

Contents

IN THE FIELD

- M939-M35 Crew Protection Kits Prototyped for Operation Iraqi Freedom
- Assault Kitchen Speeds Field Feeding
- Flight Line Program Serves as 'Eye-opening Experience'
- Local First-responder Agents, Officers Check Out Picatinny's Homeland Defense and Readiness Training
- Process Clears Supplies, Equipment For Airdrop
- Vigilante Flies Under Airborne Control

IN THE LAB

- STORM travels to New York
- Researchers Issue New Chemical Agent Low-level Exposure Standards

PARTNERSHIP

- Live-fire Exercise Highlights 2004 Senior Acquisition Leadership Conference
- Laboratory's School Supplies Drive Helps Kids In Need
- Partnership to Ease Access to Presidential Electronic Archives

PEOPLE

- Associate Director Honored with Meritorious Civilian Service Award
- Sci-Fi Show Inspires U.S. Army Research Laboratory Engineer
- Nobel Laureate Smalley Agrees to be Guest Researcher at Laboratory
- Sanders Takes Silver in the Armed Forces Golf Championships
- Scientist Elected As International Fellow
- Soldiers Add 'Color' to Events

NEWS BRIEFS

- Identity Theft: Minimizing Your Risk
- 2004 Army Research and Development Achievement Award Winners Announced
- 2004 Scientific Conference on Chemical and Biological Defense Research Set for November
- U.S. Army Field Band Announces Upcoming Tour

M939-M35 Crew Protection Kits Prototyped for Operation Iraqi Freedom

By Maj. James Riddick

U.S. Army Tank-Automotive Research, Development and Engineering Center

WARREN, Mich.--Responding to information that Central Command truck drivers needed better protection against small arms fire and explosive device fragments, in March 2004 Col. Robert Groller, program manager-tactical vehicles (PM-TV) contacted the U.S. Army Tank-Automotive Research, Development and Engineering Center (TARDEC) to find a survivability solution. Soon prototype armor kits for the M939 and M35 series vehicles were under development.

Noting TARDEC's work to quickly and successfully field the HMMWV Armor Survivability Kit, Col. Groller requested that TARDEC develop prototype kits for testing and evaluation in 90 days.

TARDEC was up to the challenge, under the guidance of TARDEC's Deputy Director, Lt. Col. Craig Langhauser, and within a day of the request a matrix team was organized for the project. It included members from TARDEC's Research Business Group, Emerging Technologies Team, Development Business Group Digital Design and Physical Prototyping Teams, as well as individual members representing Quality Assurance, Safety, and representatives from PM-TV to ensure the customer's needs were met.

Representatives from PM-TV defined protection performance parameters to be that of the successful HMMWV Armor Survivability Kit. Taking that parameter, an armor solution now had to be found for these larger trucks.

TARDEC engineers first looked at an existing solution. Although not great in numbers, 165 armor kits were developed for the M939 during operations in war-torn Bosnia and still existed in Army warehouses. Developed in the early 1990s, this crew-protection kit would first need to be upgraded to provide enhanced side protection.

One full kit and enough parts remained at TARDEC to complete an increased protection upgrade for the Bosnia kit. By May 21, the TARDEC team had completed necessary changes, fabricated, assembled and shipped two prototype kits to be tested at Aberdeen Test Center (ATC). ATC would determine the performance of these kits against the Operation Iraqi Freedom (OIF) threats. While providing an interim solution, the Bosnia kits did not meet the full OIF requirements. Testing was delayed while a new kit design and prototype were completed.

Upon completion of this effort, attention turned to the production of new kits for the M939 vehicle system; a firm requirement for 2,229 M939 series kits was established in mid April. No firm number of kits was established for the M35 system, hence the priority on the M939 prototype kit development.

The ballistic threats that the OIF M939 kit would need to defeat greatly exceeded the Bosnia kit's capabilities. In addition to meeting threats, Central Command identified requirements to have movable side windows for ventilation and firing of all



The U.S. Army Tank-Automotive Research, Development and Engineering Center prototyped armor kits for the M939 and M35 series vehicles to meet the needs of Operation Iraqi Freedom.

infantry weapon types, a gun ring that would permit mounting and firing of the M2 and M60 machine guns, M249, Mk19, a weapons platform, digital rack, and cab air conditioning unit. These requirements would prove to be a significant challenge.

There was great concern that the weight of the original Bosnia crew protection kit was at the “ragged edge” of what the vehicle’s axle could withstand. To meet these additional requirements and not decrease the level of threat protection, the increased weight would need to be partially borne by the non-cab vehicle structure. Additionally, movable windows would be a design challenge since the estimated weight of the applied armored window transparency would be more than 100 pounds. Air conditioning space claim and cooling rate likewise posed a great challenge.

A start of work meeting occurred on April 20 during which it was indicated that M939 A1 and A2 vehicles would need to be supported by this new protection kit. M939 base vehicles would require upgrade to the A1 as part of the process, with front winches removed to accommodate the anticipated weight of the protection kit. Information provided by the PM-TV indicated that there existed 9 versions of the A1, A2 and M939 base vehicle with a total of 27 possible variations. The kit would need to fit 18 of these further complicated by realizing that approximately 40 percent of the vehicles in use in southwest Asia were the M939 base variants needing their winches removed.

Although funding was authorized for the project on April 18 by PM-TV, TARDEC’s Emerging Technologies Team had already commenced armor design efforts on March 25. According to TARDEC lead project manager Terry Avery, “This was and continues to be an all-out effort that has no margin for error. Every delay or mistake results in potential casualties to our troops. There’s no greater motivation than to have the ability to provide life-saving equipment.”

In an effort to optimize the material and reduce unnecessary weight, numerous armor material combinations were considered for the various areas of the cab. Readily available armor materials and windshield transparency materials were given highest priority, as this approach would lead to lowest schedule and cost risk. Several other novel armor technologies were investigated and considered, but the combination of schedule, availability, fabrication ease, multi-hit performance and cost ruled out their application.

Design and digital modeling continued throughout April and May, with June 2 established as the date to complete designs for the M939 kit. Fabrication of parts commenced prior to Memorial Day with fabrication revisions completed two weeks later. The final product consists of an armored cab, fire-wall protection, floor/fender mine protection and air conditioning.

To meet the most important requirement, crew protection, TARDEC engineers developed and manufactured an entire new cab from roof to floor and from door to door. Upon removal of an existing M939A2 cab, the new armored cab was installed consisting of armored cab walls and doors, which include the applied armored glass. Powered actuators to assist in moving the heavy doors and a powered protected door assembly that can move the side transparencies up and down for ventilation and firing purposes were included. To be able to mount the required weapon platforms, engineers fitted the armored cab’s roof with the gun port ring used on the HMMWV lightweight gun ring. To add a bit of creature comfort and to make room for the vehicle’s air conditioning and gunner platform, two new air ride seats were installed. Once complete the kit will fit both the M939 basic, A1 and A2 series vehicles.

Adding even more protection, TARDEC technicians using a variety of water jet cutters and computer aided design, added contoured armor plate under the M939 hood and inside the dash board to reduce the threat of small arms fire through the hood region. Armor plate was also mounted inside the floor of the cab as well as under the front wheel wells to reduce the threat of fragments from land explosives.

Lastly, the problem of air conditioning was tackled. Collaborating with the Red Dot Corporation of Seattle, Wash., TARDEC modified an existing HMMWV air conditioning kit to fit in the M939. The thought was to adopt commonality between vehicle systems in order to simplify the number of parts and repair procedures required. Once the system was selected, additional room had to be made in the vehicle to mount it.



