INNOVATIVE SWAT/TACTICAL EQUIPMENT

Police and Security News

JULY/AUGUST 2019 VOLUME 35 ISSUE 4

Serving Law Enforcement & Homeland Security

ARMOR 2019:

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Video Analytics Software

Using Genealogy Testing Services to Solve Cold Cases

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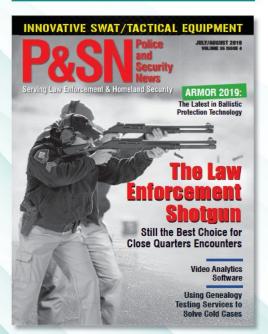
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Officers are taking part in a shotgun training course in Barstow, California.



First responders employed by federal, state or municipal governments may be subject to restrictions that limit their ability to accept this offer. By accepting this offer, you verify that it complies with all restrictions regarding ethics and gift acceptance that apply to you. Limitations apply. See onstar.com/heroes and gmfirstresponderdiscount.com/offers for details and limitations. Services vary by model. Service plan required. ©2019 General Motors. ©2019 OnStar LLC. All rights reserved.

...AND NOTHING BUT THE TRUTH

Hooray for Hollywood – Where You're Terrific, if You're Even Good...

Ramesh Nyberg

'm not a big Hollywood guy. I like a good show every so often, but most of the stuff I see on TV and on the big screen leaves me unmoved, especially the police stuff.

How often have you gotten *this* from your friends or new people you meet: "Oh, you're a cop! Wow, did you see that last '48 Hours'? Wasn't that crazy? What's your favorite cop show?"

Uh, well...none of them. Okay, I take that back. There have been a few. I really make people step back and scratch their heads when I tell them, "'Reno 911' was great – very realistic." I mean, folks, let's face it – some of the situations and personalities in those episodes were alarmingly real, were they not?

I've always tried to stay away from movies about homicide and cops and all that because, well, I lived it. And,



more than that, 95% of them just get it so wrong that I end up not finishing the

movie. There have been a few exceptions, so I'll start with the very first cop crime/cop movie which really grabbed me and it was way before I had any idea I was going to go into law enforcement: In the Heat of the Night, starring Sidney Poitier and Rod Steiger, released in 1967. First of all, what a brilliant plot! It's set in 1960's Mississippi in a poor little town where black people didn't go out on the street at night. Here's Poitier, late at night, at the town's train station after visiting his sick mom, waiting to leave, and unaware that a prominent white businessman was murdered that same night. He's brought in at gunpoint and says nothing, until he's interrogated by the sheriff (Steiger). Then, he reveals that he is a Philadelphia cop - a homicide detective, in fact. A black cop was unheard of in that region at that time and the Sheriff is in a quandary: He's got an unsolved murder and no competent people to investigate it, except for this Philadelphia homicide detective who wants no part of it. What happens after that is pure scriptwriting genius and fabulous acting. If you're too young to have never seen this movie and you don't know who Poitier and Steiger are, well, you need to see this movie. It's beyond great.

What made me write about this was a rare moment of recent solitude on my couch, when I got sole use of the remote and I started cycling through Netflix and Amazon Prime looking for stuff. Nothing caught my fancy until I saw a trailer picture of Kevin Costner (an actor I've always liked) and Woody Harrelson. They made a good-looking pair of 1930's era cops, and I thought it might be worth a look at how the producers of The Highwaymen treated the story of the pursuit and eventual killing of Bonnie and Clyde. This is, hands down, one of the best movies I've seen in a long time, maybe since In the Heat of the Night. If nothing else, it gives you an appreciation for what lawmen had to work with (damn near nothing) and just how difficult it was to track criminals who crossed state lines in those days. Harrelson and Costner were superb. Their speech, barbs and person-



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...AND NOTHING BUT THE TRUTH

Continued from page 6

al demons come into play throughout the film and I found it hard to quit watching. Yep, I made it until the very end and I was glad I did.

Who else "got it right"? Well, when it comes to TV dramas, there were a couple. "Hill Street Blues" was excellent. "Barney Miller" was a comedy, but it was good, too, and even pretty realistic, though it was never the aim of the show. Some scenes from "Law and Order" were done well, and the detectives going out and doing witness interviews I thought rang true. But, when they got to the suspect interviews, well, that's where the show fell flat. I mean, you have murder subjects sitting there giving confessions while their attorneys are sitting next to them. On what planet does that happen? And, in New York, of all places, where the courts believe that everyone invokes their Miranda rights automatically. That same lack of realism showed up in another movie I saw recently (yes,

someone walked away from the couch again and left the remote unprotected) called *The Loft*. A bunch of wealthy jerks buy a secret condo together so they can take their mistresses and one-nighters up there. One day, a woman is found dead in the bed there. Whodunit, indeed? These guys aren't sure which one of them brought the woman to this place and it's a pretty cool movie overall. Even the police interviews were pretty well-done, until one homicide cop says to one of the men, "Hey, do yourself a favor. Call your attorney and give us a confession."

Do what now?

Sigh. If they just would have paid me a couple thousand dollars to consult on the script, I would have made that – and a lot of other movies – a lot better.

I think the answer is to make our *own* movies. Or, at least, write our own books. I've been working on mine for a couple of years, but this year I made a pact with myself to finish it. When it gets close to print-

ing time, I'll sound the horn loudly here and everywhere else. It won't be fiction; it will be a memoir of sorts. I'm having fun writing it – it's been an exploration of not just my career, but my childhood, too. I didn't set out to do that, but the process kind of dug that up and it was surprising. You'll see what I mean when you read it (see that subliminal stuff going on there? When you read it... when you read it... when...) AHEM! Okay, back to movies.

I'm now on the hunt for more really good, well-done, realistic crime dramas. The Highwaymen will be tough to beat, but go ahead and send me some you liked. I'm listening (and hiding the remote). P&SN

Ramesh Nyberg retired from law enforcement in November 2006 after 27 years in police work. He now owns his own private investigation agency, Nyberg Security and Investigations, and can be reached at Ramesh@NybergPi.com. He enjoys getting feedback from readers.





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Circle 4007 for More Information



Ballistic Shield from Armor Express

The newest shield offering, the R1+, utilizes the latest ballistic technology and is offered with the original R1 Level III ambidextrous shape. Operators can rely on Level III rifle protection with the addition of the 5.56x45mm M855/SS109 Green Tip to the threat matrix. Available options and accessories include a Retro Single Switch Fox Fury 600 Lumen LED Light System with Strobe (1.1lbs); a removable agency ID placard; and a carry bag.

Circle 4008 for More Information

SWAT/Tactical Equipment

Previously Unreleased Artwork

Known by many as the "Father of Modern Tactical Artwork," Dick Kramer produces the finest in tactical art for first responders as well as military themed art prints. According to Dick, these represent the brightest, bravest and best our nation has to offer.

Pictured is a previously unreleased print which depicts two SWAT team members melded together with the symbol of American freedom, the bald eagle.

These fine works of art are available on a number of formats and products, including posters, prints, coffee mugs, notecards, and mouse pads, which can be viewed at www.dickkramer.com.

Circle 4009 for More Information



New Tactical Surveillance Equipment

Bounce Imaging has announced a number of new items which will soon be available. Included will be the release of a new Explorer Camera Unit with new features added, including two-way audio capability (ability to replace throw phones); the ability to play prerecorded audio messages; a new four panel mode which allows the ability to display four different images on one screen, allowing users to watch all four corners of a space at one time: and basic motion detection.

Also released is a new Dedicated K-9 Camera (Cave Canem Dedicated K-9 Camera) which includes a 360 degree video feed; newly optimized K-9 unit; stabilized video feed, regardless of the dog's movement; and improved range over nondedicated K-9 cameras

Circle 4010 for More Information

New Face Shield from Team Wendy

The EXFIL® Face Shield enables law enforcement officers to carry just one helmet, eliminating the need to carry both a standard issue ballistic helmet and a dedicated

riot helmet. Low-profile and lightweight, it attaches tool-free to the front section of the EXFIL Rail 3.0. It adjusts into three positions (down, up and stowed), allowing the wearer to fully utilize the Wilcox® W shroud.

Circle 4012 for More Information

New ASPIS X Ballistic Shield

Exceptionally lightweight at only 17.9 lbs., the new 20" x 30" ASPIS X Gen II Shield from Point Blank Enterprises provides superior maneuverability for handgun and long gun deployment. Available in Level III protection. the ASPIS X Gen II delivers high performance protection and optimal functionality. Manufactured from a hybrid composite ballistic material,



this new shield features a unique hook and loop forearm strap attachment system and is offered with an optional ballistic viewport.

Circle 4013 for More Information

New Lightweight .308

Weighing in at only 7.8 lbs., the new SAINT™ VICTOR .308 from Springfield has been purpose-built to offer serious power in a quick



handling configuration. The SAINT VICTOR in .308 features a 16" lightweight CMV barrel which is Melonite® coated inside and out to provide maximum corrosion resistance, partnered with an M-Lok® free-float hand guard and included high quality spring-loaded flip-up sights. It features an enhanced nickel boron coated, single-stage flat trigger which ensures a grit-free pull for consistent accuracy. Its SA muzzle brake effectively distributes pressure upward and outward to counter muzzle rise for faster and more accurate follow-up shots.

Circle 4011 for More Information



The SAINT™ Edge 5.56mm Pistol is built on a machined lower receiver from aircraft-grade billet aluminum and features Springfield Amory's proprietary adjustable tension Accu-Tite™ system to minimize play between the upper and lower receivers. The bolt group is coated with tough wearing Melonite® and the bolt itself is crafted from premium steel superior to MIL-SPEC. To keep external dimensions at a minimum, the barrel measures a short 10.3 inches.

Other features include a crisp, short, reset trigger; flip-up sights; and a slim freefloat aluminum handquard for the mounting of accessories. A Maxim Defense CQB adjustable pistol brace reduces size, aids accuracy and helps control recoil. With the brace collapsed, the Edge measures 24.6 inches, ideal for working in tight spots.

Circle 4014 for More Information



One of the major causes of failure in tourniquet application is insufficient constricting pressure on the initial application prior to turning the windlass. The SAM XT Tourniquet differs from other windlass tourniquets in that it features an auto-stop system which allows for instant tightening of the constricting band to the proper tension prior to engaging the windlass. This saves time and ensures effective occlusion of blood flow when pressure is applied with the windlass. SAM XT is CoTCCC recommended.

