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Ready, Set, Go!



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Army Ground Composite Risk Management Information



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A CALL TO

RIA MARTINEZ
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U.S. Army Combat Readiness Center

There's an old saying that goes, "We're only as strong as our weakest link." I believe you, as a first-line supervisor, are the critical link in the Army's leadership chain. You're the Army's expert when it comes to knowing and protecting your Soldiers.

I ask you to read the preliminary loss report on the following page. As you will see, three Soldiers died in an M1114 accident in Iraq. Whether Soldiers die on the battlefield or from accidents stateside, their loss affects the Army's mission, morale, resources, and overall readiness. A loss is a loss, regardless the cause.

As a retired Army NCO, I know Soldiers are only as good as the training their leaders provide. If leaders don't train Soldiers to be safe, who will? As a first-line supervisor, you're the first leader your Soldiers see in the morning and the last one they see before heading out at night. They depend on you to show them what "right" looks like.

You can teach your Soldiers what right looks like by training them to use Composite Risk Management (CRM). By doing so, you empower them to reduce losses, which benefits you, your organization, and the entire Army. Using CRM is not a great mystery; it's the same five-step risk management process outlined in Field Manual 100-14, *Risk Management*. What makes



LEADERS

CRM, they can gain experience completing risk assessments for normal and long-range planning. Even better, they'll learn how to quickly perform risk assessments under any circumstances.

Once Soldiers accept and understand CRM, they'll automatically have their "risk mode" activated. As CRM becomes automatic, Soldiers will better protect each other—whether in combat or in garrison, day or night. And CRM isn't just limited to on post. Soldiers who've taught their families to identify and avoid hazards can deploy with greater peace of mind, knowing their families will be safer.

On the battlefield, Soldiers using CRM can tell their buddies, "I've got your back," confident they've thought through the dangers and planned for them. Because they've asked themselves, "What's going to kill me or my buddies," they're better prepared to defeat the enemy and come home alive.

That's why you're so important

CRM different is it addresses not only accidental losses, but also those caused by combat, suicide, medical, and other issues. To quickly review the five steps:

the risk is extremely high, high, moderate, or low.

Step 3—Develop Controls and Make Decisions: Develop options to reduce the risk(s) and decide the best controls.

Step 4—Implement Controls: Follow through with your plan.



PLRs

Three brigade combat team Soldiers were killed in an M1114 rollover accident in Iraq. The HMMWV was the last vehicle in a three-vehicle patrol. The crew was operating in blackout drive and using night vision devices on a gravel road. The driver failed to negotiate a large washout as the road sloped and curved left. The M1114 overturned into an adjacent canal, where it remained submerged until being located by patrol and recovery operations. The 19-year-old driver (a private first class), the 27-year-old vehicle commander (a sergeant), and the 21-year-old gunner (a specialist) drowned.

Step 1—Identify Hazards: Identify what will hurt you, your Soldiers, and the mission.

Step 2—Assess Hazards: Determine the probability and severity of each hazard and establish whether

Step 5—Supervise and Evaluate: Make changes as needed.

CRM was designed to be ongoing and flexible to meet the changing missions and environments Soldiers encounter in garrison and on the battlefield. As you teach your Soldiers to use

as a first-line supervisor. The training you give your Soldiers is their best defense against the twin hazards of enemy action and accidents. You're training your Soldiers to both win and survive! 

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the 5-ton highway

SFC RUPPERT BAIRD
Task Force 1-151 Aviation
South Carolina Army National Guard

The troops were excited. After years of annual training exercises at Fort Bragg, NC, the unit was deploying to Fort A.P. Hill, VA, for an Apache gunnery exercise. Many Soldiers claimed they could easily traverse the distance to Fort A.P. Hill with their eyes closed—if it weren't for the highway traffic. So it was with quiet anticipation that the unit geared up for the 2-day movement to Virginia up Interstate 95.

Ours was a four-chalk convoy. My truck commander (TC) and I were in an M1038

HMMWV towing a trailer, and we were number three in the first chalk. In front of us was a 5-ton truck loaded with two fuel pods and hauling a flatbed trailer carrying another fuel pod. The convoy commander and battalion command sergeant major were in the lead vehicle, an M998 HMMWV.

The first leg of our trip was uneventful, and we made it to the first rest stop with no problems. We pulled into a rest area, used

the restrooms, and bought snacks and cold drinks from the vending machines. We left the rest area just as the second chalk pulled up for their break.

Traffic on that early Saturday morning was typical for a summer weekend, and cars seemed to flow smoothly around our slower convoy. We'd just entered a section of six-lane superhighway when the driver of the 5-ton—which was directly in front of my vehicle—hit his

“ “ When he walked up to the truck and opened the door, the driver was slumped over the steering wheel sound **asleep.** ” ”

brakes, swerved hard to the left, and entered the passing lane. The truck then jerked back hard to the right, crossed all three lanes, and entered the right shoulder. After that, the truck eased back into the convoy behind the lead HMMWV.

My TC and I stared in dumbfounded silence at the performance. There miraculously hadn't been any vehicles in the other lanes during the 5-ton's dangerous highway ballet. Barely 5 minutes later we pulled off the highway for a rest and refuel break at a truck stop.

As I was exiting my vehicle, I saw my TC head straight for the 5-ton. I turned to find the driver's platoon sergeant, and I had a pretty good idea of what had happened.

The TC confirmed my suspicions. When he walked up to the truck and opened the door, the driver was slumped

ballet

over the steering wheel sound asleep. The driver was awake—albeit groggy and bleary-eyed—by the time his platoon sergeant and I got to the truck. He told us that all he could remember was being startled as his assistant driver started yelling. When he looked up, he saw the 5-ton was literally inches from the command HMMWV.

This driver worked nights at his civilian job and had shown up to drill on time, but with just 2 hours of sleep since leaving work. He was the assigned driver and felt fully capable of driving his 5-ton on the long trip. As such, he didn't tell his platoon sergeant he'd just

gotten off the night shift at work. The platoon sergeant was confident in the driver's skills and professionalism and had no reason to question his ability to pilot the truck in the convoy. It was only the assistant driver's warning, the driver's quick reflexes and skills, and the lack of civilian traffic at that precise moment that prevented a disaster of nationally newsworthy proportions.

We found a replacement driver for the young, overzealous Soldier. After turning over the 5-ton's keys, he climbed into the backseat of a HMMWV and got some much-needed sleep. We spent the night at an

armory along the route, and the entire convoy arrived at Fort A.P. Hill safely the next day.

We were lucky that Saturday morning, but we also learned some valuable lessons no one in the battalion would soon forget. Like our driver, most young Soldiers are too "hooah" to admit they're too tired to accomplish an assigned task. It's therefore up to leaders to ensure their Soldiers are fit for duty, whether the mission is at home or in theater. Stay safe and stay fit for the fight! 

Contact the author by e-mail at ruppert.baird@us.army.mil.

DID YOU KNOW?

It's now easier for Soldiers to pin on the Army Driver and Mechanic Badge. The former requirement, which mandated that a Soldier occupy a duty position with title of driver or assistant driver of Army vehicles, recently was eliminated. To qualify under the new criteria, a Soldier must:

- Qualify for and possess a current OF 346, "U.S. Government Motor Vehicles Operator's Identification Card," issued in accordance with Army Regulation 600-55; and
- Be assigned duties and responsibilities as a driver or assistant driver of Government vehicles for a minimum of 12 consecutive months, or during at least 8,000 miles with no Government motor



vehicle accidents or traffic violations recorded on DA Form 348-1-R, "Equipment Operator's Qualification Record (Except Aircraft)"; or

- Perform satisfactorily for a minimum of 1 year as an active qualified driver instructor or motor vehicle driver examiner.

Winter is upon us and, depending on their location, Soldiers are encountering various weather conditions. Regardless the weather, missions must go on; as such, Soldiers must be prepared to drive in all types of conditions, be it snow, ice, or fog. Soldiers driving in these conditions must have the facts and skills necessary to complete their missions safely and successfully.

Snow

2LT ERIK JOHNSON
Indiana Army National Guard

Snow

Snow forms when water vapor in the air freezes and creates small ice crystals. Some common hazards associated with driving in snow include reduced visibility and traction, less directional control, and increased braking distance. When snow melts and refreezes, however, drivers encounter even more hazardous road conditions. Intersections, high-traffic areas, and shady spots that were exposed to direct sunlight earlier in the day all are prone to ice over from melted snow. During snowy conditions, drivers must reduce their speed, brake moderately, make turns slowly, and increase the following distance between vehicles.

Ice

Another dangerous condition associated with winter weather is windshield icing. Windshields and other glass surfaces can ice over when the temperature is low enough to freeze moisture on ground surfaces. Conditions are ripe for windshield icing any time there's visible ground haze.

All ice must be removed from the vehicle's windshield and other windows before operations begin, preferably with the vehicle's defroster. Preventive maintenance checks and services should be performed on each vehicle to ensure the defroster and heater system are functioning properly. It's a good idea to keep an ice

scraper in each vehicle just in case the defroster stops working.

Black ice—a thin sheet of dark ice on the roadway—is extremely dangerous because it's hard for drivers to detect before they're actually on it. Black ice forms when light rain or drizzle falls on a road surface below 32 °F or when super-cooled fog droplets accumulate on bridges and overpasses. A roadway covered with black ice appears wet when the ambient temperature is below freezing.

Drivers must use extreme caution when driving on suspected black ice surfaces. Vehicles that hit black ice have little to no traction, which means little to no braking capability, and extremely poor directional control with a heightened possibility of skidding. Optimally, movement should stop in black ice conditions. However, if the mission must go on, drivers should reduce their speed, accelerate very slowly, increase the following distance between vehicles, brake very lightly, and make all turns gradually and slowly.

Frost heaving, a condition related to icing, is the uneven lifting and distortion of the ground close to the surface. Frost heaving is the result of water

DID YOU KNOW?



Yes, it snows in Iraq. The mountainous regions in north and northeastern Iraq, which include the cities of Mosul and As Sulaymaniyah, receive heavy snowfall each winter, especially during December, January, and February. Afghanistan experiences much harsher winters than Iraq. More than 49 percent of Afghanistan is made up of mountains at least

2,000 meters high. (In comparison, Mount St. Helens in Washington State stands 2,550 meters high.) Afghanistan experienced record snowfall and cold temperatures in the early months of 2005, with nighttime temperatures in Kabul dropping to -64 °F! In Kosovo, snow typically falls between November and March, with the greatest occurrences in January.



Ice, and Fog Oh My!

within the soil freezing and expanding. This expansion might damage the road surface and loosen tree roots. The biggest danger associated with frost heaving is the possibility of trees falling across roads, but uneven road surfaces are much more common. Such uneven surfaces can interrupt directional control, which is especially problematic in areas such as curves. Drivers should slow down and look for buckled or uneven patches on the road during freezing weather.

Fog

Valley fog forms when cold, dense air drains from areas of higher elevation into low areas or valleys. As the cool air accumulates in the valley, the ambient temperature sometimes decreases to the dewpoint temperature and creates dense fog. Drivers should expect reduced visibility and turn on the vehicle's lights, slow down, and increase the following distance between vehicles when driving in fog.

Freezing fog is composed of supercooled water droplets that form when the temperature falls below 32 °F. These droplets freeze and form ice as soon as they

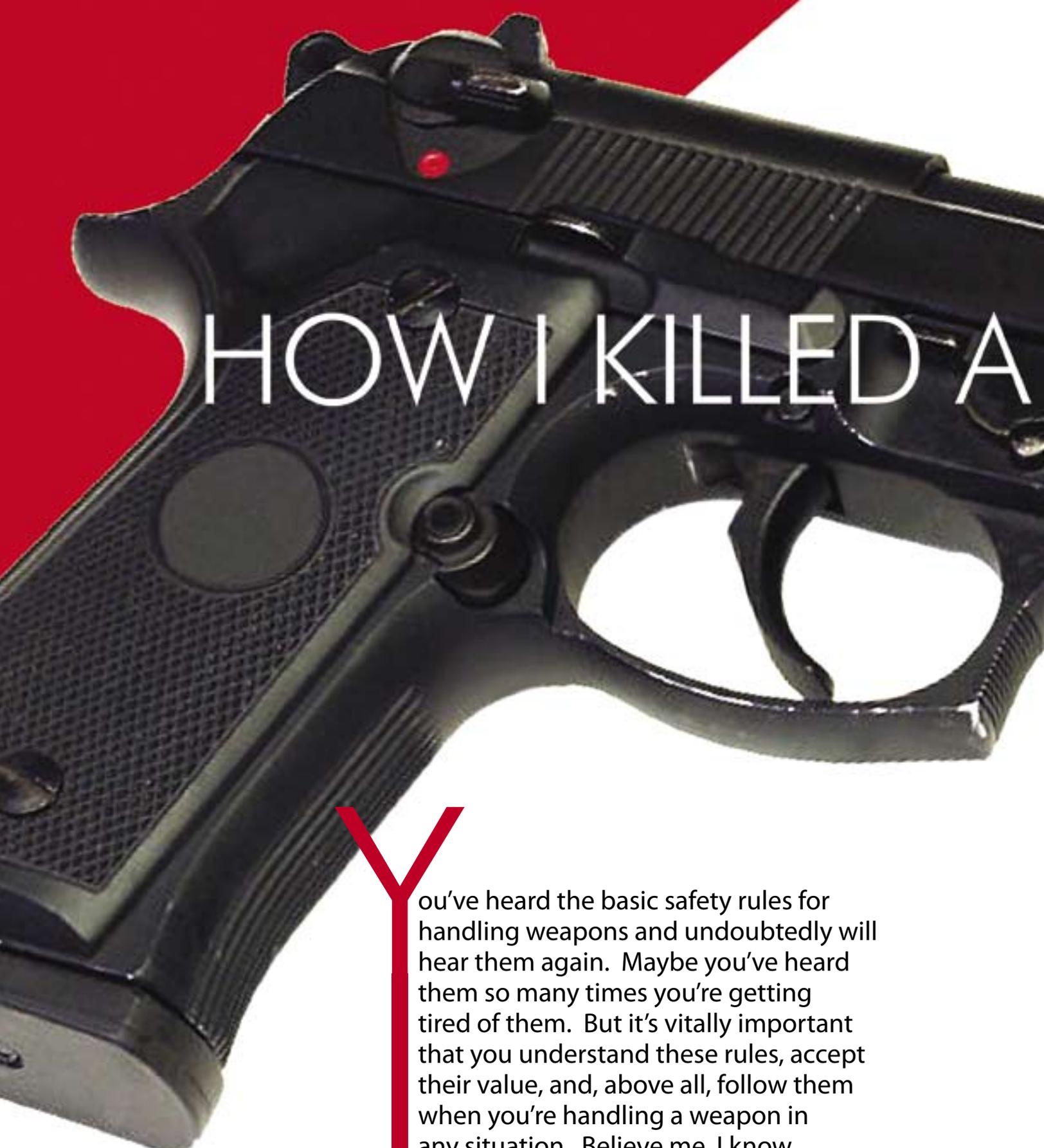
contact a cold surface. Freezing fog creates driving problems such as reduced visibility, poor traction and directional control, and possible skidding. Drivers should turn on the vehicle's lights, reduce their speed, accelerate slowly, increase the following distance between vehicles, brake moderately, and make turns slowly.

Conclusion

Remember these guidelines when you're performing mounted patrols and missions this

winter and, most importantly, SLOW DOWN! The cold won't last forever. If you and your Soldiers make it through the winter accident-free, you'll have even more reason to celebrate when spring finally comes! 🚗

Editor's note: 2LT Johnson wrote this article while serving as the Task Force Protector Safety Officer at Camp Bondsteel, Kosovo. He may be contacted by e-mail at erik.n.johnson@us.army.mil.



HOW I KILLED A

You've heard the basic safety rules for handling weapons and undoubtedly will hear them again. Maybe you've heard them so many times you're getting tired of them. But it's vitally important that you understand these rules, accept their value, and, above all, follow them when you're handling a weapon in any situation. Believe me, I know.

“**Blood** pooled on the floor as I scrambled to give him first aid.”

FRIEND

PVT JOHNATHAN T. MARKERT
Marine Corps Prisoner
Camp Hansen, Okinawa, Japan

I graduated boot camp and infantry school with ease, and I was eager and motivated to hit the fleet. Being sent to Hawaii was a dream come true. Senior Marines were very encouraging and told me I was going to go places in the Corps.

We went on our annual unit deployment program to Okinawa, Japan, and I couldn't have been more excited. I was assigned to stand post as a sentry at the gates of Camp Hansen, which would involve handling loaded 9 mm pistols. Not a problem for me; I thought, "I'm a machine gunner and a pistol is my secondary weapon. I know this gun inside and out." Unfortunately, I disregarded basic safety rules and ignored what a 9 mm round can do to a human being.

On a quiet Sunday evening in June 2003, two Marines and I were scheduled for duty at one of Camp Hansen's gates. We climbed into the back of a HMMWV to be driven to post. A quarter-mile ride to the gate was all it took for my life to change and a fellow Marine's life to end.

A close friend and I pulled out our 9 mm pistols and began to play around with them. We pointed the weapons in all directions, including at each other; put them on "fire;" and cocked the hammers. We then began a mock tussle, which was all it took for my pistol to fire.

My world stopped moving at that point, and a tragedy began for me, my friend, our families, and many others. I

went into shock and thought it couldn't be happening, but it was happening right in front of me. I'd shot my friend and fellow Marine in the head.

I froze as he slumped to the floor of the HMMWV. Blood pooled on the floor as I scrambled to give him first aid. By this time other Marines had converged on the HMMWV. Someone said he was dead, but I found he still was breathing. I thought I could stop the bleeding with my shirt. But as I wrapped the shirt around his head, I felt tissue and other matter near the wound. I feared for my friend's life and was numb with despair by the time EMT personnel arrived and took him from my arms. They took him to the



“ Treat every
weapon
as if it’s
loaded”

hospital, where he languished for 8 days before succumbing to the wound I’d inflicted.

I was handcuffed and taken to the provost marshal’s office, where the investigation and the longest night of my life began. The investigators asked detailed questions and focused on our horseplay. The process was painstaking and added a helpless feeling of regret to my fear and despair. I couldn’t see—let alone accept—that a moment of foolishness could lead to something so horrible. I was placed under suicide watch after questioning and on legal hold and liberty risk upon my release.

Six months of agony and

anguish passed before my court-martial, which was as heart-wrenching as a funeral and as bad as reliving your worst nightmare. Facing more than 20 years in prison and discharge from the Corps was very frightening and difficult. However, nothing was as hard as seeing and hearing what my friend’s mother, father, and sister had been through. I also had to face the effect my trial had on my own mother and brother-in-law, a former Marine who’d accompanied her to Okinawa for support.

I stood up at sentencing and told my friend’s family how sorry I was. Somehow they were able to graciously accept my apology. I believe they understand their son was my close friend and his death was an accident. Even so, I must live each day knowing I killed my friend and a good Marine.

No matter how skilled or comfortable you are with a weapon, the basic safety rules still apply. Remember “Treat, Never, Keep, Keep:”

- Treat every weapon as if it’s loaded
- Never point your weapon at anything you don’t intend to shoot
- Keep your finger straight and off the trigger until you’re ready to fire
- Keep your weapon on safe until you intend to fire

I write this from the brig as a discharged Marine with the belief I can be of some help to anyone who reads or hears my story. This tragedy, with all its pain and suffering, could’ve been avoided if I’d simply followed the above rules. Weapons don’t care if you’re just playing around and have no regard for you, your skill, intentions, or brother Marines. It’s you who must think and act with care and purpose.

Horseplay Kills

JULIE SHELLEY
Editor

In February 2005, the Army Combat Readiness Center (CRC) developed a new tool for commanders called "preliminary loss reports" (PLRs), which are generated for each Class A Army accident involving a fatality. Every PLR contains the basic facts of the accident and suggested tactics, techniques, and procedures based on the information available and lessons learned from similar accidents. The PLRs are sent to brigade commanders and above and select command sergeants major to share lessons learned. Countermeasure will spotlight certain PLRs in each issue, and this month's "PLR Files" focuses on a negligent discharge accident that killed one Soldier.

Soldiers kid around with each other all the time. There's nothing to laugh about, however, when a Soldier dies because the horseplay went a little too far. That Soldier's family, friends, unit, and our Army suffer a terrible loss that can never be filled. Losses are especially painful when a Soldier is killed in a blatant act of negligence.

Negligent discharge incidents have received much attention since the beginning of the Global War on Terrorism. A rash of fatalities involving issued weapons occurred during late 2003 and carried over into 2004. Fortunately, the numbers have tapered off somewhat, but there still were five Soldier fatalities attributed to negligent discharges in Fiscal Year (FY) 2005. At the beginning of FY06, another negligent discharge accident tragically highlighted the importance of "treating every weapon as if it's loaded."

A sergeant was in a tent and had his M9 sidearm strapped on his uniform. Another Soldier told the sergeant the weapon was still loaded

with a magazine. The sergeant replied the M9 was not loaded and, inexplicably, put the gun to his head and pulled the trigger. But the weapon was loaded, and the sergeant died from the resulting gunshot wound.

No one will ever know what that sergeant was thinking or why he put that gun to his head. All indications are he truly didn't believe it was loaded. Was he trying to prove a point? Or was he just playing around? It's not up to anyone to speculate the reasons now. The fact is a Soldier died needlessly by his own bullet.

It's every Soldier's responsibility to make sure they and their buddies act in the safest manner possible, whether

**it's not a game or
the movies,**



this is LIFE and DEATH.

they're on a mission, off duty in a combat zone, or on the highways back home. Safe weapons handling is an essential element of combat readiness, so ensure your unit follows and strictly enforces all established procedures. The end result of carelessness often means someone gets hurt or killed.

For more information on weapons handling procedures, visit the CRC's Web site at <https://crc.army.mil>. A copy of the Army's Weapons Handling Procedures guidebook can be downloaded at https://crc.army.mil/MediaAndPubs/magazines/countermeasure/2004_issues/safeweaponpullout.pdf. Anyone wanting more information also can contact Julie Shelley, Countermeasure editor, at (334) 255-1218, DSN 558-1218, or by e-mail at countermeasure@crc.army.mil.

Not doing so is the first step toward disaster, a lesson I learned on a night that I'll never stop thinking about. 

Editor's note: On 20 January 2004, PVT Markert's general court-martial convened. In accordance with his pleas, he was found guilty of involuntary manslaughter and reckless endangerment. The military judge sentenced PVT Markert—then a private first class—to a bad-conduct discharge, 3 years confinement, and reduction in rank to private. Prisoner Markert is serving his confinement at the brig aboard Camp Hansen, Okinawa. On previous occasions, Marines from Markert's section had been known to handle their weapons in inappropriate ways. He developed a false sense of comfort in handling his M9 while on guard duty. No matter their branch of service, NCOs must be vigilant with their younger troops and ensure their behavior, including weapons handling, is in accordance with good order and discipline.

Article reprinted with permission from the Winter 2005 issue of *Ground Warrior*, the Marine Corps' ground safety publication. The issue can be found online at <http://www.safetycenter.navy.mil>.

Driving a 72-ton tank is one of the most exciting jobs in the Army. This excitement, however, also comes with a lot of responsibility. An M1 tank crew consists of four crewmen, and each one must be well-trained and experienced in their duties. The two incidents described below are the latest accidents involving M1 tank drivers trapped in the drivers' compartment.

In the first accident, an M1A2 crew was directed by their company commander to reconnoiter an area that was on fire. Once there, the track commander (TC) determined the fire was caused by burning brush, which included reeds between 8 and 10 feet tall. The fire was within one kilometer of the company's command post and a possible ammunition cache. Following their commander's guidance, the crew attempted to improvise a fire break using the M1A2.

The burning brush and heavy vegetation limited the TC's visibility, so he moved the tank up on a berm to get a better look. Against the recommendation of the other crewmembers, the TC drove the tank at an unknown speed into the burning grass. The berm gave way as the tank reached its pivot point, sending the M1A2 into a canal 10 to 15 feet below. The canal was hidden from the crew's view by the reeds. The tank then either rolled or slid uncontrollably at a 45-degree angle with the gun tube over the front at zero degrees elevation. When the tank came to rest, the hull was submerged up to the turret and the gun tube was stuck in one of the canal's walls. The driver was killed.

In the second incident, an M1A1 platoon was conducting driver's training with an emphasis on "sagger" drills (evasive anti-tank guided missile maneuvers). The crew crested a slight rise at about 10 mph and identified a body of water about 8 feet wide in a concealed, low-lying area. As the

crew spotted the water, the tank made a sharp turn and caused the TC to inadvertently disconnect his combat vehicle crewman (CVC) helmet cord.

Upon seeing the water below, the TC yelled for the tank to stop. Despite the TC's disconnected CVC cord, the loader heard his instruction and began to yell "Stop!" over the intercom. The driver heard the loader just as he saw the water and applied the tank's brakes, which caused the tracks to lock. During this time, the TC reconnected his CVC cord and re-established communication with the crew.

The tank began sliding toward the water, and the TC told the driver to take his foot off the brake to let the transmission idle down. He then directed the driver to turn the tank to the left. The tank slowly turned slightly left but continued to slide in the mud and grass until it hit the water hole. The TC told the driver to power through the water in an attempt to cross it. As soon as the tank entered the hole, however, the front end dropped to a 45-degree incline, became stuck, and started to sink. The driver suffered fatal injuries.

The drivers and TCs of these two tanks either underestimated the obstacles or failed to see them altogether. Both TCs also had time to conduct a risk assessment but didn't, and they should've put the turret over the tank's rear before negotiating the obstacle. All too often, these type accidents occur as tanks move cross-country and the driver attempts to negotiate an obstacle too quickly. Crewmember fatalities or serious injuries can result from these accidents, as described in pages 3 through 13 of Training Circular 21-306.

In the first accident, the TC went against the recommendation of his crew and decided to cross the burning reeds. Unit commanders and TCs alike must remember the urgency of tactical maneuvering doesn't outweigh the safety of the crew and



vehicle. Safe vehicle operations are affected directly by terrain and weather conditions, as described on pages 3 through 14 of Training Circular 21-306.

The TC in the second accident lost communication with his crew. According to pages 3 through 5 of Training Circular 21-306, drivers "... [must] not move a tracked

vehicle until intercommunications have been established between all crewmembers. If communications are lost, the vehicle must halt immediately."

Lives can be saved if leaders and crews conduct a thorough risk assessment before negotiating any obstacle. Remember, anyone can stop an unsafe act. Seconds count

to save lives, so take the time to use Composite Risk Management and conduct a risk assessment before every movement. 🛑

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil



Alert in the Hole!

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

The opinions of the author expressed in this article do not necessarily state or reflect those of the U.S. Army Combat Readiness Center. Information in Countermeasure is designed to present information for awareness and accident prevention. Anyone with questions regarding editorial pieces in this publication may contact the editor at (334) 255-1218, DSN 558-1218, or by e-mail at countermeasure@crc.army.mil.

Death and injury are realities of combat. More than 58,000 U.S. troops died during Vietnam, and 15 percent of those deaths were due to a lack of buddy or combat lifesaver aid. For Operations Enduring and Iraqi Freedom, it's estimated that 5 to 10 Soldiers are wounded in action for each Soldier killed in action.

Battlefield Far Forward Medical Care (FFMC) has been stressed by air and land battle doctrine but continues to be a challenge for maneuver and medical leaders. FFMC teams identify and treat casualties as close as possible to the forward edge of the battlefield or the point where an injury occurs. Immediate care is essential because Soldiers are dispersed over wide areas during modern combat operations and might not be close to any medical facility.

When a major firefight occurs, there might not be enough medics to tend to every injured Soldier. First-aid kits in most vehicles and aircraft are good for minor injuries but are insufficient for major traumas caused by small-arms fire, rocket-propelled grenades, and improvised explosive devices. As a result, many of the actions traditionally performed by medical personnel are being assumed by combat lifesavers.

Combat lifesavers are non-medical Soldiers trained to provide lifesaving measures beyond the level of self or



Leaders as Combat Lifesaver

CPT JEFFREY BAIRD
101st Airborne Division
Fort Campbell, KY



vers

buddy aid. With proper training, a combat lifesaver can stabilize many types of casualties and slow the deterioration of a wounded Soldier's condition until higher-skilled medical personnel arrive. A patient has an excellent chance of survival if he can be stabilized and evacuated to permanent medical facilities. Ultimately, the more Soldiers we save, the more combat power we retain.