View of prototyped cab

To make room for the evaporator cooler fan console, the bench seat along with the battery box were removed and relocated. The console was then mounted between the two new bucket seats; a new gunner's platform was mounted on top of the console. Within two weeks of inception, a functional air conditioning system was installed. Upon successful completion of testing, a robust easy-to-install kit will be packaged, with an estimated cost per air conditioning kit per vehicle at \$3,000.

The prototype design of the M939 armor kit required more than 300 drawings (to date) and consists of 260 individual components and it is estimated that the kit adds from between 1100 to 1500 pounds to the front wheels of the various M939 series vehicles.

TARDEC's Physical Prototyping Team completed assembly and installation of the armor and air conditioning kits by June 21. The next day, the first two kits departed for ATC to under go automotive and safety testing, with one kit to become the "ballistic turret & hull" for live-fire testing against the standardized OIF threats.

Concurrent to design, TARDEC is actively working with the Army's Ground Service Industrial Enterprise (a relationship that was cemented during the design and production of the Armor HMMWV kits) to identify and begin production of low-risk, long-lead items. This pre-production will greatly help to expedite fabrication of complete kits upon favorable automotive and ballistic evaluation by ATC.

"This intense effort represents what TARDEC can accomplish to provide rapid support to the field. To accomplish the mission required, the active participation across all three TARDEC Business Groups. This kit provides the highest level of protection of any of the tactical vehicle armor kits that have been tested thus far. It's been gratifying to receive feedback from the troops using ARL/TARDEC/GSIE produced equipment and knowing that at the end of the day, some young soldier's life was saved by our efforts."



View of prototyped cab

Assault Kitchen Speeds Field Feeding

U.S. Army Soldier Systems Center

NATICK, Mass. -- The ability to quickly feed hot meals to forward-deployed, fast-moving warfighters is what the Army will gain when the Assault Kitchen (AK) delivers its heat-on-the-move capability to the field.

Intended to replace the Kitchen, Company Level Field Feeding (KCLFF) beginning in 2007, the Assault Kitchen, developed by the Food Service Equipment Team under Product Manager Force Sustainment Systems at the U.S. Army Soldier Systems Center in Natick, Mass., provides a better way to feed company-sized military units.



"The KCLFF is an assortment of odds and ends. Many times, frontline units don't take it to the field other than a component here and there," said Doug Brown, a mechanical engineer and project officer for the Assault Kitchen. "They tend to not want to operate with the whole system because of the setup involved. It takes more time and effort to use when compared to the AK."

The Assault Kitchen consists of a Humvee and trailer packed with equipment that either eliminates, transfers or replaces the collection of loose KCLFF items with a setup where every component has its place on a mobile platform.

Strapped into the back of the cargo/troop carrier Humvee are six insulated beverage containers, three pan carriers to keep food trays warm, five insulated food containers, a 5-gallon fuel can, fire extinguisher, utensil box, maintenance kit for the ration heater, and a ration heater to prepare Unitized Group Ration-Heat and Serve (UGR-H&S) tray packs or No. 10 food service cans.

Pulled on a trailer are eight water cans, an ice chest, three tables, cargo netting to hold UGR-H&S boxes, stock pots, a cradle for use in preparing hot beverages and an awning to cover the serving area during bad weather.

The heart of the AK is its ration heater. It uses non-developmental and commercial technology that allows operation on common battlefield fuels, and it draws electricity generated from the Humvee through a mounted power inverter.

"We used already-developed ration heaters and as many existing pieces of commercial equipment as possible," said Scott Mannka, an engineering technician, about the 1-year-old project that produced two prototypes. "It's the only way we could build AK prototypes fast."

The AK heater tank is turned on with a switch and operates for 10 hours on 5 gallons of fuel. The portable, stainless steel water tank heats up to 18 tray packs, 15 No. 10 food service cans or a combination of the two in 30-45 minutes, and it can heat them while driving, which is not an option with the KCLFF's open flame burners, according to Brown.

Thermostatic control assures the heater tank's water temperature stays below the boiling point, but a relief vent is a backup to prevent overpressure. Other safety features include sensors or switches to shut off the burner if the water depth in the tank falls below 6 inches or the heater tank exceeds pre-specified angles.

The Assault Kitchen feeds up to 250 troops in one location or as many as 500 troops daily in multiple locations, and setup is completed in as little as 10 minutes with two cooks, according to Brown. Packing up to be ready to "jump" to the next feeding site is equally as fast.

Two approaches to using the Assault Kitchen were followed during a user demonstration earlier this year. Brown said both prototypes were praised by troops who tried them.

In January at Fort Stewart, Ga., troops tried a "pit stop" feeding method, hauling the kitchen to the Soldiers with a fuel and ammunition supply convoy. Tankers and infantrymen either met the kitchen and convoy at a designated location or the supply convoy went to them.

At the National Training Center (NTC) at Fort Irwin, Calif., in March and April, the kitchen stayed with forward units at all times and was re-supplied with rations and water whenever possible.

"The vision at first was not to stay with a forward unit at NTC," Mannka said. "They liked it a lot. They were impressed. They gained confidence with it every day they used it."

The team plans on refining the system and completing additional testing during the next two years, combining the best features of the two prototypes into one prototype before production approval in 2006. Brown said current plans for production are for the Army, Marine Corps, and potentially the Air Force, to combine their requirements for the Tray Ration Heater and the Assault Kitchen into a large economical production contract.

(Submitted by U.S. Army Soldier Systems Center Public Affairs Office)

Flight Line Program Serves as ‘Eye-opening Experience’

U.S. Army Aviation and Missile Research Development and Engineering Center

REDSTONE ARSENAL, Ala.--Nine days – 216 hours – may not seem like a lot of time.

But for those who have been through “The Engineer on the Flight Line” program of the Aviation and Missile Research Development and Engineering Center (AMRDEC), those days are jam packed with on-site experience in aviation maintenance.

“New AMRDEC engineers and technical personnel are assigned to aviation engineering, maintenance or supply management positions, and on many days, leave the flight line sore, dirty, and tired,” the AMRDEC’s Doug Felker, aviation team leader for the reliability, availability and maintainability engineering and test division, said. “Nonetheless, they will understand how something that seems so simple on paper can become a major burden for flight line mechanics. It has been an eye-opening experience for each engineer who has been through the program.”

During those nine days, flight-line students get actual experience on:

- Phased Maintenance
- 30-hour, 42-day Inspections
- Cleaning, Scrapping and Painting
- Safety of Flight (SOF) tasks
- Blade Servicing
- Control Rod Maintenance
- Transmission Removal
- Floor Panel Maintenance
- Tub Area Maintenance
- Engine Maintenance

This on-the-job, hands-on action provides engineers and technical analysts an up-close and personal glimpse of the challenges faced by Army aviation maintenance personnel.

“By actually turning wrenches, performing inspections, and doing maintenance management information system write-ups, the engineers gain a unique perspective on how decisions that they make affect personnel on the flight-line and in the maintenance hangar,” Felker said. “Students work under the direct supervision of aviation maintenance personnel performing various scheduled and unscheduled maintenance tasks.”

Each engineer is placed with an experienced mechanic.

For example, AMRDEC engineers Jason Lawler and Jason Smith recently spent 216 hours with the Alabama National Guard in Mobile. At the beginning of Day 1, Lawler started by working with a mechanic performing a Black Hawk tub inspection, which is performed every 30-36 months on the area below the troop and gunner seats.



