in my office and then traveled with it to maintain skills on the road. I routinely travel across the U.S. and abroad, and am often unable to carry firearms. I have taken the NLT SIRT to South and Central America, Europe, Scandinavia, and all over the U.S. without any difficulty. (Read up on traveling with simulated-type weapons. Know and understand the specific regulations of the area you are traveling to before you embark on a journey carrying this device.)

TESTING

I introduced the NLT SIRT Pistol to training with basic-level students. It has reduced training time frames, range



Above: Range staff trains with NLT SIRT.

Left: SWAT officer trains with NLT SIRT Pistol.



session usage, and ammunition consumption while developing student confidence.

The device also provides a safer, more relaxed, and less stressful indoctrination and orientation for new shooters. More advanced shooters can self-diagnose and self-correct without argument, denial, or subjective opinion. After all, personal recognition of flaws and failure is the strongest medicine for improvement.

The instructor assists, notes errors, and then provides opportunities for students to self-analyze. As a test, we conducted non-profit instructor training courses with the NLT SIRT Pistol. Our first group was a cross-section of instructors based in Scandinavia. The evaluation group invited to support the instructors consisted of novice shooters.

This was an eight-hour instructor course. The student group was restricted to four hours of training with NLT SIRT Pistols, after which live-fire qualification courses were conducted. Student scores were on average 42% higher. Nearly

the same result was achieved with two other focus groups of novice shooters.

With experienced professionals (competitive, law enforcement, and military personnel), the rates of improvement were much lower, within the 3 to 6% range, which was still remarkable, not to mention reduced live-fire operations and overall cost reduction.

I have now conducted 11 instructor classes with varying skill levels (amateurs and professionals) throughout the world. My results have been relatively uniform and consistent.

NLT has an excellent online and YouTube support channel for customer service and training. The training



Reflective tape allows SIRT Pistol to be used in bright daylight.

videos are comprehensive and to the point. NLT customer support is above average, streamlined, and responsive to customers. My company, I.M.T.T., now has ten of the pistols in the field and uses them routinely. Anytime I have contacted or requested support, NLT has been prompt, responding to calls and e-mails for service without hesitation or delay.

TRAINING WITH THE SIRT PISTOL

Follow all basic rules regarding dry fire practice. Do not have a real pistol or ammunition in the vicinity. When dry firing off the range, clear the room of *all* ammunition even when only dry firing with the SIRT Training Pistol. If dry firing in conjunction with your live-fire gun, conduct

safety checks of all firearms.

When on the range, it is beneficial to train trigger mechanics with the SIRT Training Pistol between live-fire drills. In this environment, treat the SIRT Training Pistol as a real gun and follow the four basic rules at all times. When holstering the SIRT, be sure to slide lock your real firearm without a magazine when placing it down for temporary storage.

Flip the top toggle switch backward to activate the red take-up indicator. When you only want the shot indicator (green laser), flip the switch forward. During most training, the take-up indicator is turned off.

For beginners, the take-up laser is to identify trigger mechanics issues during slow fire. After ensuring a proper grip, stance, body posture, and other fundamental skill sets, observe the motion of the laser during the trigger pull. Ensure the student is first taking the slack out of the trigger and then having a clean follow-through, with the green laser showing the shot break.

After a shot is broken, release the trigger sufficiently to shoot off the reset, where the red laser is still on, and then re-press the trigger to break a second or subsequent shot. If the lasers go completely off, you have completely disengaged the trigger from the sear. This indicates you're not identifying the reset point. It further allows you to practice correct finger placement and the correct moment during the presentation and prepping the trigger correctly.

Have the shooter align the target, prep and break the trigger. If the lasers are steady during this, they are engaging in proper trigger mechanics. If the shooter is, for example, right-handed, and the lasers sweep from right to left (a nine o'clock sweep), the shooter is not engaging in proper trigger mechanics. Observe the laser motion when breaking the trigger. Any comet-tail sweep is an indicator of poor trigger mechanics.

Advanced shooters should, of course, train the same fundamentals as above. Many advanced shooters have fundamentals to train and strengthen, such as prepping the trigger prior to coming onto a target during a target transition. But advanced shooters need to train in higher volume with higher quality of movement.

Such further training includes: shooting on the move, high-speed transitions (one target to another), high-speed wide transitions (over 90° between targets), and high-volume training. This is a supplemental tool, not a replacement. You still must do live fire and practice recoil management.

ADVANTAGES OF THE SIRT PISTOL

The SIRT Pistol is tremendously convenient for high-volume training. The lasers help identify mechanical trigger issues, ensuring proper trigger mechanics and sight alignment when breaking the trigger. You can set up training events anywhere at any time. The cost of training is zero, and range and ammo costs are completely eliminated.

It allows you to focus on prepping the trigger, the break, re-set, and proper trigger control, all this while forcing the shooter to focus on the sights correctly and never having to fire a shot. I have been able to set up scenarios in cli-



Above: Windage adjustment for laser is located on right side of pistol.

Left: Red and green lasers activated together for take-up feature.

Right: Weighted magazine simulates feel of actual magazine.



ent police stations and have the officers train while on duty intermittently, as well as set up in-station training with simulated ranges in the interior spaces prior to the officers qualifying the next day. Of course strict adherence to safety and protocols was implemented.

DISADVANTAGES OF THE SIRT PISTOL

SIRT is not a replacement for live-fire training, but a supplement. There is no recoil impulse simulation or slide operation during use. Shooters have a tendency to look at the laser impact and make corrections through this method instead of focusing on the sights.

Users occasionally develop complacency relative to safe weapons handling. Assumptions of harmlessness begin to sneak into the mindset of the individual, and he may treat the weapon as a toy. This should be constantly monitored, highly discouraged, and eliminated. Treat and handle the device as a real weapon at all times.

Obviously sometimes during force-on-force or other types of training, the device will be pointed at others. Treat it in the same manner as a marker-type projectile training weapon and strictly adhere to the highest safety protocols.

