

# advanced explosives search techniques

A three-day class offers unique opportunities  
in K-9 explosives detection.

BY HEATHER ORTON



■ Opposite: A vehicle hood is blown using sheet explosive. Above (left to right): Officer Shanahan and K-9 Ozzy work into the scent cone, looking for a secondary explosives device.

**H**OW MANY OF YOU PUT YOUR LIVES in your dog's paws each day when you go to work? Most of you handle patrol K-9s that, on a daily basis, are expected to defend their handlers, search and apprehend suspects, maintain a show for crowd control, and be assets to their departments. Narcotics dogs often grab headlines for their part in successful drug busts, and many serve double duty as patrol dogs. Both patrol and narcotics K-9s undoubtedly make law-enforcement officers' jobs safer.

Now, what if you handle a dog that specializes in detecting explosives? Consider the following scenario: a delusional individual just called in a bomb scare to the local grade school. The caller told school officials that he planted bombs throughout the school, and that he intends to blow up the entire complex if his demands are not met. After the building is evacuated, you need to search a facility containing more than 1,500 lockers, two gymnasiums, a large cafeteria, a library, and dozens of classrooms. Suddenly the questions are: Do you trust your dog to find the explosives before the safe return of more than 1,600 students and faculty? Is your K-9 sufficiently trained for the job?

#### Real-World Situations

I recently audited an Advanced Explosives K-9 Search Techniques course, hosted by the partnership of Ideal Police Canine (IPC) and Tripwire Operations Group, in Gettysburg, Pennsylvania. One of the instructors, Ken Munshower, told the following story about one of the dogs he'd trained. While the dog waited in the car, Munshower went into an impound lot and hid a 1-inch length of detonating cord. He then collected the dog, took him to the enclosure, and turned him loose with the command "find." Munshower went back to his vehicle, got in, and waited for the dog to search the 90x180-foot lot. After waiting an hour, Munshower entered the yard and went in the direction of his hide. He found his dog sitting and

staring intently at the location where the hide had been placed. Such a high degree of proficiency is exactly what is required in many high-stake situations, where the lives of many people may be at risk. At lunch, I asked Munshower, "What made you so certain your dog would find the hide and then stay there until you came for him?" His answer was simple: "Training, training, and more training."

If you're the handler for an explosives detection canine, you know well that resources for training are limited based on your department's budget, access to the right scents, time, and available locations. If you're like me, you've spent hours pouring over Web sites and publications trying to find information about classes, schools, trainers, and materials that will enable you to train your dog to find everything he may encounter in a real-world situation.

Tripwire and IPC offer a unique and cost-effective experience to anyone wishing to train their dog and himself in the detection of explosive devices. Most of their Advanced Explosives K-9 Search Techniques courses are held over a three-day period, with the first day combining classroom lessons and plenty of leash time. Day two provides a different experience than you may have had in other classes. The first half of the day is a live range demonstration that allows handlers to have direct exposure to the variety of explosives they may encounter on the job. Handlers can examine the explosives up close and observe what they look and sound like when detonated. The second half of the day, the class again takes leash in hand, this time to work through the post-blast range searching for secondary explosives. Day three starts with a brief class session, but quickly moves to an off-site, large vehicle location; in the class I attended, it was an entire train.

#### Thorough Recognition

During the May class, day one began with introductions to all the course instructors. Ryan Morris of Tripwire

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Operations Group taught all the classroom material, and Roger Stipcak and Ken Munshower of Ideal Police Canine provided live-search instruction. After the introductions, Morris quickly moved into the body of the classroom session, starting with recognition of explosive and incendiary materials, devices, and device components. The classroom phase of the course was presented using a PowerPoint presentation on a large, drop-down screen. All class attendees were given a hard copy of the presentation, with plenty of room for notes and additional questions.

The morning class presented extensive detail on the human response to blast injuries, exemplified by numerous charts, as well as graphic photographs of deceased victims from an actual case study. The photos of damage to the victims' bodies brought home the reality of how truly dangerous the materials covered in the course are.