Jason Lawler, AMRDEC engineer, works on a UH-60 Black Hawk main rotor blade.

First, he and the mechanic removed the seats and began removing screws from the floor to remove the floor panels. Next, he helped the mechanic move the aircraft to the wash area and tied it down to complete an aircraft wash. Lawler and the mechanic to whom he was assigned spent the entire day on a 30-hour, 42-day inspection.

“This was a unique opportunity to find out what components were inspected during the inspection,” Lawler said.

On Day 2, Lawler completed the final, Area 6 – rotor head -- inspection. The 30-hour, 42-day inspection covers every area of the aircraft and has proven to give great insight to the engineers as to how long an inspection of this magnitude takes and just exactly what a technician is looking for during this inspection. For example, Lawler vacuumed the tub to allow for greater visibility of corrosion and mildew.

Next, he cleaned, scraped, and used wire brushes to remove any flaking paint and corrosion from the bottom of the tub. The aircraft was then moved outside to steam clean the tub and remove any excess mold and mildew.

“The engineers learned just how difficult and in depth the process of doing what would seemingly be a simple job can actually be,” Felker said. “Actually scraping and wire brushing the tub and panels to prevent corrosion from forming preceded the engineers painting the inside of the tub using yellow epoxy.

On Day 3, the engineers worked with maintainers, pulling the main rotor blades to comply with a safety of flight (SOF) message. This SOF was issued in response to cracks being found in between the bolts, which hold the main portion of the blade to the cuff.

“Each engineer was given the opportunity to attach the crane to the blade and guide the blade to the work area where the SOF would be performed,” Felker said. “Once the blades were removed, Lawler was given the task of scraping the Proseal from each bolt with a plastic chisel and hammer to give the technical inspector the opportunity to examine for cracks between the bolts.”

On Day 6, the engineer applied the second coat of epoxy to the bolts on the main rotor blades. Next, they removed the front cowling that covers the flight controls and moved aircraft stands into position to allow for access to the top of the aircraft. These stands are required before removal of flight control rods. All told, 12 rods were inspected upon removal from the aircraft.

“We found this job to be the most difficult to perform during our entire stay,” Lawler said. “The rods had at least two bolts per side with a cotter pin in each nut, and care had to be taken to not drop the pins or nuts onto the deck to prevent foreign object damage (FOD). The Alabama National Guard unit felt this task really gave me an idea of the difficulty and tediousness of these inspections.”

“Both Lawler and Smith feel that this was an amazing opportunity for them to experience the challenges faced by mechanics,” Felker said. “Knowing that many of these challenges are driven by decisions made by engineers like ourselves has provided us with key knowledge and insight into making future decisions.”

In addition to working with the Alabama National Guard, AMRDEC engineers recently completed a stint with the North Carolina National Guard in Raleigh, working on AH-64A Apaches.

“This unit had just returned from Operating Enduring Freedom deployment,” engineer Kris Walker said. “They were really glad to have us, and thankful that somebody cared enough to be with them and find out what’s going on. The aviation maintainers had some unique OEF issues, and we are now in a position to help them do their jobs better in the future. They were able to come up with some clever work-arounds to meet the challenges of OEF deployment conditions.”

Getting the right data is a key part of successful maintenance, Walker added.

“When it comes to trouble shooting and problem solving, it’s important to see an actual part and what it does, compared to looking at a write up on a piece of paper,” Walker said.

Summing up the program, Felker said, “A lot of the best solutions come from Soldiers. These are smart, motivated kids. This is a win-win program. We get value-added experience and National Guard maintainers get extra pairs of hands, at no extra cost.

“Engineers in the program are told to be the first to show up, the last to leave, to work hard and to do what they’ve been told. This program has been so well received that we’re now planning on expansion to CH-47D Chinooks, following our Black Hawk and Apache successes.”

(Submitted by U.S. Army Aviation and Missile Research Development and Engineering Center Public Affairs Office)



AMRDEC engineer Jason Smith and Sgt. Bobby Seibert work on the safety wiring of an Alabama National Guard UH-60 Black Hawk stabilator

Local First-responder Agents, Officers Check Out Picatinny's Homeland Defense and Readiness Training

By Eric Basek

U.S. Army Armament Research, Development and Engineering Center

Training for local first-responder agents and officers may have just gotten a little easier because of Picatinny's future homeland defense and security training site.

Nearly two-dozen police officers and representatives from the Office of Emergency Management visited Picatinny Aug. 26 to tour the installation's multiuse Homeland Defense Technologies and Security Readiness Center.

Sussex County chiefs, prosecutors, sheriffs' officers and training officers toured the site to explore the facilities and joint-training opportunities with Picatinny personnel.

Sparta Township Chief Ernie Reigstad pointed out he appreciates that Picatinny is offering the opportunity for local law-enforcement agencies to use facilities they don't currently have.

He said although his township currently does not have multi-roomed abandoned buildings with basements available to use, he sees ways to use the Picatinny site to expand his training scenarios.

"That in itself is fantastic," Reigstad said.

The group also watched a demonstration on simunition firing by Picatinny Police Lt. John Benyo.

Simunitions are training rounds used by military and law enforcement agencies. The tip of a cartridge is replaced with a colored soap-filled round. The rounds are placed in modified guns to allow for live-fire drills without hurting people beyond minor bruising.



Photo by Todd Mozes.
The versatile Talon robot was demonstrated at the readiness center site.

Benyo explained the importance of training with simunitions is that it allows officers to learn from their mistakes in safer atmospheres than in real-life situations. "The only time an officer gets hurt is when he messes up. And this type of training helps the officers find their mistakes and correct them," Benyo said, who used a converted M-4 carbine and a Beretta 92FS pistol for the demonstration.

Franklin Borough Chief Joseph Kistle, who inspected the weapons Benyo demonstrated, said although his department has never used simunitions before, he believes they could provide an opportunity for better training.

The officers also visited the area where the Homeland Defense Technologies and Security Readiness Center will be built.



Photo by Todd Mozes.
Cpl. Rich Clayton of the Sparta Police Department uses the Talon robotic equipment as local reporters interview Staff Sgt. Scott Smith.

Process Clears Supplies, Equipment For Airdrop

U.S. Army Soldier Systems Center

NATICK, Mass. -- Concerned manufacturer representatives, cringing at the thought of a new military vehicle undergoing airdrop certification at the Drop Tower, find that the nearly 13-foot plummet onto a concrete surface usually results in little, or more likely, no damage to their product.

The Drop Tower is one stop along the airdrop certification process managed by the Aerial Delivery Engineering Support Team at the U.S. Army Soldier Systems Center in Natick, Mass. Every piece of equipment or consumable product that the military delivers from the sky needs a stamp of approval that the cargo will safely and reliably reach the ground ready for combat.

"(Manufacturer representatives) have visions of wheels flying off and catastrophic failures," said George Moorachian, a senior aerospace engineer and manager of the five-person airdrop and helicopter sling load certification group. "We have pretty good success with things not breaking. It takes a lot of experience to learn how to do it without damaging the load."

With decades of know-how, engineers and technicians have tested everything from individual Soldier items, such as fully loaded rucksacks, to a pallet of rations to heavy construction vehicles with the Roller Load Test Facility, Drop Tower or both.