Circle 4016 for More Information



ZistosHD Wireless Systems

The ZistosHD System for tactical surveillance is a wireless, full 1080P HD video. The heart of each system is an ergonomic handle with integrated system controls which works with a full line of both motorized and manually positionable poles. The ZistosHD Systems generate high resolution images viewed on specially configured five inch and ten inch displays, either wrist or pole-mounted. They provide a wireless or wired signal which can be viewed on multiple displays simultaneously; they use a six plus hour battery.

Circle 4018 for More Information



Collapsible Defense System

The SOB II™ (Special Ops Bunker) from Point Blank Enterprises is a collapsible defense designed for quick transport and deployment. The patented design allows the SOB II to collapse into a single compact unit, small enough to fit in the trunk of a patrol car for transport or storage. It can be fully deployed in one minute or less, making it ideal for a broad range of tactical deployments.

The SOB II comes standard with modular side panels which can be quickly removed to function as hand-carry shields. The side panels swing back offering added protection on the sides and also allows the SOB II to pass easily through a single doorway. When placed in the forward position, the side panels offer a wider overall ballistic protection area.

The SOB™ armor system is rigorously tested and certified to exceed NIJ Level IV requirements.

Circle 4015 for More Information



New Weapon Light for Shotguns

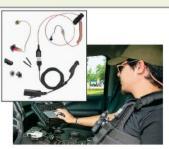
Streamlight® Inc. recently introduced the TL-Racker™, a compact, lightweight, all-in-one shotgun forend light, designed to replace forends on Mossberg 500[®]/590[®] and Remington 870™ pump-action shotguns. It is ideal for door breaching, close quarter maneuvers and other tactical operations.

The new weapon light features a lightweight, ergonomic design which allows for maximum grip and ease of use. The light's large, ambidextrous switch pad provides easy access for both momentary and constant on functions, and accommodates virtually any hand size. The elongated switch pad allows for thumb or finger activation with no changes in grip; both left- and right-handed shooters can use it without having to make modifications to the light or gun.

Powered by two CR123A lithium batteries, it features a customized optic which produces a concentrated beam for multiple applications. Offering a high setting only, it delivers 850 lumens and 14.000 candela with a one hour constant on runtime.

The TL-Racker measures 7.94 inches in length and weighs 10.68

Circle 4017 for More Information



360 Pro Covert Earniece

The 260 and 360 Pro from N-ear Pro are covert earpieces which feature a patented design which bends the wire close to the head to give a discreet, comfortable and secure fit.

The Pro Series is available as a receive-only earpiece with a 3.5mm connector or in the SnapLock Earpiece System[™] which allows for numerous users to share a limited number of available radios through the use of an interchangeable earpiece. The 260 and 360 Pro connects and disconnects from the PTT/mic system which stays with the radio, while the earpiece is swapped out at shift change, providing a hygienic and personalized solution.

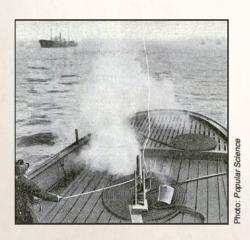
The 360 is available for both the left and right ear and provides comfort with zero ear fatigue. Its discreet design makes it virtually invisible. The open patented ear tips allow for complete situational awareness, with a reinforced cable strain relief which is 1.5 times stronger than Kevlar®.

The SnapLock PTT/mic system is available in one or two wire configurations for all radios including international models.

Circle 4019 for More Information

TECHNOLOGY THE PAST

A CANNON WHICH SAVED INSTEAD OF DESTROYING



hen this cannon fired its shell in the ongoing fight against the wind and waves of the storm tossed sea, it was to save lives, not extin-

In 1920, this new lifesaving cannon, having a range of more than 1700 feet, was repurposed to throw a line to a ship in distress.

In a test made in the New York harbor, an 18 pound projectile attached to a line coiled in a tube beside the gun was fired from the deck of the John F. Hylan, a police tug. A former "sub chaser," the John F. Hylan had been recently purchased from the federal government for the sum of one dollar.

The cannon was 30 inches long and had a weight of 290 pounds. Firing it produced no recoil; plus, it could be quickly loaded and easily moved. On the first trial, the cannon threw the line approximately 1700 feet. P&SN





MPG PRO HELMET

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Developed to be worn with various tactical and first responder helmets, the MPG Pro Helmet has flexible cheek panels that allow for sight picture with long rifles without compromising comfort. This helmet allows for hearing and communication during training exercises. Users also maintain clear, unobstructed peripheral vision, thanks to large integral goggles that meet both ASTM and ANSI impact test standards. It can be worn with the MPG Padded Hood or with various operational helmets in which chin straps can be fastened thanks to the seamless integration of VELCRO® side panels.



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Circle 4022 for More Information



The Dragon Skin Ergonomic Duty Belt is the only 100% ergonomic duty belt on the market. This belt has a proven record to be the most comfortable duty belt

Dragon Skin is the only duty belt system which will expand and contract with every body movement; i.e., sitting, squatting, or riding in a patrol car for long periods.

The inner belt and outer work together, expanding and contracting with every body movement. As a result, there is no pulling on the lower back or rubbing on the upper hip bones, as well as no pinching the sciatic nerve.

It is available in the Reg 2" version in sizes 28 to 54 and is also available in the VIP 1.5" version in sizes 28 to 48.

Circle 4023 for More Information



Code-B Jackets are designed by sculpting each seam around the body's curves to properly fit and move fast. Each jacket shell achieves a balance between waterproofness and breathability with a fit which accommodates body armor. To further keep moisture out, each seam is factory taped and zipper openings are faced with shell fabric. These jackets are performance packed with numerous pockets and technical linings and all have zip vents and zip on and off features which allow wearers to adapt them to those ever changing patrol conditions: day and night, wind, rain, or shine.

Circle 4024 for More Information

Police Footwear and Apparel

WATERSHED®

The Stormforce® by WaterShed GORE-TEX® Alpha Duty jacket is engineered with ample room to be worn over body armor and a midlayer. The Alpha features a rugged three layer GORE-TEX laminate to keep you warm and dry.

Designed to be worn above the duty belt to give you access to equipment, it is also available as a full coverage jacket with custom lengths and options available.

Circle 4025 for More Information



ORIGINAL S.W.A.T.



Original S.W.A.T.'s Alpha Fury boots are equipped with a lightweight, dual density EVA midsole with a shock absorption zone for fatigue control. With the comfort and flexibility of an athletic shoe, the boot still maintains the tried-and-true reliability and functionality of a diligent tactical boot. Another key element is the custom molded thermoplastic heel counter and toe box. This helps provide immediate ease and protection. The Alpha Series has three different styles: the Alpha Fury six inch, the Alpha Fury eight inch and the Alpha Fury eight inch side zip.

Additional features include a slip-resistant rubber outsole; an EVA midsole molded with a nylon shank for superior support; a quick drying polyester mesh and microfiber PU upper; no stitch construction in the forefoot area; and a rapid lace system for a faster, more snug fit.

Circle 4026 for More Information

WATERSHED®



Circle 4027 for More Information



STRATTON HATS

A variety of hat styles and hat accessories for law enforcement have been manufactured in the USA by Stratton Hats for over half a century. With their opaque, sun shielding brims, Stratton Hats have proven effective in providing protection from harmful UV rays and in protecting against skin disease-something caps cannot do! Custom sizing and renovations are available.

Circle 4028 for More Information



MOCEAN

Mocean Approach Shorts have set the standard for patrolling on bikes and ATVs. The combination of DuPont Supplex® and Mocean's X-Factor™ fabric work together to create a fit which can be worn tight or relaxed. The fit remains true and nonbinding because the X-Factor gusseted crotch panels stretch as your legs pump up. This provides a consistent fit and maintains comfort and performance. The crotch rise is even designed to "mount and dismount" without snagging on the seat. The pocketing is straightforward and designed for optimal function.

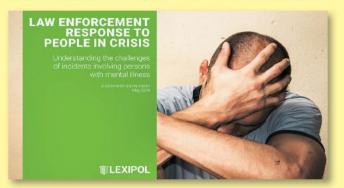
Circle 4029 for More Information

Nationwide Survey Shows Scope of Law Enforcement Contact with Mentally III Individuals



Nearly all law enforcement officers have had an interaction with an individual who is mentally ill or experiencing a mental health crisis and 60% of officers say mentally ill individuals make up at least 11% of their contacts. The statistics come from a recently released report from Lexipol, the nation's leading source of mission-critical training and state-specific policy solutions for law enforcement agencies.

People experiencing a mental crisis have a higher chance of an interaction with law enforcement officers. Some incidents involve criminal conduct, but often officers are called because there is no one else to respond. There is a vast amount of an-



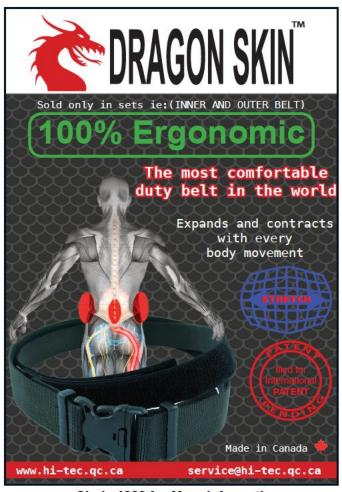
ecdotal evidence showing the negative impacts of this issue – strained resources, burnt out or demoralized officers, and injuries or even death to the people in crisis. But, data is frequently lacking to explain the complicated connection between law enforcement and the mentally ill.

Lexipol created a comprehensive nationwide survey with questions designed to reveal a more detailed picture of how this issue is unfolding in law enforcement agencies across the nation. The resulting report tabulates responses from more than 4,200 law enforcement officers and leaders who shared their perspectives on the frequency and nature of such calls and how their training and policies prepare them to respond.

Key highlights from the report include:

- Nearly 40% of agencies don't have specialized resources to respond to calls involving mentally ill people;
- One in three officers have been injured during a call involving a mentally ill person or a person experiencing a mental health crisis; and
- 78% of officers say it takes at least 30 minutes to get professional mental health providers on scene. P&SN

The full report can be downloaded at https://tinyurl.com/y4gmolzw







BILL SIURU, PH.D., PE

he big news for 2019 is the issuance of NIJ Standard 0101.07 (or the pending issuance) which comes over a decade after the release of NIJ Standard 0101.06. This new standard improves the test methods, along with the performance requirements, for the level of ballistic resistance body armor must have to protect the torso from handgun and rifle fire. The NIJ Standard 0101.07 is somewhat more stringent when compared to the NIJ Standard 0101.06. For example, conditioned armor panels are required to be shot at the very same velocity which is required of nonconditioned armor.

Threat level nomenclature has been revised from previous NIJ standards to be more descriptive of threats and to reduce confusion among law enforcement users. The NIJ has also introduced a special test protocol just for female body armor. Finally, NIJ Standard 0101.07 incorporates, by reference, appropriate ASTM International (formerly American Society for Testing and Materials) standard test methods and practices.