One particularly fascinating photo showed what looked like a shiny rock in a victim's chest cavity; in actuality, it was a piece of aluminum that had liquefied during the blast, pierced the man's chest, and then solidified upon entry into his body. When the metal was examined, body tissue was found inside the ball of aluminum.

After extensive discussion of worse-case scenarios, Morris moved on to identification of energetic material. He covered pyrotechnics; propellants; military-grade explosives (from low — black powder, smokeless powder, and flash powder, to high — TNT, PETN, RDX, HMX, and C-4); exotics (Semtex and PE-4); commercial-grade explosives (dynamite, nitroglycerine, sheet explosive, slurries, ANFO, boosters, Demex, emulsion, and binary explosive); and improvised explosives (HMTD, TATP, MEKP, peroxide-based, and more). Slides were used to show appearance and detonation characteristics. Various samples were available for the students to review, with Morris constantly reminding everyone that mishandling any energetic material — whether improvised or manufactured commercially — "will make for a bad day."

At the end of the classroom session, all handlers collected



PHOTOGRAPH BY HEATHER CRIDEN

their dogs and began working the various exercises with leash in hand. Exercises included three inspections: a room full of luggage, a corridor lined with shipping boxes, and two locker room searches. Students were divided into three teams and rotated through each of the four search areas.

Munshower instructed handlers in the luggage area, directing students on how to improve their search patterns and how to better communicate with their canine partners in the location of and passive indication to hides of RDX and detonating cord. Larry Wilcox, of IPC, worked with the attendees in the men's locker/shower room to locate a smell new to many of the dogs: potassium chlorate.

To the credit of all the handlers, most of the canines were able to locate the hide quickly and exhibit obvious alerts. Stipcak worked teams through the shipping box hides, using 1 pound of cast booster. The empty boxes challenged dogs and handlers alike, because they tended to float off the line, turning the aisle into a minefield of priority boxes.

Once all the dogs had moved through the shipping box hides, Stipcak set up an additional large-weight hide in the women's locker room using raw RDX placed high up in a trash receptacle. As soon as the dogs entered the room, their breathing patterns changed as they zeroed in on the general location of the hide. As Stipcak commented, laughing, "You could almost hear the dogs saying, 'Oh boy! The motherlode!'"



■ **Opposite left:** Instructor Morris teaches a class. **Opposite right:** K-9 Penny alerts to an 18,000-pound hide. **Left:** Officer Taylor and K-9 Ellie work on an 18,000-pound hide while Instructor Munshower observes.

has 18,000 pounds of scent sitting 4 feet above him. I'm sure you can imagine how some of the dogs reacted! Afterwards, everyone gathered to listen

to Munshower discuss more training techniques.

Around noon, the class drove the short distance to the live firing range, ironically located next to a prison. Earplugs were distributed, and Morris initiated a walk-through to show the class what the explosive shots looked like and where they were placed. Safety is not an afterthought when presenting a demonstration of this type; Morris and several other bomb technicians had the students gather in the safe

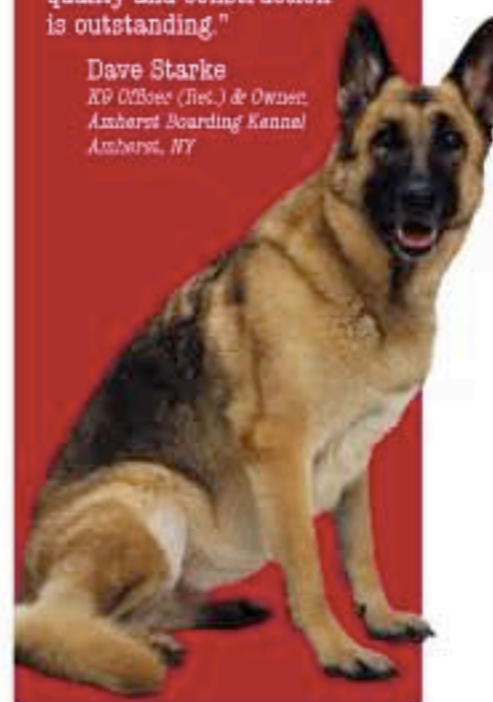
### Live Range Demonstrations

On day two, after more classroom time, everyone gathered outside to begin working the large hide: in this case, 18,000 pounds of ammonium nitrate. Each team tested wind direction and then began working the K-9s through the scent cone toward the truck. None of the dogs, and few of the handlers, had worked on anything this massive. It's certainly not every day, month, or even year that your dog

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area while they traveled downrange and performed the final capping in of the explosive material.