Current Army policy recommends there should be a combat lifesaver for every section, squad, or team. Some units have voluntarily increased this recommendation to a requirement, making it mandatory their Soldiers be combat lifesaver qualified before deploying to theater. Having the maximum number of trained combat lifesavers per unit will add to combat effectiveness and survivability.

Combat lifesaver training is conducted at the unit level using instructional material. Unit training managers and all other combat lifesavers must be recertified on an annual basis. Each training course or curriculum requires a combat lifesaver trainer as part of the cadre or staff. Materials such as books and intravenous needles can be requested through normal supply channels. The requirement that might be hardest to achieve, however, is finding the time and resources for all Soldiers to attend instruction, training, evaluation, and certification.

Commanders can demonstrate the importance of combat lifesaver training by ensuring they and their subordinate leaders also are trained

and qualified. Soldiers in leadership positions should arrive at their unit and assume their responsibilities as certified combat lifesavers. As such, certification should become part of the graduation requirements for courses like the Basic Noncommissioned Officer Course, the Advanced Noncommissioned Officer Course, and the Officer Basic Course. Other training programs such as the Reserve Officer Training Corps and U.S. Military Academy also can make combat lifesaver certification part of their training curriculum.

All leaders should be qualified combat lifesavers. Enhanced combat

DID YOU KNOW?

A recent Department of Defense directive mandated chitosan dressings (NSN 6510-01-502-6938) be distributed to every Soldier currently serving in or deploying to a combat theater. The dressings are made from chitin, the stuff that makes the "crunch" when you step on a cockroach. Chitin also is found in the shells of other insects, shrimp, lobsters, crabs, worms, fungus, and mushrooms.

Extremely durable and flexible, the dressings are designed to stop bleeding from traumatic injuries suffered in combat. According to the directive, each Soldier is to receive one dressing to carry in their aid bags; combat lifesavers and combat medics are to receive three and five dressings each, respectively.



effectiveness and readiness, increased survivability, and the demonstration of leadership initiative to possibly save a subordinate are just a few of the benefits. On every patrol and as part of every flight crew, there is or should be a leader and, in turn, a qualified combat lifesaver. That leader being combat lifesaver qualified could mean the difference between life and death for a wounded Soldier. 

Contact the author by e-mail at jeffrey.baird@us.army.mil.

CRM and Sexu

The U.S. Army Safety Center has transformed to the U.S. Army Combat

Readiness Center (CRC). The CRC is a knowledge center that “connects the dots” on all information that pertains to the loss of a Soldier—our combat power! The CRC is encouraging commanders to use Composite Risk Management (CRM) as part

of the Army’s Sexual Assault Prevention and Response (SAPR) Program. According to the SAPR Program Web site at <http://www.sexualassault.army.mil/>, “The SAPR Program reinforces the Army’s commitment to eliminate incidents of sexual assault through a comprehensive policy that focuses on education, prevention, integrated victim support, rapid reporting, thorough investigation, appropriate action, and followup. Army policy promotes sensitive care for victims of sexual assault and accountability for those who commit these crimes.”

CRM process

1. Identify hazards

- Excessive alcohol-related incidents within the unit
- No established barracks security measures
- Lack of adequate supervision for off-duty enlisted Soldiers
- No education or training opportunities for sexual assault prevention

2. Assess hazards

- Have alcohol-related incidents increased?
- Have there been incidents of misconduct, theft, or violence in the barracks?

- Are off-duty incidents occurring more frequently?
- Is there documented sexual assault prevention training for all unit members?

3. Develop controls and make risk decisions

- Conduct alcohol abuse training as needed
- Establish barracks security protocols and conduct random no-notice walk-throughs of common areas
- Increase monitoring of Soldier activities and enforce sign-in procedures for all guests entering the barracks
- Conduct sexual assault prevention training and incident reporting

procedures for all unit members during required annual training and during pre-deployment/post-deployment briefings

4. Implement controls

- Post a policy letter establishing a zero-tolerance policy for alcohol-related incidents and outlining consequences for violators
- Implement policies in unit standing operating procedures (SOPs) and establish a duty log for supervisor no-notice security checks
- Establish written policies in unit SOPs, encourage monitoring of Soldier activities by supervisors,

Sexual Assault

PHILIP MIZZELL
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U.S. Army Combat Readiness Center

The CRC recently focused on the prevention aspect of the SAPR Program. Prevention approaches must exist on at least two levels—the individual or personal level and the organization or command level. The following questions are important for prevention at the individual level:

- How can I reduce my risk of being sexually assaulted?
- What is acquaintance or “date” rape?
- How can I reduce my risk of becoming a sexual offender?
- What can I do to help prevent others from being sexually assaulted?

At the organization level, leaders should ask, “What can I do to prevent sexual assault in my unit?” Statistics cited on the SAPR Program Web site suggest CRM can be used to accomplish the program’s prevention goals. These statistics reveal:

- More than half of sexual assault offenses involve alcohol.
- The largest percentage of sexual assault offenses occur in barracks.
- The majority of alleged victims are junior enlisted Soldiers.
- The majority of alleged perpetrators are junior enlisted Soldiers or NCOs.

Commanders can use CRM to conduct a comprehensive risk assessment and take appropriate steps to prevent or eliminate the risk of sexual assault within their command. Using CRM concepts and the above statistical information, the box beginning on the previous page gives an example of how to assess your organization, develop focused countermeasures, and implement appropriate controls to reduce the risk of sexual assault.

The CRC believes CRM is one approach leaders can use to reduce or eliminate sexual assault. CRM is a valid approach commanders can employ when developing policies and procedures to institutionalize the SAPR Program. More comprehensive information on CRM can be found on the CRC Web site at <https://crc.army.mil/home/>. If intense focus is placed on the prevention aspect of SAPR, the response requirement will decrease as prevention increases! 

Contact the author at (334) 255-0206, DSN 558-0206, or by e-mail at philip.mizzell@us.army.mil.

and focus on areas where incidents have taken place

- Schedule required and recommended training on the training calendar and enforce attendance and makeup sessions

5. Supervise and evaluate

- Command emphasis is a must—continue enforcement and monitor for trends
- Survey unit for policy effectiveness and conduct a command review of weekly security checks
- Conduct a command review of unit SOP and supervisor feedback
- Conduct a review of required training attendance

Connecting the Dots

JOHN LANGHAMMER
U.S. Army Combat Readiness Center

In May 2004, the Army Combat Readiness Center (CRC) established an in-house Major Army Command (MACOM) Support Branch (MSB).

The MSB is a highly motivated and responsive team of five safety professionals whose focus is improving the CRC's partnership with the MACOM safety offices. The proactive MSB team concentrates on facilitating information exchange and capturing issues and concepts to enhance current safety programs. The MSB's mission is to provide MACOM safety offices and the CRC a "face in the field" by assigning a liaison for

coordinating and tracking safety issues. This liaison also handles requests for assistance while maintaining a forward-looking posture to enhance the Army's combat readiness.

MSB goals

- Establish and maintain a positive working relationship between the MACOMs and the CRC by providing customer-focused support

- Provide support as the lead agency for integrating Army safety policy, programs, and initiatives into all MACOM safety programs

- Focus on the Army- and MACOM-level future safety requirements 12 to 24 months in advance

- Institutionalize the branch mission within the CRC and Army

MACOM Support Branch Phone Numbers		
DSN 558-3759	ARCENT ATEC IMA INSCOM MEDCOM SMDC USAREUR USARSO	DSN 558-9525
	AMC CIDC EUSA MDW NETCOM NGB TRADOC USARPAC	DSN 558-2490
		DA Staff FORSCOM SDDC USACE USARC USASOC

Bogus ACUs Not to Army

CHRIS TRUMBLE
Systems Safety Engineer
U.S. Army Combat Readiness Center

Three civilian companies currently are producing Army Combat Uniforms (ACU) not to Army Standard. These civilian companies are producing ACUs that are off-shade to the Army-authorized ACU. The Army

owns the copyright and is not allowing civilian companies to produce the Army-authorized, NSN-approved, stock-type ACU. The picture on the opposite page depicts correct wear of the authorized uniform.

There are three ways to distinguish the civilian-type ACU from the

Army version:

- Company 1 produces a dark green Velcro zipper
- Company 2 produces the ACU with no pleat in the back of the coat
- Company 3 produces the ACU with no tab on the sleeves and a tan zipper, and the trousers do not have a drawstring in

the cargo pocket

T-shirts also are being manufactured slightly off-color from the Army ACU shade. All civilian stock numbers are either one or two numbers off from Army-authorized NSNs. The official Army version of the ACU goes on sale in April 2006.

Soldiers should not waste

MSB core functions

- Coordinate with MACOMs, Army staff, installation management agencies, other services and federal agencies, and civilian industry regarding Composite Risk Management integration, safety program development, and leveraging of identified best practices
- Provide consultative services and develop and disseminate support materials for sustainment of base operations accident prevention programs
- Direct and track MACOM requests for assistance, training, and support

To better help serve you, the MSB asks that you:

- Tell us what support you need
- Keep us informed of your issues
- Give us up-to-date contact information
- Submit and update your safety calendar
- Provide us feedback on our support rendered

- Maintain a suspense database for CRC actions and reports to MACOMs

- Contact MACOMs and track unreported accidents to the CRC

The MSB team can be reached by e-mail at macomsupportbranch@crc.army.mil or by phone at (334) 255-3706/3576/3649/3858 (DSN 558).

Contact the author at (334) 255-2970, DSN 558-2970, or by e-mail at hans.d.langhammer@us.army.mil.

Tips to Stay Healthy and Warm

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) recently revised its fact sheet detailing heater use in enclosed areas. The old fact sheet, USACHPPM Fact Sheet 55-007-1003

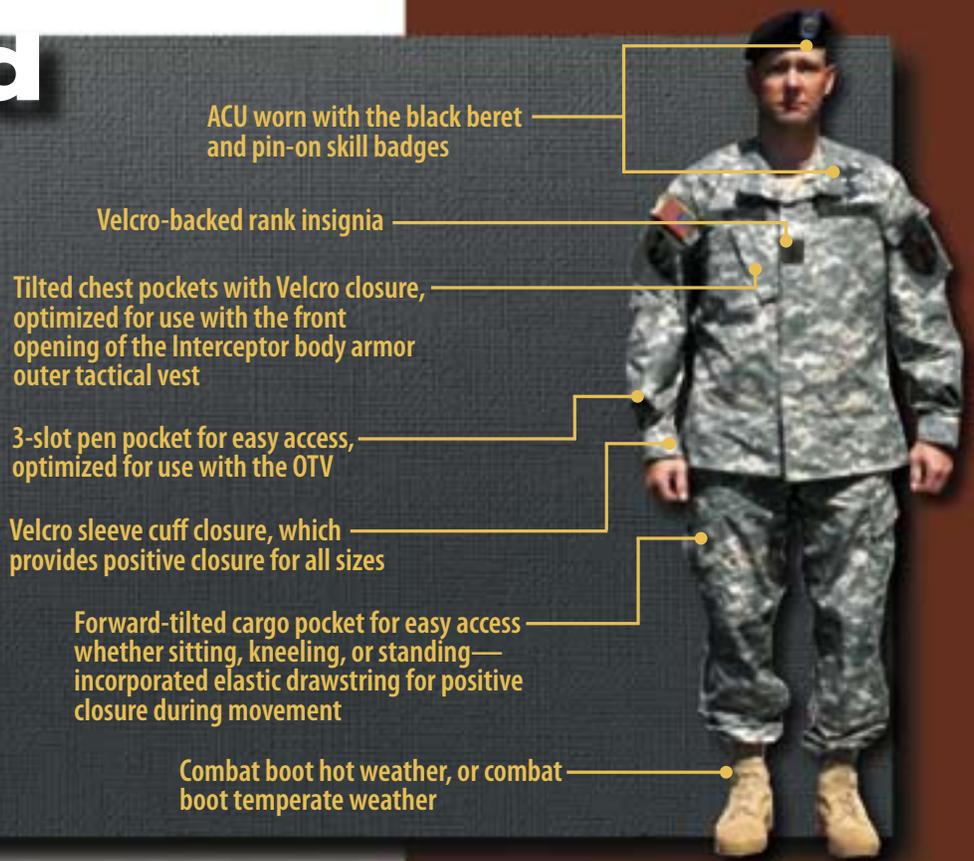
(October 2003), "Guidance on the Use of Heaters Inside Tents and Other Enclosed Shelters," has been replaced by USACHPPM Fact Sheet 55-007-1005 (October 2005). The new fact sheet can be found on USACHPPM's Web site at <http://chppm-www.apgea.army.mil/documents/fact/heaters-JusttheFacts05finalw-links.pdf>. Other fact sheets also can be found on the site at <http://chppm-www.apgea.army.mil/fs.htm>. Information on other health-related topics, including deployment, bird flu, and cold weather injury, can be found on USACHPPM's main Web page at <http://chppm-www.apgea.army.mil/>.



Standard

their money on unauthorized uniforms. This information is also valuable for deployed Soldiers and can help them determine if the enemy is using uniforms from commercial vendors.

Contact the author at (334) 255-2372, DSN 558-2372, or by e-mail at christopher.trumble@us.army.mil.



ACU worn with the black beret and pin-on skill badges

Velcro-backed rank insignia

Tilted chest pockets with Velcro closure, optimized for use with the front opening of the Interceptor body armor outer tactical vest

3-slot pen pocket for easy access, optimized for use with the OTV

Velcro sleeve cuff closure, which provides positive closure for all sizes

Forward-tilted cargo pocket for easy access whether sitting, kneeling, or standing—incorporated elastic drawstring for positive closure during movement

Combat boot hot weather, or combat boot temperate weather



Class A (Damage)

■ M1 tank suffered Class A damage when the HET hauling it overturned on a hillside. The tank was loaded and reportedly shifted during movement, causing the HET to roll over. The HET's truck commander (TC) suffered a broken leg, and the driver was not injured. Seatbelt use is unknown. The accident occurred during the mid-evening.



Class A

■ Two Soldiers were killed and one Soldier suffered minor injuries when their M1114 hit a pothole, overturned, and struck a passing civilian vehicle. The HMMWV was providing security for a convoy at the time of the accident. Seatbelt use on the two deceased Soldiers—the TC and gunner—was not reported; the driver reportedly was wearing his seatbelt and suffered minor injuries. The accident occurred during the early morning.



Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class C

Two Soldiers in an M998 HMMWV were not injured when the vehicle rolled over during a mounted reconnaissance patrol. The driver was making a left-hand turn on a gravel road when the vehicle began to skid. He then downshifted the HMMWV, which caused it to make a jerking motion and go further out of control. The HMMWV skidded in the opposite direction, hit an embankment, and rolled over. Damage to the vehicle is estimated at \$20,000, but both occupants were wearing their seatbelts and helmets and walked away unhurt. The accident occurred during the late evening.

Class D

The crew of an M1114 survived without injury when their HMMWV ran into a large depression in the roadway and rolled over. The depression was about 30 feet wide and 8 feet deep; however, because of the terrain, the depression was not visible to the HMMWV's crew. The crew conducted a vehicle rollover drill, and all occupants were wearing their seatbelts. The accident occurred during the mid-evening.

An M1114 crew escaped without injury when their HMMWV overturned. The HMMWV was traveling in a convoy when the crew encountered a dust cloud. When the vehicle emerged from the dust, the crew saw it was about to hit a median. The driver overcorrected the HMMWV to the right and caused it to fishtail, so he swerved hard again toward the left. The vehicle then rolled over. The crew executed a rollover drill, and all occupants were wearing their seatbelts and protective gear. The accident occurred during the early morning.

One foreign national troop was killed when the Army M923 5-ton he was riding in overturned. The vehicle rolled down an embankment as the driver, a U.S. Soldier, was negotiating a turn. The 5-ton was transporting 20 foreign national troops to a security detail position at the time of the accident. All 20 troops were ejected from the truck's bed during the rollover. No injuries to the driver were reported. The accident occurred during the early morning.

Three Soldiers were killed when their M1114 caught fire. The HMMWV was carrying a double load of ammunition and four 5-gallon fuel cans secured to its rear bumper when it was rear-ended by an M1070 HET. The HMMWV and HET were part of a supply convoy on a four-lane highway and were detoured to a single lane because of an accident. The HMMWV crossed between the HET and another truck just before the accident. The fuel cans ruptured on impact and were ignited by the HET's engine, and the fire subsequently ignited the ammunition. The accident occurred during the early morning.

A Department of the Army civilian (DAC) was killed when the Army truck he was driving rolled over. The DAC reportedly steered the vehicle off the roadway, overcorrected, and lost control, causing the truck, which was towing a 25,000-pound drilling rig, to overturn. Seatbelt use was not reported. The accident occurred during the mid-morning.

Soldier was killed when the M997 he was driving rolled over. The driver, who was wearing his seatbelt but not his helmet, lost control of the HMMWV and hit a concrete median while traveling in a three-vehicle convoy. Injuries to the other crewmembers were not reported. The accident occurred during the early afternoon.

Class B

Soldier's left thumb was amputated when the M1114 he was riding in hit a barrier and rolled over. The Soldier was serving as the HMMWV's gunner. No injuries to the driver or other passengers were reported. The accident occurred during the early morning.

Class A

Two Soldiers suffered minor injuries and one foreign national was killed when an M1114 collided head-on with a civilian vehicle. The Soldiers in the HMMWV were part of a convoy and under blackout drive at the time of the accident. Seatbelt use was not reported. The accident occurred during the late evening.





Personnel Injury

Class A

■ Soldier was killed when he was struck by a speeding SUV. The Soldier was providing security along a main supply route during an accident and was dismounted from his 5-ton truck on the roadside. The SUV hit the Soldier and the 5-ton at an estimated 70 to 80 mph. The accident occurred during the early evening.

■ Soldier died after completing the 2-mile run portion of the Army Physical Fitness Test. The Soldier was evacuated to a local hospital and pronounced dead about 40 minutes later. The accident occurred during the mid-morning.

■ Soldier collapsed and died after he ran 3.5 miles during PT. CPR was performed, and the

Soldier was transported to a local hospital where he was pronounced dead. The accident occurred during the mid-morning.

■ Soldier choked at a dining facility and was pronounced dead at a local hospital. Another Soldier performed the Heimlich maneuver when the deceased Soldier started choking but was unsuccessful. The accident occurred during the early evening.

Class B

■ Soldier's thumb was partially amputated by the trap door of a guard tower. The Soldier was manning the guard tower at the time of the accident. Reconstructive surgery performed on the Soldier's thumb was unsuccessful. The accident occurred during the late evening.

TRAIN

IT KEEPS BURNING AND BURNING...

Lots of people drop their guard while performing mundane tasks. Who hasn't gotten a little careless while taking empty battery acid containers to the dumpster in a combat zone? And who needs PPE for something so trivial? Late one summer evening, a Soldier was tasked to take out the trash at his unit's in-theater maintenance facility. Among other items, the trash included a battery acid jug that had served its purpose and was now destined for the dump. Our Soldier had been on duty for 11 hours and probably was more than a little eager to get back to his can for some well-deserved sleep. Not too enthralled with being assigned garbage detail, he grabbed the jug and other trash. Since this was such an easy job, the Soldier left his gloves and goggles inside. What useful purpose could they possibly serve? After all, he was merely disposing of hazardous waste and his supervisor didn't raise a fuss. No big deal, right?





WERE THEY

The Soldier walked outside and threw everything into the dumpster. As he turned around to walk back inside, something irritated his left eye. He instinctively rubbed the eye, but it quickly became more irritated and started to burn. The Soldier realized too late that some battery acid from the jug had gotten on his naked hand. Seeing this wasn't a good thing, the Soldier hustled back to the maintenance bay and asked another Soldier for help.

The other Soldier looked but didn't see anything in the injured Soldier's eye—not that one can easily spot battery acid diluted by human tears. Hoping to help, he emptied two room-temperature bottles of drinking water into the Soldier's eye, but it quickly became apparent the lukewarm water wasn't giving him any relief. By this time a crowd had formed, and another Soldier grabbed a cold water bottle from the refrigerator. The cold water didn't work either, so they took the Soldier to a local medical clinic for treatment. He was diagnosed with a nasty chemical burn and lost 9 work days.

This Soldier was extremely lucky his brush with battery acid was logged as a Class C accident and not a Class A under the heading "permanent total disability." No matter the mission, no matter the place, and no matter how tired you are, always use your PPE and exercise some common sense. You might get burned if you don't! 

POV
stats

FY06
through Nov 05

38

total DEATHS

Class A-C accidents/Soldiers killed

Cars	19/9
Vans	1/0
Trucks	4/2
Motorcycles	14/5
Other*	0/0

*Includes tractor-trailers, unknown POVs, and bicycles

3 year average: **17**

SHARPEN YOUR EDGE

You are a lethal warrior. You look straight at the enemy and predict what they might do next. Your mind is your greatest weapon.

Keep it sharp.

Use Composite Risk Management (CRM) and Own the Edge.

own the
EDGE

Composite Risk Management



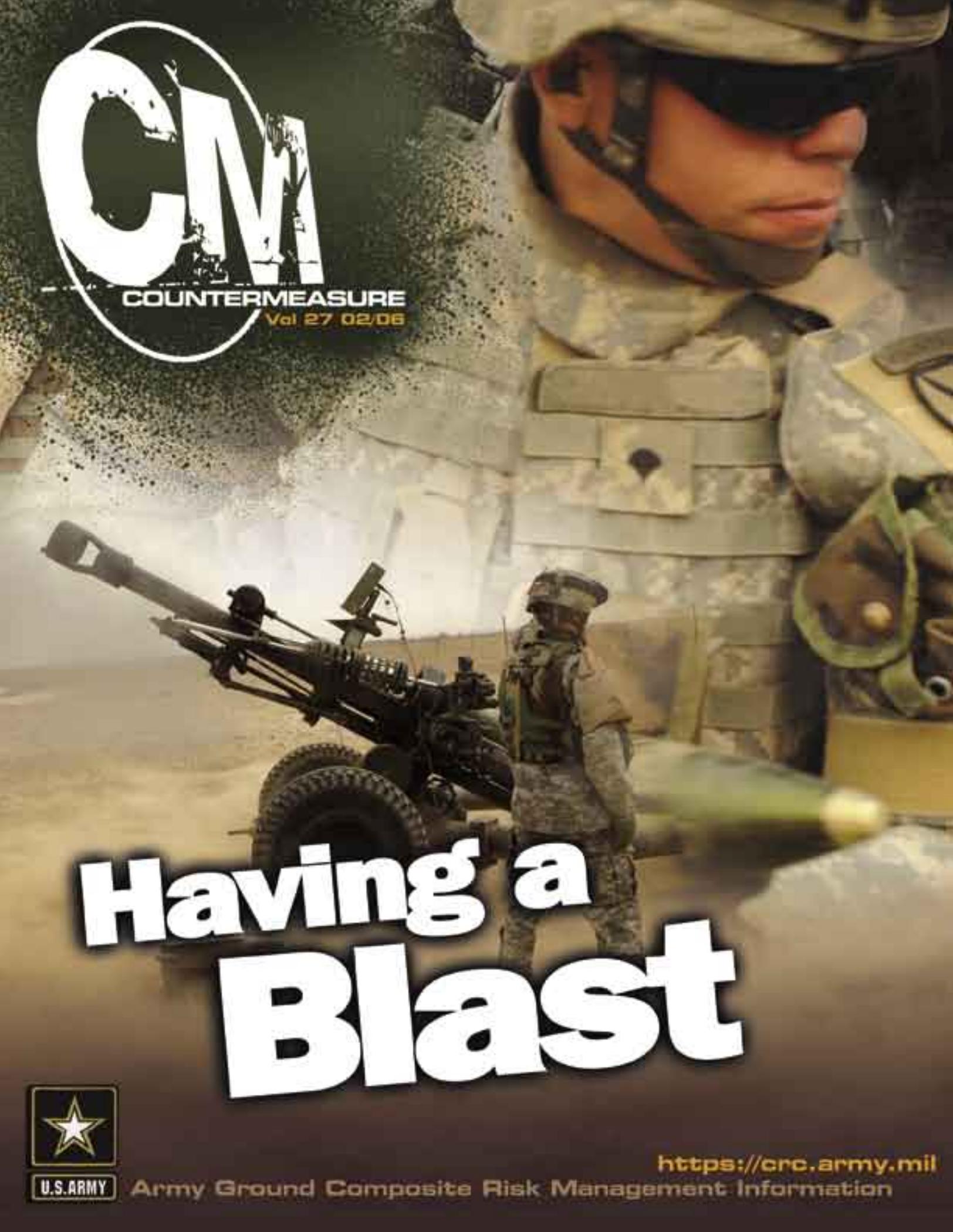
U.S. ARMY COMBAT READINESS CENTER

learn more at

<https://cro.army.mil>



COUNTERMEASURE
Vol 27 02/06

A large, detailed image of a soldier in full combat gear, including a helmet and goggles, looking down. In the background, another soldier stands next to a mortar in a desert environment. A mortar round is shown in mid-air, blurred, in the foreground.

Having a Blast



U.S. ARMY

<https://crc.army.mil>

Army Ground Composite Risk Management Information



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You never realize how important your job is until the support you provide, or fail to provide, has a direct effect on combat operations. This statement could be true throughout the support and logistics community, but I'll focus on artillery ammunition. I hope by passing along this account of actual events I'll help others take their jobs as seriously as the trigger-pullers engaging the enemy in the field.

While deployed in the mountains of Afghanistan, we provided indirect 105 mm artillery support for the operational detachment alpha (ODA) team that owns this area of operation. Regular infantry units occasionally rotate through to provide additional support. Based on our location, at times our priority assets—in this case, ammunition—are flown in.

During one particular engagement, problems arose after an early morning sweep ignited into a troops in contact

(TIC). Numerous insurgents were trying to set up an ambush, but our patrol beat them to the location. The patrol immediately fired suppression munitions on the enemy positions, and a direct-fire engagement ensued. By the next day, my platoon was down to 12 rounds of high explosive (HE) munitions.

Fortunately, we soon received a call that helicopters were inbound with our resupply of 105 mm ammunition. In all, we were expecting about 120 HE rounds.



ammunitions at measure

SFC RAYMOND HAMILTON
173rd Airborne Brigade
Vicenza, Italy

The artillery still was firing in support of the maneuver element as the aircraft descended to the landing zone (LZ). My three-man detail and I approached the helicopters, secured the ammunition, and loaded it in our vehicles.

The aircraft contained several kicker pallets loaded with HE rounds, with a few smoke and illumination

rounds mixed in. The way the ammunition was boxed together surprised me. The homemade boxes contained rounds packed in fibers and mixed with banded and crated munitions. Although I was puzzled, I didn't have any time to spare. The howitzers were firing what few rounds were still available, and we had

to get the replacement munitions to them as soon as possible.

I literally dumped the munitions at each

position. My gunnery sergeant was at the farthest location and inspected the munitions soon after I delivered them. I couldn't believe it when he informed me that not just one or two

but *all* the HE powder bags were dry-rotted and unusable. I ran to another position, broke open a few rounds, and my worst fears became reality. None of the HE munitions we'd just received were serviceable. The projectiles were good, but you can't get the projectiles to their final destination without the gunpowder charges!

We'd called for air support when the TIC began, but they still were 20 minutes out from our location. "Platoon rounds complete" echoed over my radio as the calls for fire continued to come across the command net. We decided to fire white phosphorus (WP) in the meantime to better mark the enemy's position for direct fires. To continue supporting the TIC, we considered substituting propellant charges from specialty rounds with the same ballistic characteristics

as the HE projectiles. But fortunately our air support soon arrived on station, and we weren't called back into action that day.

Only a few of our Soldiers were wounded—none killed—during this engagement. Things could've been much

worse, however, considering the state of our recently delivered ammunition. The maneuver elements always say the time between their initial call for fire and the impact of friendly rounds seems like an eternity. Heavy fire from enemy weapons and rocket-propelled grenades slows down time for everyone involved. If

60 seconds is a lifetime, what kind of reaction would we get if we calmly informed the maneuver element that, due to a lack of usable ammunition, we couldn't support their survival at all?

I took this life-changing experience personally because I know the face of every Soldier I was supporting that day. Did the individual(s) responsible for quality management at the ammunition supply point feel the same way? I pondered this question for several

“ “ I couldn't believe it when he **informed** me that not just one or two but ***all*** the HE powder bags were dry-rotted and **unusable.** ” ”

DID YOU KNOW?

The Army Combat Readiness Center (CRC) has a guidebook available for online download to assist Soldiers working with munitions in combat theaters. "Munitions Handling During Deployed Operations 101" is an instructional tool for leaders and Soldiers handling captured enemy ammunition and other explosives and includes sections on proper packaging, storage, and transportation of such munitions. The guide can be found on the CRC Web site at <https://crc.army.mil/Tools/handbooks/ground/munitionshandling.pdf>.



days afterward. This wasn't the first time we'd received bad ammunition, and I sent yet another report through the chain of command.