NIJ Standard 0101.07

There are two options when developing ballistic performance standards whose goal is to incrementally improve armor protection products. Protection levels can be retained while reducing weight for greater comfort or protection can be increased at the expense of minimal additional weight. In developing NIJ Standard 0101.07, the latter option was chosen in order to increase the range of ammunition against which hard armors tested to the NIJ standard can provide protection. A number of anticipated changes to hard armor testing will allow manufacturers to offer improved protection with little or no additional weight penalty.

The body armor covered by the NIJ 0101.07 Standard is now categorized into five protection levels: The new NIJ HG1 and NIJ HG2 designations more closely represent handgun (HG) threats than the previously used Level II and Level IIIA designators. The previous lowest level of soft armor protection, Level IIA threat level against low velocity handgun rounds (such as the 9mm FMJ RN and the .40S&W FMJ), has been retired. The new NIJ Standard 0101.07 requires that the velocity for both new and conditioned body armor be the same. This will help ensure body armor performs at a high level in all environments.

There are many differences between the rifle (RF) protection levels in the new NIJ Standard 0101.07 and those in the NIJ Standard 0101.06. New test rounds have been introduced along with a completely new threat level. The new RF1 and RF3 designations more closely represent threats than the previous Level III and Level IV they replace. RF2 is a completely new threat level representing an intermediate RF threat between the new RF1 and RF3 levels. This level protects against 5.56mm M855 rounds shot with 3115 ft/s. This bullet weighs 62 gr. and has a steel core "penetrator" tip which allows it to pierce through barriers more easily.

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Circle 4033 for More Information

New Tests for Female Body Armor

The need for female body armor has increased in the last decade. Therefore, the NIJ has introduced a special test protocol for women's body armor. Here, additional test shots and a different shot pattern are required around the bust cups to ensure that body armor designed for female law enforcement officers offers the same level of ballistic protection in this area as does the armor designed for males. Female (shaped) armor will

be tested against the same ammunition used to test planar (not shaped) armor.

Collaboration with ASTM

Unlike the current and previous versions of the NIJ body armor standard which have been comprehensive standalone documents, NIJ Standard 0101.07 will incorporate, by reference, appropriate ASTM standard test methods and practices. The NIJ has worked with the ASTM to develop standards for universal

NIJ HANDGUN (HG) THREAT LEVELS AND ASSOCIATED TEST AMMUNITION

NIJ HG Threat Level	Test Threat Ammunition	Manufacturer and Model ID	Reference Velocity
NIJ HG1 (Formerly NIJ 0101.06 Level II)	9mm Luger Full Metal Jacketed (FMJ) Round Nose (RN) 124-grain	Remington #23558	1305 ft/s (398 m/s)
	.357 Mag Jacketed Soft Point (JSP) 158-grain	Remington #22847	1430 ft/s (436 m/s)
NIJ HG2 (Formerly NIJ 0101.06 Level IIIA)	9mm Luger FMJ RN 124-grain	Remington #23558	1470 ft/s (448 m/s)
	.44 MAG Jacketed Hollow Point (JHP) 240-grain	Speer #4453 or #4736	1430 ft/s (436 m/s)

NIJ RIFLE (RF) THREAT LEVELS AND ASSOCIATED TEST AMMUNITION

NIJ RF Threat Level	Test Threat Ammunition	Manufacturer and Model ID	Reference Velocity
NIJ RF1 (Enhanced version of NIJ 0101.06 Level III)	7.62x51mm M80 Ball NATO FMJ Steel Jacket- ed Spire Point Boat Tail (BT) 149 +0/-3-grain	US Military Supply or Rounds Meeting NATO Specifications	2780 ft/s (847 m/s)
	7.62x39mm surrogate test round 120.5- grain (7.81 g)	Specifications Provided by NIJ	2380 ft/s (725 m/s)
	5.56mm M193 BT 56 +0/-2- grain	US Military Supply or Rounds Meeting NATO Specifications	3250 ft/s (990 m/s)
	7.62x51mm M80 Ball NATO FMJ Steel Jacketed Spire Point BT 149 +0/-3-grain	US Military Supply or Rounds Meeting NATO Specifications	2780 ft/s (847 m/s)
NIJ RF2 (Same as NIJ RF1 plus 5.56mm M855)	7.62x39mm Surrogate Test Round 120.5-grain (7.81 g)	Specifications Provided by NIJ	2380 ft/s (725 m/s)
	5.56mm M193 BT 56 +0/-2-grain	US Military Supply or Rounds Meeting NATO Specifications	3250 ft/s (990 m/s)
	5.56mm M855 BT 61.8 ± 1.5- grain	U.S. Military Supply or Rounds Meeting NATO Specifications	3115 ft/s (950 m/s)
NIJ RF3 (Formerly NIJ 0101.06 Level IV)	30.06 M2 Armor Piercing (AP) FMJ spire point AP 165.7 +0/-7- grain	U.S. Military Supply or Rounds Meeting NATO Specifications	2880 ft/s (878 m/s)



A special test protocol for women's body armor has been introduced by the NIJ.

components of the NIJ Standard, such as range configuration, measurement of backface deformation, calibration of clay, etc. This allows the NIJ to concentrate on the performance requirements of the standard, ensuring that US public safety professionals have appropriate protection, and allows the ASTM to develop robust standards for laboratories to reference, leading to greater consistency in testing across differing test locations.

New Ballistic Protection Products Angel Armor™

RISE™ 2.0 is Angel Armor's next generation concealable carrier offering a variety of features with the flexibility for external use with minimal printing. RISE 2.0 bolsters its soft ballistics with front and rear top loading rifle plate pockets for quick up-armor capability using Truth SNAP™ rifle plates without removing the vest. RISE 2.0 offers improved weight distribution - the weight of the vest and plates is apportioned around the torso (as opposed to the shoulders) using its QuadCore Attachment System™ for a consistent fit while keeping the vest secure with no turtling or shifting throughout the day.

The RISE Uniform Carrier, or R.U.C., is a designated external armor carrier offering a classic uniform appearance with color matching materials available in a load-bearing or Class B configuration. The R.U.C. includes custom-fit RISE ballistic panels along with front and rear rifle plates suspended at the shoulders. The R.U.C. is equipped with the Quad-



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Light, protective, durable – the EXFIL® Ballistic SL has it all in the most comfortable helmet on the market



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Two new offerings from Angel Armor™ include the RISE™ 2.0 carrier (shown on the left) and the R.U.C. (on the right).

Core Attachment System offering fully adjustable sides coupled with an adjustable locking belt cover. The R.U.C. load-bearing option accommodates MOLLE pouches using low profile laser cut PALS webbing made with color matching material. In addition, the center button strip extends through the PALS webbing panels to help maintain a clean uniform appearance. (angelarmor.com)

Armor Express

Tested to the NIJ Standard, the cost-effective Aramid Level IIIA AEX35 Ballistic Helmet is an ACH full cut designed specifically with the officer in mind. The AEX35 weighs only 3.25 pounds and its boltless shell offers superior protection; its quick release harness and padding system fits sizes small through extra large.



Also from Armor Express, the Traverse is an overt patrol vest which converts an officer's concealable soft armor to a front zip, side opening system; either the traditional LEGACY or BRAVO cut is available. To meet various department needs, the Traverse offers both MOLLE and dress configurations and a variety of optional features; it is available in a variety of color options. Internal plate pockets



accommodate inserts for added protection, while front and rear hard armor plate pockets can accommodate rifle plate protection. (armorexpress.com)

Baker Ballistics

Baker Ballistics has introduced an affordable new model of rifle rated ballistic shields, the MRAPS® X, specifically tar-



Baker Ballistics' new MRAPS® X shield is stored on the front seat of a patrol vehicle.

geted for use by patrol first responders armed with patrol rifles. It is stored where needed most for instant use – on the front seat of the patrol vehicle.

Recent increases of deadly armed attacks upon law enforcement and citizens by culprits armed with rifles have clearly identified the need for an inexpensive, yet highly protective, ballistic shield to counter what is considered the most dangerous ballistic threat to American LEOs – AR platform 5.56mm weaponry.

The MRAPS X armor component is Baker Ballistics' proprietary X-Alloy™, a derivative of US military grade steel armor plate. Much of the hardware and design concepts incorporated on the MRAPS X are proven and currently in use by military and tier one tactical teams worldwide.

Patrol personnel can now afford to be protected from prevalent weaponry and ammunitions which exceed the ballistic capabilities of standard lightweight NIJ Level III polyethylene armor inserts and shields. These include 5.56 x 45mm AR platform weaponry firing steel tipped M855/SS109 green tip penetrators and 7.62 x 39mm AK platform weapons firing Mild Steel Core (MSC) penetrator ammunitions. (bakerballistics.com)

Blauer

Blauer's new ArmorSkinXP® line provides instant access to armor up when circumstances demand it. By adding a fast loading zippered plate pocket to the front and rear of their popular ArmorSkin® and ArmorSkin TacVest™ products, dropping in 10" x 12" armor plates is easy as it can be, allowing increased protection quickly for critical incident response.

All of the features of the original are included in the ArmorSkinXP and ArmorSkin TacVest XP as well, including stretch side mesh panels for breathability and range of motion; an anti-odor mesh lining; and, with the TacVest XP, multiple rows of MOLLE front and back for attaching all of your gear. (blauer.com)

DEW Engineering and Development

The DEW PD series of ballistic door panels converts ordinary police vehicle doors into ready to use protective shields. These panels are integrated into the interior of the door, between the outer skin and interior trim, and do not have any external mounting requirements. The PD series can be customized for different applications such as the protection of panel vans, shelters and containers.

The DEW PD Ballistic Panel solutions



Ballistic door panels from DEW are incorporated into the interior of a police vehicle door.

have been tested in accordance with the requirements of the NIJ Standard 0108.01, as well as other special threats including the multihit Los Angeles Police Department (LAPD) specification MTD 11-BDP01. (dewengineering.com)

GH Armor Systems

In January, a new series of external carriers was introduced with improved features such as back-to-front shoulder and side closures, larger plate pockets and a new shape. The Tactical Cummer-

bund Carrier (TCC.L) has laser cut webbing, a 360° adjustable cummerbund with front closure and it accepts all GH concealable panels. Made of 500 and 1000 denier CORDURA® nylon outer material, the front and rear top-loading plate pockets accept a variety of special threat and hard armor plates. Overlapping shoulder closures offer up to three inches of adjustment. It features a drag strap for extractions, loops for ID attachment, mic tabs, and an internal cummerbund for a secure fit. (gharmorsystems.com)

Hardwire®, LLC

Designed from armor technology developed for the Department of Defense, and with input from law enforcement, Hardwire's Tactical Shields meet NIJ Level IIIA or Level III protection standards. These ultralightweight shields are available in multiple sizes and configurations which protect in nearly every tactical scenario.