For cargo delivered on an airdrop platform, engineers begin by calculating the size and shape of a honeycomb kit based on weight and contours of the equipment, which they hope will allow for a soft enough landing to withstand damage.

Honeycomb kits consist of layers of 3-inch-thick impact-absorbing, disposable paper-named for its resemblance to the thin-walled cell structures made by honeybees-and custom-designed pieces of lumber needed to maximize the honeycomb crush.

Care is also taken to protect sensitive or delicate parts, such as guidance systems, hydraulics, glass and the oil pan of a truck.

Reusable aluminum platforms range from 8-32 feet and are extended in 4-foot sections. Once configured, a series of textile Dacron straps are tightened to meet various restraint G-forces in different directions. The mode of airdrop and weight determines the number and size of parachutes used on the load, according to Moorachian.

Platform rigged, the first stop is at the Roller Load Test Facility to check load distribution. The facility, the only resource of its kind, is capable of testing loads up to 40 tons, according to John Doucette, an engineering technician on the Aerial Delivery Engineering Support Team.

The facility has a 32-foot mock-up of the roller and rail system used in an Air Force C-141 to transport cargo, which can be either unloaded on the tarmac or dropped from the air with parachutes while the airplane is in flight.



The Drop Tower crane certifies a Family of Medium Tactical Vehicles truck for helicopter sling load delivery.

A total of 136-instrumented rollers take force measurements of the cargo, and a computer-operated data acquisition system analyzes the results from the platform moving across the rollers. A hydraulic cylinder can simulate up to 50 tons of force on cargo pulled by parachutes.

"The Air Force has limitations on force ratings. We don't want to exceed those limitations of the rollers or we'll punch right through the floor," Moorachian said, adding that the C-141 is the test model because it's the weakest airframe in the Air Force inventory.

However, changes are on the way. With the upcoming retirement of the C-141, the facility will be upgraded early in 2005 with rollers and rails that can adjust to simulate other cargo aircraft, modern computing to speed data collection and two 30-ton capacity hoists.

The hoists bring a new capability to pick up the airdrop load in place and adjust it there instead of moving it outside to the Drop Tower hoist, which is time-consuming and delayed by wet weather, Doucette said.

After passing the roller load test, the platform moves to the Drop Tower for a Simulated Airdrop Impact Test (SAIT), more commonly known as static drop test, to determine if the product and honeycomb energy dissipation kit are ready for actual airdrop testing.

Strength of fittings, used to attach straps and parachutes, are also examined.

From a 1,600-square-foot pad, the cargo platform is lifted 12.7 feet from a 39-foot tall, 40-ton capacity crane with a weighted hook. The height at which the platforms are dropped gives 28.5 feet per second vertical impact velocity from acceleration due to gravity, Moorachian said, and except for the flat landing surface, it's the worst-case scenario for a parachute-controlled descent.

When the crane releases its hold, the platform's honeycomb kit crushes to protect the cargo that slams to ground. Instrumentation on the test load measures impact shock and video recording at 1,000 frames per second captures the event for later analysis.

"(The SAIT) is the way we verify the honeycomb works as expected. Maybe we'll find some weak points, and then we'll check for damage to the cargo," Moorachian said.

For testing paratrooper individual combat equipment, the Drop Tower has a 60-foot cable that descends at a 45-degree angle to simulate the "tumble and roll" of ground impact of items at the maximum allowed wind conditions on the drop zone for paratroopers. A required 27-34 feet per second velocity at ground impact is maintained with video analysis.

The Drop Tower crane also helps to certify vehicles or cargo for helicopter sling load missions. Doucette said they check to ensure lift points are strong enough and that the load is stable for a safe delivery.

Although weapon systems are tested with the Drop Tower, all munitions airdrop is tested at Yuma Proving Ground, Ariz. At Yuma and Fort Bragg, N.C., certification takes its final test step by conducting three successful airdrops.

Moorachian said sometimes his team might need to make a few adjustments to the rigging, parachutes or slings, or even start over. Once ready, he then writes a memorandum based on the test report certifying the item for airdrop, as long as the proper rigging procedure is followed.

(Submitted by U.S. Army Soldier Systems Center Public Affairs Office)

Vigilante Flies Under Airborne Control

U.S. Army Applied Technology Directorate

FORT EUSTIS, Va.-- The U.S. Army Aviation Applied Technology Directorate (AATD), Fort Eustis, Va., Advanced Technologies Inc (ATI) Newport News, Va., and Science Applications International Corporation successfully flew the Vigilante unmanned vehicle (UAV) under control from an airborne UH-1 Huey helicopter at Felker Army Air Field, Va.

The flight demonstrated level-five control of the Vigilante and mission equipment including an L3 WESCAM 12DS EO/IR sensor gimbal and a HURL four-shot rocket launcher.

The 36-minute flight included automatic takeoff and landing without operator intervention and complete mission control by two operators aboard the Huey. The unmanned air vehicle and control helicopter flew formation with the UAV under autonomous waypoint and joystick control.

The Low Cost Precision Kill (LCPK) demonstration vehicle simulated rocket-firing runs using the electro-optical sensor and the rocket launcher under control of the Mission Payload Operator (MPO) aboard the Huey. The Vigilante control equipment was removed and the UH-1 returned to the utility configuration by technicians in 1 1/2 hours.

LCPK plans call for live rocket firings at Yuma Proving Grounds, Ariz.

(Submitted by U.S. Army Applied Technology Directorate Public Affairs Office)



The Vigilante unmanned vehicle (UAV) successfully flew under control from an airborne UH-1 Huey helicopter at Felker Army Air Field, Va.

STORM travels to New York

U.S. Army Edgewood Chemical Biological Center

EDGEWOOD, Md.—The U.S. Army Edgewood Chemical Biological Center's Stations of Robotic Monitoring, or STORM, was showcased at the Maritime Security Expo in N.Y. in September.

STORM is a unique mobile laboratory that can conduct a rapid analysis of biological threat agents, pathogens and toxins. Powered by a 30,000-watt generator and equipped with sophisticated air handling systems, STORM is self-sufficient and can be deployed quickly to the site of any incident (such as a terrorist attack). It can test for seven unique threat agents simultaneously, drastically cutting the time it takes for emergency officials to respond to the threat.

When staffed with two technicians, STORM can process approximately 150 samples per day. To achieve the same results using classic microbiology techniques would require six laboratories and twelve technicians.

In addition, STORM's robotics enable parallel preparation and analysis of 98 samples, and reduces the possibility of human error. A traditional laboratory setting can accommodate only 10 samples at the same time.

As a disaster mitigation tool, STORM is likely to be deployed to high-profile events where there is the potential for a large number of people to converge, such as the recently concluded political conventions.

(Submitted by U.S. Army Edgewood Chemical Biological Center Public Affairs Office)



Stations of Robotic Monitoring Mobile Laboratory.



Inside the STORM, technicians test for unique threat agents.

Researchers Issue New Chemical Agent Low-level Exposure Standards

U.S. Army Edgewood Chemical Biological Center

EDGEWOOD, Md.--A report by U.S. Army Edgewood Chemical Biological Center researchers issuing new chemical agent low-level exposure standards will serve as the most important document in setting future requirements for detection, protection and decontamination technologies.

This represents a key advance in previous default assumptions that have been used to predict casualty rates and impact from an attack using chemical warfare agent, and in answering the question, "How clean is clean?" The new data also has been incorporated into this year's revision of Army Field Manual (FM) 3-9.