We'd conducted a relief in place several months earlier and discovered improper storage and care had reduced our number of usable munitions to below emergency levels. A few minor issues with munitions are common, but I'd never run into problems of this magnitude, especially in combat. Each forward operating base is allowed only a certain number of munitions to meet mission

requirements. This number is maintained by a constant consumption-versus-supply system.

My platoon alone received the following quantities of unserviceable munitions: 32 WP rounds; 79 HE rounds; 7 SMOKE rounds; 4 HE (CHG 8) rounds; and 7 various fuses. The other three platoons in my unit got about the same number of unserviceable munitions, which multiplied the problem by four. These issues immediately were reported up the chain of command, and steps have been taken to correct the situation.

While corrective action is a good thing when needed, what could've been done to ensure such correction was never required?

As an artilleryman, two basic field manuals (FMs) guide my path: FM 3-09.50, *Tactics, Techniques, and Procedures for the Field Artillery Cannon Battery*; and FM 3-09.8, *Field Artillery Gunnery*. I understand tactics, techniques, and procedures aren't lock-step and change constantly, but certain basics remain steadfast.

These very important basics include proper inspection, storage, and care of artillery munitions. It took my platoon 5 months of continuous improvement to get our gun positions up to standard, and fixing the ammunition issues required 2 of those months. Don't let your unit or another one feel the pain of bad ammunition because the price might be paid with Soldiers' lives. 🇺🇸

Contact the author by e-mail at raymond.r.hamilton@us.army.mil.





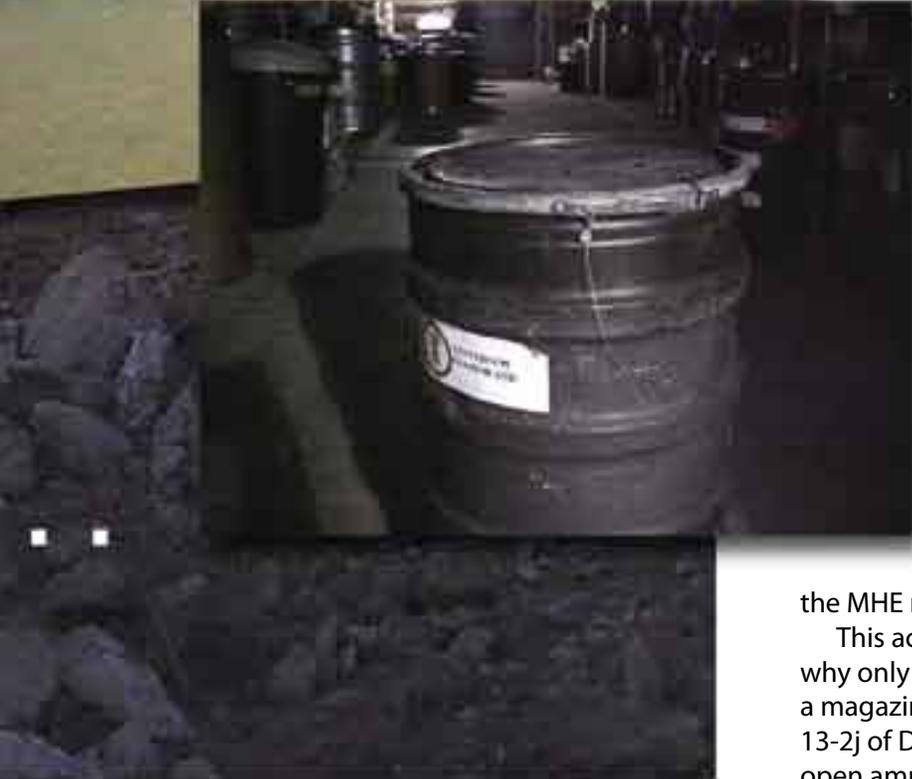
just one tiny spark.

LYN LITTLE
Logistics Management Specialist
U.S. Army Technical Center for Explosives Safety
McAlester, OK

early in Fiscal Year 2005, an explosion inside an earth-covered magazine killed two Army contractors and permanently injured a third contractor at an Army facility. About 24,000 pounds of propellants and explosives, including some stored in 120-pound metal drums, were involved in the incident. The contractors were moving the drums by hand into the magazine when the detonation occurred.

The subsequent investigation revealed a serious issue that contributed to the accident. No material handling equipment (MHE) was found by investigators at the site, which explains why the contractors were moving the drums by hand. The contractors were tipping the drums on their bottom edge and rolling them into the magazine. The investigators

concluded that one drum rolled out of control and tipped over during movement, causing its lid to come open. A spark most likely ignited the propellant within the drum, and hot fragments were ejected into the other propellant and explosives containers inside the magazine. This chain reaction led to the mass detonation that destroyed the magazine, killed the two contractors,



handle. Indications are the contractor rolling the drum in this accident wasn't aware of the serious hazards posed by M9 propellant. Some propellants—including M9—are hazard division 1.1 materials, meaning they have mass explosion capability. These materials detonate rather than deflagrate, or burn off when ignited.

Personnel must always follow procedures and be trained on potential material reactions in unexpected situations, such as the drum opening accidentally in this incident. All propellants—especially M9—are extremely sensitive to friction, and great care must be taken to ensure personnel do not walk or step on any spilled material. When the drum opened, the contractor should've withdrawn and notified his supervisory chain of the spill. Instead, he attempted to fix the problem by cleaning up the spilled propellant himself, which ultimately led to the accidental ignition.

Finally, personnel must identify all potential operational risks. Before this accident, local procedures permitted rolling of propellant drums. Unfortunately, the local risk assessments failed to recognize the hazards of this type of movement and overlooked

the MHE requirement for heavy containers.

This accident also highlights the reasons why only certain operations are allowed inside a magazine, described in paragraphs 13-2i and 13-2j of DA Pam 385-64. Personnel must never open ammunition or explosives containers inside a magazine unless such action specifically is authorized by these paragraphs or if the appropriate authority level has approved a waiver. Information regarding explosives safety waivers can be found in chapter 7 of Army Regulation 385-64, *U.S. Army Explosives Safety Program*.

Additional information about this and other explosives accidents can be found on the Explosives Safety Mishap Analysis Module (ESMAM) Web site at <https://www3.dac.army.mil/esidb/login/>. A user ID and password are required for access. The ESMAM identification number for this accident is 20041013001. 

and severely injured the third contractor.

There are several lessons to be learned from this accident. First, personnel must use MHE whenever possible. Propellant containers, however, should always be handled with MHE. According to Department of the Army Pamphlet (DA Pam) 385-64, *Ammunition and Explosives Safety Standards*, paragraph 2-5e, "Munitions will not be tumbled, dragged, dropped, thrown, rolled, or walked. Containers designed with skids may be pushed or pulled for positioning, unless otherwise marked on the container."

Personnel must know and be trained on the hazards associated with the materials they

Contact the author by e-mail at lyn.little@us.army.mil.

I was in a 3/5 platoon at Fort Bragg, NC, when I had my closest call yet. I was assigned to a great unit with a mission I loved. This isn't to say some tasks were a little more tedious than others, but overall I truly enjoyed my work.

One hot summer day we were told to perform maintenance on our HEMTTs. We weren't going to get away with merely

checking fluid levels—we also had to change the tires on one of the trucks. It might sound simple enough, but if you've never seen HEMTT tires, you can't imagine what kind of effort goes into changing them. They're about 4 feet tall, weigh more than 200 pounds each, and have split rims.

Our motor pool facilities weren't the best, or even close to it. For instance, we didn't have a tire cage big enough to fit HEMTT tires. The one

cage we had was designed for smaller tires, and it wasn't permanently mounted to the floor. Unfortunately, we didn't take this problem into consideration before we started working on the truck.

We got the tires off the



An Almost Split Rim Disaster

CW2 ROGER ARMSTRONG
1-52d Aviation Battalion
Fort Wainwright, AK

truck and tore them down with ease, but putting them back together was a different story. How were we supposed to air those huge tires without a cage? Young, creative, and undaunted, two other Soldiers and I put our heads together and came up with a great plan—or so we thought.

We decided to place the tire rim-side down on the concrete floor. We then parked a cargo HEMTT nearby and placed the truck's outrigger in the middle of the tire to hold it in place while we aired it. This process sounded brilliant, especially considering what we had to work with. After all, a cargo HEMTT weighs 38,800 pounds—that tire wasn't going anywhere!

Once we had everything in place, all we needed was a volunteer to inflate the tire. I said I'd do it, so I got the air hose and hooked it up to the tire. The hose had a locking fastener with 10 feet of additional safety hose so the operator wouldn't have to stand right beside whatever was being inflated.

I started the hose. I don't remember how much psi the tire needed, but I do recall it seemed to be taking forever to fill up. We quickly became bored and started shooting the breeze.

Ignoring the fact there were 10 additional feet of safety hose for a reason, I decided to sit on the tire while it still was inflating. Keep in mind we're talking about Fort Bragg in the summer—it gets hot out there!

Sitting down was a bad idea. Just as the tire was about full, BANG! The tire exploded with enough force to lift the back of the cargo HEMTT 3 feet off the ground. Since I don't weigh anywhere near 19 tons, I rocketed about 15

New Releases: Rollover DVD

The Army Combat Readiness Center (CRC) just added another valuable tool to their video library: "Letters from War: Up-armored HMMWV Rollovers." The new DVD spotlights commentary from a command sergeant major who survived an improvised explosive device attack and an M1114 rollover while in theater. Other features include lessons learned from theater (seatbelts, gunner safety, etc.); instructional rollover drills; and a Composite Risk Management video.

The DVD can be downloaded from the CRC Web site at <https://crc.army.mil>. Once on the site, click the "Media and Magazines" button; from there, click the "Videos" link; and then scroll down to "Ground Videos." The DVD, which is For Official Use Only, can be ordered from the same page (please specify the number of copies in the "Comments" box).

For more information, contact Rebecca Nolin at (334) 255-2067, DSN 558-2067, or by e-mail at video@crc.army.mil.

feet across the pavement. When I realized I wasn't dead, I checked myself over and found only a few scratches. The split rim deeply gouged the pavement, but the HEMTT somehow made it through without damage.

I might not have been seriously hurt, but this incident scared the crap out of me. From then on I never inflated any tire without a tire cage, and I always stood at least 10 feet away while doing it. If a tire can lift a HEMTT off the ground, it can just as easily cut someone in half. I'm older and wiser now and still a firm believer in Soldier "ingenuity," but a little less creative myself. I'll stick to the book, even if the job takes a little longer! 🐷

Contact the author by e-mail at roger.armstrong@us.army.mil.

GOT QUESTIONS?

For more information concerning HEMTT tires, contact Mr. Anderson Coleman, U.S. Army Tank-Automotive Command Team Tire, by e-mail at anderson.j.coleman@us.army.mil. Anyone with questions regarding HEMTT tire changing procedures may contact Mr. James Howard by e-mail at jim.howard1@us.army.mil. Information on split rim availability can be found by e-mailing Ms. Jody Finnell at jody.finnell@us.army.mil.

Why You Want to Wear Your Helmet

CW5 GREGORY SCHNEIDER
Accident Investigator
U.S. Army Combat Readiness Center

The ballistic tolerance of Kevlar helmets has long been documented and praised. The protection offered by this important piece of equipment, however, isn't limited to high-speed grains of lead and shrapnel. In some cases, it might even fend off a 20,000-pound aircraft!

A half-inch of Kevlar between you and a really bad **headache.**



The combat mission involved insertion of a team by Black Hawk helicopter into a suspected hot landing zone (LZ). An intense firefight had occurred only a week earlier in the same area. In that engagement, a number of aircraft were damaged by enemy fire in the LZ.

Anxious and concerned about delays in disembarking

the aircraft, some of the passengers unbuckled their seatbelts 1 minute before landing. Unfortunately, the helicopter experienced a hard landing just short of the LZ. One of the unbuckled Soldiers was ejected from the Black Hawk.

The helicopter shredded its

rotor system and rolled over, trapping the ejected Soldier's head under the aircraft's left side. Fortunately, he was wearing his Kevlar helmet, which remained intact even under the weight of the aircraft (see above photos). The Soldier was casualty evacuated to a medical

facility and is expected to make a full recovery.

This accident illustrates a couple of key considerations in Composite Risk Management (CRM):

- Short final to landing can be the most dangerous segment of a flight. During this time, the aircraft is

susceptible to enemy fire, abrupt evasive maneuvers, brownout, and power management problems. Is this a time you'd really want to be unbuckled? Even though the aircraft rolled over in this accident, an unbuckled passenger was the only serious injury.

- When worn properly, the Advanced Combat Helmet (ACH) Improved Nape Strap Assembly keeps the Kevlar helmet where

it belongs—on your head! Whether you're in an aircraft or a tactical vehicle, your helmet, body armor, and seatbelt can determine whether you wake up the morning after a battle or an accident.

CRM demands both enemy and safety risk factors be addressed in pre-mission planning. A countermeasure for one can increase risk in the other. Training, intelligence, and appropriate-level leadership determines how effective we are in sorting it all out. 



Much of the PPE issued to Soldiers today is the result of one Pennsylvania woman's work. Kevlar was patented in 1966 by Stephanie Kwolek, a researcher with the DuPont Company's Pioneering Research Laboratory in Wilmington, DE. Kwolek developed aramids, the family of polymers from which Kevlar is made, by changing the structure of nylon. Future DuPont researchers built upon Kwolek's findings and developed Nomex, also an aramid. Kevlar originally was developed as a substitute for steel in radial tires, but its ballistic resistance capabilities—it's five times stronger than steel—soon were exploited in items such as police bulletproof vests. Besides helmets, Kevlar also is used as a protective insert in the individual body armor issued to Soldiers deploying to Iraq or Afghanistan. Additionally, Kevlar can be found in the aircraft flying Soldiers to and from their assignments, in the brake linings and tires of tactical vehicles, and in the parachutes used by Airborne troops. Nomex, known for its fire-resistant properties, is used in gloves, aviator flight suits, and combat vehicle crewman uniforms. Soldiers are much safer today because of Kwolek's research, so do your part and wear your PPE!

...And Your Gloves!

The Pentagon and the Army Surgeon General recently released All Army Activities (ALARACT) Message 261/2005 in response to a sharp increase in the number and severity of hand burns in the OCONUS theaters of operation. According to the message, Soldiers in Iraq and Afghanistan are experiencing a disproportionate number of hand burns in relation to other

body parts. Data from the Army Institute of Surgical Research in Fort Sam Houston, TX, show severe burns have increased from 11.9 percent average body surface area in April 2003 to 16.2 percent in April 2005.

The majority of all combat-related burns are caused by explosions from improvised explosive devices (IEDs), vehicle-borne IEDs, rocket-propelled grenades, or mines during

Editor's note: There currently are two types of helmets issued to Soldiers in theater: the Army Combat Helmet and the Personnel Armor System, Ground Troops helmet. Graphic Training Aid 07-08-001 outlines proper wear and adjustment procedures for each helmet and can be found in the August 2005 Countermeasure or online at <https://www.peosoldier.army.mil>.

Contact the author at (334) 255-9859, DSN 558-9859, or by e-mail at gregory.s.schneider@us.army.mil.

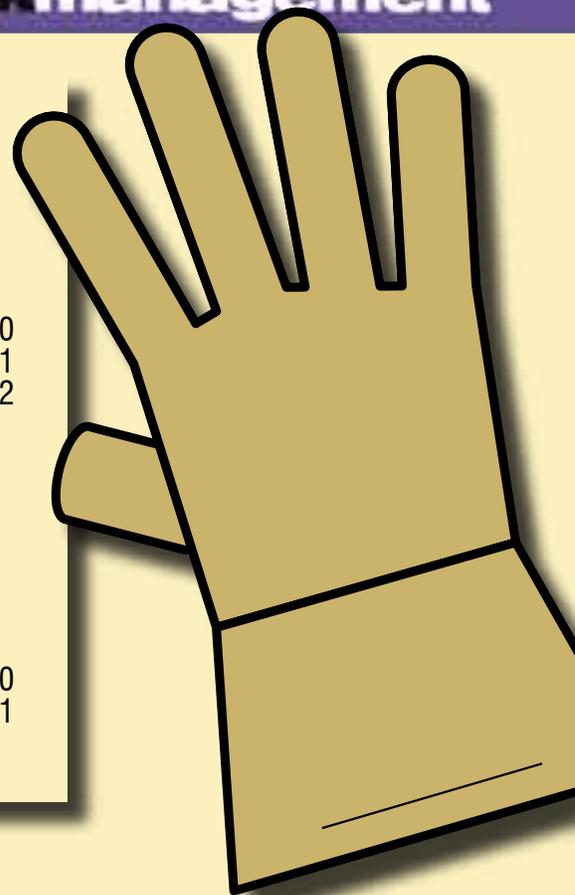
Nomex Gloves

Gloves, Flyers, Summer

8415-01-482-8417	Size 4
8415-01-040-2012	Size 5
8415-01-040-1453	Size 6
8415-01-029-0109	Size 7
8415-01-029-0111	Size 8
8415-01-029-0112	Size 9
8415-01-029-0113	Size 10
8415-01-029-0116	Size 11
8415-01-482-8420	Size 12

Gloves, Flyers, Intermediate, Cold Weather

8415-01-446-9247	Size 5
8415-01-446-9248	Size 6
8415-01-446-9252	Size 7
8415-01-446-9253	Size 8
8415-01-446-9254	Size 9
8415-01-446-9256	Size 10
8415-01-446-9259	Size 11



2nd Degree Burn

operations on or near a military vehicle. Hand burns occur in 84 percent of vehicle-related burn patients and frequently lead to severe

long-term disabilities. Extensive surgeries often are required to treat these burns and include procedures such as skin grafts or

amputations. Infections also pose a grave threat to burn patients.

Soldiers can prevent and reduce the severity of such burns by wearing fire-resistant Nomex or Kevlar gloves. (See above table for approved NSNs.) According to some leaders in the field, many Soldiers are taking their gloves off while on patrols and other similar missions in vehicles. Lacking the protection afforded by their Nomex gloves, some Soldiers who otherwise would've received few or no burns are being treated and sometimes evacuated for hand injuries.

Commanders and leaders at all levels must enforce the wearing

of fire-resistant gloves, particularly during high-risk activities including vehicle operations, burning waste, and munitions handling. Soldiers should wear gloves such as those issued under the Rapid Fielding Initiative, as some commercial gloves sold by private companies provide little or no fire protection. Additionally, Soldiers should wear their uniforms with the sleeves down at all times. 🐾

Anyone with questions concerning this ALARCT message may contact COL Paul Gause by e-mail at paul.gause@us.army.mil or by phone at (703) 681-2707 (DSN 761-2707).

TRAINING WITH BLANK

NORM ARIAS
CP-12 Intern

The opinions of the author expressed in this article do not necessarily state or reflect those of the U.S. Army Combat Readiness Center. Information in Countermeasure is designed to present information for awareness and accident prevention. Anyone with questions regarding editorial pieces in this publication may contact the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.

My Marine unit had its first negligent discharge only a day after the beginning of Operation Iraqi Freedom in March 2003. The round came from an M16 rifle while we were riding in a tracked vehicle. One Marine was injured but, fortunately, no one was killed. Here's how it happened.

We were part of a late-night movement convoying toward our next objective. Each of us had a round chambered in our weapon, and we were ready for any situation that might arise. Marines are trained that when riding in a tracked vehicle, all weapons must be on safe with the muzzle pointed toward the floor. However, we'd had little sleep since the war kicked off, and we were dealing with

a fast OPTEMPO that didn't show signs of slowing any time soon. In fact, several Marines were taking catnaps during this particular movement.

We were still riding in the vehicle when we heard a gunshot. (There's nothing like a little gunfire to wake up a tracked vehicle full of sleepy Marines!) The platoon sergeant immediately instructed everyone to sit still with their fingers on their triggers. However, it wasn't enemy fire we had to be afraid of this time.

One Marine's weapon discharged a round and hit the Marine sitting next to him. The round penetrated the top of the Marine's foot and came out through the bottom of his boot but didn't hit any bones. The driver stopped the vehicle,

and a Navy medic began tending to the injured Marine. The Marine whose weapon discharged couldn't believe nor explain what happened.

A brief investigation was conducted, which determined the Marine was using his

NEGLIGENT





DISCHARGES **Hurt**



A specialist suffered a gunshot wound to his left leg and ankle when his pistol inadvertently discharged. The Soldier was dismounting a HMMWV at a forward operating base during the early morning when the pistol fired. Reports indicate the Soldier was hospitalized for several weeks, but no further information was available at press time.

weapon as a brace while he was sleeping. The vehicle was making frequent stops during the convoy, and the Marines were rocking back and forth as it moved. The weapon apparently came off the safe position because of the rocking. The vehicle also was dark inside, and the Marine lost situational awareness. Additionally, he was handling his weapon as he did during field exercises before deploying to Iraq. The poor habits he developed in those exercises carried over to actual combat operations.

Negligent discharges continue to injure and kill Marines and Soldiers on the battlefield. Some leaders suggest we're not training properly if we're not using all our available tools. One such forgotten tool is blank ammunition.

Marines and Soldiers are taught to treat their weapons as if they're loaded. But why use the word "if" when blank rounds can be used? Blanks can be loaded and chambered in individual weapons; since there will be no more "as if it were loaded," the Marine or Soldier must perform proper weapons handling techniques to avoid a negligent discharge.

Any Marine or Soldier that has a negligent discharge usually is quickly accused of mishandling their weapon. If these troops are trained with their weapons constantly loaded, they'll become accustomed to handling them properly at all times. This awareness will carry over from the training environment to the battlefield, thereby controlling or maybe even preventing negligent discharge incidents. 

Contact the author by e-mail at norm.arias@us.army.mil.

FATAL FATAL

Injuries suffered from slips, trips, and falls account for numerous lost work days and Soldier hospitalizations each year in the Army. Sometimes, however, these accidents produce far worse results than a broken bone or simple bumps and bruises. The following PLRs highlight five fatal falls since October 2005, including three off-duty accidents that killed one Soldier each.

PLR 0646: A 21-year-old specialist died from injuries suffered in a mid-morning fall from a guard tower. The Soldier was pulling security in the tower when he fell 15 feet through the tower's trap door to the concrete floor below. The wood used at the trap door's opening was found on the ground to the left side of the door. It is suspected the Soldier might have lost his footing while throwing garbage from the tower.

PLR 0622: A 30-year-old captain died of severe trauma after falling from a Black Hawk helicopter in flight. The Soldier fell 100 feet to the ground on the approach into a hostile area. He was evacuated to a medical facility and pronounced dead. The accident occurred during the late afternoon.

PLR 0610: A 22-year-old specialist died after falling from an

escalator at an OCONUS shopping mall. The Soldier slipped and fell backward off the escalator, landing on a set of stairs three floors below. He was rushed to a local medical center, where he was pronounced dead. The accident occurred during the late evening.

PLR 0635: A 40-year-old sergeant first class died from injuries suffered in an early morning fall outside an OCONUS bar. The Soldier had been drinking in the bar with two other NCOs. One of the NCOs found the Soldier lying at the bottom of a set of stairs leading to the restroom. The Soldier immediately was taken to a local hospital and diagnosed with a skull fracture and bruising to the brain and lungs. He died 10 days later.

PLR 0661: A 21-year-old specialist died when he fell from an escalator at a CONUS

shopping mall. The Soldier was on leave and visiting the mall with friends. As he was riding an escalator going down, the Soldier jumped and grabbed the handrail of an escalator going up. He was carried to the mall's third floor, but he lost his grip and fell one story. The specialist suffered a fatal head injury.



JULIE SHELLEY
Editor

Whether a Soldier is killed on duty or during off time, the result is the same—one less Soldier available for the fight. Individual Soldiers must ensure they do the right thing at all times, whether it's maintaining three points of contact in a tactical environment or practicing the buddy system during late nights out. Leaders must inspect the areas where their Soldiers are serving and enforce standards to ensure they keep their boots firmly on the ground. Stay steady and own the edge! 🖱️

Comments regarding this article may be directed to the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.

FROM THE PLR FILES

In February 2005, the Army Combat Readiness Center (CRC) developed a new tool for commanders called “preliminary loss reports” (PLRs), which are generated for each Class A Army accident involving a fatality. Every PLR contains the basic facts of the accident and

suggested tactics, techniques, and procedures based on the information available and lessons learned from similar accidents. The PLRs are sent electronically to brigade commanders and above and select command sergeants major to share lessons learned. *Countermeasure*

will spotlight certain PLRs in each issue; however, because of privacy concerns, unit names and dates will not be published. Complete texts of all PLRs are available on the CRC's Web site at <https://crc.army.mil/> (you must have an AKO username and password to access the PLR site).

SAFETY SE

Reducing Driving Fatalities, One

Our Army continues to lose Soldiers to accidents at the unacceptable rate of nearly one per day. Even more disturbing is the fact that 71 percent of accidental deaths since the beginning of this fiscal year (FY) have occurred behind the wheel, either in privately owned or tactical vehicles. Since 1 October 2005, we've lost 36 Soldiers—a platoon plus—while driving.

The Army Combat Readiness Center (CRC) continues to serve as a knowledge center for loss across the Army. The following trends emerge as we study these deaths to determine root causes:

- Junior leaders are making decisions that determine safe execution or unnecessary loss “where the rubber meets the road.”
- Indiscipline and failure to apply and enforce the most basic standards are killing Soldiers.

The most disturbing trend is an increase in leaders involved in accidents. The leaders that should be enforcing standards and mitigating risk are having accidents themselves. In FY05, 33 percent of Soldiers killed in POV accidents were

in the ranks of E5 to E7. Historically, the highest-risk age group has been 18- to 24-year-olds; now all age groups under 40 share the same death rate per 1,000 Soldiers.

The CRC has numerous tools and initiatives leaders can put in their kit bags as they continue to manage risk and get the job done. These tools include:

ASMIS-2. This update to the Army Safety Management Information System's POV module is now up and running. Based on feedback from the field, new features include an integral mapping program, auto-filled DA31 link, and OCONUS usability.

Accident Avoidance Course. All Soldiers will complete this standardized course, which addresses driving behavior and risk mitigation. The course is available on the AKO Learning Management Server. (There have been some issues with the login process, but our team is working to resolve these problems quickly.)

Army Safe Driver Training (ASDT). The CRC's Mobile Training Teams now are providing instruction in seven evasive maneuvers that can be conducted in GSA vehicles or HMMWVs. Course content is applicable

to driving in POVs and during tactical operations in theater.

Motorcycle Mentorship Program. This program enables leaders to mentor their Soldier riders rather than have them join unofficial motorcycle groups that encourage negative behavior. The U.S. Air Force built on this concept and reduced motorcycle fatalities by 50 percent on installations where the program was implemented.

The CRC's Driving Task Force lead is LTC Laura Loftus at (334) 255-3034 or e-mail laura.loftus@crc.army.mil; LTC Joe Sette is the Ground Task Force lead at (334) 255-3367 or e-mail [joseph.sette@crc.army.mil](mailto:sette@crc.army.mil). Please contact either LTC Loftus or LTC Sette for assistance and to share best practices as we work together to preserve our combat power. ★

Own the Edge!

Joe Smith
BG Joe Smith

Director of Army Safety
 Commanding General,
 U.S. Army Combat Readiness Center



LEADS

Leader at a Time

DOD to Restrict Cell Phone Use on Military Bases

SGT SARA WOOD
American Forces Press Service

Defense Department installations have begun implementing new cellular telephone restrictions for drivers on military bases. The new regulation, published in the Federal Register in April 2005, states anyone driving a motor vehicle on a DOD installation cannot use a cell phone unless the vehicle is safely parked or the driver is using a hands-free device.

Many installations already have implemented the new restrictions, and the rest will implement the rules on their own schedule, according to John Seibert, DOD Assistant for Safety, Health and Fire Protection. There is no deadline for installations to implement the restrictions, but Seibert said he expects most will do so this year.

The law enforcement policy offices for each military department are putting together policies and procedures for implementation and enforcement of the restrictions, Seibert said. He explained the regulation is a minimum requirement, and installation commanders have the authority to put stricter rules in place. Each installation will determine the punishment for any rules violation.

As the installations implement the restrictions, they have a responsibility to notify the public by putting up signs or placing notices in base newspapers, Seibert said. Many installations are allowing a grace period during which motorists in violation of the regulation will be warned and not ticketed.