Hardwire's Vehicle Armor products are a cost-effective solution for adding ballis-



Hardwire®'s Vehicle Armor products can be added to a police vehicle without major vehicle modifications.

tic protection to a police vehicle without major vehicle modifications or difficult installation. Hardwire's car door armor quickly attaches to a vehicle's exterior and the Transparent Armor Window Insert fits into existing vehicle window openings. The window insert and vehicle door armor provide protection against handguns and shotguns (NIJ IIIA) or rifles (NIJ Level III). Armor is available for the Ford Intercep-





Tactical shields from Hardwire® are available in multiple sizes and configurations.

tor, Taurus, Impala, Chevy Van, and Charger, as well as other vehicle makes and models.

Hardwire also offers lightweight body armor plates designed to fit into most plate carriers. Engineered with the most advanced ballistic materials available, the armor plates do not degrade, surviving the most severe conditions. All plates are available in single and multicurve config-

Hardwire also utilizes a unique manufacturing process to create lightweight soft armor. Dyneema® fibers are pressed under 25 million pounds of force at precise temperatures, turning multiple layers of material into a single system which reduces overall panel weight. Hardwire's soft armor for tactical and concealable vests are available through Safariland®. (hardwirellc.com)

Phalanx Defense Systems

The M7X Series ballistic plates are a budget option plate designed to stop rifle rounds and special threats. At under five pounds, they are constructed with a combination of ceramic, polyethylene and silica, and feature a special impact absorption backing. The plates can stop M855 rounds, float in water and are warrantied for seven years. Made in the United States, the M7X Series plates are an NIJ Level III+ certified advanced threat plate.

Phalanx Defense Systems has introduced a body armor guide for fire and EMS. A version for law enforcement is scheduled to come out later this year. (phalanxsystems.com)

Point Blank Enterprises, Inc.

The SOB II™ (Special Ops Bunker) is a collapsible defense designed for quick transport and deployment. The patented design allows the SOB II to collapse into a single compact unit, small enough to fit in the trunk of a patrol car for transport or storage. It can be fully deployed in one minute or less, making it ideal for a broad range of tactical deployments.

The SOB II comes standard with modular side panels which can be quickly removed to function as hand carry shields. The side panels swing back offering added protection on the sides and also allows the SOB II to pass easily through a single doorway. When placed in the forward position, the side panels offer a wider overall ballistic protection area.

The SOB™ armor system is rigorously tested and certified to exceed NIJ Level IV requirements.

Exceptionally lightweight at only 17.9



The SOB II™ includes modular side panels which can be quickly removed to function as hand carry shields.

New Budget Conscious Rifle-Rated Ballistic Shields for Patrol



Baker Ballistics has introduced a very affordable new model of rifle-rated ballistic shield, the MRAPS® X, specifically targeted for use by patrol first responders armed with patrol rifles. Stored where needed most for instant use, on the front seat of the patrol vehicle.

> Patrol personnel can now afford to be protected from popular weaponry and low cost dangerous ammunitions that exceed the ballistic capabilities of standard lightweight NIJ level III polyethylene armor inserts and shields, which include:

- 5.56 x 45mm AR platform weaponry firing steel-tipped M855 / SS109 green tip penetrators
- 7.62 x 39mm AK platform weapons firing mild steel core (MSC) penetrator ammunitions

BAKER BALLIS

Contact Baker Ballistics at 855-614-1800 or at BakerBallistics.com

Circle 4036 for More Information



The new ASPIS X Gen II Shield from Point Blank is made from a hybrid composite ballistic material.

lbs., the new 20" x 30" ASPIS X Gen II Shield provides superior maneuverability for handgun and long gun deployment. Available in Level III protection, the ASPIS X Gen II delivers high performance protection and optimal functionality. Manufactured from a hybrid composite ballistic material, this shield features a unique hook and loop forearm strap attachment system and is offered with an optional ballistic viewport.

Combining the functionality of a load bearing vest with the tailored appearance of a uniform shirt carrier, the Guardian Uniform provides an integration of versatility and design. The carrier features multifunctional pockets, MOLLE webbing

to attach equipment pouches, and a concealed center zipper for easy donning and doffing. Available with NIJ Standard 0101.06 Level IIA, II or IIIA ballistic systems, the Guardian USC offers around-the-clock protection and comfort.

The ARMIS GEN II offers an innovative approach to body armor design. Point Blank's highly scalable, side-opening carrier allows tactical units the flexibility to configure the body armor system to meet mission specific needs. This includes the capability to release the complete vest in one quick motion and select the specific level of protection needed while enhancing mobility, agility and substantially improved range of motion for the operator.

The ARMIS GEN II is available with an



The Guardian Uniform is available in Level IIA, II or IIIA ballistic systems.



The ARMIS GEN II is available with an advanced laser cut fabric, TANK TRACK™ with Debris Management System.

advanced laser cut fabric, TANK TRACK™ with Debris Management System. It has been engineered to provide superior puncture, abrasion and water resistance, and its lightweight construction is exceptionally strong with maximum load bearing capabilities. (pointblankenterprises.com)

PROTECH® Tactical

The Safariland Group recently announced two new hard armor products – the PROTECH Tactical Hi-Viz Shield, a clear type IIIA shield offering see-through visibility and a 1.2" thick PROTECH DT206C stand-alone type III hard armor





Safariland's Hi-Viz Shield models are made of a polycarbonate composite.

plate for stopping today's most prevalent rifle rounds.

Safariland's Hi-Viz Shield models are made of a polycarbonate composite for clear visibility and allow officers to see threats from a wide perspective versus a small viewport. NIJ 0108.01 compliant, the Hi-Viz Shield provides ballistic coverage for the critical head, neck and upper chest area and stops 9mm and .44 Magnum LSWCGC rounds for five impacts. The design features a corner radius and is equipped with ambidextrous horizontal grips. When light is needed, it can accept an optional Foxfury® Taker R40 Riot Shield Light.

The Hi-Viz Shield is offered in three sizes/cuts: 1224, 1224T (both 12" x 24") and 924 (9" x 24").

The DT206C plate is a lightweight, type III stand-alone plate, effective against the increasingly common M855 Green Tip (SS109) round. It is made from a ceramic/ PE composite, has a multicurve design and is just 1.2" thick. An NIJ 0101.06 type III certified plate, the DT206C can defeat six rounds of the most prevalent ammunition on the market including the M80, MSC, M193, and the M855 Green Tip (SS1109). (safariland.com)

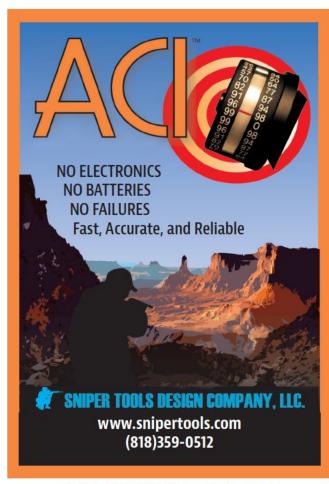
Team Wendy®

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The EXFIL® Ballistic helmet, with the attached ear covers, provides comparable or greater ballistic coverage when compared to a standard issue US military helmet.

tion. An EXFIL Ballistic helmet, with the attached ear covers, provides comparable or greater ballistic coverage (size one, 180 square inches; size two, 191.8 square inches) when compared to a standard issue US military helmet - the ACH (Advanced Combat Helmet) or MICH 2000 (size large, 178.8 square inches).



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Circle 4042 for More Information

The Ear Covers meet NIJ Level IIIA (according to NIJ STD 0106.01/0108.01) and only weigh 0.38 pounds for the set; they attach easily without tools to both the EXFIL Rail 2.0 and EXFIL Rail 3.0 accessory mounting systems. (teamwendy.com)

Body Armor Saves Lives and NIJ 0101.07 Standard Will Save Even More!

The US Bureau of Labor Statistics show that, in 2007, US police and sheriffs' patrol officers had a fatality rate that was five times greater than workers in all US industries. While a majority of the accidental LEO fatalities are traffic-related, over 90% of all felonious deaths in the line of duty were due to firearms. NIJ funded research showed that, between 2002 and 2011, among officers who were shot in the torso, those who wore body armor were 76% less likely to be killed than those who did not wear armor.

The NIJ develops body armor performance standards and operates a body armor certification program called the Compliance Testing Program (CTP) to provide confidence that the body armor US public safety agencies purchase performs according to minimum performance requirements to protect against common handgun and rifle fire threats. The NIJ published the first 0101.00 performance standard for ballistic-resistant police body armor in 1972.

Today, the CTP is the recognized authority on body armor for law enforcement, not only in the US, but worldwide. While manufacturer participation in the program is voluntary, it is recognized by the industry as the standard in body armor quality assurance, with manufacturers in over 100 manufacturing locations and 16 countries participating. Since the CTP began accepting armor submissions to meet the requirements of NIJ Standard 0101.06 in 2009, over 1,100 unique models of ballistic-resistant body armor have been submitted to the CTP for compliance testing through the end of 2017. NIJ Standard 0101.07 represents the next step in providing even better protective armor to save even more lives. P&SN

Bill Siuru is a retired USAF colonel. He has a Ph.D. in mechanical engineering from Arizona State University. He has been writing about automotive, aviation and technology subjects for many years.