The SIRT is not waterproof. If used in the rain, cover the upper opening in the slide with a small piece of tape.

CONCLUSION

The SIRT Pistol and rifle bolt are incredible training tools. You can have them in your home, office, or work place and set up scenarios safely without using real weapons to clear spaces. The possibilities are endless.

I use this SIRT for training in vehicles in place of real weapons and for safety during demonstrations and practice at home. I routinely use it when demonstrating entry tactics and/or building search methodologies. It's an excellent tool for students during the "crawl, walk, run" phases of training inside locations and during complex exercises for safety.

My former agency purchased the devices and has integrated them into defensive tactics training. Some groups, individuals, and organizations use the SIRT Pistol and laser bolt for force-on-force scenario training. The SIRT Pistol allows instant feedback that is visible from the very first time they press the trigger, making their lack of trigger control obvious to them.

You can place reflective tape at varying distances on targets to indicate hits. The laser strikes the reflective portion and reflects with high intensity.

SIRT is a perfect training tool for anyone who owns or carries a weapon. Many police and military agencies are now purchasing these devices and integrating them into regular training for officers, the Federal Bureau of Investigation and the Los Angeles Police Department to name just two.

When you cannot get to the range or adverse weather hits, the SIRT allows you to continue practicing. If you live in an urban area and are unable to visit the range regularly, it helps you maintain skills between sessions. I believe in this product and cannot recommend it more highly, based on testing, use, customer service, and ruggedness.

Suggested retail price for the SIRT Pistol is \$239.00. The AR bolt is \$139.00. ©

Monte Gould is a retired California peace officer (27½ years, 22 years SWAT). He served in the U.S. military, with both peacetime and combat deployments, from 1978 to 2009. He is the owner of I.M.T.T., which provides services to governmental organizations and entities. He can be reached at monteimtt@gmail.com.

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THE BEST OF PAT ROGERS

Editor's Note: After the untimely passing of Pat Rogers earlier this year, readers asked us to reprint some of his best articles. We have opted generally to avoid product reviews because they tend to be dated. Not the MOACKS, which is just as useful a piece of gear today as it was ten years ago when Pat wrote about it in the October 2006 issue of S.W.A.T.

COOL TOOLS FOR THE AR-15

Michiguns MOACKS

BY PATRICK A. ROGERS

Semi- and full-auto weapons function by means of different operation systems, covering the spectrum from recoil operated to electronic—and with a healthy dose of just about everything in between. For the purposes of this article, we'll be looking at the AR platform, which was designed around a gas impingement system.

The expanding gas from the fired bullet goes down the gas tube and makes contact with the bolt-carrier gas key. The gas pushes the carrier back, which unlocks the bolt locking lugs, causing the action to cycle. For the weapon to function, all the parts need to work as designed. That means as specified and well maintained. For the AR, this means the gas tube needs to be functional, the bolt gas rings in good working order, and the bolt-carrier gas key tight.

The gas tube is not normally a prob-

lem, but it can erode. It can also be damaged on the receiver end for a variety of reasons.

The bolt rings can be considered analogous to the piston rings on an internal combustion engine. They provide a seal between the bolt and bolt carrier, and will wear with time. To check for wear, remove the firing-pin retaining key, the firing pin, and the bolt cam pin. Hold the bolt carrier upside down. If the bolt stays within the carrier, you are good to go. If it falls out under its own weight, the rings are worn and need to be replaced.

Bolt rings are inexpensive and should be replaced regularly (instructions in the SOPMOD M4 Carbine Reliability Enhancement Kit suggest they should be replaced at every cleaning). A myth that has reached official proportions is that the rings must be misaligned. The Colt armorer instructors state that this is false, and the gun will run fine with a single (good) bolt ring. If misaligning the gas rings gives you a



warm and fuzzy, have at it—but it adds absolutely nothing.

The bolt-carrier key needs to be correctly mated to the bolt carrier, with the screws *properly tightened and staked* to prevent them from loosening.

Herein lies the rub. Money drives business, and all companies look for ways to cut costs. Some of these practices can be along the order of improving efficiency. Other practices may include using lesser-quality parts, or skipping steps in order to increase production.

We have seen a great number of bolt carriers with the key improperly staked (the so-called girly-man stake, wherein a limp wrist is used to “strike” the part) or not staked at all. In one class I conducted for a very competent state police tactical team, a request for M4 Carbiners turned into the bean counters buying something “just as good” but that cost less. As with many organizations, they found out that “low bid” was not as cost effective as “best value” in that, of the guns purchased, approximately 25% had bolt carriers that were not staked at

all. (These weren’t the only problems. Barrels were misaligned, some guns wouldn’t run on full auto, and the worst was the fact that customer service was nonexistent.) The agency was able to compare the bolts on their previously issued Colt M16s with those of the new guns, and the contrast was an eye opener. You can pay now, or you can pay later—but you are going to pay.

The problem with an unstaked or improperly staked bolt-carrier key is that eventually the two screws holding it to the carrier will loosen. No amount of torque or adhesive can be *guaranteed* to prevent this. Once those screws loosen, the gun will start leaking gas, and when that occurs, the rifle will start short stroking. And if that happens, you are out of business.

Any company is capable of making great guns. Any company is also capable of turning out something of poor quality. The keys here are in the consistency of the quality control and the frequency of problems.

In every open-enrollment class I teach, I find carrier keys that are not staked or improperly staked. I find this with all manu-

For those who believe cleaning the carbon off the bolt tail is necessary, the MOACKS provides a simple and efficient solution and, unlike other methods, is quick and will not damage the bolt. Smaller hole on the right is for removing carbon from the front of the firing pin’s flange. Also visible is the bolt-carrier bore reamer, shown here in its stored position.

facturers, though the frequency of problems with any particular maker may be hard to pin down. This is because many students are degenerate tinkerers, and parts swapping may occur at the cyclic rate the rifle fires. A bolt from one maker may wind up in another maker's gun. A lower from one company may have another maker's upper on it and a gun-show bolt and bolt-carrier assembly riding within. The owner may not really know what he has, or he may not want to own up to making a bad choice by purchasing unknown parts.