The regulation was developed based on information from the National Highway Traffic Safety Administration, which studied driving distractions as a cause of motor vehicle crashes. The study found cell phone use is the fastest-growing and most visible distraction that leads to accidents. The new regulation not only will increase traffic safety on installations, Seibert said, but also encourage safe driving habits during off-duty time. 🚗



Class A (Damage)

■ One M88 Recovery Vehicle and 11 M1A2 tanks suffered Class A damage on a railroad track. The vehicles were loaded on eight separate rail cars that shifted and rolled over onto the tracks before striking a parked locomotive. The accident occurred during the late evening.



Class A

■ Soldier suffered fatal head injuries when the M1114 HMMWV he was riding in rolled over. The vehicle ran off the roadway and overturned after the driver swerved to avoid a civilian vehicle that pulled in front of the HMMWV. The deceased Soldier was serving as the vehicle's gunner and was ejected during the rollover sequence. The driver and three other occupants were wearing their seatbelts and suffered minor injuries. The accident occurred during the mid-morning.



Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class C

■ Soldier suffered minor injuries when the M1078 LMTV he was driving rolled over. The truck was towing an M1082 trailer loaded with ammunition on a wet dirt road. The ammunition was not strapped down properly and shifted during movement, causing the trailer to swerve and run off the road. The driver lost control of the truck, which overturned after the trailer left the roadway. The Soldier was placed on restricted duty for 5 workdays. The accident occurred during the late morning.

Class D

■ All occupants in an M1114 HMMWV escaped without injury when their vehicle struck a series of concrete barriers. The HMMWV's driver was operating under night vision goggles in a three-vehicle convoy near a brightly lit prison facility. The driver and truck commander (TC) reportedly thought they had cleared all the barriers and continued down the roadway just before the impact. Both Soldiers were wearing their seatbelts and required PPE. The accident occurred during the late evening.

■ An M1114 HMMWV crew was not injured when their vehicle hit an improvised explosive device crater. The HMMWV was part of a five-vehicle patrol operating under white lights. The TC saw the lead vehicles move around the crater and then switch to blackout drive. The driver swerved the HMMWV to avoid the crater but switched to blackout drive before he was around it completely. Neither the driver nor the TC had time to put on their night vision devices before the vehicle struck the crater. No injuries were reported, but the left front and right rear wheels sheared off the HMMWV as a result of the impact. The accident occurred during the late evening.

■ Soldier died when the M1114 HMMWV he was riding in rolled over. A civilian vehicle ran a stop sign and pulled in front of the HMMWV just before the accident. The HMMWV's driver, a U.S. Air Force Airman, lost control while attempting to avoid the civilian truck. The vehicle was exceeding the command-directed convoy speed at the time of the accident. Besides the deceased Soldier, the vehicle's driver and two other Air Force personnel were ejected, but the degree of their injuries is unknown. The accident occurred during the early afternoon.

■ Soldier suffered fatal injuries when the M923A2 he was driving rolled over. The truck was part of an 11-vehicle convoy on an interstate highway. The driver lost control as the vehicle was traveling downhill on a curve. The road was wet from a rain shower, and the vehicle fishtailed after hitting a slick spot. The truck struck an embankment and overturned,

ejecting the driver. Another M923A2 directly behind the accident vehicle hit the same slick spot, spun around twice, and came to rest in a ditch. The accident occurred during the late afternoon.

■ Two Soldiers were killed when their M1088 was involved in a multi-vehicle collision. The truck was towing an M967 5,000-gallon bulk fuel tanker as the fifth vehicle in an 18-vehicle convoy. The convoy slowed due to road conditions, but the fourth vehicle, also an M1088 towing an M967 tanker, did not stop in time and hit the vehicle to its front. The fifth vehicle then struck the fourth vehicle, causing the fuel tanker to explode. The fourth and fifth vehicles subsequently caught fire. The Soldiers from the third and fourth vehicles escaped without injury. The Soldiers in the fifth vehicle were trapped inside the truck and suffered fatal burns. The accident occurred during the early morning.

Class A

■ Soldier was killed when he was struck by a civilian tractor-trailer. The Soldier was a passenger in an M931 that was sitting on the roadside because of mechanical problems. The Soldier was standing at the rear of the M931 when he was hit by the tractor-trailer. The driver of the M931 was not injured. The vehicle's four-way hazard lights were on at the time of the accident, which occurred during the late evening.

Class A

■ Soldier died after falling 15 feet from a guard tower. The Soldier was pulling security in the tower and apparently lost his footing while throwing garbage to the ground. The accident occurred during the mid-morning. More details of this accident can be found in the “PLR Files” article on page 15 of this issue.

■ Soldier suffered a fatal gunshot wound from a friendly element. The Soldier was in an M1115 HMMWV in an unfamiliar area after dark when his element mistook the friendly element for hostile forces. The two elements opened fire, at which time the deceased Soldier was struck in his left lung and shoulder. Three other Soldiers suffered unspecified injuries. The Soldiers reportedly were wearing their required PPE.

The accident occurred during the mid-evening.

Class B

■ Soldier’s right middle finger was amputated by the hydraulic door of an M1A1 tank. The Soldier was downloading munition rounds from the tank when his finger got caught in the door. The accident occurred during the mid-morning.

■ One of Soldier’s left-hand fingers was amputated while he was climbing down from an RG31 Mine Protective Vehicle. The Soldier caught his finger and slipped while exiting through the gunner’s hatch. The accident occurred during the mid-morning.

■ Soldier’s right index finger was amputated by the fan belt of the HEMTT he was servicing. The Soldier was adjusting the vehicle’s idle when he caught his hand in the fan belt. The vehicle was running at the time of the accident, which occurred during the late morning.

■ Soldier lost consciousness after being punched in the chin during unarmed defensive tactics training. The accident occurred during the mid-afternoon. No other details were reported.



JUST BUSTA MOVE!



Ah, the things people do when no one’s watching—some on purpose, some by accident. Take falls. We’ve all had a clumsy moment or two, but some Soldiers seem determined to outdo all the other klutzes out there. The poor souls below suffered bruises and broken bones, but their egos took an even bigger hit.

• A private first class left his billet late at night for an unknown reason “wearing only his socks.” (The report doesn’t specify whether he really was wearing only socks or was fully clothed with no shoes. Let your imagination run wild.) On the way back to his room, the Soldier started running up the stairs. Although socks aren’t known for their remarkable traction, the Soldier was startled when he slipped and the laws of physics took over. Having no desire to kiss the concrete steps, the Soldier tried to break the fall with his right hand, but it unfortunately wound up being the only thing broken. He also dislocated two fingers. The Soldier had 3 workdays to think about his foolishness, but his comrades won’t let him soon forget.

WERE THEY KNOWING?



- A sergeant was preparing his Bradley Fighting Vehicle for a mission. Ammunition? Check. Personal gear? Check. Map? Uh, where'd that go? The Soldier climbed up on the vehicle's ramp and discovered the map. Unfortunately, he stepped on it *before* he found it. The map slid under the Soldier's foot, sending him down onto his right arm. A few choice words besides "ouch" later, the Soldier hitched a ride to the hospital and was diagnosed with a dislocated shoulder. He lost 1 workday and was placed on 7 days of restricted duty.

- A Military Police staff sergeant

responded to an animal disturbance call at the post club. A dog apparently was loose around the club's swimming pool and creating havoc with the sunbathers there. The Soldier was nearing the end of his workday when he drove up to the club, spotted the dog, and took off in hot pursuit. No one except the dog and the Soldier know what happened next, but somewhere along the way he—the staff sergeant, not the dog—fell and fractured his left hand. The Soldier spent the night at a local hospital, was given pain medication, and placed on 60 days of restricted duty.

Let's go over our lessons learned. First, when you're off duty—whether it's in your house, billets, or a tent in the middle of nowhere—wear shoes when you go outside. The Army pays you good money to afford such luxuries. Second, don't run up (or down, for that matter) stairs, even in shoes. And always use the handrail. Third, maintain your situational awareness and exercise good judgment, both of which seemed to be lacking in all three cases. Fourth and finally, always maintain three points of contact when your balance is in question, like when you're on top of a big combat vehicle. 🚗

POV stats

FY06
through Jan 06

Class A-C accidents/Soldiers killed

■ Cars	26/15
■ Vans	1/0
■ Trucks	7/3
■ Motorcycles	18/7
■ Other*	1/0

*Includes tractor-trailers, unknown POVs, and bicycles

25

total DEATHS

FY05: **33** 3 year average: **26**

DON'T GET THE 3RD DEGREE

The majority of all combat-related burns are caused by explosions from improvised explosive devices (IEDs), vehicle-borne IEDs, rocket-propelled grenades, or mines during operations on or near a military vehicle. Hand burns occur in 84 percent of vehicle-related burn patients and frequently lead to severe long-term disabilities.

WEAR YOUR GLOVES

Be ready for the risk
and wear the proper PPE.

learn more at
<https://crc.army.mil>



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CSA S

Leader Accountability

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What Were They Thinking?

In March 2003, the Secretary of Defense challenged the Services to reduce accidents by 50 percent by the end of Fiscal Year (FY) 2005. Our target was 101 mishap fatalities, but we actually suffered 302 Soldier deaths due to accidents. These losses represent a significant impact on our combat power, and many could have been prevented with good leadership.

In the most dangerous environments—those in theater—we have a much reduced accident rate relative to exposure levels. This is due to involved, engaged leaders who properly plan and then closely supervise their Soldiers' missions. Leaders are the key to preventing unnecessary loss. In recognition of this fact, we are strengthening the performance evaluation system on leader responsibility for risk management.

All leaders will include safety programs and tasks in their evaluation report support forms

and counseling sessions. An excellent example is "Effectively incorporating Composite Risk Management in all mission planning and execution to include quarterly training briefs and quarterly safety council meetings." Open and continuous communication between Soldiers and leaders on this critical topic will work to achieve that mission. Leaders at all levels must lead the way in changing behavior to reduce accidents.

features



6 **10** **18**

on the web

<https://crc.army.mil>



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COL George Bilafer Deputy Commander

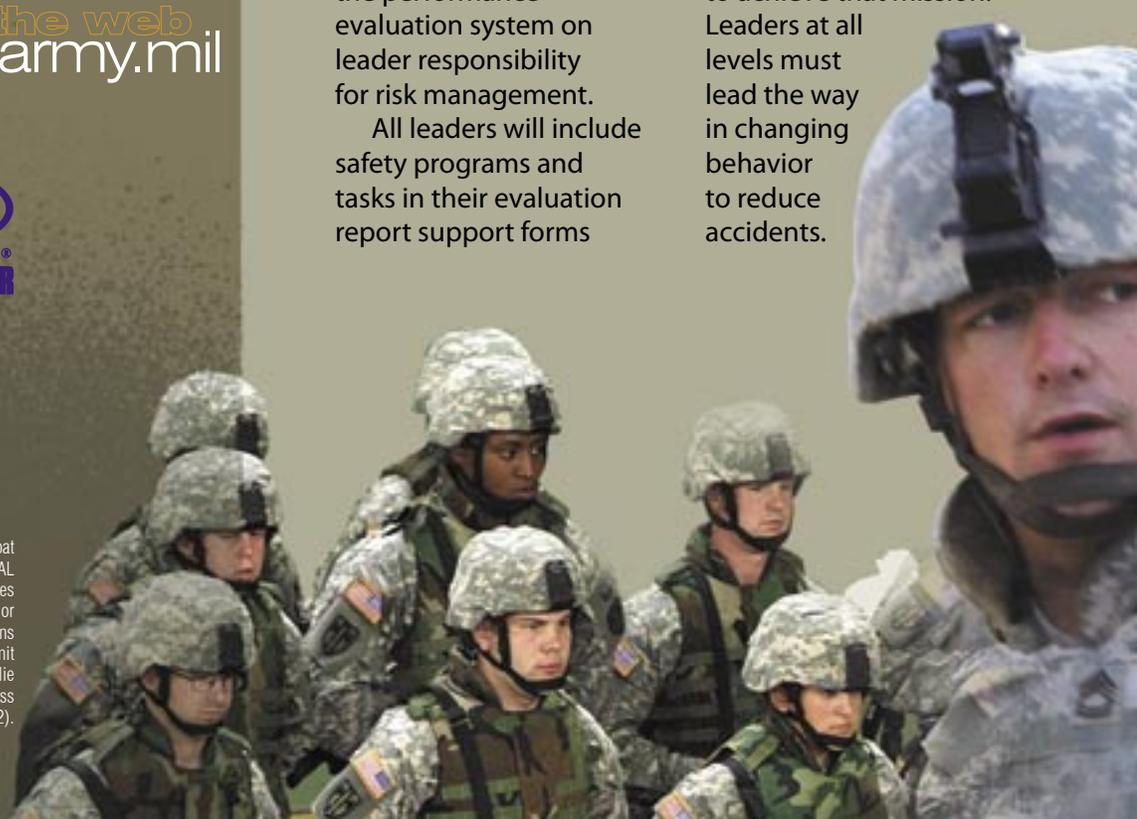
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ENDS

in Reducing Accidents

All senior raters will pass their support forms down two levels. For example, division commanders will pass their support forms with safety objectives down to battalion commanders, who then will pass their support forms with safety objectives down to platoon leaders. The NCO chain of supervision is linked in a similar fashion through their rating officials. Regular counseling in support of military evaluation systems is an already established requirement and practice. An oversight process for this requirement is in place as part of evaluation counseling.

We cannot afford to let this become a “check the box” requirement. Leaders must determine how their unit and Soldiers fit into programs and campaigns organized and promoted by the Army Combat Readiness Center. Leaders should take these broad agendas and translate them into specific tasks and objectives suitable for their unit and mission. This safety accountability focus at the leader level, along with counseling to see it placed squarely into all officer and NCO development, is vital to preserving our most precious resource, our Soldiers.

GEN Peter Schoomaker
Chief of Staff, Army

CRC'S ANSWER

The Army Combat Readiness Center (CRC) has many valuable tools leaders can use to meet the requirements of the Chief of Staff, Army (CSA) directive to include safety in evaluation reports. These programs, initiatives, and metrics were developed to help leaders at every level integrate Composite Risk Management (CRM) into all facets of their units' operations and training. They also were designed to help leaders determine the value of their unit safety programs as a whole, while individual Soldiers can use the programs and metrics for inclusion in their support forms and counseling checklists.

Army Readiness Assessment Program (ARAP)

ARAP is a Web-based, battalion-level commander's tool used to evaluate unit climate and culture on issues including safety, risk management, command and control, and standards of performance. The program consists of an online assessment followed by proposed courses of action to improve the unit's effectiveness. ARAP was developed for battalion commanders as part of their command inspection program but is now available to all Headquarters, Department of the Army and major command staffs. More information on ARAP can be found on the CRC homepage at <https://crc.army.mil> or by going to <https://unitready.army.mil>.

Preliminary loss reports (PLRs) and “Got Risk?” posters

PLRs and “Got Risk?” posters are distributed to commanders via e-mail to raise awareness of the latest accidents. PLRs are generated by a team at the CRC for each Army accident involving a fatality and include tactics, techniques, and procedures (TTPs) to help prevent similar accidents from occurring. The “Got Risk?” posters highlight the basic facts of accidents occurring during specific 7-day intervals. All PLRs and “Got Risk?” posters are available on the CRC homepage at <https://crc.army.mil>.



Army Safe Driver Training (ASDT)

ASDT consists of hands-on accident avoidance training in several key areas including braking, skids, and high-speed maneuvering. This training can be performed on both conventional vehicles and HMMWVs. Commanders can request this program by contacting the CRC G-5 at (334) 255-2461 or DSN 558-2461. More information on the ASDT program can be found online at <https://crc.army.mil/RiskManagement/detail.asp?iData=56&iCat=454&iChannel=25&nChannel=RiskManagement>.

POV Toolbox

The POV Toolbox was designed to help leaders fight the number one killer of Soldiers outside combat—private vehicle crashes. This Web-based program includes the CSA's 6-Point Program, a POV inspection checklist, tools for trip planning and accident trend analysis, an accident review guide, options available to commanders in dealing with unsafe drivers, and leaders' guides. The POV Toolbox can be found online at <https://crc.army.mil/RiskManagement/detail.asp?iData=26&iCat=516&iChannel=25&nChannel=RiskManagement>.

On-site CRM training

The CRC's Mobile Training Teams (MTTs) provide 3-day commander/leader courses and 5-day NCO courses on CRM for brigade- or division-sized units free of charge at the requesting unit's location. The MTTs also provide a CRM train-the-trainer course on request. Commanders can schedule these courses

by contacting the CRC G-7 at (334) 255-0242 or DSN 558-0242. More information on MTT visits can be found online at <https://crc.army.mil/Training/cat.asp?iCat=519&iChannel=16&nChannel=Training>.

Assistance visits

Commanders can request a white-hat team to conduct an on-site study of their units' operations and make recommendations to improve their CRM processes. The visits can be scheduled through the CRC G-5 at (334) 255-2461 or DSN 558-2461. More information on assistance visits can be found online at <https://crc.army.mil/Training/detail.asp?iData=43&iCat=519&iChannel=16&nChannel=Training>.

Commander's Safety Course

This course is a mandatory requirement for all commanders and can be found on the Combat Readiness University Web site at <https://safetylms.army.mil/librix/loginhtml2.asp?v=usasc>.

Magazines

The CRC produces three full-color publications geared toward hazard identification and CRM: *Flightfax* (aviation), *Countermeasure* (ground), and *ImpaX* (driving). Electronic copies of each publication and subscription information can be found online at <https://crc.army.mil/MediaAndPubs/cat.asp?iCat=59&iChannel=19&nChannel=MediaAndPubs>.

Commander's Toolbox

The Commander's Toolbox is an online package derived from best practices in the field and includes checklists, briefing formats, sample SOPs, training materials, automated risk assessment worksheets, etc. To access the Commander's Toolbox link, go to the CRC homepage and then click on the "Combat Readiness University" icon. Use your AKO user name and password to log in, and then go to "My Courses."

Guardian Angel

The Guardian Angel program is a national campaign that pairs family members, churches, schools, and other interested persons and groups with individual Soldiers to help keep them safe during off-duty activities. This program is especially useful during a Soldier's post-deployment phase. More information on the Guardian Angel program is available online at <https://craapps.army.mil/guardianangel/index.html>.

Safety awards program

Commanders can find policy, guidance, and samples of how to run their own safety awards program online at <https://crc.army.mil/CRC/detail.asp?iData=80&iCat=544&iChannel=13&nChannel=CRC>.

In addition, the CRC offers tools for individual officers and NCOs:

ASMIS-1 Aviation Risk

Assessment Tool. This module of the ASMIS-1 system guides the user through the risk management process during aviation mission planning and can be found online at <https://crcapps.army.mil/>. (Note: ASMIS-2 Aviation is being developed and should be available soon.)

ASMIS-1 Ground Risk

Assessment Tool. This module of the ASMIS-1 system guides the user through the risk management process during ground mission planning for operations such as convoys and can be found online at <https://crcapps.army.mil/>. (Note: ASMIS-2 Ground is being developed and should be available soon.)

ASMIS-2 POV Risk Assessment

Tool. This updated version of the original ASMIS pairs individual Soldiers with their supervisors to help plan POV trips and make appropriate risk decisions. At the end of the assessment, Soldiers are provided with a full itinerary, a map with directions, and an automated DA Form 31. ASMIS-2 can be accessed online at <https://crcapps.army.mil/>.

Additional Duty Safety Officer

Course. This is a mandatory course for all additional duty safety personnel and is available online at <https://safetylms.army.mil/>.

Composite Risk Management

Course. This is an online course that provides policy, practice, and tools on CRM. To access CRM course material, go to the CRC homepage at <https://crc.army.mil/>, and then click on the "Combat Readiness University" icon. Use your AKO user name and password to log in, and then go to "My Courses."

Videos. The CRC has a wide range of videos that can be used during training. Subjects range from driving POVs, explosives safety, HMMWV rollovers, aviation, and others. To access the videos from the CRC homepage, go to the "Media & Magazines" channel at <https://crc.army.mil/MediaAndPubs/detail.asp?iData=75&iCat=58&iCh>

[annel=19&nChannel=MediaAndPubs](#), click the "Video Index" link, and then click to view or order.

Deployment Safety Guide. The V Corps Safety Office developed this extensive manual that provides safety guidance, policy, and tools for many phases of deployment and can be found online at <https://crc.army.mil/Guidance/detail.asp?iData=207&iCat=371&iChannel=15&nChannel=Guidance>.

Confined Space Guide. This guide provides instructions on how to protect personnel who work in permit-required confined spaces. For more information, go to the confined space guide link on the CRC homepage at <https://crc.army.mil/Guidance/detail.asp?iData=205&iCat=456&iChannel=15&nChannel=Guidance>.

Up-Armored HMMWV Rollover Procedures. Graphic Training Aid (GTA) 55-03-030, *Up-Armored HMMWV Emergency Procedures Performance Measures*, consists of step-by-step emergency procedures for rollovers, water egress drills, MEDEVAC requests, and training suggestions. More information on this GTA can be found online at <https://crc.army.mil/Tools/detail.asp?iData=58&iCat=547&iChannel=17&nChannel=Tools>.

The following metric examples are for officers and NCOs to support active safety measures within their formations. Under no circumstances is the intent to foster a zero-defect environment. Rather, the goal is for units to quantify safety requirements, programs, and policies across the full spectrum of command to set the conditions for Soldiers, leaders, and commanders to own the edge. Each unit is highly encouraged to create and tailor metrics specific to their individual missions and requirements, showing linkage and continuity across every echelon from top to bottom.

• Effectively incorporated CRM in all mission planning and execution, to include quarterly training briefs and quarterly safety council meetings.

• Achieved 100 percent compliance of ASMIS-2 POV use by unit personnel.

• Achieved 100 percent reporting of all accidents in accordance with Army regulations using the Accident Reporting Automated System.

• Within 90 days of assuming command or responsibility, executed all safety awareness and risk management programs to include ARAP, the Additional Duty Safety Officer Course, and CRM training.

• ___ percent of my Soldiers are enrolled in Combat Readiness University online programs.

• ___ percent of my Soldiers participated in ASDT programs including Motorcycle Mentorship and the Accident Avoidance Course.

• ___ percent of my aviation crews completed Aircrew Coordination Training-Enhanced.

• Developed unit-specific safety and accident avoidance training classes using CRC-developed products presented in officer and NCO professional development training sessions.

• Received, reviewed, and distributed both "Got Risk?" posters and PLRs across my formations to prevent similar events from occurring.

• Conducted thorough after-action reviews to capture best practices and TTPs that were then shared across formations to improve communication and refine and standardize SOPs to further mitigate risk.

• Never walked by an unsafe act or procedure by making on-the-spot corrections to ensure compliance with approved standards.

• Provided subordinates with the maximum planning time possible (1/3-2/3 rule) to minimize shortcuts and enhance the potential for overall mission success. ⚡



BG Joe Smith

Director of Army Safety
CG, CRC

During a recent accident outbrief, a commander was interacting heavily with the Centralized Accident Investigation Board and asked several direct questions. In fact, his questions were so powerful they led the Board to conduct additional deliberations. These new deliberations resulted in revised findings and recommendations. Near the outbrief's conclusion the commander said, "This is not easy ... some of my Soldiers are getting this, but I am still working on others." He continued by saying, "We have to be precise." Not until after the commander's comments did the board link the word "easy" with "lack of precision." I then realized the commander had unknowingly championed Composite Risk Management.

this is not easy ...

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

Accident Overview

A route clearance team's rear gunner in an M1114 HMMWV observed headlights approaching from the rear. Although the gunner did not know it, these headlights belonged to an infantry convoy's lead M1114. The gunner, who was wearing night optical devices, told his truck commander (TC) another vehicle was approaching. The gunner signaled at the vehicle to initiate far recognition procedures. There was no response from the approaching HMMWV so the gunner, in accordance with force

escalation procedures, fired a warning burst from his M249 squad automatic weapon.

The infantry convoy commander did not see the spotlight. However, he did hear the burst of gunfire and thought he saw muzzle flashes to his right. Seconds later, his gunner shouted that he saw gunfire coming from the left. The driver, a staff sergeant, accelerated the vehicle forward.

As the lead infantry convoy M1114 continued to approach, the route clearance team's gunner fired another warning burst, this time from his M2. The gunner told his

TC the vehicle was still approaching, and the TC cleared the gunner to engage. The gunner then fired the M2 into the front of the oncoming HMMWV.

When the vehicle did not stop, the gunner adjusted his line of fire and re-engaged the driver's compartment using all the ammunition remaining in his storage can. The lead infantry convoy M1114 was hit by at least 30 rounds, several of which impacted the windshield. The vehicle swerved off the road to the right and came to a complete stop after hitting a large rock and street sign.

The gunner in the

second infantry convoy vehicle, also an M1114, was injured by shrapnel and fell down into the HMMWV. A passenger climbed into the turret to return fire after he saw the gunner fall down. He also was injured by shrapnel and fell back into the vehicle. At the same time, a round impacted the driver-side windshield, severely degrading the driver's ability to see forward.

The third M1114 in the infantry convoy was approximately 100 meters behind the second HMMWV when the driver saw tracer rounds to his front left. He saw the

base (FOB). The route clearance team continued moving south along the alternate supply route to complete their mission.

The driver in the lead M1114 was mortally injured by round fragments that penetrated the windshield. He was pronounced dead at the battalion FOB aid station later that night. This fratricide accident was caused by a series of human errors, several of which were made due to a lack of precision—specifically in the operations orders, fragmentary orders, and convoy brief—and a perception the mission was easy.

Are you making it easy? Are you being precise enough?

The missions we're conducting aren't easy. No kidding, right? But some people, including your peers, don't get it. They just don't give mission preparation the attention it deserves. Think about what you're doing, truly recognize the complexity of your missions, and apply precise planning. You might use checklists or ask yourself and your Soldiers these questions:

- Is everyone wearing all their body armor and personal protective equipment properly?
- Did I conduct a realistic and effective rollover drill?

- Do I know where the last improvised explosive device was discovered or detonated in my sector?

- Do I know where the last accident occurred in my sector? Do I know where the roads are narrow or severely congested?

- Has my assistant convoy commander checked my vehicles' combat loads?

- Have I checked on the location of other friendly forces in my sector? How do I effectively brief my convoy with respect to other friendly forces?

These questions represent only a few issues that must be raised before conducting any mission. They are but one tool leaders can use to begin precise planning. The real power of precise planning is the unconscious blending of tactical and accidental hazards—the process of Composite Risk Management (CRM)—and the subsequent creation of control measures to reduce risk.

If you take the right steps, you will realize no mission is easy. You will realize backing into a parking space at the motor pool could cause an accident. You will see even a 15-kilometer textbook convoy operation between two FOBs can be full of tactical possibilities. As a result, additional tactical and accidental questions will become apparent, and your thought process will change.

Your changed point of view will allow you

to recognize mission planning shortcomings immediately. You will therefore be able to focus your efforts on the precise areas that need added emphasis. The more you conduct precise planning, the more intuitive it becomes.

Conclusions

Do personnel assigned to your unit think some of their missions are easy? Do you or your peers think you are operating on minimum information that lacks precision? These conditions are indicators of future accidents and mission difficulties.

Ask yourself, "Do I get it? Does everyone in my formation get it?" If the answer to either of these questions is no, find someone who does get it and start learning. As you gain experience, recognize the importance of precise planning and thought processes based on considering all potential hazards. And start using the term CRM in your daily vocabulary while mentoring the Soldiers in your formation so everyone can own the edge! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigations Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.



gunner from the lead vehicle return fire, and he soon heard "pings" inside his HMMWV. The third vehicle's TC attempted to contact the first vehicle via radio but received no response. The third vehicle's gunner did not fire his weapon.

The TC in the third infantry convoy HMMWV observed another vehicle swerve off the road. He made contact with the second vehicle's driver via radio and asked about the lead HMMWV's status. The driver mistakenly told him the lead M1114 had moved ahead and was en route to the company forward operating

friendly fire is the employment of a friendly weapons system against friendly troops or equipment by forces actively engaged with the enemy and who are directing fire at a hostile force or what is thought to be a hostile force. Friendly fire can (but does not always) result in fratricide, which is the employment of friendly weapons that results in the unforeseen death or injury of friendly personnel or damage to friendly equipment. Basically, if you shoot

not so friendly fire

OPERATIONS DIVISION
U.S. Army Combat Readiness Center

at your own forces, then you've carried out friendly fire; if you hit the personnel or equipment in the unit you engaged, then you've committed fratricide.