NEWS



Law Enforcement Response to Sexual Assault Crimes

Investigating and responding to sexual assault crimes is a priority for law enforcement and the International Association of Chiefs of Police (IACP) has tools to help agencies as they continue to evaluate and examine their responses to sexual assault crimes. These tools are designed to help law enforcement agencies enhance their support of survivors of sexual assault crimes and agencies' ability to hold offenders accountable. One aspect of supporting survivors is ensuring that the law enforcement agency they report to has accessible trauma-informed and victim-centered options so they can safely report sexual assault crimes. An agency which has implemented the principles of a trauma-informed response recognizes the impact of trauma on victim behavior and carries out policies accordingly, such as waiting at least one sleep cycle to interview a victim. P&SN

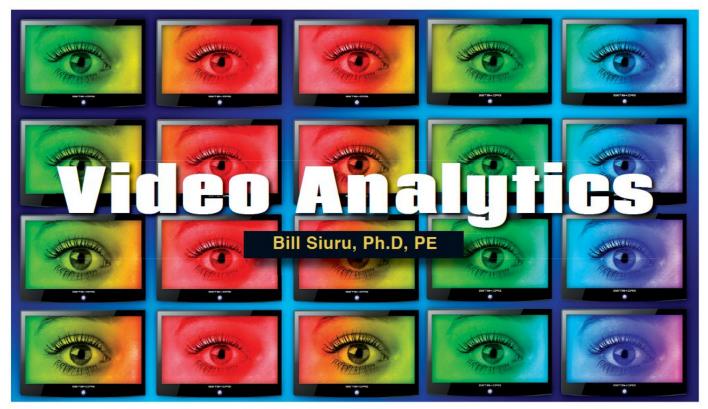
For a list of these tools, visit https://tinyurl.com/yyf9klat



Circle 4043 for More Information



Circle 4044 for More Information



Video analytics, also called video content analysis, is needed today as the availability of digital recording devices explodes exponentially.

urveillance cameras monitoring a middle school detect a suspicious person lurking on the school grounds. This triggers an alert sent directly to the local police, even before the person tries to enter the school building and the alarm system is activated. Thus, the police can be dispatched to investigate a few minutes sooner, perhaps fast enough to avert another school shooting. What is key here is the alerting was done without a human viewing a CCTV

monitor, but done using video analytics technology.

High-quality video surveillance cameras are now mounted everywhere: government buildings, street intersections, schools, private businesses, and homes. They are supplemented by "self-appointed videographers" with smartphones which take live streaming video of anything they find remotely interesting. Then, there are dash cams in police vehicles and the majority of police officers now wear a body cam.



It is estimated that over 62 million surveillance/security cameras are installed throughout the United States.

It is impossible for even a large staff of humans to monitor all this video data 24/7/365. Even if they could, watching surveillance video is tiring, making it difficult to focus and identify threats as they develop. It is estimated that, after 20 minutes of watching surveillance footage, reviewers miss 95% percent of incidents.

Proactive Video Analytics

Video analytics software can monitor multiple video feeds around the clock detecting any criminal or unusual activity in progress and alerting human monitors only when it detects something out of the ordinary. This allows law enforcement resources to respond faster than when 911 calls and dispatchers are involved. With any luck, it detects crimes which are in progress, increasing the chances of catch-



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WISHES GRANTED



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Deep learning technologies incorporated in video analytics systems can find details which previously required human eyes.

ing the bad guys.

For example, among hundreds of video feeds coming into a police crime center, one camera detects activity which is not normal via analytics software. Long after business hours, a building-mounted camera observes a car with its headlights turned off park next to a building. As the person approaches the side door of the building, the software sends an alert to a crime center analyst. Sophisticated software using computer-based artificial intelligent analysis has detected the anomalous behavior from previously learned behaviors using machine learning. The system generated alert was accompanied

National Institute of Standards and Technology to Stage Armed Robberies to Test Reliability of Video Analytics Technology

Video analytics software is now available to analyze the huge amounts of raw video footage captured by everything from dedicated surveillance CCTV and security cameras to cell phone cameras. The question is how reliable is this video surveillance when paired with video analytics software. Researchers at the National Institute of Standards and Technology (NIST) are about to find out.

To test the latest video analytics technology, NIST first needs a baseline for testing. Thus, it is soliciting a contractor to stage and film armed robberies which can be used as a testing baseline. NIST wants a simulated armed robbery of a convenience store. The staged robbery includes a concealed gun - either an exact replica or real, unloaded firearm - brandished by the perp. One of the key goals of the project is to determine whether video surveillance and video analytics can identify a weapon.

The simulated robberies will include different lighting and weather conditions, as well as diverse backgrounds to contrast the detection object of interest - e.g., a pistol - and shall allow for variations to occur in the scene environment, as well as in camera type and function. The venue shall also have provision for movement and positioning of actors to be varied to provide diversity in data. The robberies will be recorded by devices running simultaneously which range from high-end cameras to consumer-grade phones and lower cost Internet connected video cameras.

As each scenario plays out, human watchers will annotate each relevant event, such as the robber entering the store or revealing a weapon. As NIST researchers run analytics on the various recordings, the ability of the image detection software to recognize important events will be matched against these annotations.



by a short video clip of the events leading up to the alert. The analyst quickly concludes that they are watching a burglary in progress and dispatches police units. Within minutes, officers surround the store and arrest the person.

Catching the Perp and Solving Crimes

In the past, LEO investigators looking for a person of interest might have to review hundreds of hours of video from multiple cameras. Video analytics permit focusing only on people who fit a particular description. Once someone has been identified as a person of interest, the system can locate that same person on other video feeds, even if they span many days and locations. Deep learning technologies incorporated in video analytics systems can find details which previously required human eyes. They can distinguish men from women, children from adults, etc., based on size, gait, walking speed, and other subtle features. Filters can find people dressed in red clothing from those in other colors or find just those with backpacks.

If the appearance, gender and clothing of the suspect is known, these features can be used as filters to limit the search. Investigators then are shown only footage which matches the criteria. If a digital photo of the suspect is available and the analytics software incorporates facial recognition, this becomes an additional filter. As an example, if the subject drove a silver SUV, this criteria could be entered into the filtering software and only footage with silver SUVs would be shown to the human reviewer.

Stakeouts which now require teams to watch often for days at a time may no longer be needed. This longtime police job can be done automated by a covert surveillance camera(s) and video analytics doing the watching.

Other Uses

Surveillance cameras and video analytics could help police locate seniors with dementia who have wandered away. They can identify pedestrians who are moving unsteadily or slower than normal and then alert officers to perform a welfare check, even before a caregivers realizes the senior is missing. A video analytics system can be shown a missing child's photo, then it can find him (or her) on every video feed which is available.

Making Best Use of Resources

The cost of surveillance systems and video analytics technology can be substantial and, thus, a police department can find funding difficult. However, over the long haul, it's usually much less expensive than a room of human monitors, even if they are nonsworn personnel. With video analytics, hours of surveillance video needed to be reviewed turn into minutes, or even, seconds. Video analytics technology can be a tremendous force

multiplier for law enforcement agencies struggling with staffing and can maximize and leverage existing resources.

As might be expected, privacy concerns could impede implementation of video analytics systems. Civil libertarians are already opposing the use of this technology. San Francisco is the first US city to ban

the use of facial recognition software, an important tool in video analytics, by police and other city departments. P&SN

Bill Siuru is a retired USAF colonel. He has a Ph.D. in mechanical engineering from Arizona State University. He has been writing about automotive, aviation and technology subjects for many years.

DEFINITIONS

Artificial intelligence. Intelligence demonstrated by machines, usually computers, of some type in contrast to the natural intelligence displayed by humans and animals. Examples of AI applications range from smartphones and video games to Google Maps and surveillance systems. It's how Netflix knows which movie you will want to watch next.

Machine learning. The algorithms and statistical models computers use to perform a specific task without using explicit instructions, relying on patterns and inference instead. It is a subset of artificial intelligence. The algorithms parse data, learn from that data and then apply what they've learned to make informed decisions.

Deep learning. Deep learning is a subset of machine learning. Machine learning models can become progressively better, but they still some human guidance to make adjustments. In contrast, with deep learning models, the algorithms determine on their own if a prediction is accurate, or not, and then makes the adjustment.

EXAMPLES OF AVAILABLE VIDEO ANALYTICS TECHNOLOGY

BriefCam®, a leading provider of Video Content Analytics and VIDEO SYNOPSIS® solutions, now offers version v5.4 of its video content analytics platform. This version advances real-time capabilities, enhances user experience and accelerates processing performance across all three of the platform's three modules. BriefCam REVIEW's multicamera search can identify men, women, children, vehicles, and lighting changes. It offers 27 classes and attributes, in addition to face recognition, appearance similarity, color, size, speed, path, direction, and dwell time. BriefCam RESPOND provides real-time alerts of wanted suspects turning up on camera when their facial recognition data is input. BriefCam RESEARCH creates and customizes interactive, intuitive dashboards with chart suggestions which autogenerate reports and Insight Advisor which prioritizes relevant data points. It can be used to map out crime patterns within a given locale over time for improved policing strategies. (briefcam.com)

Kinesense is a computer vision and video analytics company based in Dublin, Ireland. The company's computer vision products use a combination of motion detection and deep learning algorithms technology to search CCTV content during criminal investigations. (**kinesense-vca.com**)

GenVis, an Australian-based visual artificial intelligence company, unveiled their new video analytics solution, MOTHERSHIP at ResponderXLive '18. Its products have been developed by working closely with law enforcement agencies in Australia and are aimed at finding suspects in real time or though post event video analysis. MOTHERSHIP by GenVis uses proprietary AI and facial recognition to analyze video files and live camera feeds. GenVis is now working with LE agencies in the US and Canada. (**genvis.co**)

IntelliVision Video Analytics' video analytics automatically analyze live streaming video from CCTV and surveillance cameras to provide actionable alerts for security events, eliminating false alarms and reducing the need for manual monitoring. Video Analytics extract only the valid motion in a scene, filtering out noise such as lighting changes, weather, trees and animal movements. It can detect, for example, any attempt to tamper with the camera, a moving object which crosses a defined line, if an object has been left unattended for too long or when a specific object has been removed from the scene. It can also detect a loitering person, someone who has fallen or is under duress, or a person running. (intelli-vision.com)

Agent Video Intelligence (Agent Vi). Israeli security provider Agent Vi offers innoVi, a comprehensive video analysis solution which provides real-time warnings, combined with a high-speed search engine. The cloud-based software includes an advanced algorithm which makes it possible to detect changes in video content streamed to it, and to identify and classify what it detects in a clip. innoVI is based on cloud computing technology which allows access from any location. (**agentvi.com**)



For almost 50 years, the shotgun was "king of the hill," but of late there has been a shift in the paradigm.

he resurgence of the rifle has caused many police departments to reconsider the shotgun as a viable weapon system. Some outfits have done away with shotguns entirely whereas others now limit them to special applications, such as door breeching or a less-lethal munitions delivery system.

Without question, a semiauto, magazine fed rifle brings a great deal to the table. But, is it the best tool for the job? Consider that the vast majority of police action shootings take place at close range. Except for the most unusual circumstance, the shotgun may still be the best choice for the task at hand.

Critics often argue that the shotgun is a holdover from the 19th century and its heavy recoil, limited range and modest capacity make it less than an optimum choice for dealing with modern problems. For fighting in close quarters, the shotgun simply has no peer. Should you load up with rifled slugs, a shotgun offers limited rifle potential and a skilled operator can make decisive hits on a man-sized target out to 100 yards.

