

**FOCUS ON TECHNOLOGY: SWAT/TACTICAL EQUIPMENT**

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# P&SN

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and  
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**BALLISTIC ARMOR  
TECHNOLOGY:  
What's New in 2018?**

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Rebecca Waters

# BODY ARMOR UPDATE: 2018

The 25th Annual Report on the Latest Advances in Ballistic Armor Technology and Design

**W**hile great leaps in technology and product development are rare in any industry, each year sees stepwise improvements in existing product lines and the emergence of new products offering novel features, often developed in response to specific industry needs. This year was no different in the body armor industry where a plethora of small changes promise to improve the comfort, design or effectiveness of ballistic armor.

## NIJ Standard 0101.07

Expected to be released late this year, the National Institute of Justice's revised ballistic-resistant body armor standard (0101.07) will roll out a new naming convention, retiring the current numbered threat levels. Handgun threats (soft body armor) will now be represented by the letters HG, with HG1 and HG2 replacing Level II and Level IIIA, respectively; and

rifle threats (hard armor) will be represented by the letters RF, with RF1 and RF3 replacing Level III and Level IV, respectively. An intermediate threat level, RF2, will also be introduced and the number of soft armor levels are to be reduced.

In addition to a revised nomenclature, the new standard introduces a test protocol for shaped or female body armor under which it will be tested against the same ammunition used to test planar (not shaped) armor. A different shot pattern will more fully test female armor designs. Test protocols for conditioned armor panels will also be more stringent, with the new standard requiring them to be shot at the same velocity as nonconditioned armor.

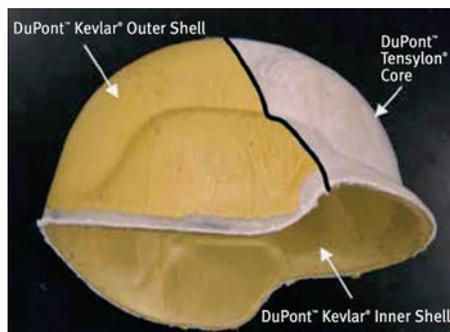
## Damage Control

Having body armor X-rayed for damage is a costly inconvenience, but engineers at Cardiff University and California-based Microsemi collaborated on the development of A-Ultra, a handheld system which uses ultrasound to check personal protective gear for damage. While developed for military use, this device has obvious appeal for use by law enforcement as well.

## Material Advances

DuPont™ Tensylon® HA120 is a new material for helmets which provides ballistic protection while weighing up to 40% less than traditional helmets. Optimizing the performance of traditional Tensylon solid-state extruded UltraHigh Molec-

ular Weight PolyEthylene (UHMWPE) film technology allows manufacturers to make lightweight ballistic helmets with superior protection from bullet penetration and low Back Face Deflection (BFD), in a single-step processing cycle. To improve mold release, bonding to paint and abrasion resistance, a Tensylon HA120 core can be co-molded with outer skins of woven fabrics made with Kevlar® fiber. ([dow-dupont.com](http://dow-dupont.com))



**DuPont™ recently announced a new lightweight innovation for tactical helmets.**



**The new Level III tactical shield from ATS weighs 15 lbs.**

## New Ballistic Protection Products

### ATS Armor™, LLC

The ATS Armor Level III Double Cut Shield is a 15 pound tactical shield which defeats 5.56 x 45mm, 7.62 x 39mm LC



## BODY ARMOR UPDATE: 2018

Continued from page 24



**Diamond Age's FORCEFIELD™ armor panel weighs 1.17 pounds per square foot.**

to knives and spikes. The FORCEFIELD, however, is as thin and light as the average soft armor panel in its class at just 6.8mm and 1.17 pounds per square foot and is available in BALCS-cut panels and BALCS armor carriers. ([diamondage.org](http://diamondage.org))

### GH Armor Systems

GH Armor's new HeliX IIIA HX03 series of body armor is designed for high performance. In addition to the NIJ 0101.06 Level IIIA standard, the HeliX IIIA HX03 is also special threat tested. The package includes GH Armor's exclusively patented ballistic desiccant for moisture management. ([gharmorsystems.com](http://gharmorsystems.com))

### Hardwire®, LLC

Hardwire's Tactical Shields have been specifically produced to provide the lightest weight of protection for police officers. Designed from armor technology developed for the Department of Defense, and with input from law enforcement, all of Hardwire's Tactical Shields meet NIJ Level IIIA or Level III protection standards. These ultralightweight ballistic protection shields are also available in multiple sizes and configurations



**Tactical shields from Hardwire are available in many different sizes and configurations.**



**Hardwire's body armor plates are created utilizing 100% Dyneema® materials.**

Hardwire's Vehicle Armor products are an affordable way to add ballistic protection to a police vehicle without major vehicle modifications or burdensome 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 provides protection against handguns and shotguns (NIJ IIIA+) or rifles (NIJ Level III). Armor is available for the Ford Interceptor, Taurus, Impala, Chevy Van, and Charger, as well as other vehicle makes and models.

Hardwire offers lightweight and cost-effective body armor plates designed to fit into most plate carriers. These hard armor plates do not degrade, surviving the harshest conditions. All plates are made in the USA using 100% Dyneema® materials and are available in single and multicurve configurations.