As of 31 January 2006, there have been 27 Army fratricide incidents reported since the beginning of Operation Iraqi Freedom in March 2003. Of these incidents, 26 were the result of direct fire, and 1 was attributed to indirect fire. Two incidents were caused by ground-to-air fire, and one resulted from air-to-ground fire.

The time of occurrence was split almost evenly—14 during the day and 13 at night. Two M1A1 tanks, one allied aircraft, and one U.S. Navy F-18 aircraft were destroyed in these incidents. A total of 11 Soldiers were killed, 1 Soldier suffered a permanent total disability, and 10 other military fatalities (U.S. and foreign services) were reported.

What are some of the effects of fratricide?

Fratricide incidents have adverse effects on both units and individuals.

A few of the more common results are hesitation to conduct limited-visibility operations, loss of confidence in the unit's leadership, an increase in leader self-doubt, loss of initiative, loss of aggressiveness during fire and maneuver, disrupted operations, and degradation of unit morale and cohesion.

How does a friendly fire incident occur?

There are two components of every friendly fire incident. First, there is the individual or unit that initiates the fire. Second, there is the individual or unit that receives the fire. Friendly fire occurs most often when one or more units have identified a friendly unit as an enemy or do not know the friendly troops are there due to a lack of situational awareness, and then engage them with direct or indirect fire.

“**Easy identification** is important because some equipment, such as a thermal sight on a tank, cannot **see** chem lights or glint tape.”

How does one get into a position where they might receive friendly fire?

There are several ways an individual or unit can put themselves at risk for receiving friendly fire. One is loss of situational awareness, which can be caused by numerous factors. These include inadequate control measures to keep direct fire oriented toward the enemy; inadequate control measures that prevent an attacking force from becoming disoriented; inaccurate reporting that does not keep higher units apprised of the tactical situation; and communication errors that can lead to erroneous clearance of fires, thereby allowing indirect fire to rain down on friendly forces.

Inadequate land navigation is also a contributing factor in some friendly fire incidents. This can include Soldiers going outside their assigned sectors, thereby becoming disoriented and possibly traveling in the wrong direction. Some Soldiers might incorrectly report their location to a higher element, so no one outside their immediate element knows who they really are.

Units that do not mark their vehicles and personnel with some type of marking device identifying them as friendly forces are also at risk for friendly fire. These markings must be visible in the day and at night and also be easily identifiable by friendly forces operating in the same sector. Easy identification is important because some equipment, such as a thermal sight on a tank, cannot see chem lights or

glint tape. A marking system becomes even more critical in times of limited visibility or in a firefight that puts friendly and enemy forces in close proximity.

How does one get into a position to commit friendly fire?

These factors are much the same as those mentioned above. There's loss of



situational awareness, i.e., not keeping the weapon system oriented in the right direction, deviating out of the engagement area, or failure to adhere to control measures. Then there's inadequate land navigation. If an individual or unit doesn't know its location or the location of other friendly units, then it can't be certain who's operating in their vicinity. Finally, there's failure by the individual to positively identify the target as an enemy before initiating fire (direct or indirect). This is especially critical in times of limited visibility such as darkness, fog, rain, or dust.

Units must have a plan to reduce the risk of friendly fire. The key is tough, realistic training with leaders actively involved in eliminating friendly fire incidents. Before every mission, good leaders will:

- Ensure the unit has adequate control measures that are distributed to the lowest level

- Ensure all Soldiers understand the operation and schemes of maneuver being conducted by their unit and adjacent units
- Rehearse the plan to ensure all Soldiers understand the operation and their unit's orientation during the mission
- Use all position location and navigation devices available and ensure Soldiers understand if their unit gets disoriented or lost, they must contact higher

GOT ACCIDENTS?

A Soldier suffered a permanent total disability when he was shot in the neck by a friendly sniper element while on a dismounted patrol. Another Soldier suffered a gunshot wound to his arm when the dismounted patrol returned fire. The accident occurred during the mid-morning.

headquarters immediately for instructions and assistance

- Keep Soldiers informed and ensure they clearly understand friendly and enemy situations
- Ensure Soldiers understand they must make positive identification before engaging targets
- Mark unit vehicles and personnel so they can be identified by other friendly units operating in the same sector
- Ensure all Soldiers and leaders understand the rules of engagement

Following these guidelines will reduce—not eliminate—the possibility your unit will be involved in a friendly fire or fratricide incident. Stay aware, stay safe, and own the edge! 

Comments regarding this article may be directed to the Army Combat Readiness Center's Operations Division at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

High operational tempo and urgent mission requirements sometimes keep Soldiers from doing their business the right way. One unit in Iraq was distracted by a number of factors and paid a high price for their mistakes: one dead Soldier and three injured service members.

Background

A low-density unit was augmented with personnel from different units and branches of service to work together for the first time in Operation Iraqi Freedom (OIF). Their mission was to support the country's infrastructure so the population could sustain itself. These personnel arrived from different home stations at different intervals from various points of entry. As such, the service members were not trained as a group, and some received either conflicting or virtually no training at all in critical areas including rollover drills.

Due to the command's sense of urgency, a formal risk assessment for the overall base mission was overlooked. Skipping formal risk assessments for individual missions became a common practice. The unit did not have sufficient standard operating procedures (SOPs), but leaders were in the process of developing them.

As they acquired vehicles, the unit did not develop or implement a formal maintenance program. Some of the vehicles in their inventory had modified equipment such as bumpers commonly found in OIF. After receiving

their vehicles, the unit's personnel began regular logistical movements. The unit still had a mission to complete even though personnel were stressed with trying to establish the new organization.

The accident sequence

At 0730 the morning of the accident, personnel conducted preventive maintenance checks and services (PMCS) on the four

“ The HMMWV then **contacted** the loose sand on the roadside and **overturned three times**, finally coming to rest on its right side over a small ditch. ”

convoy vehicles that were to conduct a logistical run from their remote camp to a U.S. airbase. The weather was good with a few scattered clouds. After completing PMCS, the service members conducted pre-combat and radio checks. No one conducted a rehearsal or a formal risk assessment.

The lead vehicle was an M1114 HMMWV that was equipped with a modified, unapproved bumper. The crew consisted of three U.S. Air Force personnel—the driver, the gunner in



Watch Nature's Speed Bump.

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

the turret, and a passenger in the right-rear seat—and one Soldier, the vehicle commander (VC) in the right-front seat. The second and third vehicles were an M998 HMMWV and a civilian pickup truck, respectively. The convoy commander was in the trail M923 5-ton truck and took the gunner's position so he could monitor the convoy.

The convoy departed the camp at speeds of 50 to 55 mph. No enemy activity had been reported along the route within the past year. The maximum authorized speed for a HMMWV on a hard-surface road is 55 mph, so the

convoy was within this range, and there was no published command guidance that lowered this speed.

Once they arrived at the air base, the convoy personnel finished their assigned activities and linked up at 1300. The convoy commander conducted a convoy brief and accounted for all vehicles, personnel, and sensitive items. The convoy departed at 1320 for the return trip to their remote camp.

The VC and driver returned to their original positions in the front seats but did not buckle their seatbelts, nor did the right-rear seat passenger. The gunner did not have a gunner

restraint system available in the turret. The crew also did not secure the vehicle's combat locks before departing the air base.

At 1340, the convoy was about 4 kilometers from its camp and traveling at 50 to 55 mph when a civilian pickup truck pulled from a side road in front of the lead M1114. The gunner, who had been watching the vehicle and was motioning with her hands to keep its driver from pulling out, yelled suddenly to warn the crew. The HMMWV's driver saw the civilian truck and abruptly steered left to avoid impact. He missed the truck but overcorrected

when he steered back right, sending the two right wheels over the roadway's edge and onto the loose-sand shoulder.

The driver steered hard to the left but overcorrected again, rotating the M1114's rear end 90 degrees counterclockwise. The vehicle slid right and, when all four wheels were back on the pavement, flipped on its right side and skidded about 20 feet off the road. The HMMWV then contacted the loose sand on the roadside and overturned three times, finally coming to rest on its right side over a small ditch.

All four doors came open during the rollover, and the four passengers were ejected. The VC was crushed under the HMMWV and killed instantly. The driver was thrown into the ditch under the vehicle but was not pinned. He suffered a fractured upper right arm, a slight concussion, and two bruised ribs and was unable to remember any details of the accident. The gunner was thrown about 8 feet from the vehicle into the ditch. Her individual body armor was torn off during the rollover, and she suffered a cut on her nose and various fractures to her back. The right-rear seat passenger was thrown 12 feet from the vehicle and suffered a mild concussion and abdominal and back contusions.

The vehicle suffered heavy damage. The M240B machine gun was torn off, both right-side tires and one left-side tire were flattened, the lid covering the rear hatch was ripped off, and the rearview mirrors were broken. The HMMWV's body was striated,

“ All four doors came open during the rollover, and the four passengers were **ejected**. The vehicle commander was **crushed** under the HMMWV and **killed** instantly. ”

scratched, and dented, but the survivable space within the vehicle was not compromised.

Why the accident happened

- The driver lost control of his M1114 HMMWV because he was driving at excessive speeds for the mission conditions.
- The principles of risk management were not applied as indicated in Department of the Army Pamphlet (DA Pam) 385-1, *Small Unit Safety Officer/NCO Guide*; Field Manual (FM) 100-14, *Risk Management*; and Air Force Instruction (AFI) 90-901, *Operational Risk Management*.

Contributors to severity of injury

- All the HMMWV occupants with access to seatbelts did not wear them. The crew also failed to activate the vehicle's combat locks even though their use is prescribed by the vehicle's technical manual (TM).
- Unit members had not been trained properly on rollover drills.

Observation

- The unit's vehicles had been modified without approved modification work orders.

Countermeasures

- Enforce the requirements of Air Force Joint Manual 24-306,



Manual for the Wheeled Vehicle Driver; Army Regulation (AR) 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing); and Training Circular 21-305-4, Training Program for the High Mobility Multipurpose Wheeled Vehicle, as well as all aspects of safe motor vehicle operations.

- Ensure training replicates tactical situations, and develop unit guidance for safe vehicle operations with emphasis on maximum authorized speeds for various road and environmental conditions.

- Using Composite Risk Management, conduct focused risk assessments for all unit-level operations to reduce hazards to an acceptable level.

- Enforce the safety equipment utilization requirements prescribed by AR 385-55, *Prevention of Motor Vehicle Accidents*; AR 600-55; AFI 91-207, *The U.S. Air Force Traffic Safety Program*; and TM 9-2320-387-10, *Operator's Manual For Truck, Utility: S250 Shelter Carrier, 4x4, M1113, And Truck, Utility: Up-Armored Carrier, 4x4, M1114.*

- Train all unit members on the proper execution of rollover drills in accordance with Graphic Training Aid (GTA) 55-03-030, *HMMWV Uparmored Emergency Procedures Performance Measures*, and GTA 55-03-031, *Water Egress HMMWV Uparmored Rollover Task and Performance Measures*, and integrate these drills into unit programs and SOPs. Rollover drills must be rehearsed before all convoy operations.

- Inspect all vehicles, identify unapproved modifications, and perform documented risk management analysis in accordance with FM 100-14 and AFI 90-901, then submit a special mission modification request in accordance with AR 750-10, *Army Modification Program*. 

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As this issue of *Countermeasure* goes to press, 13 Soldiers have been lost in rollover accidents since the beginning of Fiscal Year (FY) 2006. That's only 3 months, so think about it: just over four Soldiers a month—one a week—dying because someone was driving too fast or they didn't buckle their seatbelt or for whatever reason. The vast majority of these fatal accidents involved HMMWVs, a trend that's continued since operations in Iraq began 3 years ago.

The fact is, the numbers aren't getting better; in fact, they're getting worse. From 1 October 2005 to 1 February 2006, the Army lost 15 Soldiers in HMMWV accidents. Compare that number to the 9 Soldiers lost in HMMWVs during the same timeframe in FY05. Of the 15 Soldiers that died in HMMWVs to date in FY06, 10 were killed in rollovers.

The following preliminary loss reports (PLRs) highlight several rollover accidents that have occurred thus far in FY06. The narratives are followed by tactics, techniques, and procedures leaders can implement to help curb the rollover trend that has

taken far too many Soldiers already this year. This isn't just a leader problem—individual Soldiers must remember that, ultimately, their safety is their responsibility. It's their decision to buckle a seatbelt or tell a driver to slow down.

PLR 0663, Iraq:

A 21-year-old specialist was killed and two other Soldiers were injured when their M1114 HMMWV hit an M1A2 tank head-on and rolled over. The specialist was operating the vehicle under night vision goggles in black-out drive conditions. The accident occurred at approximately 1920 local time.

PLR 0662, Iraq:

A 22-year-old private first class was killed when the M1114 he was riding in struck a civilian vehicle head-on and rolled over. The Soldier was serving as the HMMWV's gunner. One other Soldier in the HMMWV was injured. The accident occurred at 1450 local time.



JULIE SHELLEY
Managing Editor

PLR 0653, Afghanistan:

A 19-year-old private first class suffered fatal injuries when the HMMWV he was riding in rolled over. The M1114 was traveling on an unimproved secondary road when a truck crossed its path. The HMMWV's driver swerved the vehicle to avoid the crash, causing it to overturn. The private first class was serving as the vehicle's gunner and was thrown from the M1114, suffering a fatal head injury. Four other occupants in the HMMWV were wearing their seatbelts and suffered minor injuries. The accident occurred at 0830 local time.

PLR 0638, Iraq:

A 40-year-old sergeant first class was killed when the M1A2 tank he was commanding rolled over into a canal. The tank was traveling alongside the canal when the road below the vehicle

gave way. The tank rolled into the 25-foot-deep canal, which was filled with between 3 and 4 feet of moving water, and came to rest on its turret. The track commander's and loader's hatches were submerged, but the driver evacuated through the driver's hatch and the loader and gunner evacuated through the loader's hatch. Before leaving the tank, the gunner checked the sergeant first class's vital signs but found no pulse or responsiveness. The gunner was unable to extract the sergeant first class from the tank. The accident occurred at 1903 local time.

PLR 0625, U.S.:

A 30-year-old specialist died when the M923A2 he was driving rolled over on an interstate. The truck was part of an 11-vehicle movement and was traveling downhill on a right-hand curve when it hit a slick spot from an earlier

rs



Just over **four** Soldiers a month—one a week—**dying** because someone was driving **too fast** or they **didn't buckle** their seatbelt or for whatever reason.

rainstorm and fishtailed. The vehicle then struck an embankment and rolled over. The specialist was not wearing his seatbelt and was ejected from the vehicle. He was pronounced dead at the scene. The M923A2 following the accident vehicle hit the same spot and spun around twice before stopping in a ditch. The specialist was licensed properly and had sufficient sleep before starting the mission. The accident occurred at 1640 local time.

PLR 0624, Iraq:

A 44-year-old lieutenant colonel was killed when the M1114 he was riding in rolled over. The HMMWV was the lead vehicle in a four-vehicle convoy and was traveling on a hardball, flat-surface road when a civilian truck ran a stop sign and pulled in front of it. The driver lost control of the HMMWV, which ran off the road and overturned onto its right side. None of the M1114's occupants were wearing their seatbelts, and all were ejected from the vehicle. The lieutenant colonel was crushed by the HMMWV during the rollover. The driver, gunner, and rear-seat passenger were U.S. Air Force members. The accident occurred at 1349 local time.

PLR 0618, U.S.:

A 23-year-old sergeant was killed when his M997 HMMWV ambulance rolled over. The M997 was part of a small convoy when it ran off the roadway. The sergeant overcorrected and lost control of the vehicle, which struck a concrete median and overturned onto its side. The Soldier was wearing his seatbelt. The accident occurred at 1200 local time.

PLR 0606, Iraq:

A 30-year-old sergeant and a 26-year-

old sergeant died when their M1114 HMMWV rolled over. The HMMWV was providing security for a convoy when it struck a pothole and overturned, striking a passing civilian vehicle. The two sergeants were serving as the vehicle commander and gunner, respectively. The driver, a private first class, reportedly was wearing his seatbelt and suffered minor injuries. The accident occurred at 0655 local time.

PLR 0627, Iraq:

A 33-year-old staff sergeant was killed when the Stryker he was riding in rolled over. The Stryker was part of a three-vehicle convoy when it overturned, killing the staff sergeant and injuring three other Soldiers. There is a possibility materiel failure caused the accident, but no other facts were immediately available. The accident occurred at 0710 local time.

Leaders should implement the following control measures to prevent future rollovers and keep their units combat ready:

- Ensure drivers are trained in accident avoidance and hands-on skills improvement by implementing and resourcing a program such as the Army Safe Driver Training course (https://crc.army.mil/riskmanagement/driving_pov/asdtbrochure.ppt).
- Ensure drivers and vehicle commanders are familiar with the capabilities and limitations of their assigned vehicles, and brief them on the hazards that cause or contribute to loss of control and rollovers. The Army Combat Readiness Center (CRC) has two instructional training videos, "UAH Rollover Contingencies" (<https://crc.army.mil/streamingvideo/videolist>).



asp?video=1065) and "UAH Rollover Drills" (<https://crc.army.mil/streamingvideo/videolist.asp?video=1066>) available for download off its Web site.

- Ensure up-armored HMMWV vehicle crews are familiar with and rehearse the rollover procedures contained in Graphic Training Aids (GTAs) 55-03-030 and 55-03-031 (<https://crc.army.mil/guidance/gta55-03-030.pdf>). These drills should be rehearsed before every mission.

- Ensure all crewmen are positioned properly in open hatches at nametag deflade with the least amount of body exposed outside the hatch.

- Ensure armor crews conduct and rehearse rollover and evacuation drills in accordance with the appropriate technical

manual before every mission. Inspect the vehicle's load plan and ensure easy egress is possible.

- Conduct pre-mission briefings whenever possible and identify hazards that might exist along the selected route. Recognize hazards associated with roads that run alongside canals with moving water.

- Ensure Soldiers know they are required to wear seatbelts at all times when operating or riding in DOD motor vehicles as directed by Army Regulation 385-55, chapter 2, paragraph 2-16a (http://www.army.mil/usapa/epubs/pdf/r385_55.pdf). Enforce seatbelt usage and conduct spot checks.

- Speeding kills. Brief personnel on the necessity to adhere to speed limit guidance and to decrease speed as conditions dictate.

- Perform good pre-mission planning for all convoys, big and small. Ensure planning includes route reconnaissance to identify any hazard areas along the route such as narrow roadways or soft shoulders. Develop and implement controls to address identified hazards including adjusted convoy speeds, vehicle spacing, or alternate route selection. 

Editor's note: Complete texts of all PLRs are available on the CRC's Web site at <https://crc.army.mil/> (you must have an AKO username and password to access the PLR site).

Comments regarding this article may be directed to the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.

Cooper Sling

no cure for rollovers

JULIE SHELLEY
Managing Editor

Gunners in Iraq and Afghanistan have one of the toughest yet most important jobs in the Army. Standing inside their wheeled vehicles, protecting themselves and their crew, gunners face more risk from both the enemy and accidents than any other crewmember. Rollovers are one hazard that claims far too many Soldiers and especially gunners in theater. As such, the popularity of commercial restraint products has increased steadily since operations in Iraq began in March 2003.

The Cooper Sling is one such item being marketed by its maker, Black Mountain Industries, as a comfort and restraint system for gunners in tactical wheeled vehicles including HMMWVs. The

system is advertised to protect gunners from being ejected and to give additional support and promote proper posture during vehicle rollovers.

Unfortunately, rollover testing conducted on the Cooper Sling did not yield positive results and prompted the Program Manager-Tactical Vehicles (PM-TV) to release Safety of Use Message (SOU) 06-012. Tests showed the seat did not prevent the gunner from being ejected through the gunner's hatch in a rollover and would prevent the gunner's rapid entry into the vehicle crew compartment during an actual rollover. The device held the gunner to the top of the vehicle during testing, meaning the gunner would be crushed between the vehicle and the ground during a rollover accident. The

results showed use of the Cooper Sling will lead to almost certain serious injury or death for gunners involved in rollover incidents.

In compliance with SOU 06-012, all units must stop procuring and installing the Cooper Sling or any other non-approved restraint system immediately. Cooper Sling systems currently installed in vehicles must be removed before the vehicles go back into service. The PM-TV has developed an approved harness and retractor system for use in M1114 HMMWVs with weapon ring mounts. This system (vendor part number 901-US-07001) is the only approved and authorized tactical vehicle gunner's restraint currently in the Army inventory. The approved Army restraint, which takes about 1 man-hour

to install, is being fielded now and should be distributed Army-wide by July 2006. 

Editor's note: Anyone with questions regarding the Cooper Sling or the approved Army gunner restraint should contact Mr. Donald Starkey via e-mail at donald.starkey@us.army.mil or MAJ James Dell'Olio at james.dellolio@us.army.mil. The complete text of SOU 06-012 can be found on the Army Combat Readiness Center's Web site at <https://crc.army.mil/Messages/detail.asp?iData=80&iCat=530&iChannel=14&nChannel=Messages>.

Comments regarding this article may be directed to the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.



Buyer Beware!

Every day, those of us “back here” in the Army see how everyone “out there” is getting suggestions to solve the various issues that confront our troops in Southwest Asia. From our perspective, these efforts are both gallant and risky. Our Soldiers are saturated with advertisements for commercial off-the-shelf (COTS) items ranging from helmet suspensions, Ghillie suits, and fuel cans to tire carriers and vehicle bumpers, all claiming to be the best around.

There’s a legal term—*caveat emptor*—that means “buyer

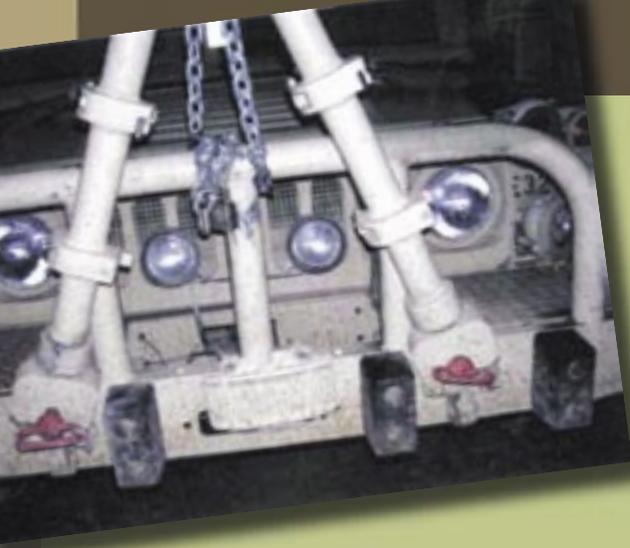
beware.” Any manufacturer can claim their product does great and wonderful things, but the real test comes when the item is put to use. Have you ever bought a TV or radio and then, when you got it home, it wouldn’t turn on or didn’t last nearly as long as the seller said it would? A simple example, but similar scenarios are playing out for our Soldiers every day in theater.

Army program managers (PMs) and TRADOC system managers (TSMs) have staffs to assist them in developing or integrating items into the Army’s inventory, missions, and operating

DON WREN
Systems Safety Engineer
U.S. Army Combat Readiness Center



A MOVING VIOLATION



An activated Claymore mine zip-tied to the front of an M1114 HMMWV is NOT a good thing. Someone spotted this HMMWV parked in a Soldier housing area in theater, prompting a safety alert message from CFLCC and Multi-National Corps-Iraq warning against

any such practice. The unit involved was using the mines as standard tactics, techniques, and procedures on their vehicles (why, nobody knows). The crew risked not only their lives but also those of their fellow Soldiers with this "grossly unsafe action." However,

the Claymore isn't the only unapproved modification to this vehicle. See if you can spot the others and e-mail your answers to countermeasure@crc.army.mil. We'll publish the correct answers in the May 2006 *Countermeasure* and spotlight the Soldiers who got them right.

environments. These individuals work together to evaluate COTS equipment such as the new desert boots, unit radios, and mine clearing equipment for safe and effective use. The PMs then evaluate the items to determine if the risks to Soldiers are too great. An example of a COTS item that did not pass PM inspection is the external fuel can carrier designed for mounting on the back of HMMWVs. The risk of fire in a hot environment during rear-end collisions was unacceptable to the PM, so the device was not approved for Army-wide use.

What leaders can do

According to Army Regulation 385-16, *System Safety Engineering and Management*, commanders who authorize their supply

personnel to order COTS items not managed by the Army logistics system effectively become the PMs for those items. They also are responsible for publishing usage instructions and inspection criteria, establishing safeguards, and providing suitable training on the equipment. Commanders must ask the following questions before purchasing any COTS item:

- Is there another item in the current Army inventory that performs the same function?
- How will the unit maintain the COTS equipment—serviceability inspections, obtaining repair parts, etc.—in a combat zone? (It is often difficult to obtain support from manufacturers that have no real tracking or notification system to relay problems with their products back to the purchasing units.)
- Who will be the subject matter expert on the equipment, and who will train and certify them?
- How much time will it take to train my Soldiers on the equipment?
- What safety features or hazards have been identified?
- What effect will this item have on other equipment—radio interference, different plug configurations, etc.?
- What additional injury or

damage will the COTS equipment cause in an accident?

Commanders might not realize they're assuming some high risks when they acquire COTS equipment. They assume if they can purchase COTS items advertised in military publications, the equipment is safe; unfortunately, this often isn't the case. The Army Combat Readiness Center database is filled with numerous Class A accidents involving COTS equipment. In fact, as of 1 February 2006, five Soldiers have died in COTS-related accidents thus far in Fiscal Year 2006 (see box).

Commanders must ask themselves if they really need that gadget staring back from a glossy magazine ad. Is that item really necessary to accomplish the mission and bring everyone back home alive? If the PMs and TSMs felt all COTS gear was worthwhile and necessary, they'd be working hard to get it to the field. Remember, just because a product is featured in a military publication doesn't mean it's safe and without risks. Caveat emptor! 

Contact the author at (334) 255-3774, DSN 558-3774, or by e-mail at donald.wren@us.army.mil.

DO YOU KNOW?

Nine Soldier deaths have been attributed at least in part to COTS equipment failures during the past 3 fiscal years. Two fatalities were attributed to commercial Ghillie suits, two involved COTS communication equipment mismatch, and five involved commercial external fuel cans.



Class A

■ Soldier suffered fatal head injuries when the Stryker he was riding in rolled over. The Stryker was part of a three-vehicle convoy when one of its rear wheels came off, causing the vehicle to overturn. The deceased Soldier was serving as the vehicle commander. Three other passengers were injured. The accident occurred during the mid-morning.



Class A

■ A Department of the Army contractor was killed when the M998 HMMWV he was driving was struck by a civilian water truck. The contractor turned the HMMWV in front of the water truck, which could not stop in time to avoid the impact. The water truck hit the HMMWV on the driver's side. The accident occurred during the mid-morning.

■ One Soldier died and two Soldiers were injured when their M998 HMMWV rolled over during convoy operations. The vehicle overturned after the driver failed to negotiate a turn. The deceased Soldier was serving as the vehicle's gunner and was pronounced dead at a combat support hospital. None of the Soldiers were wearing seatbelts. The accident occurred during the mid-morning.

■ One Soldier was killed and three others were injured when the vehicle they were riding in overturned on an interstate highway. The Soldiers were making an equipment



Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

run in support of hurricane relief efforts when a dump truck entered their lane and forced their small SUV off the road. The vehicle struck an embankment and rolled over. The deceased Soldier was sitting in the SUV's backseat and was ejected. The SUV's driver was treated and released, and the two remaining Soldiers were hospitalized. The accident occurred during the early afternoon.

■ Three Soldiers were killed when their M1025 HMMWV struck an overpass pillar. The vehicle's driver veered off the roadway's right side just before impact. The three Soldiers were pronounced dead at the scene. Initial reports indicate speed and fatigue were contributing factors. The accident occurred during the mid-afternoon.

■ Soldier suffered fatal head injuries when he was thrown from the M1114 HMMWV he was riding in. A civilian vehicle merged into the HMMWV's lane during convoy operations. The M1114's driver swerved to avoid hitting the civilian vehicle, but the truck veered off the roadway and rolled over. The deceased Soldier was serving as the vehicle's gunner and was ejected when the vehicle overturned.

The accident occurred during the mid-morning.

Class C

■ Soldier suffered various fractures when he was struck by a HMMWV in a parking lot. The Soldier was standing in front of another HMMWV and reading a newspaper when the accident HMMWV came around a curve and hit him, pinning him between the two vehicles. The accident occurred during the late afternoon.