The military-only classes generally don't suffer bolt-carrier key problems. Colt and FN, the two companies that supply the military with M16A2, A3 and A4 rifles and Colt only for M4 and M4A1 Carbines, are subject to strict quality control/quality assurance, and standards have to be met. That doesn't mean they are perfect, or that something not meeting a standard can't slip through. It is just that the frequency of problems is much less than with those who are not *required* to meet a standard. Let's face it: If companies do not have to meet a standard, they may not, and may take all the shortcuts they can to save money.

TM 9-1005-319-23&P, Change 8, outlines the procedures that the military uses in staking the carrier key screws. But the consistency with which armorers, cobblers, and kitchen-table hobbyists handle

staking is notable only for the inconsistency of their efforts.

Enter Ned Christiansen, gunsmith extraordinaire, noted shooter, and genuine good guy. Frustrated by the poor staking on most aftermarket carrier keys (and as he states, some do not stake at all), he put his fertile brain into high gear and made a unit humbly called the Mother Of All Carrier Key Stakers, or MOACKS. Being a fan of consistency, Ned wanted something that would put a manly stake on each carrier key exactly the same way, every time. He wanted it to be simple to use and efficient in results.

The MOACKS is a substantial tool and, while compact in size, weighs in at 22 ounces of heat-treated 4140 steel. Ned wanted a tool that could function "as advertised" with minimal chance of screwing things up, and he succeeded admirably.

If your carrier key screws are already loose, remove them and clean them with a non-petroleum cleaner. Clean the mating surfaces of the bolt carrier and the gas key to make sure you have a good seal. Place some Red Loctite® on the screws and torque them to 50-58 inch pounds.

If the screws are tight, there is no need to remove them. Simply place the bolt carrier into the tool and line up the gas carrier key screws. Place a drop of oil on the tip of the screws. This will make the staking itself easier and will extend the life of the screws. Then tighten the four screws until they bottom out. The hardened tips will displace the carrier key metal over the screws.

While this staking will probably be sufficient (and is superior to most OEM staking), Ned suggests a counter-stake. Using a Starrett automatic center punch, he places two stakes on each screw, just clockwise of the original stake. This may be overkill, but it follows the Nedster's doctrine of being sure.

The MOACKS does more than just staking. Noting that some are concerned with the build-up of carbon on the bolt tail, Ned included a slot in the MOACKS to satisfy this urge. All you have to do is stick the bolt tail in and turn. *Voilà!* Carbon is removed.

From my perspective, I no longer remove that carbon as I am unconvinced it accomplishes anything except wasting time. My dislike for this stems from having autocratic 2111s in the armory refuse to accept a weapon with any "dirt" on it, and wanting it absolutely white-glove spotless when turned in. I believe the Marine Corps damaged more weapons with incessant and unnecessary cleaning than they ever wore out from shooting, and I cannot accept that the carbon on the bolt tail has any negative influence on anything. Having said that, if you want to remove carbon on the bolt tail, this is the best way to do it.

You can also remove the carbon that builds up on the firing pin flange by inserting it into a different hole in the tool made for this purpose. Neat!

The upgraded MOACKS Plus has all of the above plus a bolt-carrier bore reamer. This device removes the carbon that can build up inside the bolt carrier. The MOACKS acts as a handle, and the reamer stows within



Above: This bolt carrier key has not been staked.



Below: Keys are properly staked. Entire elapsed time is about a minute and a half. Ever wonder why some makers don't do this at the factory?



it, making for an efficient package.

Finally, there is a gas tube wrench accessory, a handy device that makes it easier to remove and install the gas tube.

Ned also makes another very useful tool—a Neck and Throat 5.56 Reamer. Ned has observed that, while many makers mark their barrels as 5.56mm, the chambers are actually dimensionally closer to .223 SAMMI specs. While this is generally not a problem if you are shooting .223-caliber ammunition, it can be if you are shooting surplus or military-spec ammunition. Pressures can increase (especially during rapid-fire strings that you might be firing during training or operationally) and as a result primers may start popping. After leaving its (former) happy home, that primer needs to go someplace, and that often means into someplace that shuts the gun down. It is not pretty.

Ned's reamer helps cure this issue. Disassemble the upper and apply some oil to the reamer. Insert the reamer into the chamber and turn clockwise. A nylon bushing centers the reamer in the receiver; the reamer itself is self-regulating. It is made so it cannot cut the shoulder and change headspace. When it bottoms out on the shoulder, it will spin freely.

Are chrome-lined chambers all 5.56? In Ned's experience, Colt chambers are 5.56, but he considers anything else suspect. The chamber has a very thin layer of chrome and, while chrome is tough, Ned's reamer has the benefit of a secondary heat-treating process (titanium carbo-nitride) that can cut through the chrome lining of an under-spec chamber.

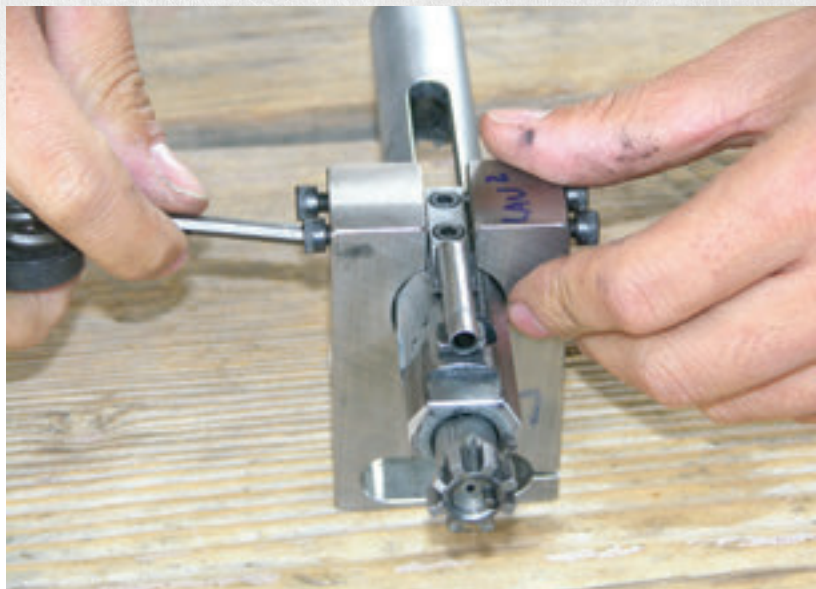
Understand that the purpose of a chrome chamber/barrel is to reduce the effects of corrosion. But if you have an out-of-spec chamber, you are left with two choices: keep the chamber intact and put up with the ongoing malfunctions, or cut it to the proper specs and upgrade your weapons maintenance schedule.