True, a shotgun does not have the onboard ammunition capacity of a semiauto rifle, but history illustrates that it has seldom been an issue. More often than not, a well-placed hit from a 12-gauge shotgun typically brings hostilities to a screeching halt. How about multiple threats? A squared away shooter can place nine pellets of 00 buckshot on three different targets in two seconds or less. A pretty fair hand can do that in half the time. You simply can't replicate that with a rifle or submachine gun.

There is simply no getting around the fact that a shotgun generates a significantly greater rearward push than a 5.56mm

rifle, but that can be mitigated with proper stock fit, ammunition selection and training. I've enjoyed some pretty good success getting small stature shooters, male and female, up to speed with the shotgun. Contrary to popular opinion, training with the shotgun does not have to be a negative experience.

Perhaps the greatest attribute of the shotgun is its superior stopping potential. The most commonly encountered ammunition for the combat shotgun remains 00 buckshot. The classic 12-gauge 00 buckshot load contains nine .32 caliber pellets with a muzzle velocity of roughly 1200 feet per second. When nine pellets of 00 buck are simultaneously introduced to the torso of a determined adversary, the end result is typically immediate incapacitation. Rifled slugs which are a single .73 caliber projectile have an even more devastating effect.

The shotgun is also a tool without peer when engaging threats in low light environments. When you consider that most police shootings take place under less than optimum light conditions, this is yet another tactical advantage. Muzzle flash from the 18-20" barrel of a combat shotgun is minimal and will not have an adverse effect on night acclimated vision. In poor light, hit probability with the shotgun is far greater than with a pistol.

In certain areas, there has been a backlash of what is perceived to be the militarization of the police and the town fathers are reluctant to embrace military-style rifles. The shotgun carries no such baggage.

With a small investment and a commitment to training, the shotgun can give you the means to prevail over seemingly insurmountable odds. Love it; don't leave it.

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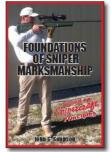
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COMBATIVE SHOTGUN: The MOST Effective Close Quarter Small Arm Currently in Existence!

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All About Buckshot

One of the unique qualities of the shotgun is the fact that one can load up with a wide range of ammunition types, depending on the mission at hand. For true combat applications, buckshot and rifled slugs remain the "go-to" loads. Additionally, less-lethal impacting rounds are also readily available. To complete the picture, specialized rounds for door breeching, gas delivery and distraction can also be launched from a shotgun. However, our discussion on ammunition will be limited to the buckshot and slug rounds used by law enforcement.

More often than not, buckshot is the ammunition of choice for the fighting shotgun. Buckshot consists of large spherical pellets made of lead with sizes ranging from 000 buck (.36 caliber) down to four buck (.24 caliber). The most popular buckshot round chosen for combat applications is the 12-gauge, 234 inch case loaded with nine pellets (.32 caliber) of 00 buckshot. This particular load is available from just about every manufacturer of shotgun ammunition, but performance characteristics can be very different. Advertised muzzle velocity of the traditional hunting loads runs just south of 1200 feet per second. One of the drawbacks of firing traditional buckshot loads is recoil. Shotguns generate a healthy amount of muzzle energy and launch a much heavier payload than any handgun or 5.56mm rifle. According to Newton's Third Law, we can anticipate a pretty stout rearward push. This may not faze the outdoorsman or shooting enthusiast, but many people find the heavy recoil to be a distraction and a major obstacle to training with the shotgun.

Some years ago, Remington® introduced reduced recoil buckshot which they felt would allow law enforcement officers to train in greater comfort. Why not use this same concept in the development of loads for combat applications? The manufacturers did just that and, today, all the



Federal LE132 00 buckshot features copper-coated pellets and the revolutionary FLITECONTROL® wad.

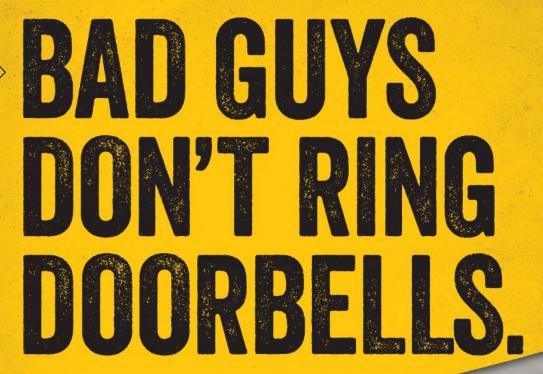
big players are offering one or more spins on this theme.

The first step in creating reduced recoil or tactical loads is dialing muzzle velocity back a notch or two. This reduces felt recoil to levels similar to that of light trap loads which enhance user comfort. Harder pellets with a copper wash, buffering material and redesigned wads make for tight, uniform patterns throughout the shotgun's practical range. In tests into ballistic gelatin, I've noted no difference between the old-school hunting loads and reduced recoil loads, as far as penetration, and I doubt real-world performance would be any different.

For many years, my agency has issued Federal's LE132 00 Tactical Buckshot load for duty use. From our Remington 870® shotgun, it will reliably keep all nine pellets in the center of an FBI Q target placed 20 yards away. Unlike some other reduced



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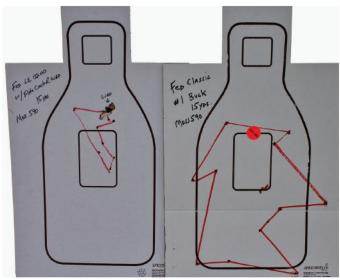


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COMBATIVE SHOTGUN: The MOST Effective Close Quarter Small Arm Currently in Existence!

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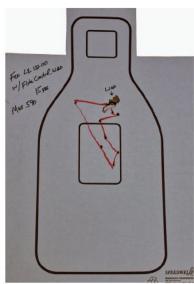
Note the difference in pattern spread between a Federal Tactical buckshot load (left) and a conventional hunting grade load (right).

recoil loads, it also has enough juice to reliably cycle my Beretta 1201 recoil operated autoloader.

Other loads I've had some very good luck with include the

Remington eight pellet reduced recoil load and the Hornady® red and blue TAP loads. Hornady also markets another good choice in their Critical Defense® line.

If you are running an autoloading shotgun, I strongly counsel that you avoid the reduced recoil loads and stick with the high-test. At the top of my list is the Hornady Light Magnum® round, loaded in a red case to differentiate it from their blue load designed for pumps. On several occasions, I have seen autoloading shotguns fail to function with low impulse, reduced recoil loads. The last thing you need at the

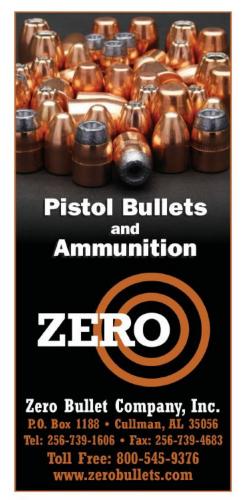


Better buckshot loads will keep all their pellets on target out to 20 to 25 yards.

moment of truth is a stoppage, so be sure your gun runs reliably with the load of choice.



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Pellet size does indeed matter. The FBI tells us that one buck is the minimum size pellet which will meet their penetration criteria when fired into ballistic gelatin. Smaller pellets, such as four buck and birdshot may not have enough energy to get the job done. A nice balance of pattern density and penetration can be found with Federal's LE132 1B which will consistently place 15 one buck (.30 caliber) pellets in a tight circle.

Because of its spherical nature, buckshot sheds energy quickly. It can also be deflected by light cover or obstacles. In the infamous 1986 FBI Dade County shootout, Special Agent Edmundo Mireles, Jr. fired multiple shots of 00 buck at criminals Michael Platt and William Matix, with most pellets being deflected or stopped by the windshield. To get right to the point, buckshot works great against threats in the open, but, for problems in vehicles or behind light cover, there is a better choice.

By all means, pattern your shotgun at various distances with your chosen load. At close range (inside of seven yards), most of the new, cutting-edge defensive loads will throw a pattern about the size of a lemon. Yes, you can miss with a shotgun! Beyond ten yards, patterns begin to open up. I consider the practical limit of shotguns loaded with buckshot to be 20 to 25 yards. Beyond that distance, it may not be possible to keep all the pellets on a static silhouette target on the sterile range. Real life will be even more challenging. Shotgun barrels have very individual characteristics and it pays to see exactly how yours will pattern.

Go the Distance with Slugs

The polar opposite of buckshot is the rifled slug. Where buckshot is best described as a multiprojectile load, a rifled slug is a single, large caliber projectile which, in concept, is similar to a rifle bullet. The primary advantage of a rifled slug is that it minimally triples the practical range of the combat shotgun loaded with buckshot and gives the user limited rifle capability.

Shotgun slugs are typically made of lead, although examples made from copper or a copper/polymer matrix are sometimes encountered.

Most American manufactured slugs are of Foster design which features a soft lead alloy projectile with a hollow base. Foster slugs are a full caliber projectile and are loaded by all the domestic ammunition manufacturers. To achieve the greatest accuracy potential, Foster slugs should be fired out of an open choke barrel.

Sabot slugs represent yet another category of rifled slug. The slug itself is smaller than the bore diameter and is enveloped by a plastic sabot sleeve. As the projectile leaves the barrel, the sabot separates from the slug, which flies to the target. To exploit their better accuracy potential, a rifled,

rather than a smoothbore shotgun barrel, should be used. Although specialized sabot slugs have been developed for law enforcement applications, they are most commonly utilized for hunting.

As indicated earlier, slugs extend the effective range of the combat shotgun. Unlike buckshot, slugs are target specific and a squared away shooter with a properly setup shotgun can place his shots



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Slugs can defeat light cover. A Brenneke slug penetrated the rear door of an SUV and exited the door on the opposite side.



with a fair degree of accuracy. Rifled slugs also have the capability to defeat many types of light cover an assailant is hiding behind. Depending on the situation, this greater penetration quality might be a good or bad thing. As far as stopping potential, a torso hit from a full diameter .72 caliber projectile clearly trumps lesser rounds fired from a handgun or carbine.

Like buckshot, reduced recoil rifled slugs are readily available from the major manufacturers. They do indeed decrease felt recoil, but those same caveats about low impulse loads apply to autoloading shotguns. Point of aim and point of impact will also be slightly different than with full-power slugs. As with any load you might use to protect your life, know where it's going to hit and make sure it's compatible with your gun.

In addition to the full power and reduced recoil slugs, there are a few other noteworthy variants which rate a hard look. Winchester® markets a segmenting slug which is designed to break into three pieces on impact, each creating its own independent, yet significant, wound channel. Risk of over penetration is also

greatly reduced. Another Winchester offering is the PDX1® which combines a one ounce slug with three pellets of 00 buckshot. I would imagine this new spin on the "buck and ball" load would be devastating at short to intermediate range.