Accurate toxicological data is essential when conducting health-hazard analyses, establishing materiel requirements and solving decontamination challenges. ECBC's low-level inhalation toxicology research allows better predictions of agent impact on personnel, enhances risk assessment modeling tools and defines which detection thresholds are physiologically relevant.

The breakthrough research modeled the relationship between chemical nerve agent Sarin (GB) vapor exposure concentration and duration in determining the probability of miosis, or constriction of the pupil of the eye, developing as the "first noticeable effect" in an exposed population.

A new method for measuring fluoride ion released isopropyl methylphosphonofluoridate (sarin, GB) in red blood cell fraction and tissue was developed that utilizes an auto injector, a large volume injector port (LVI), positive ion ammonia chemical ionization detection in the SIM mode, and a deuterated stable isotope internal standard.

Evidence of nerve agent exposure could be detected in plasma and red blood cells at very low levels of exposure even below evidence of the first noticeable effect (miosis). Answering these key scientific questions has a direct benefit to the warfighter.

This data, developed by ECBC in support of Defense Technology Objective CB.51, has application to both military and civilian risk assessment models. ECBC collaborated on integration studies with U.S. Army Medical Research and Materiel Command (USAMRMC), with the UK CB research establishment at Porton Down, the Air Force Research Laboratory, the EPA, and CDC.

(Submitted by U.S. Army Edgewood Chemical Biological Center Public Affairs Office)



Tox inhalation chamber.

Live-fire Exercise Highlights 2004 Senior Acquisition Leadership Conference

By John Schmitz, P.E., Dave Kowachek, and Monica Kapso
U.S. Army Tank Automotive Research, Development and Engineering Center

The calm and quiet of a cool August morning was shattered with the crack of an M1 120mm tank round, the rapid fire of a Bradley Fighting Vehicle, the rip of an Apache chain gun and the distant explosions fired from the Stryker Mortar Carrier Vehicle. This announced the exhilarating opening of the live-fire exercise which was part of the 2004 Senior Acquisition Leadership Conference held on August 12 at Fort Knox, Ky.

Coordinated by the Acquisition Support Center, this year's leadership conference was enhanced by the live-fire demonstration. More than 300 Army program and product managers and other senior acquisition leaders attended the conference.

Tank Automotive Research Development and Engineering Center (TARDEC) showcased Stryker Battle Command on the Move, ODIS and TALON robots and two Hybrid HMMWV platforms, which helped to power the event's command and control center.

When Col. Mary Fuller, then commander of the Acquisition Support Center, first saw Stryker BCTOM while visiting TARDEC, she put it on the list of things she wanted to see at the live-fire demonstration at the leadership conference. Col. Fuller was not disappointed - the BCOTM was prominently displayed and its computers, monitors, radios, seating arrangement and control panels were briefed and demonstrated by John J. Schmitz P.E., Robert Washburn and Luke Hess. Some of the prominent attendees were Claude M. Bolton, assistant secretary of the Army for acquisition, logistics and technology, Lt. Gen. Joseph Yakovac, military deputy to the assistant secretary of the Army for acquisitions, logistics and technology and Dr. Grace Bochenek, TARDEC executive director for research/technical director.

Many visitors were impressed with the crew station layouts, the expeditious 12-week integration time and the limited budget constraints within which the program goals were accomplished. This vehicle is part of a larger program of improving battlefield based mobile command centers.

Another impressive exhibit that captured the attention of conference participants was the Explosive Ordnance Disposal TALON exhibit. Through the SBIR program, TARDEC and Foster-Miller Robotics have developed and prototyped a mounting bracket system that allows a PAN disruptor to be employed on a SUGV. The improved method utilizes a TALON SUGV equipped with an inexpensive recoil-mitigating mount for the PAN disruptor which allows the EOD technician to evaluate the IED and orient the PAN while remaining at a safe stand-off distance the entire time.



From left: John Schmitz, P.E., Luke Hess, and Robert Washburn at the Stryker exhibit during the 2004 Senior Acquisition Leadership Conference

The shock-reducing mount mitigates the recoil from the disrupter so that it can be used in an SUGV, preventing undue lifecycle damage. The complete system allows an EOD soldier, able to control an SUGV from as safe location, such as an armored vehicle or bunker, from initial inspection through the rendering-safe of an IED.

Other highlights included two Hybrid HMMWVs, one displaying off the shelf industry hybrid technology from Solectria Corporation and the other showcasing enhanced military hybrid capability developed by TARDEC's Combat Hybrid Power Systems (CHPS) program. The HMMWVs were able to supply continuous mobile battlefield power to the event's command and control center. Conference attendees were surprised and impressed to see the center's radios and computers operating off of the mobile power platforms.

According to event organizers, due to TARDEC's wide range of programs exhibited, many program and product managers were impressed to see how the research and development community has and is responding to PEO/PM needs.



The PAN TALON and the ODIS were exhibited on St. Vith's Range at Fort Knox during the 2004 Senior Acquisition Leadership Conference.

Laboratory's School Supplies Drive Helps Kids In Need

By Stephany Jaramillo,
U.S. Army Research Laboratory Public Affairs Office

ADELPHI, Md. – Feeling a commitment to be a good community neighbor, U.S. Army Research Laboratory personnel have demonstrated a history of giving to needy children through its annual Back to School Supplies Drive. Through it, underprivileged youngsters in grades K- 6 from diverse cultural backgrounds receive everything from pens and pencils to notebooks and backpacks.

This year's generosity made this one the most successful of all. Ninety shopping bags full of school supplies were delivered to Beltsville Elementary School, Md. for the opening days of the new school year. That was 25 bags more than last year's drive. More than 2,000 items were packed in the shopping bags, accompanied by \$185 in cash contributions to be used to help pay school fees for children in need who would otherwise not be able to participate in activities such as educational field trips.

The increase in this year's donations is due not only to the kindness of all those who filled the collections boxes near each elevator, but also to the efforts of one innovative member of the ARL workforce, graphic artist Dave Choat. Instead of helping fill a collection box, Choat filled his red Subaru Outback full of school supplies and a cookie tin with \$65 in cash. He did it by rallying his friends to give to ARL's school supplies drive. Working in ARL's environment of innovative technology, he did it in a high tech way -- via an electronic journal. The "Live Journal" enables Choat to keep in touch with friends via the internet, and also to get together with them regularly at his home on Wednesday evenings.

The first entry in Choat's journal began when he posted an item from ARL's electronic bulletin board, the Dispatch, asking staff for school supply donations. A personal note he attached pointed out that he and three friends had visited the Beltsville Elementary School which he described as "one of the most crowded schools I have ever seen."

"They need massive amounts of help and aid for their students," Choat said. "We four volunteered there in their tiny computer lab. There are all of these little kids who just aren't able to even afford simple activity fees like \$5. Diane and I are going in on a bunch of items to take to my workplace later this week. Those of you who come over on Wednesday nights are encouraged to participate. Pick up a packet of number two pencils or something from the list, or just plunk your pocket change into the donation can we will have."

Choat went on to remark, "They are so grateful for what they get. I see all of those little faces, so full of energy and hope. They just don't see the mountain of obstacles poverty has set ahead of them. I want to give aid to these kids. It goes directly to them, no middlemen, no holdups. We are so rich, and they are so small. Everything and every item matters."

And it did matter. One of Choat's friends, Nell Codnor who works at the National Oceanographic and Atmospheric Administration, replied after her shopping trip for supplies, that she had taken about \$30 in spare change and set out to buy school supplies to donate to the drive.