Of course, buying something made to spec out of the gate would solve a lot of your problems to start with.

Several years ago, I had a husband-and-wife team attend a carbine class. They were accomplished pistol shooters but had no carbine experience. They bought two aftermarket carbines with consecutive serial numbers after seeing this model highlighted in a magazine. During the course his carbine worked, while hers didn't. When her carbine got hot, it would not extract the fired case from the non-chrome-lined "match" chamber, and she finished the course with my carbine.

She contacted the maker, who told her that "everyone" wants match chambers because they make for a more "accurate" gun. After much gnashing of teeth, they agreed to replace the barrel with their new "M4" wannabe barrel, although like the previous tube, it was not chrome lined and had that pesky "match" chamber. At the next carbine class, the exact same thing happened. A "match" chamber in a carbine barrel may make for better intrinsic (though not practical) accuracy, but it's often at the cost of reliability.

While trying to sort out these problems again, the bolt cracked at the cam pin hole (coincidentally, the



Tim Lau has the bolt carrier in the MOACKS at an EAG class in Casa Grande, Arizona. He is using the hex-head wrench to turn the tool's four staking screws. Simply turn until they stop—that's all it takes.

bolt on her husband's gun broke at the same place on the very next day). She once again finished the class with my Colt carbine (one of 14 students who used that particular carbine over the years after theirs went down). While the maker claimed ammunition was the problem, none of the other students, using the same lot of ammunition, had any problems.

"Parts is parts" was a line from a chicken commercial, but it makes no more sense for chickens than it does for ARs. If *you* believe that all parts are the same, I have a bridge that spans the East River I can let you have for a song. Ned's Neck and Shoulder Reamer can make up for a manufacturer's fixation on "match" grade chambers, but it cannot compensate for bolts that don't meet a standard.

When you choose to purchase a carbine, understand your requirements and make the purchase based on those criteria. If you want reliability, travel down that road. If accepting mediocrity is your thing, then you can accept "just as good as." The decision is yours.

The MOACKS and the Neck and Throat 5.56 Reamer are simple to use and precise in execution. They may not fall into the "must have" kit for an individual, but do for those with multiple weapons (especially from different makers) and armorers.

I carry a MOACKS in my gear box, and I'm not sure how I got along all these years without it. ☺

SOURCE

MICHIGUNS LTD.
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www.m-guns.com

AK Precision Rifle

+ Continued from page 49

Using the unforgiving post and notch iron sights on the rifle, making hits on anything inside 200 yards was very easy. Past 200 yards, the crosswinds required so much Kentucky-windage that hitting targets regularly became challenging. Not because the rifle wasn't capable, but because obtaining regular, repeatable holdover while the wind threatened to topple me introduced too many variables.

To extend this range, the 18-inch barreled designated-marksman rifle-inspired RD700 was brought to bear against our steel enemies. To extend its reach and assist my aging eyes, an RS Regulate AKOG optics rail and three times magnification ACOG were added to the already impressively accurate rifle.

In this configuration, steel targets at 300 yards and beyond were engaged with almost boring regularity. Clear optics, great ammo, and a well-made barrel go a long way toward achieving this. The inclusion of an ALG trigger also made obtaining this precision much easier than with milspec or industry-standard Tapco G2 triggers.

During these firing sessions, I also had a chance to try out a few different magazines in the RD700 and get a good sense of how well the host receiver was made. Magazines of every material type and capacity locked up without any issues. Wobble was non-existent. The magazine release latch was buttery in operation, making it possible to actuate with one finger.

Chambering a round was damn near euphoric, the milled receiver's ultra-smooth action living up to its reputation. After performing a few dozen rapid reloads with magazines far too rare for



MB47 receiver accepts standard AR buffer tube and stock, but AK action means you can leave the AR buffer and spring out of the equation. Rifle was fitted with BCM Gunfighter stock and LaRue Tactical RISR.

most mortals to afford, I felt confident in the rifle's construction, fit, and finish. And after easily reaching out to distant targets in challenging shooting conditions, I was thoroughly satisfied with the RD700 DMR's practical accuracy.

But that wasn't enough—I wanted to test the gun's accuracy in a more controlled environment.

ADVANCED TESTING

Thankfully, Jim Fuller had access to a private 100-yard indoor range only a few miles from the desert shooting range. Here I mounted a Harris bipod to the SLR handguard of the RD700 and slowly took my time to fire a few rounds for grouping.

After warming up on the first two groups and getting a feel for the rifle, I squeezed out a sub-minute of angle group at 100 yards using the 3X scope. My group hovered around .8 inch for three rounds. John got behind the rifle and also shot sub-MOA. The gun is likely even more capable with better optics or a more practiced hand.

Jim Fuller took a swing and cleared the stands. The experienced rifle maker

doesn't just know how to build AKs but also how to *shoot* them. Using Corbon ammunition, Jim achieved a three-round grouping of .72 inch from the prone position. Sub-MOA groupings from an AK are one thing, but that close to half MOA is incredible!