Left to my own design, my slug of choice is the Brenneke Special Forces Short Magnum (SFSM®). To say the least, recoil is brisk, but it is effectively tamed by my gas-operated Remington Model 11-87™. Obstacles such as car doors and windshields are easily defeated by this load which generates 2500 foot pounds of muzzle energy, enough to take the wind out of the sails of a very determined adversary.

To realize the greatest potential with slugs, rifle sights are a must. I'm partial to ghost ring or aperture sights, as they are rugged and give me the capability to hit man-sized silhouettes out to 100 yards and slightly beyond. When a rifle simply isn't in the cards, a shotgun loaded with slugs is the right tool for dealing with threats near and far.

Shotgun Accessories

The shotguns turned out today by the major manufacturers are indeed better than ever, yet all can benefit with the addition of an accessory or two. By retrofitting a few aftermarket parts, even a bread-and-butter shotgun can be transformed into a first-class fighting tool. Best of all, most of these improvements can be realized as a simple DIY project without retaining the services of a gunsmith.

When it comes down to accessorizing the combat shotgun, there is "must have" and "nice to have." Let's first consider the accessories I consider most important and critical to success.



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Most law enforcement agencies go to great lengths outfitting their rifles and SMGs with slings, but ignore this area with the shotgun. The sling is essentially the holster for your shotgun. It keeps the gun readily available for instant use, yet keeps the hands free to perform other tasks.

Shotgun slings are available in single point, two point or three point attachment varieties. They range from simple carry straps to tactical versions which hold the shotgun at chest level. I've used about every conceivable variety of shotgun sling and have come to the conclusion that there is no one sling which suits every application.

Give some serious thought as to how your shotgun might be utilized. Does your sling allow you to get in and out of it with little fuss? Do you carry a sidearm and, if so, will your shotgun interfere with your draw stroke? Many of us would probably be very well served with a simple two point sling. But, by all means, put a sling on your gun!

Proper Stock Fit

Just about all off-the-rack shotguns come with buttstocks which are a bit too long for proper fit. This leads to all sorts of problems when trying to manage the combat shotgun. Shooter efficiency is compromised in a big way and even a few rounds of buckshot will prove very uncomfortable.

Length of pull refers to the distance from the trigger to the rear of the shotgun's buttstock. The standard length of pull for most pump-action and semiauto shotguns is right around 14 inches. That may be acceptable for a good size male busting clay birds while dressed in short sleeves, but it's oversize for a combat shotgun.

Shooters who utilize a shotgun for hunting or the clay bird sports typically snap into a bladed or offset shooting stance. For



This Magpul® buttstock can be adjusted for length of pull and comb height.



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Pistol grip only stocks are specifically not recommended for a combat shotgun.

I am not a fan of folding stocks or pistol grip only stocks on the combat shotgun. My experience is that most of the folders were too flimsy and the over-the-top steel folder on the Remington 870 was downright painful to shoot for any length of time. Pistol grip only stocks are difficult to control and are best reserved for door breeching.

combat applications, getting the torso square to the threat affords the shooter a number of advantages. Stocks which are too long are a poor choice for combat shooting as they prevent one from getting into a proper stance and slide out of the shoulder pocket toward the arm when firing subsequent shots. Discomfort quickly becomes unbearable and performance suffers. This is especially true for small stature shooters.

The simplest solution to this problem is the addition of an aftermarket stock where fit can be optimized for the end user. Several firms market "youth stocks" which feature a length of pull in the 12 to 121/2 inch range. I have a Mossberg 500® with a Hoque® Youth Stock which I provide to small stature shooters in my shotgun classes. Magpul® makes a great aftermarket stock which features spacers to achieve a perfect fit. I've also had

some success with Mesa Tactical's Urbino® stock. The Urbino stock features a pistol grip, spacers and a soft recoil pad to achieve proper fit and shooter comfort.

number A firms, including ATI, BLACKHAWK!® and



Mesa Tactical, mar- This M4-style stock from Mesa Tactiket M4-style collaps- cal has an adjustable length of pull.



ible stocks. The good news is that there are multiple settings which the user can select for proper fit. Some even mitigate felt recoil. Should the user also own an M4-style carbine, that familiar feel may be a tangible advantage.

The forestock of the combat shotgun, particularly the pump-actions, also need to be considered. Most of the shotguns built for combat applications feature a forestock of the proper length, but that should not be taken for granted. After verifying that it is empty. point the shotgun in a safe direction and bring the forestock all the way to the rear. Does it in any way block access to the loading port and magazine tube? This is very common in pump-action shotguns designed for hunting. If it blocks access, the forestock should be cut back or replaced. The forestock should also have an aggressive surface so the hand does not slip off while working the action.

Replacement forestocks with molded-in rails for the mounting of a light or an integral weapon mounted light are also available and come highly recommended. The Mako Group, Magpul and others turn out aftermarket forestocks to which the end user can fit one of the popular weapon mounted lights often used for pistols.

Weapon Mounted Lights

The vast majority of police-action shootings take place under less than optimum light conditions. Poor light limits our ability to navigate; locate potential threats; assess the situation; and, if necessary, take the appropriate steps to ensure our safety.

The biggest advantage a light source affords us is the ability to

sort out the good guys from the bad guys. In short, light helps us make an informed decision.

Although it is possible to coordinate a handheld light source with a shotgun, it quickly breaks down after the first shot. A far better fix is a weapon mounted light. There are a number of different ways to go, but I'm partial to the dedicated units. Yes, they are a bit pricey, but the ability they give you cannot be overstated.

Traditionally, sighting equipment on the shotgun consisted of a plain bead. If you are content limiting yourself to buckshot at close to intermediate distance, a bead can still do the trick, but we can do much better. A good set of sights will enable you to make de-



A ghost ring sight is both rugged and fast.

cisive hits to the extreme end of practical shotgun range.

Many combat shotguns are equipped with rifle sights for the accurate delivery of slugs. They do, in fact, help you do just that, but I've found that many of these sight systems don't handle hard knocks very well. This is very true of shotguns used by the police. Banging the gun off the car door, shotgun rack and other hard surfaces takes a toll and sights become misaligned or knocked off



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A red dot sight can help get hits on the target.

the gun and lost. But, there is a better way.

Aperture-style sights have been the overwhelming favorite on most military rifles introduced in the 20th century. A large rear aperture is mated to a front blade; on shotguns, this system has proven durable, yet gives the user the ability to accurately fire rifled slugs at extended range. One merely looks through the aperture and the eye automatically centers the front blade. "Ghost ring" style sights are available as a factory option on Benelli, Mossberg and Remington shotguns and give the user limited rifle ability. Hits on a realistic-sized silhouette out to 100 yards are well within the realm of possibility. Several manufacturers also market ghost ring sights which can be mounted to your gun. In addition to iron sights, various types of optically enhanced systems are available that are well suited to the shotgun. Aimpoint®, Burris®, EOTech®, Trijicon®, and others make some great sight systems which work very well on the shotgun. These sights have proven to be very robust and help shooters to be at their best.

I recognize that setting up your shotgun with a set of ghost ring sights or a red dot system may be beyond the needs or budget of some, so here are a few low-tech solutions which might work. XS® Sight Systems make a good size white dot with a tritium insert which fits over the top of the factory bead. A dab of glue is all you need to equip your shotgun with a quick to find sight which glows in the dark. HIVIZ® manufactures fiber-optic light tubes for shotguns which is yet another cost-effective solution. The light pipes gather up available light and are readily visible in anything other than total darkness.

Extended Magazine Tubes

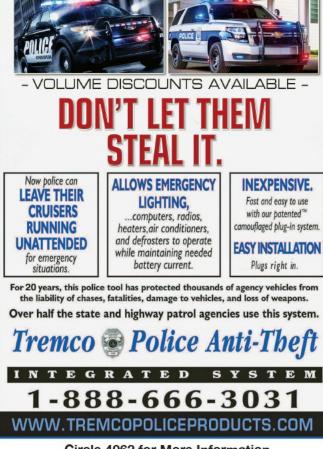
Unlike pistols and carbines, the onboard ammunition capacity of the shotgun is relatively modest. For example, the magazine tube of the standard 870 is four rounds. For the vast majority of combat scenarios, capacity will never be an issue, but having a few extra rounds at your disposal is not a bad thing.

The easiest way to boost capacity is to affix an extended magazine tube. Simply remove the magazine cap and screw on the extended tube. A longer magazine follower spring is also required and is typically included in the package. Traditionally, these aftermarket tubes have been made of steel, but, of late, I've seen examples rendered from carbon fiber to keep weight down.

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Ammo Carriers

Extra ammunition can be carried on the gun or the user. To my thinking, the best systems are the sidesaddle shell holders which can be mounted to the left side of the receiver of a pump-action or autoloading shotgun. This ensures that extra ammunition is always with the gun. We can argue that the need to reload the shotgun in combat is relatively rare, but the fact that you can switch to different ammunition readily is another big plus. Is there a threat in the distance? Swap off buckshot for a slug and get back in the fight.

When selecting a side saddle, be sure it holds the shells securely. I've had good results from one by Mesa Tactical which also includes a rail for the mounting of optics.

Nylon shell holders which slide over the buttstock of the shotgun remain popular, but I'm not a fan. For the right-handed shooter, the "butt cuff" positions spare shells on the right side of the stock away from the shooter's face. I remain a big proponent of bilateral shooting or the ability to fire the shoulder weapon from either side to maximize use of cover. If the right-handed shooter suddenly switches shoulders to fire from the port side, those shells are now up on the face. For that reason, I would suggest you find a better way to carry extra ammunition.

"Speed feed" stocks are yet another option. Spare shells are secured horizontally on the buttstock. When there is a need to replace a round or two, the user removes them from the stock and feeds them into the magazine tube. For on-body carry, there are a couple of different routes to take. The popularity of three



A combination rail and side saddle from Mesa Tactical is pictured here.

gun shooting has jump-started a number of manufacturers to produce all sorts of shot shell carriers. Because of their bulk, most are inappropriate for combat applications. Personally, I favor the dual shell carriers from Safariland® which snap over the belt and I've been using them for 30 years. P&SN

Editor's Note: This article has been excerpted from a well-written and authoritative book by Mike Boyle, entitled COMBATIVE SHOTGUN: The MOST Effective Close Quarter Small Arm Currently in Existence! Copies of this book can be obtained from Looseleaf Law Publications, Inc., 43-08 162nd St., Flushing, NY 11358; phone (800)647-5547; or by visiting their Web site at looseleaflaw.com. The price of the book is \$23.95 plus shipping.