■ Soldier suffered unspecified injuries when the M1025 HMMWV he was riding in rolled over. The HMMWV was in a convoy when it hit an area of soft dirt and overturned. The Soldier, who was hospitalized for his injuries, was wearing all required personal protective equipment. The accident occurred during the late morning.

■ An M998 HMMWV suffered Class C damage from a fire in its engine compartment. The HMMWV's crew was conducting a mounted reconnaissance patrol when the vehicle began to lose power. The engine began to smoke shortly thereafter, so the crew evacuated the vehicle. The crew noticed smoke coming from the accident vehicle 3

Class C

■ Two Soldiers suffered minor cuts and bruises when their M1025 HMMWV overturned. The HMMWV was traveling down a dirt road from an observation point. As the vehicle's speed increased, the vehicle commander told the driver to slow down. The driver hit the brakes but the HMMWV's tires lost traction, causing the vehicle to fishtail and roll over. The Soldiers performed a proper rollover drill and were wearing their seatbelts and helmets. A third Soldier, the vehicle's gunner, was ejected from the vehicle's back door even though he braced himself in accordance with the rollover drill. The gunner suffered a minor concussion. The time of the accident was not reported.

Class D

■ Soldier suffered a dislocated shoulder but otherwise was not injured when his forklift rolled over on an icy, narrow road. The forklift's right-front tire slid off the road during movement, causing the vehicle to overturn. The Soldier was wearing his seatbelt and all required personal protective equipment. He was placed on 30 days of restricted duty, but his injuries did not require hospitalization nor did he lose any workdays. The accident occurred during the early morning.

Class A

■ Soldier was killed when the M1A2 tank he was riding in overturned into a canal. The driver reportedly lost control of the tank after the ground below gave way. The deceased Soldier was serving as the track commander. The accident occurred during the early evening.



days before the fire and took it to the maintenance bay for repair. The HMMWV was returned to the crew just before the patrol mission. The vehicle's engine and passenger compartments were burned extensively, but the crew was not injured. The accident occurred during the late afternoon.



Personnel Injury

Class A

■ One Soldier suffered fatal head injuries and 19 others were injured when the bus they were riding in rolled over while making a turn. The bus was being driven by a local national contractor who failed to slow down during the turn. Seatbelts were not available on the bus. The accident occurred during the mid-morning.

■ Two Soldiers suffered fatal gunshot wounds during a friendly fire incident. The Soldiers were part of a dismounted platoon patrol that was attempting to evacuate

the area following a hostile engagement. The accident occurred during the late afternoon.

■ Soldier suffered a fatal head injury during an Airborne jump. After the Soldier landed at the drop zone, a wind gust caught his parachute and dragged him about 400 feet across the ground. The Soldier was evacuated to a trauma center, where he died the next day. He was wearing his helmet. The accident occurred during the mid-afternoon.

Class B

■ Soldier's left-hand ring finger was amputated by a 9 mm round during a live-fire room clearing exercise. The accident occurred during the late morning. No other details were provided.

■ Two Soldiers suffered third-degree burns resulting in permanent partial disability when a fire broke out in their guard tower. The Soldiers were using a kerosene heater while they performed guard duty. Reports indicate the Soldiers were operating the heater improperly, resulting in the fire. The Soldiers were evacuated and hospitalized for burns to their hands and legs. The tower received minimal damage. The accident occurred during the early morning.



YOU MIGHT WANT TO CHECK THAT...

Our first story begins one summer morning when a Soldier was driving an M929A2 dump truck in Afghanistan.

As anyone who's been there will tell you, many Afghan roads aren't exactly ideal driving surfaces. This fact alone makes proper preventive maintenance checks and services (PMCS) that much more important.

The Soldier performed PMCS on the dump truck and set off on her way. She didn't know things were about to take a scary turn, but that's the thing about accidents—they often come out of nowhere. As the Soldier was driving down a hill, the vehicle's hood came open and flew upward.

Now the Soldier was in a pickle. She was driving a large truck down a bad road and couldn't see a darn thing because of the hood blocking her windshield. The truck veered too close to the road's edge and—you guessed it—rolled over.

The accident report doesn't state whether the Soldier was wearing her seatbelt, but she escaped without injury—very lucky indeed. After this caper, the Soldier (and everyone else in her unit) will have to check the hood latch before setting off on all missions and during scheduled maintenance stops.



WERE THEY KNOWING?



Apparently Army vehicle parts were flying every which way this summer. Just before our first unlucky Soldier got hoodwinked, another Soldier experienced an embarrassing mishap on a German autobahn. This one was driving an M915A3 from a paint shop back to home station in the mid-morning.

According to the accident report, at some point the truck's freshly painted rear-quarter fender fell off. The Soldier apparently didn't notice the thud, the sparks, or the 18-wheeler behind him. So, it was a ways down the road when the Soldier finally stopped and realized the fender was gone.

He backtracked to his original starting point and retraced the route. A construction vehicle crew witnessed the incident and told the Soldier the police had the missing fender, which had hit and damaged the 18-wheeler. The Soldier wasn't reprimanded for the incident, but from now on he and his buddies will be "covering their fenders" during PMCS.

Have you ever noticed the numbers painted on interstate overpasses? In a conventional car or truck they don't mean much, but when you're hauling heavy equipment you might want to pay attention. This is especially true if the equipment is taller than the overpass.

A Soldier had just finished a late-afternoon mission at a work site. He'd hauled an excavator truck on the back of an M916A1 for about 150 miles to the site that morning and had been on duty for more than 10 hours when the job was finally completed. Although the boom on the excavator wouldn't go down, the Soldier loaded the truck anyway and decided to drive with the boom raised. He then placed an auger in the boom but didn't bother to tie it down.

The return trip was going smoothly until the truck approached an overpass that had a clearance of 14 feet, 6 inches. With the boom up, the excavator (combined with the trailer's height) stood 14 feet, 8 inches tall. The Soldier drove under the overpass, and the boom went BOOM!

The auger flew through the air into traffic and hit a tractor-trailer. The excavator suffered heavy damage, but neither the Soldier nor anyone else was hurt. Maybe when the Soldier completes remedial driver's training he'll be more careful—or so we hope!

POV stats

FY06
through Feb 06

Class A-C accidents/Soldiers killed

Cars	32/15
Vans	1/0
Trucks	11/7
Motorcycles	21/8
Other*	2/0

*Includes tractor-trailers, unknown POVs, and bicycles

30

total DEATHS

FY05: 43 3 year average: 35

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The blast knocked me down and killed four Iraqi kids who happened to be in the wrong place at the wrong time. Lying on the ground on my back, I turned my head and saw the bloody and lifeless body of one of them, a little boy. I'll never forget his eyes; they were still open and fixed on me, his life snuffed out by an unknown suicide bomber. The driver and gunner from my vehicle, as well as the gunner from the trail vehicle and 17 civilians, also lay injured in the street.



I ' m a b e l i e v e

MSG RICHARD BURNETTE





You wouldn't know it, but the day began like any other. I got up at about 0500, worked out, showered, had breakfast, and prepared to leave our forward operating base (FOB) with my battalion commander as part of the unit's personal security detachment. My NCOs and I conducted pre-combat inspections to ensure we were prepared for our mission in southern Baghdad.

As we departed the gate, I heard the battalion sergeant major repeatedly calling the tactical operations center (TOC) over the radio to report our departure. However, the TOC didn't respond and, as the battalion operations sergeant, I got a little upset. I picked up the handset, removed my left earplug, and called the TOC myself. After I got through to the TOC, we departed the FOB and began the drive to our destination. In my frustration I forgot to replace my left earplug, though, and I didn't think about it again until it was too late.

We pulled just off the road at the mission site and parked our four vehicles in a line. We were in a densely populated, residential neighborhood with houses on both sides of a street busy with vehicle and pedestrian traffic. I moved to the rear of my vehicle to provide flank security, and several Iraqi children ran toward me. They probably were hoping for food, money, or whatever we'd give them. I told the kids to leave the area, but they came back a short time later.

I had my back to the street, but behind me I heard gears grinding, like when a vehicle downshifts. I turned around and saw a small car making a U-turn no more than 10 feet away from me. My gunner and I knew

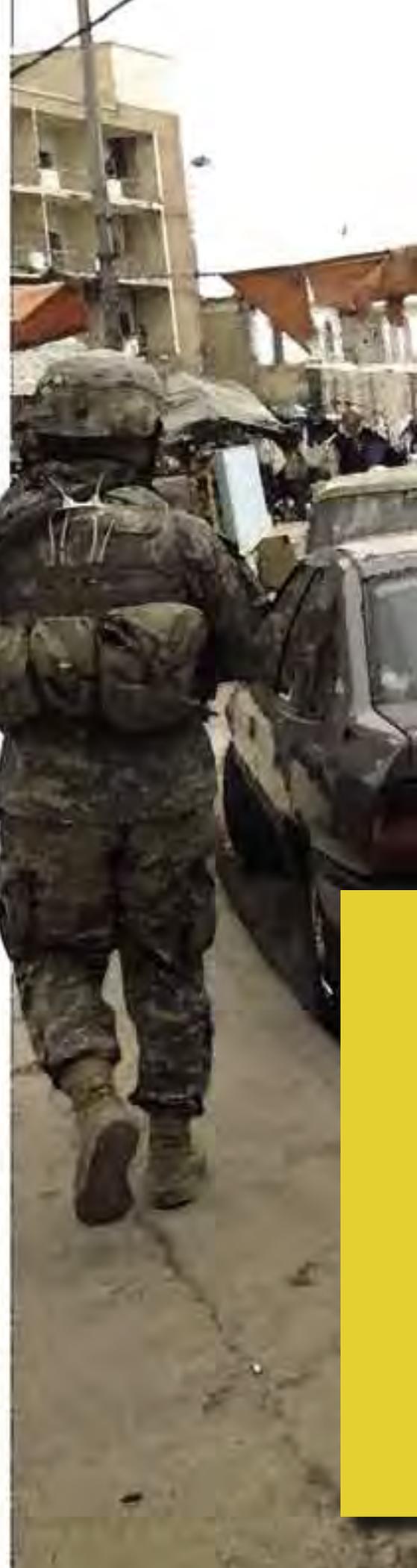
something wasn't right, so he spun his turret toward the vehicle while I raised my rifle to fire, but neither of us had time to act.

The explosion was extremely loud and powerful. I stumbled backward a few steps and tried to collect my senses. My ears were ringing badly, but I initially thought I'd survived the attack uninjured—at least until my legs gave out. I fell onto my back and opened my eyes. That's when I saw the little boy, who was no more than 9 or 10 years old, just a little younger than my own son.

I knew I had to act fast, no matter how injured I might be. I was worried about snipers, so I started to crawl toward my vehicle for cover. One of my Soldiers pulled me toward the vehicle, checked on the other Soldiers, and established local security around the blast site. I then heard someone say, "Get a tourniquet on him!" and realized they were talking about me. Our medic secured a tourniquet on my left arm. That act saved my life—the surgeon who operated on me later said I would've bled to death had it not been for that tourniquet.

We returned to the FOB within 17 minutes of the explosion, and I received preliminary medical attention there. Within the next hour, I was stabilized and moved to a combat support hospital on the other side of Baghdad. I was flown to Landstuhl Regional Medical Center in Germany 2 days later, and 4 days after that I made the long flight to Walter Reed Army Medical Center in Washington, D.C.

It wasn't until I got to Walter Reed that I realized just how badly I was injured. My entire body was wrapped in bandages,





and I was wearing a neck brace. My right thumb was blown off in the blast, and my left thumb required amputation. My left arm was fractured in three places, and the median and radial nerves were severely injured. My left elbow was shattered, and I'd taken shrapnel to both thighs and my left hip. My left eardrum burst during the explosion, resulting in profound hearing loss in that ear. (What a time to remember that left earplug!) I also had nerve damage in my right foot.

I spent the next several weeks trying to make sense of what had happened. Sometimes I felt very lucky to be alive, thankful it was me and not one of my Soldiers lying in that hospital bed. Other times I felt somewhat sorry for

myself and downright angry.

The rehabilitation team at Walter Reed wouldn't let me feel that way for long, however. I soon was walking around the hospital with the help of a walker. My body was beginning to recover, but at night I would lie in bed and think about the day I was hit. I would replay the events over and over in my head and wonder what I could've done differently.

I eventually realized there was nothing I or my chain of command could've done to prevent the attack. We were simply a target of opportunity, one the enemy viciously exploited. Our survival, however, was due to the training we'd received and our personal protective equipment (PPE), which prevented further catastrophic

injuries to me and my Soldiers.

I was wearing all my PPE that day, and it helped save my life. The Small Arms Protective Insert plates in my Kevlar vest repelled the shrapnel that would've killed me instantly had it hit my chest. The Deltoid (shoulder/arm) and Axillary (armpit/underarm) Protection (DAP) also performed exactly as designed. Although I suffered extensive damage to my left arm, the DAP prevented a major artery in my upper arm from being severed. The doctors told me that had the artery been severed, I could've faced full-limb amputation or even death.

Without my ballistic goggles I'd be at least visually impaired or even completely blind. I still have shrapnel embedded in my

face, including two fragments just above my left eye and on the bridge of my nose near my left eye socket. I have no doubt that if I hadn't been wearing those goggles, my eyesight would've been irreparably altered for the rest of my life. My Kevlar helmet protected the rest of my head from the deadly shards of shrapnel.

The one-handed Combat Application Tourniquet (CAT) our medic used on me that morning was priceless. I believe she prevented me from bleeding to death and saved my left arm with her skill and that tourniquet. I've since learned blood loss is the leading cause of preventable death on today's battlefield, and the recommended treatment for hemorrhage is a rapidly applied tourniquet like the CAT.

Then there were my earplugs. My right ear is fine because I had an earplug in it, but my left eardrum was destroyed. The Combat Arms Earplugs are standard issue for Soldiers serving in combat zones, but there certainly are times when Soldiers need hearing protection

at home. I've corrected Soldiers for not wearing their earplugs hundreds of times, and now I'm the one with profound hearing loss because I was frustrated and forgot to reinsert one of mine.

All in all, I'm alive and reasonably well because my PPE performed as it was intended. I've recovered from most of my injuries and am hoping to stay on active duty. If allowed to do so, I intend to share my experience with young Soldiers and impress upon them the value of their PPE. Individual Soldiers must wear it properly, and leaders must enforce the standards to save lives. Before I deployed, I sometimes questioned the practicality of lugging around so much equipment. But I'm a believer now—I'm living proof PPE works! 🖤

Editor's note: This story was adapted from the article "Protective equipment: It's a lifesaver" in the January 2006 NCO Journal.

Contact the author by e-mail at richard.c.burnette@us.army.mil.

ev

1LT ANTHONY AGUILAR
172nd Stryker Brigade Combat Team

My ballistic goggles turned out to be my best friend during a recent mission in Iraq. I'm a platoon leader with a Stryker unit, and we were on a "routine" patrol when I learned just how important PPE is to survival here.

Our Stryker was the lead of three vehicles on this mid-morning mission. Including myself, there were 10 Soldiers in the vehicle: our driver, the vehicle commander, and seven dismounted Soldiers. I was standing in the left-front hatch of our vehicle, and we were traveling on an asphalt road when something caught my driver's eye.

He'd spotted a water pipe that ran beneath the street and drained into a culvert at an intersection. Such a sight might seem pretty ordinary anywhere else, but keep in mind we're in Iraq. Our enemy often buries improvised explosive devices (IEDs) beneath ground surfaces used by both civilian and military traffic.

Acting on instinct, our driver made a sharp turn to avoid the intersection, fearing an IED might be hidden in the pipe. It turned out his suspicions were accurate. We heard a massive explosion, and I was thrown into the vehicle's hull as shrapnel and debris flew toward the vehicle.

When the blast subsided, we took a head count and found everyone was alive and in pretty good shape

DID YOU KNOW?

The Army puts commercially available ballistic eyewear and other protective equipment through rigorous testing before approving any model for Soldier use. The following equipment has been approved for combat and training operations (excluding laser applications) by the Product Manager-Clothing and Individual Equipment and is available through the Army supply chain:



Goggles:

- Wiley X SG-1 Spectacle Kit, NSN 4240-01-504-0994
- Wiley X PT-1 Spectacle Kit, NSN 4240-01-510-7853
- Uvex XC Spectacle Kit, NSN 4240-01-516-5361
- Pyramex Venture II Spectacles, NSNs 4240-01-500-6174 (clear) and 4240-01-500-6173 (gray)

- Oakley SI M Frame Kit (face shield, industrial), NSN 4240-01-525-3095
- Revision Sawfly USA Military Kit, NSNs 4240-01-527-4051 (size regular) and 4240-01-527-4018 (size large)
- Body Specs PISTOL Kit, NSN 4240-01-526-9637
- Eye Safety Systems Interchangeable Component Eye Shield 2 Kit, NSN 4240-01-525-5085

- Eye Safety Systems Land Operations Goggles Kit, NSN 4240-01-504-0052
- Eye Safety Systems Vehicle Operations Goggles Kit, NSN 4240-01-525-5101
- Eye Safety Systems NVG Goggles Kit, NSNs 4240-01-504-6222 (black frame); 4240-01-504-5706 (olive drab frame); and 4240-01-504-5727 (desert tan frame)

Fire-resistant gloves:

- Hatch Corporation: NSN 8415-01-F00-0220, S; NSN 8415-01-F00-0221, M; NSN 8415-01-F00-0222, L; NSN 8415-01-F00-0223, XL; NSN 8415-01-F00-0226, 2XL
- Southwest Glove & Safety Equipment: NSN 8415-01-F00-0216, S; NSN 8415-01-F00-0217, M; NSN 8415-01-F00-0218, L; NSN 8415-01-F00-0225, XL; NSN 8415-01-F00-0219, 2XL

e see...



considering our situation. I was okay too, but my goggles were missing, which was strange since I never go on missions without them and my full complement of PPE. I realized they must've been torn from my face during the explosion.

It didn't take me long to find the goggles, and I discovered just how close I'd come to serious injury. A large shard of shrapnel was lodged in the edge of the right lens, and the impact apparently dislodged the goggles from my face. Although the shrapnel punctured the lens, it didn't penetrate through it, saving my eyesight and possibly my life.

Our survival is a testament to the training and equipment the Army provided us for this deployment. That IED was powerful enough to throw large chunks of asphalt 50 meters in all directions and blow out windows in three nearby buildings. The windshield of a truck parked 75 meters away was destroyed, and we found shrapnel in its front seat. The blast crater was 7 feet long by 8 feet wide and about 3 inches deep. Thanks to our driver's sharp eyes and quick thinking, we're all alive today; and thanks to my goggles, I can still see!

We learned two important lessons that day. First, understanding the enemy and preparing for potential hazards in the area of operations is vital to saving lives and completing missions successfully. This is true for every member of the team, not just leaders. Every Soldier must understand the fight to survive.

Second, PPE is essential and non-negotiable. The body armor system and Small Arms Protective Insert plates are battle-proven lifesavers. Kevlar helmets, ballistic eyewear, flame-resistant gloves,

earplugs—they've all proven their weight in gold every day in combat. Before every mission, my unit's NCOs double check every Soldier's PPE, and we then double check each other. Our lives are worth the time it takes.

I've since gotten new goggles, but I'm keeping the pair I was wearing that day as a reminder of just how close I came to tragedy. Do your part and wear your PPE. Trust me—you won't be sorry! 

Contact the author by e-mail at tony.aguilar@us.army.mil.

NET Knowledge

Mr. Jim McKinley, the Army Combat Readiness Center's Battle Command Knowledge System (BCKS) facilitator, discovered this Soldier's story while reviewing the BCKS Leader Network, a series of connected, online professional forums that create an informal network for professional interactions across the Army. BCKS is a Web-based knowledge management system that provides warfighters with access to information such as standard operating procedures; tactics, techniques, and procedures; and tribal lore collected from Soldiers who learned their lessons the hard way, sometimes on the battlefield. BCKS joins people, information, and expertise to increase the content, quality, and accessibility of Army knowledge to improve leaders' adaptability and intuition and build high-performance teams. Anyone with safety- or readiness-related BCKS questions can contact Mr. McKinley by e-mail at james.mckinley1@us.army.mil.



This Little Piggy

SFC DAVID ALAN MELANCON
3rd Brigade, 1st Cavalry Division
Fort Hood, TX

Have you ever noticed most accidents happen when you least expect them? Well, there I was, just coming in from a field training exercise (FTX) and about to perform a simple task when an accident happened to me. I certainly wasn't expecting to wind up in the hospital that January day.

I'm a Bradley systems maintainer and

maintenance platoon sergeant for a forward-support company. We'd just completed the FTX in preparation for a deployment to the Joint Readiness Training Center and, after that, possibly Iraq. We were tired after spending 3 weeks in the field, but it was almost over—all we had left to do was clean our vehicles. At about 1700, the last of the vehicles were

staged at the wash rack, so we went to work.

Everything about this day was relatively normal, with one notable exception: that morning, I'd taken my wedding ring off my dog tags and slipped it back on my left-hand ring finger. I figured since our training was over, wearing my ring was no big deal. I say this is notable because I always wear my ring around my dog tags when I'm on duty,

especially in the motor pool or in the field. I'd spent a year in Iraq during Operation Iraqi Freedom II, and the only times I put on my ring were when I left for R & R leave and when my unit redeployed home. That system worked well, and thankfully I came home not only alive but with all 10 fingers!

I needed to get my wet-weather gear, which was in a shelter on the back of an

LMTV trailer. I climbed on the trailer, got my things, and grabbed the right side rail for balance as I prepared to climb back down. Unfortunately, my foot slipped as I stepped

arrived fairly quickly and took me to the emergency room at Darnell Army Community Hospital.

The doctors there told me the damage to my finger was so extensive they didn't know if any attempted repair would work. The tissue, nerves, and vessels were torn horizontally,

again, but I can shoot right-handed—a definite plus for a Soldier. My long-term prognosis is pretty good, though; the doctors tell me that after about 4 months of occupational therapy I should be back to normal.

I share this story in the hope I'll open another Soldier's eyes and prevent them from making the same mistake. The doctors predict I'll be able to deploy back to theater with my unit later this year, but I could just as easily have lost my career that winter afternoon. Believe me, I'll do everything in my power to make sure I deploy with the Soldiers I've trained because I know they need me. I think it'll be a morale booster if my Soldiers can look at me and say, "If he lost a finger and is *still*

here with us, we can do anything."

I'll be wearing my wedding ring on my right hand from now on, but I promise you this: I'll take it off whenever I put my uniform on, no matter what's planned that day. You never know what might happen. I survived a year in Iraq unharmed only to come home and lose my finger because I was tired and wasn't thinking straight. Stay alert and realize even the simplest of tasks can hurt you in a big way. If it can happen to me, it can happen to you too! 🚚

Editor's note: SFC Melancon would like to thank his team of doctors, led by LTC John J. Faillace at Darnell Army Community Hospital, for their outstanding care during his hospitalization and subsequent rehabilitation. He also would like to thank the Soldiers, NCOs, and officers of Delta Company, 215th BSB and 6th Squadron, 9th Cavalry for their continued support. "FIRST TEAM!"

Contact the author via e-mail at david.alan.melancon@us.army.mil.

Giving the Finger

This soldier injured his pinky finger while serving in Iraq during the first year of conflict. The injury itself isn't very remarkable and he made a full recovery, but notice the ring next to the injured finger. It's never safe to wear rings or other jewelry in a field or combat environment. If the ring gets caught on something, you risk either a degloving injury (i.e., all the skin peeled off) or total amputation. Both injuries hurt a lot, so keep your ring in a safe place—not on your hand—when you're on duty.

Special thanks to LTC Roman Bilynsky, MD, who submitted this photo from his time with the 4th Infantry Division in Iraq.



on the lower bumper, and I began to fall. My hand slid down the rail as I moved toward the ground, and my ring caught in one of the U-shaped grooves used for securing canvas covers on the trailer.

I was horrified as I looked at my finger. The skin and most of the tissue on my ring finger was completely gone, and the bone from the first joint just above my fingernail was missing. I called out

to the other guys and said, among other choice words, "Hey, get a medic, get the aid bag—I've lost my finger!"

Needless to say, I was in a lot of pain. Another Soldier got a combat lifesaver bag and pulled out a pressure bandage, which I wrapped around what was left of my finger. The commanding officer dialed 911 and had a pickup truck brought off the roadway so I could sit down and take off my helmet, weapon, and vest. We were only about 4 minutes from main post, so the ambulance

and reattaching my finger would require 8 to 10 hours of surgery with no guarantee of success. In fact, there was only a 20-percent chance my finger wouldn't have to be amputated even with surgery due to the nerve and vessel damage, which reduced blood circulation in the injury to zero.

I faced a tough decision. The doctors told me my best course of action would be amputation because I would have a good chance of full recovery after rehabilitation. They let me decide, however, and after talking with my wife, I gave the doctors permission to amputate. They performed surgery that night, and my finger was amputated to the first joint—ironically, at the same place my wedding ring had rested just that morning.

It's been about 2 months since the accident, and I recently started rehab. I still feel a lot of pain, not just in my hand but all the way up my arm. The doctors explained some of the ligaments and tendons in my arm were pulled during the accident, and I'll experience phantom pain the rest of my life. I've lost about half the gripping power in my hand, which isn't good since I'm left-handed. I'll have to learn how to write and type

Nature's Quiet

The mission was a daylight combat route recon that involved a group of three M1114 HMMWVs. There's no such thing as a "routine" patrol in this part of the world, so the crews were prepared for almost any contingency. In addition to the hardened HMMWVs, the team was equipped with three cupola-mounted M2s, advanced combat helmets with blast shields, and the latest individual body armor. They'd been trained to use all their equipment effectively.

The team included a medic, a platoon sergeant, a platoon leader, and experienced junior enlisted Soldiers. In fact, no one on this patrol was a newbie. They were prepared to meet the enemy, but the enemy can appear in many forms. This day, it took the form of a muddy trail that paralleled a freshly dug canal.

The mission was progressing normally until the vehicles came upon a section of roadway partially blocked by a large dirt mound. As the patrol eased slowly around the mound, the rain-soaked soft shoulder gave way, causing the third M1114 to roll over into the canal. Despite the team members' heroic efforts to save all their fellow

too much risk can help the enemy by needlessly injuring or killing Soldiers and destroying equipment. Generally, the greater the payoff, the more overall risk leaders might be willing to assume. It's not an exact science, and experience, training, and intelligence are vital to successful CRM implementation.

For example, within the area of responsibility (AOR) described above, 38 Soldiers had been lost to all causes before the canal rollover. Improvised explosive devices (IEDs) alone accounted for 27 Soldier deaths. In this AOR, IEDs clearly represent the greatest risk to Soldier safety, so disrupting this activity is given high priority. Along with this

decision is always a gamble but, given the opportunity, any good poker player would stack the deck in his favor. CRM is the stacked deck. No accident, no matter how important the mission, should pass without analysis. There are a few lessons learned from this accident that can stack the deck further in your favor during future missions:

- Dirt roads can deteriorate significantly after heavy rains, particularly if the road is on a dam or levee. Divert at the earliest opportunity if the road appears unstable, excessively narrow, or washed out.

- It's extremely difficult to egress an inverted M1114, and trapped Soldiers might require assistance from other personnel outside the vehicle. Soldiers might consider disengaging the combat locks in rural areas with a high rollover risk. They also should be prepared to pull the doors off the hinges using a portable impact wrench. A portable floor jack also might prove useful in some roadside emergencies.

- If the tactical situation allows, consider momentarily tucking the gunner inside the vehicle in excessively hazardous road conditions. The gunner can assume his normal position once the area is cleared.

- Soldiers submerged in cold water can develop hypothermia quickly. Surviving crewmembers

DID YOU KNOW?

An impact wrench has been added to the M1114 Additional Authorization List. Users can choose between two approved products: DC Tools' impact wrench, NSN 5130-01-536-6492; and Aircraft Dynamics' impact wrench, NSN 5130-01-363-0964. Neither of the approved impact wrenches has the sockets needed to remove the lug nuts, so users must purchase an additional 7/8-inch socket impact wrench, NSN 5130-01-400-0177, to complete the kit.



Soldiers, they were unable to rescue the gunner, who was trapped under the vehicle and drowned.

Applying Composite Risk Management (CRM) in combat is a difficult challenge. CRM is the logical balance between assuming risk to disrupt or destroy the enemy and recognizing that accepting

priority comes a willingness to accept risks to accomplish the mission. The mission of the patrol that suffered the canal accident was part of the overall effort to mitigate the enemy's ability to conduct IED attacks.

This risks-versus-rewards

Ambush

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

and rescue personnel must extract trapped occupants as soon as possible, even if there's adequate breathing space inside the vehicle.