This level of precision is so unheard of from the platform that it totally changes the game. Shooters no longer have to choose between dependability and precision.

It may not be for the collector or AK purist, but shooters looking to squeeze every ounce of performance from an AK rifle need look no further than the new Rifle Dynamics RD700 DMR built off the Sharps Brothers MB47 receiver. ◎

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5.11 Tactical VTAC Operator Axe



VTAC Operator Axe is an awesome new axe from 5.11 Tactical that was designed in conjunction with Kyle Lamb of Viking Tactics. It's an ideal personal-size multi-purpose forcible entry and rescue tool. VTAC Operator Axe has a multi-purpose axe head with bearded blade, hammer, and pry bar/nail puller/chisel.

A lot of tactical tomahawks and axes are on the market, but the new 5.11 Tactical® VTAC® Operator Axe stands apart from the rest. It was designed in conjunction with Sergeant Major Kyle Lamb (Retired), who brings a wealth of real-world experience to its design.

SGM Lamb should need no introduction. The founder and president of Viking Tactics, he is a veteran of over 21 years in the U.S. Army, more than 15 of those with Special Operations, including the Army's premier special mission unit. SGM Lamb participated in combat operations around the globe, including Mogadishu, Somalia (*Black Hawk Down* incident), served numerous tours in Iraq and Bosnia, and is a highly sought-after military and law enforcement trainer. If he puts the VTAC name on a product, you know it's absolutely top notch.

The VTAC Operator Axe had its genesis in a small axe that SGM Lamb found at one of his objectives and subsequently carried on numerous missions in Iraq. When he got back to the U.S., he showed the axe to 5.11 Tactical, which was enthusiastic about doing an Operator Axe. SGM Lamb took the basic design and added other elements to increase the functionality and utility.

The end result is definitely one bad axe (with "bad," of course, meaning good). SGM Lamb is "super proud" of it, as well he should be.

The VTAC Operator Axe has a very well-thought-out design featuring a whopping 24 tools and functions, yet it's not gimmicky. It was designed to provide the right tool for the job, no matter what may be encountered.

Features of the bearded axe include a hammer, pry bar/nail puller/chisel, sheet-metal cutting claw designed to make quick work of auto and aircraft panels, standard and metric wrenches, 3/8- and 1/2-inch square driver opening sockets, metric and standard ruler markings, and a 1/4-inch hex-bit driver/lanyard hole.

The shaft and handle of the axe feature aggressive jimping to keep the axe in hand in all conditions.





Above: VTAC Operator Axe has a claw that cuts through sheet metal.

Left: VTAC Operator Axe comes with an ambidextrous belt- and MOLLE-compatible two-piece molded nylon sheath.

The Viking-style bearded blade of the VTAC Operator Axe maximizes the cutting edge while keeping the overall weight down. It also facilitates more precise control of the blade when needed by allowing the shaft to be gripped behind the head.

In a bearded axe, or Skeggöx (from Old Norse Skegg, beard, + öx, axe), the cutting edge extends below the width of the butt. Used as both a tool and a weapon, bearded axes date back to at least the sixth century and are most commonly associated with Viking-age Scandinavia.

With the exception of the welded-on hammer head, the VTAC Operator Axe is made from a solid billet of .28-inch thick SCM 435 stainless steel. The hammer head is also SCM 435, a Taiwanese steel that's comparable to American

Iron and Steel Institute (AISI) 4135 grade alloy steel, which contains chromium and molybdenum as strengtheners. It can be heat treated to good strength levels while maintaining reasonable toughness.

The axe is finished with a subdued black oxide coating that provides additional corrosion resistance and minimizes reflection.

The VTAC Operator Axe comes with an ambidextrous belt- and PALS/MOLLE-compatible two-piece molded nylon sheath with cutter cover. The axe snaps securely into the sheath. A rubber retention strap with heavy-duty milspec Pull-the-DOT® snap provides additional security.

Designed to protect both the axe and the operator, the sheath is also adjustable for carry angle and features a

unique mounting system that allows the sheath to be easily and quickly donned or doffed on either a belt or PALS webbing.

No tool is any good if you don't have it with you when you need it. The VTAC Operator Axe is small and light enough for convenient carry, with an overall length of 15 inches and weighing one pound, 15 ounces with sheath.

The VTAC Operator Axe is an ideal personal-size multi-purpose forcible entry and rescue tool, as well as a great all-around survival tool. It's just the ticket for inclusion in an active-shooter response kit, bug-out bag, or to keep in your car for emergencies.

The workmanship on the sample provided by 5.11 Tactical was excellent. The sample exhibited considerable attention to detail, and the axe blade came super sharp.

The VTAC Operator Axe has an MSRP of \$169.99. It comes with a limited lifetime warranty. It's an awesome tool that's compact in size but large in performance. ☺

Eugene Nielsen's background includes protective intelligence/investigations and threat management, as well as red teaming/security consulting. He is a Licensed Private Investigator in both California and Arizona.



Metal cutting claw on VTAC Operator Axe makes quick work of cutting auto and aircraft sheet-metal panels. Photo: 5.11 Tactical

SOURCES

5.11 TACTICAL, INC.

(866) 451-1726
www.511tactical.com

VIKING TACTICS, INC.

(910) 987-5983
www.vikingtactics.com

SureFire XC1 Pistol Light

Tactical lights have paralleled the remarkable miniaturization and power advances in electronics more so than perhaps any other area of the shooting world. It's not hard for many to recall a time when a top-of-the-line "powerful" flashlight would rival a tee-ball bat in size and have a beam that gave a choice between weakly lighting an area or focusing onto a dinner-plate sized area.

Early dedicated pistol lights were about as elegant and trim as a brick. This gave way about a decade ago to lights that could mount to accessory rails on the pistol and be legitimately holster carried. But the ever-growing number of concealed carry folk had few options.