Dave Choat, U.S. Army Research Laboratory graphic artist, adjusts the load of school supplies that he collected for Beltsville Elementary, an ARL partnership school.



"I went to Office Depot," she continued, "and told them I was buying stuff to donate to Beltsville Elementary School and was it alright if I used coins. They said sure and then I asked if they would give me a discount in order to make those coins go further. The woman looked concerned and suggested I ask the assistant manager. I waited for him to finish with a customer and asked. He paused and looked very serious. I thought, oh no, I pushed my luck, and was about to interrupt his thought process to say 'Hey, No is an acceptable answer' when he said, 'How about if I give you 50% off? And have someone call me before you go, I have stuff I want to give you too.'"

She wound up with \$45 worth of school supplies and 40 backpacks filled with school supplies to donate to the school.

Associate Director Honored with Meritorious Civilian Service Award

U.S. Army Edgewood Chemical Biological Center

EDGEWOOD, Md.--The Secretary of the Army recently honored Dr. James A. Baker, associate director of ECBC, with the prestigious Meritorious Civilian Service Award.

The award, which recognizes outstanding performance and significant contributions to the Department of Defense, is one of the highest Department of the Army honorary awards.

Dr. Baker has served as associate director of ECBC since 2000 and during that time helped lead the organization through a period of extensive growth. Over the past five years, ECBC has increased staff by 20 percent, while nearly quadrupling revenue.

The award cited Dr. Baker's superior leadership and extensive scientific background as being critical to ECBC during this time of great change. Dr. Baker was also lauded for his dramatic impact on the Center's support to the Warfighters and other government agencies this year.

(Submitted by Edgewood Chemical Biological Center Public Affairs Office)



ECBC Associate Director Dr. James Baker



Maj. Gen. John C. Doesburg presents the Meritorious Civilian Service Award to Dr. James Baker, associate director of ECBC.

Sci-Fi Show Inspires U.S. Army Research Laboratory Engineer

By Tonya Johnson
U.S. Army Research Laboratory Public Affairs Office

ALDEPHI, Md. --Dr. Arturo Revilla's fascination for "Star Trek" lured him to a career in science.

"One of the things that I liked about 'Star Trek' is that it showed people working towards common goals and co-existing peacefully in spite of their differences," said Revilla. "The show helped reinforce my love for science because I've always believed that the future is out there, beyond the confines of this world."

His enthusiasm for science is paying off because Revilla is being recognized for his work. He is one of 23 chosen for the 2004 Luminary Honoree Program by the Hispanic Engineer National Achievement Awards Corporation (HENAAC). He will be recognized for his achievements at the annual conference Oct. 7-9 held this year at the Pasadena Convention Center in Pasadena, Calif. The luminaries chosen for this award represent the top Hispanic professionals in engineering, science, and technology.

"It's an honor to be selected for this award," said Revilla. "This is the first time that HENAAC has honored people as luminaries, and I am humbled to have been selected as part of this first round."

Revilla, a computer engineer in the Survivability and Lethality Analysis Directorate at White Sands Missile Range, N.M., has worked at the U.S. Army Research Laboratory for four years. He works in the Information Operations and Missile Defense Branch where his focus area is in information assurance. His mission is to protect Army tactical information technology systems from information operations threats in the battlefield and at home.

"I love my job," said Revilla. "I want people to know me as the person they can always go to get the job done. I got my work ethic from my parents because they always pushed me and my siblings to excel and never to shy away from responsibility."

Revilla was nominated for the HENAAC award by his supervisor, Dan Landin, chief of the Information Operations and Missile Defense Branch.

"Dr. Revilla is very dedicated to his work," said Landin. "He constantly exceeds expectations and delivers a superior product to support the survivability of our customer, which in the end is the military men and women protecting our country and our freedom."



Dr. Arturo Revilla

Revilla has words of advice for those starting out in the technical and science career fields or those making the switch to these areas.

“Always work for the things that you want with the passion they require,” he said. “In our world today, technology and science are leading the way to our future and what better opportunity could one ask for than to work in a field that pushes those boundaries? I believe that if one has the desire to succeed, it doesn’t matter where one comes from or where one has been, all that matters is what one wants to do with the opportunities one has.”

Revilla has both bachelor and master of science degrees in electrical engineering from the University of Texas at El Paso. He also has a Ph.D. in computer engineering from the same university. Prior to attending college and working at ARL, he served in the Army for three years as a medical laboratory technician at Fort Campbell, Ky. and worked at the Jet Propulsion Laboratory in Pasadena, Calif.

As a former soldier, Revilla is proud to have served in the Army and now work as a civilian employee.

“It’s satisfying to work on research that directly impacts the direction the Army takes,” he said. “It’s a challenging job, and I can do research here that I can’t do anywhere else. I like to think that in a way I’m helping to make sure our soldiers can come home safely. Where else in the world can you do that?”

Nobel Laureate Smalley Agrees to be Guest Researcher at Laboratory

U.S. Army Research Laboratory

ADELPHI, Md. –Richard E. Smalley, an American chemist and physicist who shared the 1996 Nobel Prize for Chemistry with Robert Curl and Harold Kroto, for their joint discovery of C₆₀ molecule, has accepted an offer to become a guest researcher at the U.S. Army Research Laboratory. Dr. Smalley is the Gene and Norman Hackerman professor of chemistry at Rice University, as well as a professor of physics.

C₆₀ – also called buckminsterfullerene or “buckyball” – is a soccer ball-shaped molecule, which together with other fullerenes now constitutes the third elemental form of carbon (in addition to graphite and diamond).

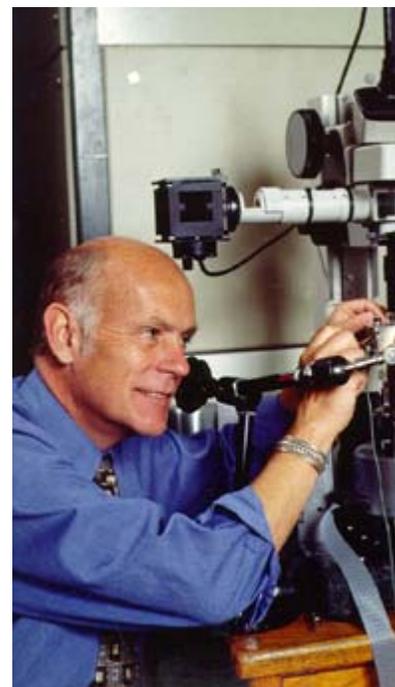
Smalley's current research is on carbon tubes, elongated fullerenes that are essentially a new, high-tech polymer. In addition to their remarkable electrical properties, carbon nanotubes are incredibly strong. They have a tensile strength about 30 times greater than steel, while having only 1/6 of its weight, making it the strongest fiber ever made.

Smalley will collaborate with ARL scientists in its Weapons and Materials Research Directorate to investigate the applications of single-walled carbon nanotubes – or “buckytubes”, a tubular form of fullerene – in nanotechnology areas such as molecular electronics and multifunctional nano-materials. WMRD researchers are developing novel materials with engineered functionalities to bridge the gap between future operational capability and technology needs of the Army.

In addition to his academic appointments at Rice University, Smalley also heads the Carbon Nanotechnology Institute, which includes faculty members and students from a broad range of disciplines, including chemistry, physics, biochemistry, materials science, chemical and electrical engineering.