- Practice rollover drills like your life depends on it, because it does. The team in this accident had no more than 2 or 3 seconds between "ops normal" and fighting their way out of an upside-down, 7-ton truck sunk in freezing water. Graphic Training Aids 55-03-030 and 55-03-031 contain rollover and egress procedures for the M1114 HMMWV. A full-motion rollover simulator also is being made available to units in the field, so take the opportunity to use this valuable training tool when it's in your area.

- Vehicle bumpers should

be outfitted with a chain, strap, or cable to right the vehicle after a rollover, at least to a point where the doors can be opened. Consult with your unit's recovery operators to determine the proper placement for these items.

- All Soldiers must wear their seatbelts. They're almost always an asset, even in combat.

- Leaders should develop an after-action reporting system to document potential hazards, and then share this information with other Soldiers.

- Develop a continuity book and give it to the Soldiers replacing your unit. The book should contain all the lessons learned and mission improvement initiatives begun during your unit's deployment.

CRM is a dynamic process. Unanticipated hazards must be addressed as the accident risks and enemy threats change during the mission. Pre-mission planning is important, but it's often just a best guess. Reality will unfold as the convoy rolls out the front gate. 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigations Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.



The Heat Is On

It's that time of year again. We're finally thawing out from the cold winter chill and starting to enjoy the warm, welcome spring. Although we're comfortable now, this is the time to begin thinking about the significant health risks facing our Soldiers in the upcoming summer months.

Here at Fort Rucker, AL, we've already enjoyed days with temperatures just above 80 degrees. I was talking with my daughter one of those days, but she was walking to class at Penn State University in snow and sleet. Her attire was in sharp contrast to her brothers, who'd just left for school in shorts and T-shirts. Similar contrasts exist throughout the

Army's various worldwide locations. We must focus on heat injury prevention at home and in theater and also develop preventive measures to mitigate heat risks. Our Soldiers are our most valuable resource, and these measures must help them achieve and sustain maximum combat efficiency.

Even with the best of intentions, however, Soldiers die every year from heat-related injury or illness. From the beginning of Fiscal Year (FY) 2003

to the end of FY05, 13 Soldiers died from heat stroke or other heat-related causes. Nearly 2,800 heat injuries occurred among Soldiers during the same timeframe, with more than 500 cases attributed to heat stroke and almost 2,200 involving heat exhaustion.

Commanders can be (and have been) relieved of duty if one of their Soldiers suffers a heat injury that could've and should've been prevented. It's no secret heat injuries are preventable, and commanders are charged with mitigating the risks their Soldiers face, whether from the enemy, an accident, or the environment. None of this is new information, so why are we still losing Soldiers to the heat?

An abundance of guides, technical bulletins, memos, and heat injury

GOT HYDRATION?

URINE COLOR CHART

1	5
2	6
3	7
4	8

This urine color chart is a simple tool you can use to assess if you're drinking enough fluids throughout the day to stay hydrated.

If your urine matches the colors numbered 1, 2, or 3, you're hydrated.

If your urine matches the colors numbered 4 through 8, you're dehydrated and need to drink more fluids.

Work/Rest and Water Consumption Table

• The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specified heat category. Fluid needs can vary based on individual differences ($\pm \frac{1}{4}$ quart/hour) and exposure to full sun or full shade ($\pm \frac{1}{4}$ quart/hour)

• NL = no limit to work time per hour

• Rest = minimal physical activity (sitting or standing) accomplished in shade, if possible

• CAUTION: Hourly fluid intake should not exceed 1½ quarts; daily fluid intake should not exceed 12 quarts

• If wearing body armor, add 5 °F to WBGT index in humid climates

• If doing easy work and wearing nuclear, biological, chemical (MOPP 4) clothing, add 10 °F to WBGT index

• If doing moderate or hard work and wearing nuclear, biological, chemical (MOPP 4) clothing, add 20 °F to WBGT index

Heat Category	WBGT Index, °F
1 WHITE	78°- 81.9°
2 GREEN	82°- 84.9°
3 YELLOW	85°- 87.9°
4 RED	88°- 89.9°
5 BLACK	> 90°

easy		work		moderate		hard	
Work/Rest (min)	Water Intake (qt/hr)						
NL	½	NL	¾	NL	¾	40/20 min	¾
NL	½	50/10 min	¾	50/10 min	¾	30/30 min	1
NL	¾	NL	¾	40/20 min	¾	30/30 min	1
NL	¾	NL	¾	30/30 min	¾	20/40 min	1
50/10 min	1	50/10 min	1	20/40 min	1	10/50 min	1

- Weapon Maintenance
- Walking Hard Surface at 2.5 mph with < 30 lb Load
- Marksmanship Training
- Drill and Ceremony
- Manual of Arms

- Walking Loose Sand at 2.5 mph, No Load
- Walking Hard Surface at 3.5 mph with < 40 lb Load
- Calisthenics
- Patrolling
- Individual Movement Techniques, i.e., Low Crawl or High Crawl
- Defensive Position Construction

- Walking Hard Surface at 3.5 mph with \geq 40 lb Load
- Walking Loose Sand at 2.5 mph with Load
- Field Assaults

prevention programs are available on the Internet and should be pushed down to commands for dissemination to Soldiers. The trick is integrating them in our planning and Composite Risk Management (CRM) processes.

Heat injuries aren't due to dehydration alone. When added together, several factors—including exposure—can lead to a Soldier's injury or death. Soldiers should stay out of direct sunlight as much as possible and use sunscreen at all times. They also must consider any medications they're taking because many drugs, including supplements, have diuretic properties that increase urination.

Likewise, Soldiers should avoid soft drinks, coffee, and tea while performing physical activity in warm weather. The caffeine in these beverages acts as a diuretic, and they shouldn't be considered for fluid replacement. Additionally, physical activity must be modified based on time of day and recommended work/rest cycles.

Leaders, please use all the resources available to you and your Soldiers as we enter the hot summer months. A good resource is the U.S. Army Center for Health Promotion and Preventive Medicine Web site at <http://chppm-www.apgea.army.mil>. Don't let a heat casualty happen in your formation. If you do, the heat will be on you, so stay cool and Own the Edge!

Contact the author by e-mail at john.campbell@us.army.mil.

Here's how the five steps of CRM should be applied to reduce heat casualties:

1. Identify hazards—HEAT

- High heat category
- Exertion level of activity
- Acclimatization (don't forget altitude)
- Time (length of activity and time of day)

2. Assess hazards

- Ambient temperatures (i.e., a heat category assessment using Wet Bulb Globe Temperature should be conducted and adjusted for temperature variance)
- Know your Soldiers (e.g., their hydration status, risk factors, or certain medications that might increase risk)

3. Develop controls

- Education—establish

standard operating procedures (SOPs) and train as you'll fight

- Planning—develop a plan to have ample hydration sources available based on activity levels, and provide rest cycles as needed

- Identification—identify and note previous heat casualties along with current illnesses
- Develop a hydration monitoring system—use current guidelines; Soldiers should hydrate continuously to produce urine that's clear to very light yellow in color

4. Implement controls

- Ensure risk decisions are made at the

appropriate level

- Ensure controls are implemented
- Monitor and enforce a hydration standard
- Execute random checks
- Follow clothing and equipment recommendations

5. Supervise and evaluate

- Enforce SOPs through constant monitoring and frequent walk-throughs
- Conduct spot checks
- Develop contingency plans for injuries that might occur despite preventive measures
- Continually re-evaluate the situation and adjust controls as needed

The mercury's rising in the glamorous locales Soldiers serve in every day, and it's only going to get hotter. Unfortunately, heat injury and staying comfortable aren't the lone worries facing those serving in the Middle East and other faraway places. Hot weather means bugs in abundance, and some, like mosquitoes and sand flies, carry nasty diseases that are unpleasant at best and sometimes even fatal. The list below highlights just a few illnesses found in the Army's current operational areas.



Oh, That's

JULIE SHELLEY
Managing Editor

West Nile Virus (WNV). This disease is carried by mosquitoes and can be found all over the world, including the United States, Iraq, and Africa. Mosquitoes transmit the disease by feeding on infected birds and pass the virus to humans when biting them. The virus produces flu-like symptoms including fever, headache, and body ache. In rare cases, WNV causes encephalitis, an inflammation of the brain that can be fatal.

There currently is no cure for WNV, but symptoms and complications are easily treatable.

Leishmaniasis.

Leishmaniasis, or "Baghdad Boil," occurs in many hot climates around the world but has earned infamy among troops in Iraq. The disease has three forms: cutaneous, mucocutaneous, and visceral, each of which produce different symptoms. Humans acquire leishmaniasis through the bites of



infected sand flies, which proliferate throughout Kuwait, Iraq, and Afghanistan. Most Soldiers diagnosed with leishmaniasis have suffered from the cutaneous form, which produces ulcer-like lesions that can be painful or disfiguring and are treated with

powerful anti-parasitic medications.

Sand Fly Fever. Like leishmaniasis, sand fly fever is transmitted to humans through the bites of infected sand flies. Symptoms include high fever, headache, limb and neck stiffness, and nausea and vomiting. There is currently no cure for sand fly fever, but the disease is rarely fatal.

Ocular Myiasis. This eye disease is common in the Middle East and is caused when fly larvae, or maggots, invade





Sick!

the human eye. Although most cases occur in the eyelid or conjunctiva and can be treated without complication, blindness or other serious damage can occur if the larvae penetrate the eyeball. Symptoms are similar to those caused by pink eye, including pain,

burning, itching, redness, and increased tearing. Treatment involves forcible extraction of the larvae with fine, tweezer-like forceps and, following removal, antibiotic ointments or drops. In severe cases, surgery might be required to remove the larvae.

Tick Typhus. This form of typhus is found in the Middle East and is spread to humans through the bites of infected ticks. Symptoms include fever, severe headache, weakness, and cough. Tick typhus is easily treatable with



Dog Days?

Despite repeated warnings from military health professionals and commanders, some Soldiers continue to believe flea and tick collars are an effective way to combat pests like sand flies and fleas in the Middle East. These collars are designed for furry pets and, as such, contain high levels of various pesticides that are harmful to less-hairy humans. Unlike cats and dogs, humans also sweat to cool off, and sweat leaches the pesticides from the collars straight to your skin—even through fabric. The pesticides are then absorbed through your skin and can cause injuries from chemical burns to systemic poisoning. Additionally, flea and tick collars don't even repel insects on humans. The bugs simply avoid the collar and move to some other vulnerable body part. A properly treated uniform and DEET repellent do everything flea collars don't and won't make you sick either. Which would you rather use?

antibiotics, but complications such as gangrene and kidney failure have been reported in some cases.

Dengue Fever. This fever, like WNV, is spread by infected mosquitoes and can be found in most tropical parts of the world, including Africa and Asia. Dengue produces flu-like symptoms including high fever, rash, headache, nausea and vomiting, and joint and muscle pain. However, without treatment, the disease can progress to a hemorrhagic form that produces bleeding from the nose, mouth, and gums and often results in death. There is no cure for dengue fever, but symptoms can be treated easily with rest and increased fluid intake.

Crimean-Congo Hemorrhagic Fever. Although this disease primarily affects animals, human cases have been reported in the Middle East. Humans contract the disease through the bites of infected ticks and experience sudden symptoms ranging from fever, muscle pain, dizziness, and light sensitivity to nausea and vomiting. The disease can be fatal if left untreated.

The good news is the Army provides you with the protection you need to prevent these distasteful ailments. Your uniform is the first component of this protective system, but you must wear it properly. This means keeping your sleeves rolled down, tucking your pants into your boots, and tucking your undershirt into your pants.

The second component is insect repellent, applied to both your person and your uniform. The Army offers two clothing repellent options that each contain permethrin, a chemical that kills most insects on contact. The first is an aerosol spray (NSN 6840-01-278-1336) that lasts five or six washes; the second is an impregnation kit (NSN 6840-01-345-0237) that, once used, lasts the life of the uniform.

Insect repellent sprays or lotions that contain at least 25 percent DEET are most effective for protecting bare skin not covered by your uniform. The standard military skin repellent lotion (NSN 6840-01-284-3982) contains 33 percent DEET and lasts up to 12 hours. You should apply a thin, even layer of DEET lotion or spray to all exposed areas of your skin, including your face, and reapply as needed.

Soldiers in Iraq, Afghanistan, and other operational theaters must use these protective measures at all times. Many disease-carrying insects, including sand flies and mosquitoes, are active all day, every day and bite both indoors and outside. More information on these diseases and other deployment-related health information can be found on the U.S. Army Center for Health Promotion and Preventive Medicine Web site at <http://chppm-www.apgea.army.mil>. 

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There's an old saying that goes, "It's not the heat, it's the humidity that gets you." (Tell that to a Soldier in Iraq in July!) I was in Alabama attending an enlisted aerial observer course one summer, and I discovered that state is both hot and humid pretty much year round. Therefore, I wasn't surprised one morning when I noticed a small pimple on the inside of my knee, which I quickly dismissed as prickly heat.

I was quick to assume the bump was heat-related because I'd been wearing a one-piece, green flight suit—the old "pickle suit"—since I'd arrived at Fort Rucker. At first I felt like Maverick in "Top Gun," but the suit's Hollywood novelty wore off after just a few sweltering days. I became concerned when the pimple grew bigger throughout the day, and by the next morning the area was so swollen I couldn't bend my knee. I was in intense pain, and the bump was surrounded by redness that extended for several inches in all directions.

By then I was almost panicking, so I went to the hospital on post. The doctor diagnosed me as having Job Syndrome. He gave me a refresher course in Biblical history and explained the disease is named for Job, who, among his many troubles, developed sores over his entire body as punishment for his disobedience



1 LT MATTHEW NOWLIN
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to God. The doctor “reassured” me and said I probably would experience the sores on various body parts for the rest of my life. He then prescribed that famous Army cure-all, Motrin, and some antibiotics.

The abscess went away over the next several weeks but left a ghastly scar. But as soon as that one cleared up another bump formed, this time on my chin. Even opening my mouth was difficult, and my friends teased me about my resemblance to Popeye, complete with bulging chin and crooked smile.

I went back to the hospital and saw a physician’s assistant (PA). He took one look and said the wound was caused by a spider bite, probably a brown recluse. He said the area needed to be cut out immediately, so he began the procedure right away. Halfway through, however, he said, “I’m going to be sick!” and left the room. There I was, all alone and lying on an exam table with an open lesion on my face, blinded by surgical drapes.

After what felt like an eternity, I sadly gurgled, “Hello ... is anybody out there?”

The PA came back, finished the job, and sent me back to the barracks. That particular bite cleared up too, but other similar wounds soon developed on my face and elbow. I was so frustrated because I didn’t know where I was getting bit. The PA said brown recluses are common in barracks and advised me to look in and around my bed and linens, but I never found any spider, much less a brown recluse.

I graduated the course and went back to my home station in Maryland. My unit sent me to the post hospital at Fort Meade for treatment and a line of duty investigation. Once I left Fort Rucker, though, I never had another problem. However, I still have some small scars on my face to remind me of my time there.

That summer, I learned a valuable lesson about creepy-crawlies that’s stayed with me since then. I’d never even heard of a brown recluse spider

DID YOU KNOW?

The deserts and highlands of Iraq, Kuwait, and Afghanistan are crawling with arachnids such as scorpions, spiders, and solpugids, or camel spiders. Three of the deadliest scorpions in the world call Iraq and Kuwait home, and at least three venomous spiders—the black widow, tarantula, and yellow sac spider—are found in both countries. Several species of scorpion are native to Afghanistan, as are the black widow, tarantula, and camel spider. Soldiers should never handle any of these creatures and always shake out their shoes, bed linens or sleeping bags, and clothing to prevent bites. A full-color poster showing the arachnids found in theater can be downloaded off the Army Center for Health Promotion and Preventive Medicine’s Web site at <http://chppm-www.apgea.army.mil/deployment/arachnidsofiraqandkuwait.pdf>.



before I was bitten by one. Years later I was deployed to Iraq, and you better believe I studied up on the resident wildlife I’d encounter there. I didn’t have to worry about brown recluses, but there were plenty of camel spiders, scorpions, and alien-like mole crickets around to get my attention.

Now, I always shake out my bedding and check my boots when I’m in the field, in the barracks, or in theater, a practice I adopted after my brown recluse experience. When you’re in an unfamiliar place, use risk management to identify and assess the hazards—regardless of how small they might seem—and then develop and implement controls to reduce the risk. If you don’t watch out, those risks might come back to bite you!

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Summer is just around the corner, and as the weather gets warmer most training activities will move outdoors. Numerous hazards are associated with outdoor training during the spring and summer months, most notably heat injury. Sometimes, however, Soldiers fall victim to another of nature's cruel tricks—lightning, which is just as lethal as heatstroke but much less predictable.

Of weather-related fatalities, only floods kill more people annually in the U.S. than lightning. About 90 Americans die from lightning strikes each year, and twice that number are injured. Men are three times more likely than women to be struck by lightning. About 30 percent of people struck by lightning die from their injuries, and nearly 75 percent of lightning strike survivors suffer permanent disabilities.

Although each of the U.S. armed forces usually reports some personnel- or equipment-related lightning strikes each year, the Army has the highest casualty rate among the services. Military personnel are at high risk for lightning injury and death due to the nature of their training and operational activities. Many of these activities take place outdoors in all types of weather and within lightning-prone areas such as the southern U.S. and the open deserts of Iraq. Infantry and artillery

Soldiers are at higher risk than other specialties because of the outdoor nature of their training and operations.

Most lightning-related incidents reported in the Army involve a single strike that causes multiple personnel injuries. This is because exercises and operations often involve a group of Soldiers working as a team, and these clusters form a larger target. Examples of incidents where multiple injuries might result include lightning striking metal or wet equipment, flash lightning exploding from a target, or lightning currents traveling along the ground.

Here are a couple of examples to illustrate this phenomenon. At Fort Irwin, CA, in August 2005, three OPFOR Soldiers were struck by lightning on a hilltop. Several years before that incident, eight Soldiers were injured at Camp Grayling, MI, when lightning struck some trees 50 feet away. The Soldiers sought shelter under a tarp when the thunderstorm appeared and were hit when the lightning current traveled at ground level to their location.

There's no single action that eliminates the risk of lightning, but you can reduce your probability of being struck by following a few simple rules. For instance, avoid high areas, open fields, isolated trees, unprotected gazebos, rain or picnic

BOLTS

from

MAJ EMMA CLOPTON
Accident Investigator
U.S. Army Combat Readiness Center



shelters, communication towers, flagpoles, open-top vehicles, and water during thunderstorms. It doesn't matter if the storm appears to be far away—thunder signals approaching lightning, and you should take cover as quickly as possible.

If a thunderstorm approaches and a building or closed-top vehicle isn't available, seek shelter under the smallest tree in a group of several large trees, but never under a single tree. Stay at least 6 feet away from the trunk to minimize risk from a side strike. If you're caught in an open

seconds between the flash and the thunderclap. If it's 30 seconds or less, a thunderstorm is within 6 miles and you should seek shelter immediately. Don't be fooled by blue sky, either. About 75 percent of lightning injuries occur very early or very late in a storm's life, and strikes have been recorded from as far as 56 nautical miles away. Wait at least 30 minutes after the last thunderclap before leaving your shelter.

Leaders play a vital role in preventing lightning casualties among their Soldiers. During outdoor training missions, they

DID YOU KNOW?

More than 30 million lightning strikes are recorded each year in the U.S. Most of these strikes occur in Florida or along the Gulf of Mexico, but the majority of military lightning strikes are reported in Louisiana, Georgia, and Oklahoma.

area without trees or other shelter, assume the lightning safety position: crouch with your feet as close together as possible with the heels together, and place your hands over your ears. Do not lie flat on the ground!

If you're training or operating in the open and see lightning or hear thunder, use the "30/30 rule" to determine when to seek shelter. When you see lightning, count the

should designate a weather guard to alert personnel of impending bad weather. Leaders also must decide beforehand when to modify or suspend outdoor training and where to seek shelter in the event of thunderstorm activity.

No one can control the weather, but you can control your risk of becoming a lightning casualty. Spring and summer thunderstorms are just around the corner, so be prepared and Own the Edge! 🐅

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n the blue



Class A

■ An M1A2 tank was destroyed by fire. The fire began in the tank's engine compartment and engulfed the vehicle, burning off munitions as it spread. The crew evacuated the vehicle without injury and attempted to control the fire with handheld extinguishers. The accident occurred during the early morning.



Class A

■ Two Soldiers were killed when the M1114 HMMWV they were riding in was struck by a civilian dump truck. The Soldiers were serving as the HMMWV's gunner and vehicle commander (VC) during a convoy escort mission. Additional injuries and seatbelt use were not reported. The accident occurred during the mid-morning.

■ Soldier died when the M1114 HMMWV he was driving struck an M1A2 tank and rolled over. The driver was operating the vehicle under night vision devices in blackout drive when it hit the tank. Two passengers inside the HMMWV were injured. Injuries to the Soldiers inside the tank and seatbelt use in both vehicles were not reported. The accident occurred during the mid-evening.

■ Soldier was killed when the M1114 HMMWV he was riding in rolled over into a canal during a combat patrol mission. The Soldier was serving as the vehicle's gunner when the HMMWV began sliding and overturned into the canal. The Soldier was pinned beneath the



Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class D

Two Soldiers escaped without injury when their M923A2 5-ton cargo truck rolled over. The Soldiers were participating in a field training exercise and were driving along a tank trail. The trail was wet from an earlier rainstorm, and the truck began to slide and skid as it went down a slight hill. The truck overturned into a small ditch on its right side. The Soldiers were wearing their seatbelts and exited the vehicle through its front windshield. The accident occurred during the late afternoon.

Two Soldiers were uninjured when their M998 HMMWV rolled over during a convoy mission. The HMMWV was traveling under an overpass when the driver lost control after attempting to change lanes quickly. The vehicle slid sideways and hit a curb and guardrail before overturning twice. Both Soldiers were wearing their seatbelts and were released for duty by medics at the scene. The accident occurred during the mid-morning.

Soldier survived without injury when the forklift he was driving rolled over. The Soldier was unloading cement barriers from a truck and using a ground guide when one of the barriers caught and scraped the top of the forklift, causing it to overturn. The Soldier was wearing his helmet, seatbelt, and body armor and was released for duty following a medical assessment.

vehicle and drowned. Injuries to other vehicle crewmembers were not reported. The accident occurred during the mid-morning.

Soldier died when the M1114 HMMWV he was riding in struck a concrete barrier and rolled over during a combat patrol mission. The Soldier was serving as the vehicle's gunner. The HMMWV's driver and one foreign national interpreter were injured. The accident occurred during the late afternoon.

Soldier suffered a permanent total disability when the M1114 HMMWV he was riding in rolled over. The HMMWV was providing convoy security when it hit a wet spot on the roadway, slid sideways, and overturned. The Soldier was serving as the VC. The driver suffered unspecified back injuries. Neither the nature of the VC's injuries nor seatbelt use was reported. The accident occurred during the mid-morning.

Class B

An M1114 HMMWV overheated and caught fire during a convoy operation. The fire began in the vehicle's engine block and consumed the HMMWV. The crew

unsuccessfully attempted to extinguish the flames. No injuries were reported. The accident occurred during the early morning.



Class A

Soldier collapsed and died while running during physical training (PT). The Soldier was running on a road adjacent to a U.S. Air Force base when he collapsed and was found by another Soldier, who then called for help. The Soldier was pronounced dead at a local hospital. The accident occurred during the early morning.

Soldier collapsed and died while participating in a company PT run. The Soldier was transported to a local hospital, where he was pronounced dead. The accident occurred during the mid-morning.

Soldier was killed when the tent he was sleeping in caught fire. The Soldier suffered second- and third-degree burns to more than 70 percent of his body and died on the way to a local medical facility. The accident occurred during the early morning.

Soldier suffered fatal injuries when the M1114 HMMWV he was riding in struck a civilian vehicle head-on at an intersection. The Soldier was serving as the vehicle's gunner and was thrown from the HMMWV upon impact. Four local nationals inside the civilian vehicle also were killed. The accident occurred during the mid-afternoon.

■ Soldier collapsed and died while conducting an individual 3-mile PT run. Although lifesaving measures were performed immediately, the Soldier was pronounced dead at a local hospital. The accident occurred during the early morning.

■ Soldier suffered a fatal gunshot wound to his head following live-fire training. The Soldier was in the bivouac area following the exercise when a round was fired from an M4 rifle being handled by another Soldier. The accident occurred during the early evening.

Class B

■ Soldier suffered a permanent partial disability when a sliver of metal lodged in his eye. The Soldier was working in the motor pool with other Soldiers who were removing sprockets from a tank hub carrier with a hammer.

The metal sliver originated from the hub carrier. The accident occurred during the late afternoon.

■ Soldier suffered a permanent partial disability when he injured his hand while adjusting the forks on a forklift. The Soldier's left-hand index finger was amputated to the second knuckle, and his middle and ring fingers were crushed. The accident occurred during the late morning.

■ Soldier suffered a partial amputation to one of his fingers when a light set fell on his hand. The Soldier was lowering the light set when it slipped, catching his hand between the boom and base components. The accident occurred during the mid-evening.

WHAT THINK

WHERE THERE'S FIRE...

Remember when you were a kid and your mom made you take out the garbage? And her stern warnings about playing with fire, staying out of the street, etc.? Two incidents in Iraq prove mom was right about fire, especially when garbage and large trucks are involved.

Our first two "sanitation engineers" were on kitchen patrol duty at a mess hall. They'd been there about 5 hours when a supervisor told them to take an LMTV loaded with trash to the local burn pit. Undoubtedly more exciting than mopping floors, the short drive to the dump provided the Soldiers a brief reprieve from their otherwise boring day. What they didn't know was just how much excitement awaited them there.

The Soldiers backed the truck to the edge of the burn pit, tossed the garbage into the flames, and stretched the truck's canvas tarp back over the cargo bed. Although they heard a popping noise as they drove away, nothing seemed amiss, so the Soldiers continued back to the mess hall. They were only a quarter-mile from the dump, however, when they saw some other Soldiers frantically motioning their arms toward the back of the LMTV.



WERE THEY MOP?

Somewhat puzzled, the Soldiers looked back at the cargo bed and, to their horror, saw bright orange flames leaping from some mermite storage containers just behind the cab. They hit the brakes, jumped out, and began a futile effort to suppress the flames with the truck's fire extinguisher. It was going to take a lot more than one extinguisher to save this truck, though. In the end, it took more than 20 various-sized extinguishers, over 100 gallons of water, and a lot of Soldier sweat to put out the fire.

The theory behind the blaze goes something like this. It was a windy day, and some burning embers were blown onto the canvas tarp. The embers burned through the tarp and ignited the mermite containers, which quickly set the truck bed aflame. Fortunately, the two Soldiers got out of the truck before the fire reached the cab, and they escaped without physical harm. But they were reprimanded for parking too close to the fire pit, and it's doubtful they'll be pulling garbage detail again anytime soon. Mop bucket, anyone? 



THERE'S USUALLY MORE FIRE.

It's hard to believe anyone could top the two geniuses in our first story, but two Soldiers one-upped them a few months later. The scenario was much the same—a truck (but this time an M923A2) filled with garbage, two fearless warriors, and a burn pit. They too backed the truck to the pit's edge and disposed of the trash. However, this pit was at the bottom of a hill, and the truck got stuck on its way back up the slope.

As if being stuck in a burning garbage pit isn't bad enough, the recently dumped trash ignited and added a whole new problem to the mix. The driver frantically stepped on the gas, but the truck's tires caught fire. By now the driver's Army career was flashing through his mind, and he grabbed the truck's fire extinguisher in a hopeless attempt to smother the flames.

Lucky for him, the dump attendant was working on a bulldozer nearby. One tow cable and a few hearty pulls from the bulldozer later, the truck was out of the pit, although still on fire. Several other Soldiers pitched in and were able to control the flames with dirt until the fire department arrived. Again, no one was injured, but the driver did get a stern lecture about the dangers of backing into a flaming trash pit. Maybe the mess hall has an extra mop! 

POV
stats
FY06
through Mar 06

Class A-C accidents/Soldiers killed

■ Cars	59/23
■ Vans	1/0
■ Trucks	20/8
■ Motorcycles	32/11
■ Other*	2/0

*Includes tractor-trailers, unknown POVs, and bicycles

42

total DEATHS

FY05: **54** 3 year average: **45**

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A DEAD-WRONG APPROACH

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What Were They Thinking?