Several outfits now offer holsters that can accommodate the popular SureFire X300 series inside the pants, but there just isn't a long line of people rushing to stuff that much light into their waistline. Other market options in small lights exist, but for a large chunk of the professional crowd, SureFire sets the agenda and is the primary source of seriously considered lights. Thus, when SureFire announced the compact XC1 pistol light, there was immediate and considerable interest.

The SureFire XC1 is a 2.5-inch, two-ounce package that throws a 200-lumen wide area beam. It runs off a single AAA battery and neatly fits within the space between trigger guard and dust cover of most compact pistols.

The XC1 secures into a Picatinny or accessory rail slot via a small standard screw. It has ambidextrous switching, with the levers each pushing down to activate, different from the rocker that has been on existing pistol lights.

There is no option for a grip switch or pressure pad as with the X300 series. The housing is a tough hard-anodized aluminum that SureFire describes as aerospace quality. The unit feels as rugged and well-made as one would expect from SureFire.

The two bold-print features on the XC1 are size and beam. The unit has the unmistakable appearance of having been designed specifically around a



SureFire XC1 is a compact pistol light that fits neatly under a Glock 19 or similar-sized handgun. Photo: John Sudbrink

Glock 19. Since this is far and away the most common concealed carry choice for the serious type of user who would buy this light, this makes sense. The XC1 adds no width or length to the gun, simply filling in empty space.

There isn't necessarily an industry standard for the term "compact," but in most cases the XC1 should work on those guns listed as such. It will not fit on many sub-compact pistols. I suspect it won't fit on any, but can't say that definitively.

For those shooting a nonstandard compact and wanting to check compatibility, the distance from the rear of the unit where it abuts the trigger guard to the attachment screw is approximately 1.62 inches.

The two-ounce weight is barely noticeable on the handgun. I noticed a very slight bit of weight shift forward that seemed to dampen muzzle rise. It is not unlike the difference between shooting a full underlug four-inch revolver and one with a standard barrel.

Holster support for the XC1 is al-

ready present in the marketplace. A little online shopping turned up popular concealment holsters from JM Custom, Raven Concealment, and G Code, with others likely present by the time you read this.

I evaluated the XC1 from a G Code Incog Eclipse carried appendix style, with the holster about three fingers' width from the centerline up front. The SureFire being onboard had no impact on concealment, which was not much of a surprise. But comfort is where most of the question marks probably are. With the standard caveat that body type, choice of trousers and belt, and other factors make each of us somewhat of a snowflake on holster compatibility, I estimate the XC1 holster was perhaps 10% less comfortable than a non-XC1-equipped one.

I was able to wear it all day for several weeks through normal daily activity with no issues. I could tell that the holster "footprint" was slightly larger, but it didn't impede motion, poke, or otherwise misbehave. I believe most

users will be able to carry an XC1 gun inside the waistband with very little adaptation required.

The XC1's MaxVision beam is worth discussing. The XC1 has a new reflector that throws a remarkably wide, even beam without the traditional center-weighted "hot spot." By wide, I mean *wide*. At only three yards, the circular beam reached from floor to ceiling and would completely light a subject. Across a standard interior room, the beam reaches from corner to corner. The edges of the beam are visually about the same as the center without the gradually weakening spill common with most lights.

Shooting at ten yards, I was able to clearly make out objects five steps to either side of the target. I've not used another pistol light that provides so much situational awareness. There is enough light that even at about 12 yards, the XC1 was able to penetrate into the cracked door of a cluttered closet and allow clear recognition and search.

But the depth, or throw, of the beam is somewhat limited. So much horsepower is spread widely that it seems to fall off rapidly past 20 yards. I tried in a number of ambient lighting conditions and had very little confidence in my ability to positively ID a threat or get clear contrast and feedback on the sight picture past 20 yards.

Tritium night sights against an al-

ready ID'd threat might expand useful range another 10 yards for some. SureFire clearly threw all resources and capability at providing maximum possible information and awareness inside the reactive/defensive bubble, and there is a tradeoff compared to the X300's ability to reach out deeper.

This makes sense in the context of the XC1's concealed-carry application, but should be noted by those who might look at the XC1 as a lighter, more compact replacement for other lights. I had a notion that the XC1 would make a great lightweight, low-footprint option for a carbine, but outside of a home-defense scenario, the beam gives up too much range for rifle application.

The XC1 switches are well placed but will take an adjustment period for those accustomed to others. I was able to consistently and repeatably activate the beam with the edge of my thumb around the first joint and keep the light on throughout multiple shots. The switch's placement also allows easy activation with the pad of the thumb for those shooting a more vertical or Weaver-style grip.

With some dedicated effort, I believe one could activate the light as part of the drawstroke consistently every time the gun comes out. I'm not there yet.

Constant-on mode is activated by pushing a small crossbar on the right side through to the left. It is quite dif-



Numerous quality holsters are already available for XC1 on popular handguns. G Code Incog Eclipse carried light-equipped Glock 19 easily.

ficult to accomplish strong hand only, where such a feature might be most useful. Even with my XL hands, I had to surrender a firing grip on the gun and juggle the pistol around to access the crossbar. In two-handed search or covering a threat, the left-hand middle finger can push the crossbar to "on" and the left thumb can press the crossbar to disable. I would love to see a DG switch-like option on future models, so the light is activated by grip pressure.

For those in plainclothes, low visibility, or other mission scenarios, the XC1 adds a welcome capability. For the average concealed carrier, cost may prove a barrier. At \$299 retail, the XC1 is a steep investment.

I haven't the foggiest idea of the economics involved, but if scale drove the price down to significantly less than its current tag, I believe the buying market would greatly increase. Regardless of how common the XC1 becomes, the light is a significant advancement for concealed carry. ©

Ethan Johns is a military professional with worldwide experience in specialized units. He has taught and been responsible for numerous advanced skills and weapons courses within multiple organizations.