Their research concentrates on single-walled carbon nanotubes that offer revolutionary electrical, thermal and mechanical properties on the nanometer scale. The goal of the group is to develop the underlying basic science as well as methods of production, purification, derivatization, analysis and assembly of the objects, which will then be used to solve real world problems.

(Submitted by Army Research Laboratory Public Affairs Office)



Richard E. Smalley, an American chemist and physicist, has accepted an offer to become a guest researcher at the U.S. Army Research Laboratory.

Sanders Takes Silver in the Armed Forces Golf Championships

U.S. Army Research Laboratory

ABERDEEN PROVING GROUND, Md. -- Capt. Shelley Sanders took some time away from her duties at the U.S. Army Research Laboratory last month to play some golf in Colorado Springs, but it wasn't a vacation. She was competing for the Army as a member of the All-Army Golf Team in the Armed Forces Golf Championships.

"We were really hoping to win this year since the Army was hosting the championship," Sanders said but, alas, the team came in second taking a silver medal to the Air Force's gold. She also took a silver medal in the women's division finishing with a total four-round score that was only one stroke behind the winner. "But I enjoyed it," she said. "It was great to be able to represent the Army."

In order to make the team, Sanders had to apply to the Department of the Army Sports Office to get an invitation to try out. She was invited and played four rounds at the trials in Fort Carson, Colo., at Cheyenne Shadows Golf Course, the same course where the championships were held the following week. Her total score won her a position on the All-Army team, which was made up of six men and three women.

Sanders said she normally carries a six handicap; however, she admits she didn't shoot like it at either the trials or championships, pointing to the wildly changing weather and the length of the course as the culprits.

"We played in 90 degree heat, we played in 35 mph wind gusts, and we even played in rain, sleet, snow, and hail," she laughed.



Capt. Shelley Sanders strokes a practice putt at Ruggles Golf Course, Aberdeen Proving Ground, Md. Sanders competed in the recent Armed Forces Golf Championships as a member of the All-Army team.

This was actually her second Armed Forces Golf Championship. "I was also on the 1998 Team; but due to duty assignments, I have not been able to participate again until now," she explained.

A native of Kosciusko, Miss., Sanders says she hit the ball around a few times with her father while growing up but didn't really take up golf seriously until about 10 years ago. Before that she was more interested in basketball and played in high school and college.

She holds a bachelor's degree from Southern Mississippi University in mathematics and a master's degree from the University of Central Florida in industrial engineering. Sanders has been at ARL for about a year in the Weapons and Materials Research Directorate. She serves as Military Deputy for the Materials Division and is currently working in lubricant technology.

"This is the first assignment where my science and engineering backgrounds both apply," she said, adding that her previous assignments were in military operations. She said that it is also the first time she has worked where civilians greatly outnumber military personnel.

"I really like it," she said, "I'm able to provide a military perspective and I want to help anyway I can."

When time allows, she tries to get in a least one round of golf every week at APG's Ruggles Golf Course and she would like to play in the Armed Forces Championships again next year. "Because of my performance this year, it's likely that I could get an invitation (to try out) and, if my duties permit, I'll be there," she said.

(Submitted by U.S. Army Research Laboratory Public Affairs Office)



Capt. Shelley Sanders practices her driving at the Ruggles Golf Course, Aberdeen Proving Ground, Md.. Sanders recently competed on the All-Army Golf Team in the Armed Forces Golf Championship at Ft. Carson, Colo.

Soldiers Add 'Color' to Events

U.S. Army Soldier Systems Center

NATICK, Mass. -- A mostly quiet presence on a small research and development installation, Soldiers at the U.S. Army Soldier Systems Center here have taken on a higher profile in recent months serving as color guards at local public events.

One request sent a five-Soldier detail to escort Old Glory at the National Football League's season opener Sept. 9 pairing the New England Patriots against the Indianapolis Colts at Gillette Stadium in Foxboro. They capped the pre-game extravaganza, setting up the singing of the national anthem and start of the game.

"It was an awesome experience," said Pfc. Bobbie Smith, a human research volunteer with Headquarters and Headquarters Detachment. "I didn't expect so many people to be there. They treated us with respect, and we were able to stay on the (sidelines) for the whole game."

On May 22, a color guard marched onto the field at Fenway Park before the Blue Jays vs. Red Sox game. Other professional teams have been served by a Soldier Systems Center color guard in past years, said Staff Sgt. Ramona Long, detachment sergeant, but their reach spreads into a variety of community gatherings.

"It's a good way to get our name out there and gives the Soldiers a chance to participate in community activities," Long said. "We're fostering a community working relationship and spirit."

The scope of color guard assignments ranges from parades and meetings to opening or dedication ceremonies. Events have included the perennial Fourth of July and Veterans Day parades in Natick, Natick Little League season opening, Memorial Day assembly for the Bellingham school system, Wellesley town hall meeting and Institute for Soldier Nanotechnologies opening in Cambridge.

"Having a color guard present is a chance for people to see the colors and pay their respects. It's a good way to show honor and respect for the freedoms we have," Long said.

The fluctuating and tiny pool of Soldiers stationed here in any month means that different troops are selected for the detail. Long said a unique aspect of the Natick color guard is the mixing of permanent-duty and temporary-duty human research volunteers, who rotate through assignments to gain experience.

Especially for the plum assignments, she selects available Soldiers who are in good standing as a reward, but attempts to get everyone involved. For uniform appearance, she is careful to choose Soldiers who have a similar height.

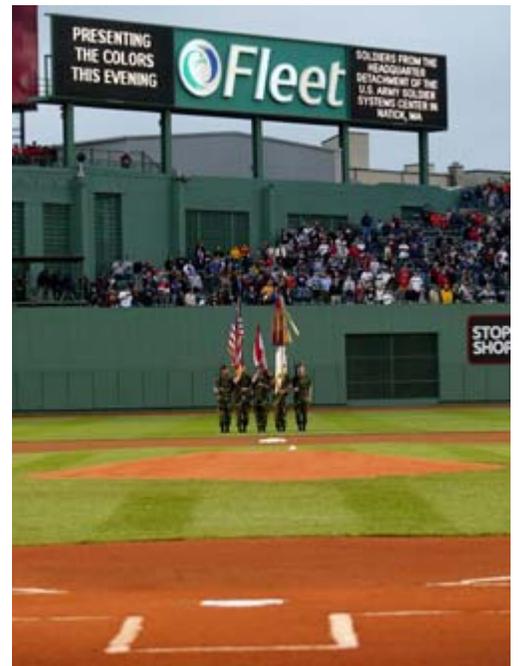


Photo by Julie Cordeiro/Boston Red Sox
U.S. Army Soldier Systems Center color guard performing at a Red Sox game this past June. (Any use of this photograph and the manner in which such photograph may be used (whether by the intended addressee(s) of this electronic message or otherwise), requires the prior written consent of the Boston Red Sox Baseball Club Limited Partnership. The unauthorized use of this photograph by any person or entity is prohibited.)



Regulated by Army Field Manual 22-5, "Drill and Ceremony," a color guard consists of a noncommissioned officer giving commands and two rifle-bearers flanking either two or more flag-bearers. Besides the American and Army flags, other flags that could be included are state, or another flag appropriate to the event, such as the Canadian flag before a game with a team from Canada.

When National Guard Soldiers augmented the security force, actual M-16s with the firing pins removed were used, according to Long. Dummy M-16s were acquired by the detachment and are now used as ceremonial rifles.

Long said she tries to balance color guard requests with regular duties, and in the past year has involved available Soldiers at the Army Research Institute of Environmental Medicine on post to assist.