The class attendees were not the only ones waiting to see the exhibition: local criminal justice students, a couple of staff members from the prison, and numerous representatives from the media all were observing, with anticipation, something few people ever see other than on TV.

A car was destroyed using Kinepak, a car hood was blown into the air using C-2 PETN-based sheet explosive, and a cornfield was cratered using smokeless and black powders. The largest and most colorful demonstration featured the detonation of five 1-gallon jugs, half filled with gasoline, going up in a solid wall of fire and intense heat. The use of various measurements of det cord demonstrated the concussive force of over pressure to everyone. It was difficult not to recall the graphic images of victims we had seen in the previous day's class.

After the field was cleared, everyone collected their canines and worked around the destroyed vehicle, one team at a time, searching for a secondary device in the contaminated area.

### Challenges Overcome

Before heading out to the train yard on day three, I had a moment to interview one of the attendees — a sheriff who works with a domestic-bred, 2-year old, female German Shepherd. I asked him what he valued most about the class, and his answer was unanimously seconded by almost all the other attendees: "Large-quantity hides, an extensive selection of explosive materials to train on, and the instructors' willingness to answer all questions."

I also asked him what he hoped his experience in the class would bring to his department, and he replied, "I'm hoping that this class will make my department more aware of what [my K-9 and I] are up against, and why we require such intense training." A number of other class members



■ Far left: Officer Lubek observes as K-9 Devil alerts to a hide in luggage. Left: A K-9 locates a hide in a locker room. Above: Officer Shirley and K-9 Muis begin searching a train engine.

had similar comments and expressed concerns about their ability to find proper training that met their budget and time requirements.

Once the agenda for the day had been discussed, everyone moved outside the building for individual photographs, and then headed to the train yard for the mass-transit search experience. By the time we all arrived at the train yard, the weather had turned wet, but spirits were high and the dogs were enthusiastic about getting started.

Four hides were placed throughout the train, with 50-grain det cord in the engine, a 1-pound cast booster and copper linear shape charge in the caboose, raw RDX in one of the cars, and sheet explosive in another car. Once again, everyone was divided into teams and rotated through each of the hides.

The engine was an excellent challenge to overcome, with handlers having to help their canines navigate the steep steps to the walkway leading to the engine room, and then requiring the dogs to focus in the heat and close quarters of the engine room.

At various times, dogs were working on the staged train while another freight train passed only two sets of tracks away. All the teams showed stability and the intent to do a great job, even with the distractions of air blasts from the engine room, passing trains, rain, and numerous dogs and handlers working on and around the entire train.

### Communication and Unity

The concept of professional K-9 handlers and operational law-enforcement, military, and bomb technicians working hand-in-hand to instruct explosive detection K-9 teams in how to think outside the box is an innovative approach. Historically, the communication and unity between bomb

techs and K-9 handlers has been less than optimal. IPC and Tripwire Operations Group have set out to change the way the industry works, trains, and responds to threats. They have shown that although there are differences of opinion and methodology, both sides of the response team can accomplish more together than apart. Ryan Morris, Roger Stipcak, and Ken Munshower continually stress that all parties should "work together at being the very best at their professions and accomplishing their goals of saving lives and fighting the war on terror."

As Munshower says, "If you're a K-9 handler, do it for the right reason. Do it because you're driven to protect our nation and families. Do it because you demand of yourself to be the very best. Do your best, because in this particular battle, coming in second place can have deadly consequences." ■

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