Amidextrous switches are well placed and can be activated with edge of the thumb in a thumbs-forward grip or with thumb's tip in a Weaver grip. Photo: John Sudbrink

SOURCE

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Browning Hellcat Flashlight



Browning has expanded its growing line of flashlights to include the new Hellcat, the ultimate hunting flashlight featuring a super bright white long-distance beam. Brightness is 610 lumens with two CR123A Lithium batteries or 825 lumens with the optional 18650 Li-ion battery (not included). A trio of soft green LEDs offers stealth lighting.

The Hellcat has an aluminum body with polycarbonate lens and internal battery magazine. The mode selector lets you pick the desired lighting mode without toggling. A single-action tailcap switch with momentary and continuous mode functions turns the light on and off. The light is waterproof and submersible to three feet for 30 minutes. Overall length is 5¾ inches. Suggested retail price is \$109.99.

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The MINOX MD 88 W APO is extremely robust, shock-resistant, and watertight to a depth of 16 feet, 5 inches. Suggested retail price is \$1,799.

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Tacprogear Spec-Ops Assault Pack



Tacprogear, a leading manufacturer of tactical equipment used by professionals around the globe, is pleased to announce that the new GEN 2 designs for the Spec-Ops Assault Pack (SAP) line are now available. Each of the SAP 1, 2 and 3 packs features TPG's unique MOLLE Spine®, which allows additional items to be mounted on the outside of the pack.

This easily customizable pack includes several new features for Gen 2, including a reinforced handle (SAP1) or reinforced padded handle (SAP2 and SAP3), loop for ID patches, and a new foam pad design in the back. Highly comfortable padded shoulder straps, a quick-release waist belt, and durable tarpaulin bottom material were employed for use in adverse conditions. GEN 2 improvements for the SAP came from end-user feedback over the past years. Suggested retail price is \$222.00.

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TOPS Knives Hazen Legion 6.0

TOPS Knives is excited to announce the release of the Hazen Legion 6.0, designed by custom knife maker Mark Hazen, who has been making knives since 1976. Due to high demand for his handmade knives, Hazen reached out to TOPS to produce the Legion model in larger quantities. Needless to say, TOPS was happy to oblige.

Designed for combat, this sleek design is up for the task. Made of 1095 high carbon steel, this knife is easy to maintain in the field. It is perfect for deep penetration, slashing cuts, and everyday field use.

The Hazen Legion 6.0 is available for purchase from the TOPS Knives website and through authorized dealers. Suggested retail price is \$210.00.



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The Great Equalizer

It was nine o'clock at night when a Monticello, Georgia man heard sounds that indicated someone might be forcing entry into his home. A 69-year-old wheelchair-bound Vietnam War veteran, he rolled down the hall to investigate. Sure enough, he discovered that a man had broken into his house.

The homeowner fired a single shot from his pistol, hitting the intruder, who turned and fled the dwelling. The stricken intruder collapsed 100 yards away along the side of the road, where he was found by officers responding to 911 calls from neighbors as well as the homeowner. The would-be robber was transported to a local hospital, where he died of his wound.

SOURCE: *The Telegraph*, Macon, Georgia, 5/20/16

Trick or Treat?

Early in the workday on a Friday, a minivan pulled into the parking lot of a Levittown, Pennsylvania pharmacy, and a shotgun-wielding man wearing a Halloween mask hopped out the passenger door. Attempting to conceal his shotgun behind an umbrella, he left his getaway driver waiting in the van while he hurried toward the entrance of the store.

Fortunately, the pharmacist had installed an effective battery of surveillance cameras and saw the masked robber approaching in time to make ready. As the gunman entered the store, the owner tried to warn him off several times, but he continued forward and vaulted the counter.

At that point, the pharmacist opened fire with "at least a dozen" shots, striking the robber multiple times and killing him. His getaway driver outside did not hear the fusillade and was still sitting in the minivan when police arrived and arrested him.

SOURCE: WPVI-TV, Philadelphia, Pennsylvania, 6/3/16

Stabbing Intervention

Just before nine o'clock on a June evening, an argument turned heated in a car on a Larimer County, Colorado highway. The woman driving the car pulled over and exited the vehicle, followed closely by the male passenger, who began stabbing the woman. This attracted the attention of bystanders.

One bystander did more than just call police, pulling a handgun and holding the knife-wielding attacker at gunpoint for police. Once police arrived, the knifeman became increasingly agitated and needed to be Tased before he could be handcuffed. The victim was hospitalized with non-life-threatening injuries, while her attacker was charged with assault and resisting arrest.

SOURCE: KUSA, Denver, Colorado, 6/4/16

Warning Unheeded

Police officers in Tulsa, Oklahoma responded to multiple 911 calls about a man acting oddly on a Monday evening in late May. They canvassed the neighborhood and spoke to multiple witnesses who reported a man who appeared to be intoxicated rolling around in people's front yards and even trying to force open the door on one dwelling.

While talking to one witness, police heard shots and drove toward the sound of the gunfire, where they discovered a 73-year-old man who had just shot his attacker and was now attempting to staunch the bleeding in the assailant's neck wound. The septuagenarian had been doing yard work when the intoxicated man punched him in the back of the head. The drunk then straddled the homeowner and began to hit him repeatedly, before being stopped by the shot in the neck from his intended victim.

SOURCE: KOTV-DT, Tulsa, Oklahoma, 5/23/16 ©



Numbered magazines make it easier to keep track of which ones have caused problems.

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NOVEMBER ISSUE ON SALE OCTOBER 4th

Going It Alone

They say Rule Number One is to always Look Cool. Unfortunately battlefields—and graveyards—are littered with warriors who were more concerned with looking good than staying alive (and/or keeping their sidekicks alive). The problem with the Look Cool factor is that there has to be a witness or witnesses to your suave and debonair demeanor—and usually either everybody else is preoccupied with their own life-preserving antics, or you're Man Alone.

"Not I," you say. "We always run in teams." Sure you do. That is, until your brother-in-law, fellow police officer, or the rest of the platoon get their heads blown into grapefruit by incoming bombs, bullets and shrapnel. There's many a slip between planned strategy and the successful conclusion of a tactical exercise.