Hardwire utilizes a unique manufacturing process to create lightweight certified soft armor. Dyneema fibers are pressed under 25 million pounds of force at precise temperatures, turning multiple layers of material into a single system. The ballistic panels dissipate a bullet's energy quickly and efficiently, reducing overall panel weight. Hardwire's soft armor for tactical and concealable vests are available through Safariland®. ([hardwirellc.com](http://hardwirellc.com))

### Point Blank Enterprises, Inc.

The ARMIS Gen II is a highly scalable, side opening carrier which allows tactical units the flexibility to configure their 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 op-

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**The ARMIS GEN II's carrier shape offers optimum protection while maintaining maximum maneuverability.**

erator mobility, agility and range of motion. The kangaroo pocket on the front flap includes three rifle magazine inserts. External, bottom loading, hard armor plate pockets are located in the front and rear.

Lightweight, thin and flexible, Point Blank's new Elite concealable body armor system combines NIJ .06 Level II and IIIA ballistic protection with a high level of comfort. The Elite comes standard with ARMORVENT® installed which utilizes an air channel ventilation pattern to help evaporate sweat.

Easy to don and doff, the new ODC Guardian combines the versatility of a front opening vest with a design which offers optimum coverage. Users can instantly convert the ODC Guardian into a ballistic protective vest by inserting concealable ballistic panels into the



**Elite concealable body armor comes standard with ARMORVENT® installed.**

front and back interior pockets. Within seconds, the ODC Guardian is ready to wear with up to Level IIIA protection.

Omega Hard Armor Plates are capable of defeating Level III and IV rifle threats and are available in a choice of two shapes (full-size or shooter's cut). These new plates are designed to meet individual needs for comfort and function. Additional options include the choice of ultralight polyethylene or ceramic plates which will affect weight and thinness.

The new Operator Elite Helmet is manufactured utilizing a proprietary ballistic thermoplastic aramid composite shell. Its 4D Combat Pad ultracomfort system keeps users cool in the sum-



**The new ODC Guardian incorporates a center zipper for easy donning and doffing.**

## GLOCK® 42 Plus One Extension

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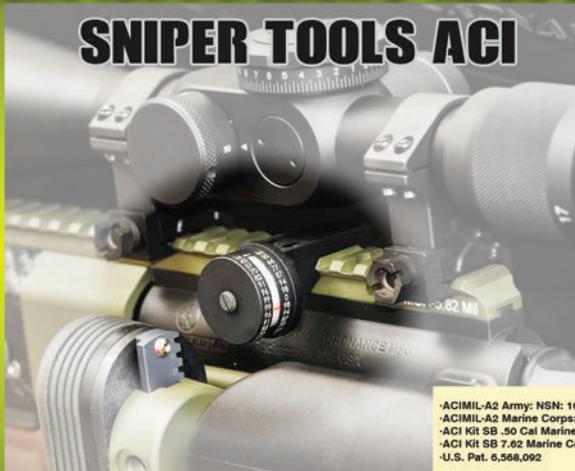


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**The Operator Elite Helmet utilizes the Boa® chinstrap which features a dual dial adjustable fit.**

mer and warm in the winter, along a with guaranteed no rattle fit. The Rapid Adjustment Dial Boa® retention system comes with two-way adjustments and the removable suede split chinstrap allows for laundering, replacement or the use of a gas mask extender.

The FAS-TC Gen II side opening, light tactical vest from Point Blank offers high performance ballistic protection integrated in a fully functional design to achieve maximum maneuverability. Engineered to allow maximum freedom of movement while offering optimal protective coverage, the new FAS-TC Gen II provides the versatility to adapt to any mission.

Available with NIJ Standard 0101.06 Level IIIA ballistic systems, this vest features a strong and durable 500 Denier CORDURA® outer shell construction, with front and back top loading plate pockets which fit 8" x 10" or 10" x 12" hard armor plates (size dependent). ([pointblankenterprises.com](http://pointblankenterprises.com))

### PROTECH® Tactical

The PROTECH Tactical X Series boltless, type IIIA ballistic shields feature a patent pending process which molds the lens cap into the ballistic composition of the shield at the time of pressing, resulting in a lens cap design of the same ballistic material as the rest of the shield. The X Series streamlines the traditional ballistic shield with a design that eliminates points of weakness – the point of drill holes and seam lines where the shield and components meet. The seamless molded lens cap in this boltless design ensures ballistic integrity and reduces overall shield weight by approximately 20%. ([safariland.com/protech-tactical](http://safariland.com/protech-tactical))



**PROTECH® Tactical's X Series IIIA ballistic shields feature a design which eliminates points of weakness.**

ranger green. Installation requires an EXFIL SL Rail Retrofit Kit. ([teamwendy.com](http://teamwendy.com))

### Team Wendy®

The EXFIL® Ballistic line from Team Wendy delivers premium ballistic protection and comfort in its lightweight helmet. You can add the EXFIL Ballistic Visor and Ear Covers to your EXFIL Ballistic or EXFIL Ballistic SL helmet for increased coverage. The Visor and Ear Covers are available in black, coyote brown and

### The Armored Group, LLC

The Terrier LT-79 vehicle, developed by the TAG research and development team, represents a well-balanced combination of protection, off-road mobility and payload. The standard Terrier LT-79 will hold up to eight officers (2+6 in individual MIL-STD seats) or ten (2+8 on optional bench seating), depending on the size of



**The EXFIL® Ballistic line of helmets incorporate both ballistic visor and ear covers.**

Continued on page 32

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