Practices are scheduled for two to five hours for two or three days before the event and on the day of the event to ensure all the motions are synchronized and properly executed. Long said sometimes they have to modify their movements depending on the site, but they attempt to not drift too far from the regulation.

"We've yet had a color guard where we've been embarrassed," Long said. "No matter what kind of day they've had, when it comes to the event, they are 100 percent dedicated, professional and looking good. They always give a good name to Soldiers."

(Submitted by U.S. Army Soldier Systems Center Public Affairs Office)

Identity Theft: Minimizing Your Risk

Identity theft is the fastest growing white-collar crime in America, affecting half a million new victims each year. Thousands of dollars can be stolen without the victim knowing about it for months or even years.

What is identity theft? It's the taking of a victim's identity to obtain credit, credit cards from banks and retailers, steal money from a victim's existing accounts, apply for loans, file bankruptcy or obtain a job using the victim's name, to mention a few. When you think of your own personal assets, chances are your home, car and savings and investments come to mind. But what about your Social Security number and your bank and credit card account numbers?

How does identity theft occur? Skilled identity thieves use a variety of methods to gain access to your personal information by various methods. For example:

- Rummaging through your trash or the trash of businesses or dumps in a practice known as dumpster diving.
- Steal personal information from your home.
- Obtain information from businesses or other institutions by stealing records from their employers, bribing an employee who has access to these records or by hacking into the organization's computers.
- Stealing wallets and purses containing identification and credit and bankcards.
- Scamming information from you by posing as legitimate business owners, Internet service providers and even government officials. For example the Citi Bank Account Verification or the Nigerian Scams to mention a few.
- Stealing your mail, including bank and credit card statements, pre-approved credit offers, new checks or tax information.

If your identity has been stolen or you suspect that your personal information has been used to commit fraud or theft, or compromised in any manner, take the following steps right away:

- Place a fraud alert on your credit reports and review these reports.
- Close any accounts that have been tampered with or opened fraudulently.
- File a report with your local police or the police in the community where the identity theft took place.
- File a complaint with the FTC:

Phone: 1-877-IDTHEFT E-mail - www.consumer.gov/idtheft Address: Identity Theft Clearinghouse, Federal Trade Commission, 600 Pennsylvania Avenue, NW, Washington, DC 20580.

Remember to follow-up your calls in writing; document the names, dates, and times of the person you have talked with; send your letter by certified mail, return receipt requested, and keep all back-up documented paperwork for your files.

How can I protect my information and minimize the risk of identity theft?

- By not giving out personal information over the phone, through the mail, or over the Internet unless you have initiated the contact or know whom you are dealing with.
- Remove your mail from your mailbox after delivery. If you believe your mail was stolen or tampered with, contact your local postmaster or nearest postal inspector.

- Placing passwords on your credit cards, utility bills, bank and phone accounts. Avoid using easily available information like your mother's maiden name, your birth date, the last four digits of your Social Security number or your phone number.
- Secure personal information in your home, especially if you have roommates, employ outside help or are having service work done in your home.
- Deposit outgoing mail in post office collection boxes or at your local post office.
- Shred your charge receipts, copies of credit applications or offers, insurance forms, any documents that may contain your personal information.
- Do not put your social security number on your checks or credit receipts.
- Be careful using ATMs and phone cards.
- Do not put your telephone number on checks.
- Do not put your credit card number on the Internet unless it is encrypted on a secured site i.e., https.
- Pay attention to your billing cycles.
- Cancel all credit cards that you have not used in the last six months.
- Order your credit report. Maryland law allows for each person to receive one free credit report a year from each agency.
- Register with the National Do Not Call Registry, www.donotcall.gov
- Register with the Direct Marketing Association's Mail Preference Service to stop direct mail marketing.

Important links to remember:

- Direct Marketing Association, Mail Preference Service, PO Box 643, Carmel, NY 10512, or email at www.the-dma.org/consumers/offmailinglist.html
- Federal Trade Commission, ATTN: Consumer Response Center, 600 Pennsylvania Avenue, NW, Washington, DC 20580 or call 1-877-382-4357 or email at www.ftc.gov
- Equifax – 1-800-685-1111 or email at www.equifax.com
- Experian – 1-888-397-3742 or email at www.experian.com
- TransUnion – 1-800-680-7293 or email at www.tuc.com
- Postal Services - www.usps.com/postalinspectors/
- US Securities and Exchange Commission – www.sec.gov
- US Department of State (passports) – www.travel.state.gov/passport/
- IRS (tax fraud) – www.treas.gov/irs/ci/
- Social Security Administration – www.ssa.gov
- Federal Communications Center (cell phones) – www.fcc.gov
- TeleCheck (stolen checks) – 1-800-710-9898 or email at www.telecheck.com
- Certegy Inc (stolen checks) – 1-800-437-5120 or email at www.certegy.com

(Compiled by the U.S. Army Research Development and Engineering Command Antiterrorism, Law Enforcement and Physical Security Team)

2004 Army Research and Development Achievement Award Winners Announced

U.S. Army Research, Development and Engineering Command

EDGEWOOD, Md.— Ninety-two employees from the Research, Development and Engineering Command have been selected to receive the 2004 Army Research and Development Achievement Award.

Thomas H. Killion, deputy assistant secretary of the Army for research and development, announced the 2004 RDA Award winners Sept. 17. Those chosen from RDECOM played a vital role in the thirty projects selected as this year's winners.

Selected scientists and engineers distinguished themselves through their proven scientific and technical excellence. According to Killion, their individual contributions promise to improve the Army's capability, and to enhance the Army's transformation from the current to the future force.

The awardees will be honored and presented an official plaque during the 24th Army Science Conference. The conference is scheduled for 29 Nov. – Dec. 2 in Orlando, Fla.

(Submitted by U.S. Army Research, Development and Engineering Command Public Affairs Office)

2004 Scientific Conference on Chemical and Biological Defense Research Set for November

U.S. Army Edgewood Chemical Biological Center

EDGEWOOD, Md.--Edgewood Chemical Biological Center is teaming with the medical community to co-sponsor the upcoming 2004 Scientific Conference on Chemical and Biological Defense Research.

The conference will be held Nov. 15-18 in Hunt Valley, Md. Current research and development projects in the areas of chemical and biological detection, protection, decontamination and supporting science will be presented and discussed by experts in those fields.

More information and conference registration information is available at <http://www.cbdefense.com/index.html>.

(Submitted by U.S. Army Edgewood Chemical Biological Center Public Affairs Office)



U.S. Army Field Band Announces Upcoming Tour

U.S. Army Materiel Command

Members of The U.S. Army Field Band will be performing in Ala., Ark., Miss., N.M., Okla., Tenn., Texas, and Va. during an upcoming tour. As the musical ambassadors of the Army, the concert band and Soldiers' chorus, the jazz ambassadors, and the volunteers each travel more than 100 days annually throughout the U.S. and abroad. During those tours, they reach thousands of citizens who would otherwise have little or no contact with the military.

The concerts are free and open to military service members, their families, and the public. However, tickets are required and these are normally available from the civilian sponsor indicated on the enclosed schedules.

Concert Band and Soldiers' Chorus schedule: [B&C Fall 2004 tour schedule](#)

Jazz Ambassadors' schedule: [Jazz Ambassadors Fall 2004 tour Schedule](#)

(Submitted by U.S. Army Materiel Command Public Affairs Office)