So it might be worth considering working on one-man tactics before getting into "high-speed" teamwork. (In this case, anything more than a lone operator constitutes a team, irrespective of whether they're physically adjacent or separated from each other.) The success of an operation is dependent on two aspects: initially the planned strategy, and secondarily the application of tactics—usually physical force—to achieve the objective.

But Murphy's Law being what it is, most planned strategy goes to hell the minute the action commences, and the resultant tactics usually wind up looking like the "before and after" versions of a bachelor's grocery shopping list. But as long as his belly is full at the end of the day, who cares what he ate—mission accomplished.

So why do we all need the capability to operate in one-man mode, irrespective of vocation? Team members can be injured or killed, or you may be "dropped off" to hold an area—such as a doorway or flight of stairs—until support arrives or operations can resume. Or you might be a single homeowner involved in a home invasion incident, a lone patrol officer under physical assault, or a soldier caught behind enemy lines.

Or it could be that you prefer operating as a lone wolf. While the reasons are many and varied, the bottom line is that if you're conditioned to operate in team mode and are then reduced to working solo, tactics and mental approach to the problem have to change—immediately.

The upsides of working on your own are that you know you're in big trouble, and going in you know no help is coming. You're also not reliant on a partner who may or may not perform. If a partner dumps you when you're expecting support, you're worse off than if you go to war on your own.

The downsides of rolling alone are numerous. Apart from the obvious facts that your physical fighting force is reduced and there is nobody to protect your derriere from a rear attack, the biggest detraction is that your vision—and consequent situational awareness—are lowered to next to nothing. And since successful fighting is predominantly reliant on vision, the lack of a partner's additional observational powers can cripple you—literally and figuratively.

If you commence an operation with a partner and he

takes a hit in mid-fight, you lose half your manpower. But the amount of area that you can visually control at any given time is reduced by a lot more than 50%. "Tunnel" vision, coupled with the fact that you now have to contain a full 360-degree potential area of attack, reduces your eye/brain intake to a crapshoot. Even though the swivel-head "retinal camera" is still snapping the photos, the brain can't process the information fast enough for the operator to react. Under these circumstances, success comes down to pure luck.

Try navigating a flight of stairs on your own and you'll get the message in a hurry. There's a reason they put rear-view mirrors on cars—and they don't come as an optional extra.

So what to do? Work on one-man tactical movement and observational techniques, have rugged and reliable equipment, take a lot more ammunition than you think you'll need—and pray a lot. There are no guarantees.

The primary thing to remember when you're operating alone—unless you're Wolf Boy mentioned above—is that you're doing it because you have to, not because you want to. Nobody but an idiot (or a Look Cool maniac) intentionally goes into a situation potentially outmanned, outgunned and outmaneuvered.

Obviously if you're awakened from your slumber by bloodcurdling screams emanating from your rugrat's cake-hole, you're going to throw caution to the winds and head for the tyke's bedroom at warp speed. It would be pointless to do the old snoop and poop through every room en route to your primary location of concern.

If, on the other hand, you hear Grandma's candlesticks being hoisted through the garage door fanlight, it's probably not the time to morph into Rocket Man—slow it down. Yes, Grandpa worked hard to pay for the heirlooms, and yes, they're made of solid silver. For that you're going to gallop into the Gates of Hell and risk escalating a burglary into a gunfight?

If you're forced to fight on your own, you can't get away with team tactics—period. Assuming you have a rational reason for doing what you're about to undertake, most of your physical movement and actions will be different from those you'd employ as part of a multi-member unit. You're going to have to—for the most part—back off "blind" corners and angles, negotiate doorways and portals differently, be aware of shadows and changing light conditions, and make instantaneous life-or-death shoot/don't shoot decisions. All of this while trying to observe a 360-degree field of view and simultaneously perceive what's going on.

Good luck. If you have reliable backup manpower, use it. Otherwise, make sure you take a camera with you when you go. That way your demise will be recorded for the rest of us idiots. Along with the visage of all that cool-looking black/camo/Velcro "tactical" gear. We especially like the way you polished that carbine with Armorall. That sure was worth dying for.... ©

[This column first appeared in the October 2007 issue of S.W.A.T.]

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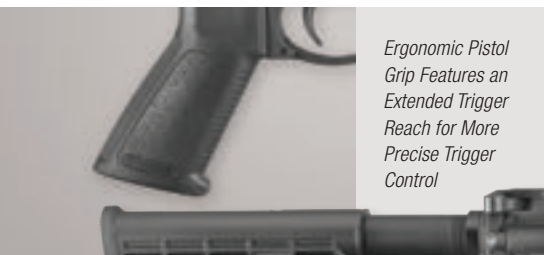


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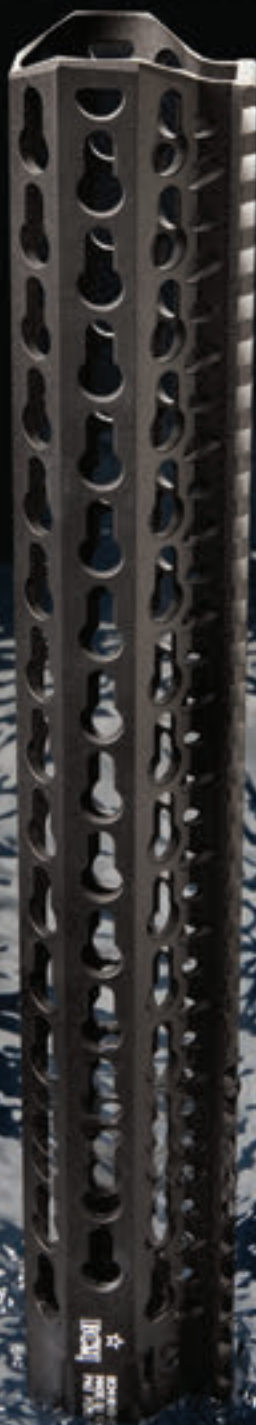




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