How Law Enforcement Is Using Genealogy Testing Services to Solve Cold Cases

Recent news headlines highlight the creative and effective ways law enforcement agencies are using commercial Direct To Consumer (DTC) genealogy tests to close decades old cold cases.

DR. CHUCK RUSSO AND KATHERINE C. RUSSO

y using DTC genealogy testing services, police have been able to identify suspects linked to the murders of Christy Mirack, Tanya Van Culenborg, Jay Cook, and the many victims of the Golden State Killer. This investigation technique opens the door to potentially solving many more cold cases, but law enforcement must be sure they remain within legal boundaries.

Direct to Consumer Genetic Testing Services

DTC genetic testing services have been accessible for the last ten years and now include dozens of independent labs, such as AncestryDNA®, 23andMe® and Pathway Genomics®. DTC genetic tests provide access to a person's genetic information without any involvement or referral from a doctor, healthcare provider or insurance company. The cost of these

tests range from \$99 to a few thousand dollars, depending on the specific test ordered.

The growing popularity of these tests is staggering. According to Ancestry.com, in 2017, the company announced that "for the first time in its history, the total number of AncestryD-NA kits sold in a single year exceeded the total number of subscribers to the company's family history services. In October, the total number of customer samples in Ancestry's DNA database,

the world's largest consumer DNA database, exceeded six million."

Investigators Can Utilize Genealogy Services

Investigators working on cold cases submit previously gathered DNA evidence from a crime scene to DTC genealogy testing services. These services then return information about the DNA makeup of the submitted sample such as ancestry composition and individuals who may share similar DNA. Such information enables law enforcement to identify possible family members of the sample donor and create an extended family tree. These relatives represent a list of potential leads investigators can follow in conjunction with other case evidence to help them identify suspects.

While some DTC genealogy testing services indicate they will "not provide information to law enforcement unless we are required to comply with a valid subpoena or court order," this does not limit law enforcement's ability to submit a DNA sample already in their possession. Investigators are able to submit the sample as a "typical user," and the service would then provide the same information it gives to all typical users, providing law enforcement with potentially valuable information.

Law Enforcement Must Be Aware of Privacy Concerns

Autonomy, privacy and informed consent are three issues which should be pertinent to all users of consumer (DTC) genealogy testing services, including law enforcement users. Since genetic material is not just about an individual, but also about the genetics of related families, problems with autonomous decisions and maintaining privacy can occur. Law enforcement must remember that DNA is not only an identifier of a suspect, but of the suspect's genetic relatives as well.

Law enforcement must also consider issues related to control and ownership of the submitted DNA material. Not all DTC genealogy testing services make clear to users how genetic material is stored or could be utilized in the future. These DTC companies have the right to give, sell or utilize DNA submissions in any way they choose, and many laboratories are using customers' DNA to develop products and services for commercial gain without full disclosure

or consent. To limit unforeseen consequences, law enforcement should thoroughly research and understand how companies use DNA material.

DTC genealogy testing services have provided law enforcement with undeniable breakthroughs in cold cases, but could privacy concerns lead to legislative barriers in the future? In May 2008, the Genetic Information Nondiscrimination Act (GINA) was signed into law. This federal measure protects individuals from genetic discrimination in health insurance and employment. Considered to be the first major civil rights bill of the new century, it was triggered by the



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HOW LAW ENFORCEMENT IS USING GENEALOGY TESTING **SERVICES TO SOLVE COLD CASES**

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perceived need to make patients comfortable with medical genetic diagnostic tests. It is entirely possible that similar legislation will soon be sponsored due to law enforcement's utilization of commercial DTC genealogy testing services. P&SN

Dr. Chuck Russo is the Program Director of Criminal Justice at American Military University (AMU). He began his career in law enforcement in 1987 in Central Florida and was involved all areas of patrol, training, special operations, and investigations before retiring from law enforcement in 2013. Dr. Russo continues to design and instruct courses, as well as act as a consultant for education, government and

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industry throughout the world. His recent research and presentations focus on emerging technology and law enforcement applications, post-traumatic stress, nongovernment intelligence actors, and online learning.

Katherine C. Russo is a graduate of Stetson University. As a consultant to retail and business organizations, Ms. Russo calls upon her over 25 years of government, commercial sales and management experience to provide human resource and retail solutions to her clients. For more articles featuring insight from industry experts, subscribe to In Public Safety's bimonthly newsletter at https://inpublicsafety.com/newslet ter-subscribe/





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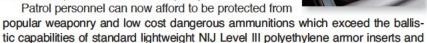
The 2019/2020 Fleet Managers Buyers Guide is replete with the latest in public safety vehicle equipment from well-known manufacturers, as well as those hard to find products to make your fleet safer. A copy of the Buyers Guide is only a "click away" by visiting the Adamson Industries Web site at adamsonindustries.com.

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Inexpensive Rifle Rated Ballistic Shields for Patrol

Baker Ballistics has introduced a very affordable new model of rifle rated ballistic shields, the MRAPS® X. specifically targeted for use by patrol first responders armed with patrol rifles. It can be stored where needed most for instant use – on the front seat of the patrol vehicle.

Recent increases of deadly armed attacks upon law enforcement and citizens by criminals armed with rifles have clearly identified the need for an inexpensive, yet highly protective, ballistic shield to counter what is considered the most dangerous ballistic threat to American LEOs - AR platform 5.56mm weaponry.



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Mount **Anywhere** Options for Vantage®

Kustom Signals, Inc. recently announced the availability of an interface to the Peter Jones Klick Fast Mounts which provides additional flexibilities for law enforcement when determining a location for their Vantage body-worn camera.

Peter Jones Klick Fast mounting options offer additional flexibility for Kustom Signals' Vantage bodyworn camera. The Molle, Epaulette and Garment Mount give officers the option of mounting anywhere on the uniform shirt, vest or jacket. Officers on bike patrol have a handlebar option as well. These mounts all require a custom designed Klick Fast Stud.

Circle 4069 for More Information

New Ballistic Helmet

shields.



The EXFIL® Ballistic SL is the newest in the EXFIL line of helmets from Team Wendy®. NIJ Level IIIA rated, protective, durable, and comfortable, the SL has everything you expect with the EXFIL® Ballistic in a lighter package. The complete system weighs 2.2 pounds and includes the helmet shell; EXFIL® Rail 3.0 accessory mounting system; SL shroud from Wilcox®; Zorbium® foam impact liner; and the field proven, boltless, CAM FIT™ retention system.

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T4E has revolutionized the way CO2 capsules are used in training and crowd control markers. Its new series of markers - which include a pistol, revolver, and shotgun - are all equipped with a quick piercing screw. This innovative CO2 deployment method allows the CO2 capsule to reside inside the marker unused without being punctured. Just hit the quick piercing screw with the palm of your hand to deploy the CO2.

Circle 4073 for More Information

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James L. McClinton, Ph.D.

He didn't notice the "tailgater" following him at a distance of a half inch?... Police stopped a driver in Waterboro, Maine, after noticing a large pickup towing another vehicle down Route 202. After observing that there were no taillights on either car, a traffic stop was conducted. When the driver was asked if he was aware that there were no lights on the vehicle he was towing, he responded, "What vehicle?" Police determined that the driver had backed into the second car in a parking lot and the trailer hitch on his truck had become ensnared in the bumper of the car. He had then pulled away with the car attached, not knowing he was "towing" it down the road. The driver of the pickup was charged with DUI. ("Warning: Objects in Mirror Are Closer Than They Appear.")

Who held the beer?... In Rogers, Arkansas, two neighbors aged 50 and 36, were hanging out on one's back porch, drinking and enjoying the spring air. One was wearing a body armor vest - for no particular reason - and invited the other to shoot him with a .22 caliber rifle. The vest did its job and blocked the bullet, but it still hurt and left a red mark on his upper chest. Then, the other man put the vest on and the first man "unloaded the clip into [his] back," also leaving bruises. But, he then went to the hospital where staff alerted the Benton County Sheriff's Office. He initially told officers an elaborate story about being shot while protecting "an asset" in a dramatic gunfight, but his wife told police about the back porch challenge. Both men were arrested for suspicion of aggravated assault. (Check eBay for a used vest for sale.)

Deputies made a clean sweep of the home... In Washington County, Oregon, deputies received a report of a burglary in progress at a residence. When they arrived, they were greeted by a very upset woman. She told them there was someone in her bathroom behind a locked door and that she could see shadows moving behind the door. The deputies investigated and confirmed a rustling noise coming from the bathroom. The house was quickly sur-

REAL STORIES OF GENUINE ABSURDITY Road hog?...

In Minnesota, a driver who was pulled over for having trouble staying in his lane turned out to be operating the vehicle with a 250 pound pig on his lap. He also had a smaller pig with him. The man's erratic driving was apparently caused by the larger pig leaning against the steering wheel. A spokesman told reporters that the man had his pigs on his lap because he was moving to another part of the state and didn't want the pigs to get cold on the journey. The sergeant let the driver off with a warning. (I don't like my bacon cold. either.)

rounded and a K-9 team was called in for backup. They used a bullhorn to urge the suspect to surrender, but, after receiving no response, deputies entered the home with guns drawn. Asking the intruder one last time to give himself up, the deputies knocked down a door to find...a robotic vacuum cleaner whirring around on the bathroom floor. The intruder turned out to be a Roomba® - no charges were filed. (Up until now, the Roomba had a spotless

Sorry, pal, but this ain't San Fran-disco... Lawbreaking turned into breakdancing at the end of a Southern California vehicle pursuit. Viewers were treated to video of the incident as TV news helicopters hovered overhead. The accused was pursued by the California Highway Patrol and finally surrendered, but broke out into a ten second dance before being handcuffed. After a lengthy pursuit, a CHP cruiser finally bumped the car and spun it out. The driver got out with his hands up, but did not comply with the officers pointing guns at him. As the scene became illuminated by a police helicopter's spotlight, the driver suddenly busted a move before being busted. (Now, he's dancing with the stars...the kind detention officers wear on their chest.)

He probably should have chased it with a bottle of Old Spice... Police pulled a man over in Spartanburg, South Carolina, for reckless driving. Well aware that he was in big trouble, with an almost empty 12 pack of beer on the floor and another one between his legs on the seat, he immediately did a little damage control to mitigate the situation. He grabbed a can of Axe body spray which he just happened to have in his car and sprayed the product directly into his mouth. While the product is intended to help a man smell his best, it didn't work with the officers and he flunked his DUI test. They quickly placed him under arrest. (Attractive women swarming the car after being pulled over was a dead giveaway.) P&SN



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