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

An infantry company was tasked to plan and execute a squad-level fire and maneuver lane. The company set up assembly and sleeping areas a few hundred meters from the lane. The ammunition point NCOIC issued live and blank ammunition from the same table, where both types were stored during the conduct of the range. There also were some smoke munitions in the same area.

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U.S. ARMY COMBAT READINESS CENTER

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ROACH



The company cycled the squads through the day walk-through and blank fires before the live fires began. The company commander was the range officer-in-charge (OIC), and the platoon leaders alternated as the range safety officer (RSO) as their individual platoons went through the lane. Their duties included informing range support of the changes via radio or telephone.

The platoon sergeants and the company first sergeant performed safety duties during the squad iterations, as well as leader and range responsibilities. The company commander briefed each squad at the start point before firing began. The brief was oriented toward the tactical aspects of the lane rather than a general briefing covering both tactical and accidental risks.

As daylight faded, the last few squads cycled through the lane. However, the unit wasn't pressed for time to complete the iterations. The first platoon, second squad received their safety brief from the company commander when they arrived at the start point for their iteration.

The squad engaged the first objective, and the squad leader fired a few rounds from his M4 rifle. One of the squad members ran out of ammunition at the second objective, so the squad leader handed the Soldier a loaded magazine from his assault vest. Another squad member ran out of ammunition at the third objective and was handed the magazine from the squad leader's M4. The squad leader then pulled an empty magazine from his vest and inserted it in his M4. However, the natural cycling of the ammunition caused a live round to be in the chamber when the squad leader fired at the first objective.

When the lane was completed, the squad leader didn't clear his rifle properly, but the rest of the group cleared their weapons and were checked by team leaders within the squad. However, the safeties and RSO didn't verify all weapons were cleared. The company commander asked if all weapons were cleared, and the group said yes. The Soldiers then loaded a bus for the assembly area.

Dusk was setting in as the squad arrived at the assembly area, so the company ate chow and began the transition to night-fire iterations. During this downtime, the squad leader had come off the range and tasked a Soldier to install a PEQ-2A laser aiming device on his M4. The device originally was installed on the tasked Soldier's weapon, an M240B machine gun, which wasn't to be fired during the night iteration.

The squad leader handed his M4 to the Soldier, and neither performed weapons-clearing procedures. As the Soldier searched for a tool to remove the sight, the squad leader began talking with other company members. The Soldier installed the sight and began looking for his squad leader.

While searching for the squad leader, the Soldier ran into two other Soldiers talking about and practicing knife-fighting techniques with chem lights. The Soldier began walking closer to the other Soldiers because he wanted to join the fun. As he approached, he raised the M4 from the low ready to firing position. He then pointed the rifle at one of the Soldiers and, in one fluid motion, rotated the selector lever to fire and squeezed the trigger. The Soldier to whom the rifle was pointed was hit in the face with a bullet.

The other Soldiers immediately began administering first aid and called range support and 911. However, different company members called 911 and range support at the same time, causing some conflict in response. The emergency responders also were

delayed because of problems getting an accurate description of the situation and the Soldiers' location. The injured Soldier finally was transported by ambulance to a local hospital, where he was pronounced dead.

Why the accident happened

- The squad leader didn't verify his assigned M4 was cleared of all rounds in contravention of Field Manual 3-22.9, *Rifle Marksmanship M16A1, M16A2/3, M16A4 and M4 Carbine*; Soldiers Training Publication (STP) 21-1, *Soldier's Manual of Common Tasks*; and local installation policies. He then gave the loaded weapon to another Soldier. The squad leader was preoccupied with his leadership responsibilities and forgot to complete his required personal actions.

- The RSO didn't verify Soldiers exiting the range had cleared their weapons in accordance with STP 21-1 and local installation policies, allowing the squad leader to take a loaded weapon back to the assembly area. This failure was due to the RSO's overconfidence in the Soldiers' abilities to verify all weapons were cleared, a lack of formal local certification training, and improper supervision by the range OIC.

- A Soldier pointed a weapon he believed wasn't loaded at another Soldier and pulled the trigger in contravention of local installation policies. This action was the result of personal indiscipline and overt complacency with respect to weapons handling.

- The company commander, who was acting as the range OIC, allowed procedures violations to happen within his formation. He attempted to simultaneously carry out the duties of observer/controller, OIC, RSO, and commander, but didn't ensure the personnel actually charged with those responsibilities accomplished the required tasks. The commander's actions were in

contravention of Army Regulation 385-63, *Range Safety*, and local installation policies. This failure was the result of overconfidence in his abilities to directly influence multiple range procedures simultaneously and his focus on the training's tactical aspects.

Other observation

There was an unnecessary time lapse in the initial calls for emergency care and confusion regarding the information to convey.

What can be done?

- Unit training must be improved to ensure weapons handling and clearing procedures are followed and enforced at all times. Positive command action also should be taken to ensure proper personnel are selected as RSOs and that these individuals understand their duties and responsibilities.

- Commanders must ensure all personnel in key range positions are trained adequately to perform their assigned duties. This includes a review of existing local certification training programs and placing special emphasis on RSO duties and responsibilities.

Hey Sir, What Are You Doing?

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

Have you ever had an NCO ask you this question? And you replied, “Don’t worry, I’ve got it.” Chances are that NCO was trying to tell you something and maybe even offer some assistance. Teaming with NCOs seems like a fundamental practice all officers should follow, but three recent accidents indicate some officers are attempting to perform tasks traditionally accomplished by NCOs. The most recent of these accidents illustrates what can happen when an officer attempts to do it all.

A recent accident investigation revealed the company commander was attempting to simultaneously perform the duties of range officer in charge, range safety officer (RSO), and observer/controller. His divided attention resulted in several procedure violations, including a failure to ensure the actual RSO verified all weapons were clear before departing the range for the assembly area. As a result, one weapon was carried back to the assembly area with a round in the chamber. Later that day, the weapon was handled improperly, and a Soldier was fatally injured.

Although the company commander didn’t personally carry the weapon off the range, his actions contributed to the accident. While every Soldier has the responsibility to clear his weapon before departing the range, had the commander teamed with his NCOs in three distinct areas—division of duties, planning, and Composite Risk Management (CRM)—this accident might’ve been prevented.

NCOs x (Duties + Planning + CRM) = Combat Readiness

Effective partnering with NCOs provides an efficient and effective division of duties, which allows everyone to pay the correct amount of attention to their administrative, procedural, and leadership activities. Empowering NCOs with authority commensurate to these duties is essential, because it allows them to become stakeholders in the unit’s performance.

NCOs also should be involved in planning processes. Experienced NCOs can contribute



immensely during the planning of any operation, from a weapons qualification range to a complicated squad or platoon live-fire maneuver lane. Your NCOs will bring a priceless gift to the planning table—experience. On average, NCOs at the company level have between 4 and 5 years of additional time in service. Officers must allow their NCOs to fulfill their roles in the training plan and enforce the standards.

Finally, NCOs must participate in the CRM process. NCOs have a unique perspective and, therefore, can see things officers often overlook. NCOs can validate tactical hazards and controls, as well as greatly assist in the identification of accidental hazards and development of relevant and actionable controls.

As officers, we like to think we can do it all, but we can’t. Your NCOs don’t just prepare promotion packets and grade PT tests. Empower and involve them in the planning and execution of training. Their involvement will enhance training value, ensure adherence to standards, and add to your unit’s credibility. Finally, involve your NCOs one step further in the CRM process. Their involvement will make the process real and demonstrate to junior Soldiers that CRM is worth doing.

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

- Commanders must emphasize how complacency and personal indiscipline can lead to accidents and severe or fatal injuries. They must enforce all applicable weapons handling procedures and expand unit training programs to overcome complacency and discipline shortcomings.

- Commanders must ensure range OICs understand their assigned duties and responsibilities and conduct effective preliminary marksmanship instruction before every range. In addition, all leaders must understand and practice Composite Risk Management.

- Soldiers at all levels should rehearse the casualty evacuation plan to determine if any shortcomings exist and take measures to correct deficiencies. Seconds can make the difference between life and death for an injured Soldier.

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COMPLACENCE

CSM FRANKLIN G. ASHE

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It's one thing to say a Soldier died leading his troops in combat or was killed putting other lives before his own. It's another, however, to say a Soldier died because complacency and a lack of standards and discipline were tolerated in his or her unit. In fact, it's downright unacceptable.

Soldiers put themselves and their buddies in jeopardy every time they fail to buckle their seatbelts, wear their helmets properly, or maintain muzzle awareness. No particular issue is more important than another, whether on duty or off, in garrison or in theater. Yet most accidents have at least one or two factors in common: complacency and/or leadership failures.

Leadership and safety can't be separated. We don't practice safety in addition to our other tasks; rather, it's a vital part of what we do. Leaders are supposed to accomplish their missions and take care of their Soldiers. But they sometimes get so wrapped up in the mission part, they forget about the safety aspect.

Leaders must ensure they and their Soldiers conduct all their business in a safe manner. Enforcing correct troop-leading procedures is one way to accomplish this goal. However, leaders must be careful because, if they don't

pay attention to what they're doing, they might unintentionally reinforce bad habits. They can't allow themselves or their Soldiers to become complacent. For example, when leaders think they've talked too much about safety or pre-checks, they're complacent. Nothing is routine, and you can't place enough emphasis on safety.

Some Soldiers think being in a combat zone justifies doing things they'd never do in garrison. This attitude is deadly, and Soldiers are dying because of it. Leaders must train their Soldiers to follow proper steps and procedures—without taking shortcuts—on every mission. It's their responsibility to stop and correct improper behavior when they see something isn't quite right, regardless the mission.

Mission importance and OPTEMPO are easy excuses for taking shortcuts. We must make sure our young Soldiers and leaders don't develop an attitude

of "Hey, I'm not going to get hurt. I've done this before and nothing happened." Soldiers and leaders should think about how much time they'll lose if their equipment is completely destroyed or the individuals using it are gone for good, all in the name of saving a little time. The consequences don't justify the means. The last thing anyone wants to do is kill their best friend because they weren't paying attention or because they took a shortcut.

Being a senior leader, I become angry when I hear about Soldiers dying in preventable accidents or because of carelessness. Families back home wake up in the morning and go to bed at night worrying about their loved ones. Their worry is the enemy, but accidents are just as deadly as an improvised explosive device or small-arms ambush. All too often, parents and spouses are told by a casualty assistance officer or chaplain their loved one was killed in a situation

Some Soldiers **think** being in a combat zone justifies doing things **they'd never do** in garrison. This attitude is deadly, and Soldiers are **dying** because of it.

PLACENCY: IT'S A KILLER

that didn't have to happen. There aren't words to describe the devastation—it's just senseless. I've thought about this hundreds of times, and it's always in the back of my mind when I talk with the families of my Soldiers killed in action.

We don't have to accept these losses. The best way we can honor those that have died is to do the right thing and save other Soldiers. Nobody is immune to complacency, and everyone is responsible for safety, regardless their rank or position. We all have the right to wave the red flag when there's a safety problem—in fact, we're obligated to say something! Sometimes we have to go out of our way, but I'd rather be tired and stop a Soldier from doing something wrong than be wide awake at a memorial service. There are no second chances then. 🚩

Contact the author by e-mail at franklin.ashe@us.army.mil.

Editor's note: Before his assignment at Fort McPherson, CSM Ashe served as the command sergeant major for the 25th Infantry Division and Combined Joint Task Force-76 in Afghanistan.

BORING

DON'T
DO THIS!

CPT BILLY EDWARDS
Managing Editor, *Ground Warrior*
and
JULIE SHELLEY
Managing Editor, *Countermeasure*

Soldiers who've been in Iraq know all too well boredom and a momentary loss of common sense can result in senseless injuries. Several such incidents involving .50 caliber ammunition have occurred in Iraq in recent months. Although these cartridges might seem like very useful tools or toys, they shouldn't ever be removed from their links—a lesson some of our troops have learned the hard way.



• A Marine was curious to see what would happen if he hit a .50 caliber round's primer with a nail. He found out the nail works very much like a firing pin, with two notable exceptions. First, there's no barrel for the projectile to travel down. Second, there's no ejection port from where the cartridge case can eject safely. The Marine wound up with some serious injuries to his hands and face. Too bad his NCO wasn't around to tell him how bad an idea this trick really was.

• A Soldier was attached to a Marine unit when he made a similar discovery. He was sitting on top of his tank, tapping a .50 caliber cartridge on the vehicle's structure, just as someone would tap a pencil or pen on a desk in boredom. Pens and pencils generally don't contain a primer and gunpowder, however, and therefore don't explode—but the Soldier's cartridge did and severely injured his hand. Instead of killing his boredom, he just about killed himself.

• Another Soldier noticed a .50 caliber cartridge was jammed in his M2 machine gun. He decided to use a hammer and chisel to remove the round, and an audience gathered nearby. Lucky for them, the cartridge didn't go off. But another Soldier's luck

ran out when a metal sliver shot from the gun into his eye and had to be surgically removed. In case you were wondering, a hammer and chisel don't have anything to do with proper weapons clearing procedures.

• This Soldier learned fire will detonate .50 caliber ammunition just as surely as nails, hammers, or hard surfaces on combat vehicles. It was a blustery winter day, and the Soldier left her sleeping tent for duty but forgot to turn off the heater. A running heater in an empty tent is bad enough, but the Soldier left some books and other miscellaneous flammable items on top of it. The Soldier remembered the heater soon enough, however, when some .50 caliber ammunition stored in the tent began cooking off in every conceivable direction. Fortunately, no one was hurt, but the Soldier soon found herself deeply involved in a 15-6 investigation.

In retrospect, these troops probably figured out something the rest of us would find pretty obvious: .50 caliber ammunition should be used only with the correct system as a weapon against the enemy. Ammunition, explosives, weapons, you name it—military stuff isn't there to amuse

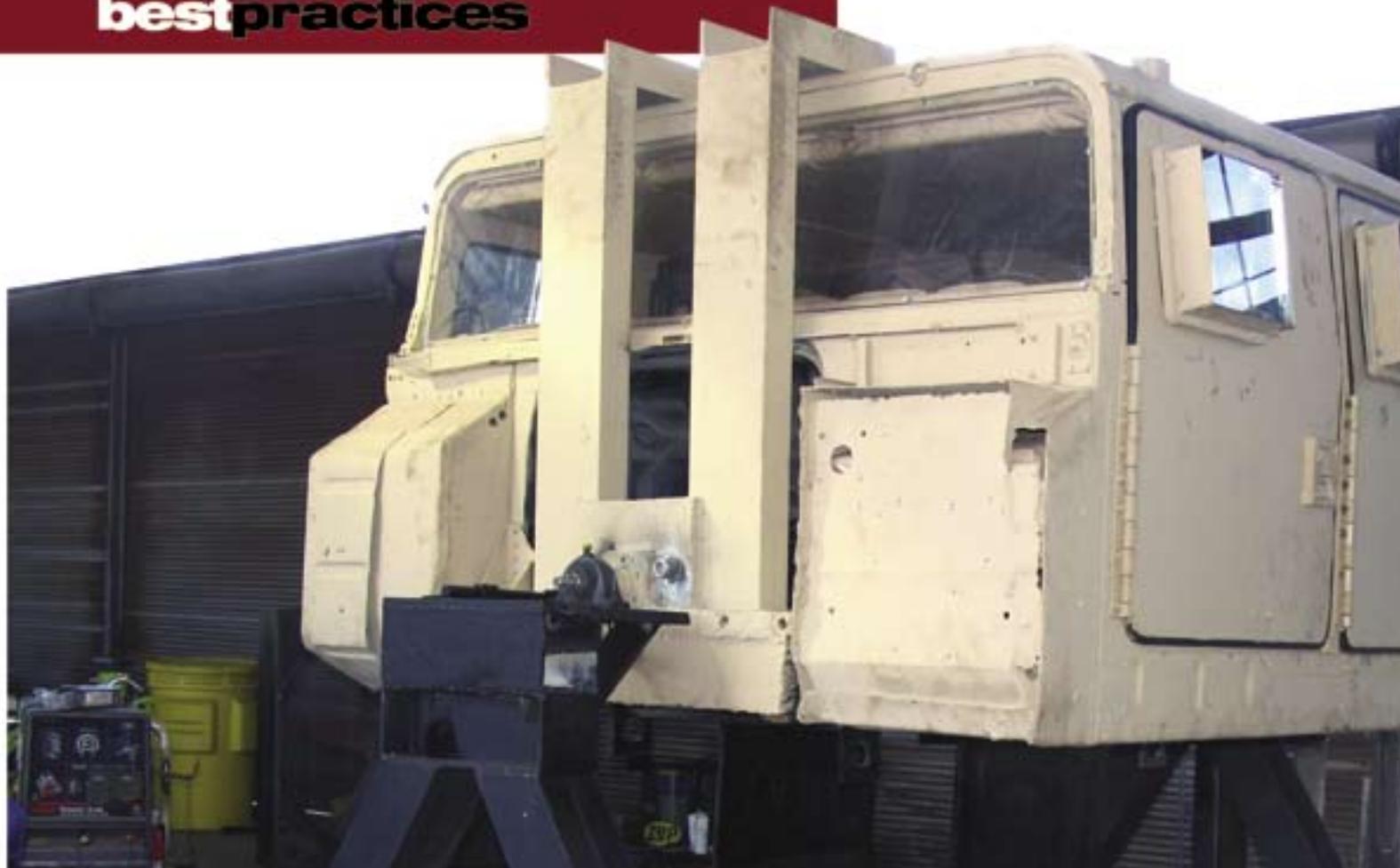
you. Use some common sense and Own the Edge! 

Editor's note: This article was adapted with permission from its original format in the Spring 2006 issue of Ground Warrior, the Marine Corps' ground safety publication, for use in Countermeasure.



Explain this one to your commander...

It was a slow spring day in Afghanistan, just after lunch. A few Soldiers decided to start a friendly football game to break the monotony. Somehow, an M249 Squad Automatic Weapon wound up in an M-Gator, the military counterpart of the small vehicles used by golf course personnel to haul greens-keeping equipment. One of the Soldiers needed a break, so he sat down in the M-Gator. He wasn't able to relax for long, because the M249 started firing multiple rounds that went into a nearby office building. None of the football players were hurt, but a Soldier in the building was hit in the chest and shoulder by the wayward rounds.



HMMWV Egress Assistance Trainer



the Trainer

CWS MARK GRAPIN
CWS DEAN STOOPS
Aviation Standardization Officers
Coalition Forces Land Component Command

Editor's note: While the HMMWV Egress Assistance Trainer currently is not a standardized Army program or training tool and has not received an official safety confirmation, several Army commands have seen its usefulness in injury mitigation, built their own device, and developed tactics, techniques, and procedures for training.

As of this issue's publication date, about 250 Soldiers have been severely injured in Army Motor Vehicle rollovers since the beginning of Army operations in Iraq. More than half these Soldiers died from their injuries, about 71 were killed in up-armored HMMWVs, and over a dozen drowned when their vehicles rolled over into water-filled canals or trenches. Although our safety professionals and operations and intelligence communities are working diligently to find a balance between enemy and accidental hazards, we continue to lose Soldiers in rollovers. Mishap reports describing yet another rollover cross our desks at least twice a week.



According to a recent article in an aviation publication, a person who's been 'egress trained' has a **250-percent** greater chance of survival than an untrained occupant in a water egress **emergency**.

The aviation community has long known the value of rollover egress trainers or "dunkers," which are used to teach escape skills from an aircraft ditched in water. A stateside safety officer recognized those same skills are adaptable to the ground community and developed the HMMWV Egress Assistance Trainer (HEAT) to help curb rollover deaths in theater.

The HEAT's genius is its simplicity, and it has several advantages over its water-based aviation counterpart. Basically, the trainer is nothing more than a HMMWV cab mounted to a beefed-up tank engine maintenance stand. An electric motor spins the HEAT 180 degrees in about 6 seconds, and it can be stopped at a variety of angles and turned upright with a flip of the same switch that inverted it. Perhaps best of all, the device is easily transportable.

The Army's reclamation yards are filled with the basic elements needed to build a HEAT, and a skillful fabricator and assistant can complete the job in a couple of weeks. These items include a mostly intact HMMWV cut down the cab, a motor and rotational gearbox, and bulk metal to construct the A-frames, flooring plates, and platforms. The assembly process looks like something from an

episode of "Monster Garage," and it's easy to get enthusiastic about the trainer after watching one being built from literally the ground up.

Coalition Forces Land Component Command (CFLCC) personnel fabricated their first HEAT using snapshots and descriptions from Soldiers who'd seen the stateside prototype. Although the two versions look a lot alike, we had the luxury of improving the original design. It's important to remember, however, that even the best machine is little more than an expensive backyard toy without the application and enforcement of proper tactics, techniques, and procedures (TTPs). Getting the right experts together was one of our biggest challenges, but our well-rounded team defined and honed each element to ensure the trainer replicated real-world events while functioning safely.

There are two objectives behind the HEAT: first, train Soldiers to avoid a rollover; and second, teach them how to survive by executing rollover drills and following the proper procedures for egressing an overturned vehicle. Both objectives can be met by emphasizing teamwork and developing muscle memory through crew battle drills. This crucial experience allows crewmembers to maintain self-control and overcome fear and panic during an actual rollover.

According to a recent article in an aviation publication, a person who's been "egress trained" has a 250-percent greater chance of survival than an untrained occupant in a water egress

emergency. Since the HEAT is based off the program of instruction (POI) used for aviation water egress trainers, this sobering statistic becomes a reasonable expectation for the HEAT.

CFLCC's HEAT POI follows a crawl-walk-run learning process. Commanders can choose between two training options for their units, the first of which is a basic orientation to rollover survival skills. The second option involves intermediate and advanced training in a darkened room or hangar and recreates common scenarios in real-world rollovers such as blocked doors and injured crewmembers that can't get out of the vehicle alone. Other scenarios include underwater emergencies and blasts from improvised explosive devices. The training should be conducted at least once a year.

The HEAT already has made an impact with HMMWV drivers and crewmembers even though it's been in operation only a few months. Soldiers who've been through the training and then found themselves in rollover and egress emergencies in combat have lived to sing its praises. Without fail, these Soldiers say they survived because of the confidence they gained through training. Whether under water or under fire, our Soldiers deserve the best training we can give them. 🚚

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F E B C B

CHRISTOPHER TRUMBLE
System Safety Engineer
U.S. Army Combat Readiness Center

The importance of effective communications capabilities has increased greatly since the beginning of the Global War on Terrorism, particularly regarding interaction between ground Soldiers and aircrews. The ability to receive intelligence from the air and verification from the ground in real time is just one benefit of a highly mobile communications system. The Army's Force XXI Battle Command Brigade and Below (FBCB2) is one such system paying dividends for Soldiers in theater.

Known in its latest iteration as Blue Force Tracking, FBCB2 features integrated computer hardware and software that forms a wireless, tactical Internet. The system is designed to phase out and replace paper maps and voice radio communications with more secure and timely digital information. A quick overview of the program's development follows.

In the initial phase, information was uploaded from other systems such as the Forward-Area Air Defense Command, Control, and Intelligence System; the Combat Service Support Control System; the Battlefield Combat Identification System; the

Guardrail/Common Sensor; tactical operations centers; certain unmanned aerial vehicles; and other Army systems.

Warfighting experiments were conducted to verify the system could provide improved tactical decision-making information to Soldiers through increased situational awareness by means of timely battlefield data.

The second phase of development involved enhancing the FBCB2's functionality. This step was performed in Bosnia, Kosovo, and Italy in 2002 while the Army was assisting with NATO peacekeeping missions. The Soldiers there received a detailed picture of their surroundings on a computer information network that tracked vehicles and displayed their locations on a digital map.

The next phase expanded to collect, integrate, and display a common picture of the area of operations to each user display. Locations and identities of threats

A L W A



“ Locations and identities of **threats** such as enemy forces, improvised explosive devices, and impassable roads were correlated and automatically **transmitted** to each group user and displayed as an icon on the screen. ”

B2: Y S I M P R O V I N G



such as enemy forces, improvised explosive devices, and impassable roads were correlated and automatically transmitted to each group user and displayed as an icon on the screen. The Blue Force Tracking element includes the linking of sensors, communications devices, aircraft, and weapons into a seamless network using satellites as well as line-of-sight transmissions.

The development of a companion system for international military force partners, dubbed "Coalition Force Tracking," is the latest improvement. In April 2005, the Pentagon's Office of Force Transformation determined use

of the interconnected Blue Force Tracking system with the Coalition Force Tracking system improves operational effectiveness.

Our Soldiers benefit from these joint communications capabilities in many ways, including the proven ability to execute decisive combat operations with greater confidence. This unique command and control capability promises to be a decisive technology for 21st-century warfare that will allow our Soldiers to Own the Edge! 

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Ca



All Soldiers know the ability to communicate is critical anytime they're on duty, whether in training or in combat. Sometimes, however, they get so wrapped up in their current missions they might forget to take certain precautions that will preserve memories years down the road. Hearing is one of our most important senses, but it's also one of the easiest to lose because the damage is usually subtle and typically occurs slowly over time.

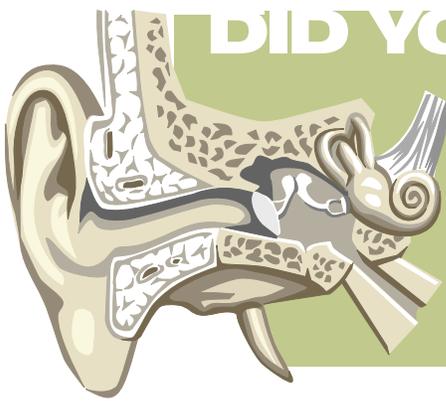
The human ear can take only so much noise before it experiences some sort of damage. Soldiers are at higher risk for hearing injury because of the repetitive nature of their operations,

whether they're firing weapons on the range or exposed to gunfire and explosions in theater. It's within this context noise-induced hearing loss injury must be considered. Will you make a personal choice to wear hearing protection now so you can hear your family later?

Most Soldiers have experienced temporary hearing loss at some point, such as after a live-fire exercise. After a few hours or a day or two, however, the "fog" lifts and their hearing gets better. The intensity, duration, and type of noise (continuous, intermittent, impact, or high or low frequency) are important factors affecting how our ears react to and recover from noise exposure. Environmental

factors also play a part because noise disperses differently in open air, enclosed spaces, and around reflective surfaces. Other factors determining the severity of hearing injury include distance from the noise source, age, general health, and individual susceptibility to noise exposure.

Fortunately, Soldiers can prevent or reduce most hearing loss simply by wearing hearing protection in noisy areas. Field Manual 22-51, *Leaders' Manual for Combat Stress Control*,



DID YOU KNOW?

The symptoms of hearing loss include ringing, roaring, or hissing sounds in one or both ears; the speech of others seems mumbled or slurred; difficulty hearing and distinguishing high-pitched sounds such as “s” and “th,” in addition to women’s voices; difficulty hearing conversations, especially with background noise; and certain sounds seem annoying or overly loud. For more information on hearing protection, visit the Army Center for Health Promotion and Preventive Medicine’s Web site at <http://chppm-www.apgea.army.mil/hcp//default.aspx>.

Can You Hear Here?

JAMES HUDSON
Industrial Hygienist
U.S. Army Combat Readiness Center

identifies blasts, noise, and vibration as key stressors affecting Soldiers and combat readiness. The manual states, “The purpose of good military leadership, discipline, and training is to bring out the best while preventing the worst.” It’s these worst-case scenarios we must diligently prevent or reduce by using Composite Risk Management.

For example, many hearing injuries are caused by multiple exposures to the same noise over an extended period of time. Ideally, the noise source should be reduced, exposure limited, and hearing protection used by all personnel. However, this hierarchy of control can’t be applied to every situation, especially in theater. Take small-arms fire, which is loud, repetitive, and in many cases can’t be reduced. Therefore, all Soldiers must wear hearing protection whenever possible.

Potential noise exposure should be included in the commander’s risk assessment for every mission and take into account unforeseen combat scenarios that might alter the effectiveness of all personal protective equipment, not just earplugs. Likewise, all Soldiers

who experience hearing loss—no matter how major or minor it might seem—must report it to their chain of command immediately. Noise thresholds can change depending on the situation and individual, so medical evaluations, personnel rotations, and rest periods must be planned to allow for recovery from temporary threshold shifts.

Some Soldiers might feel their hearing will diminish with age anyway, so why wear earplugs? Most adults do suffer a gradual loss in hearing called presbycusis as they grow older, and little can be done to prevent it. However, it’s this very reason why we must conserve as much of our hearing as possible now. Think of it as a hearing “savings account” for the future.

Many Soldiers probably don’t think a lot about their hearing until they don’t have it anymore. It’s the responsibility of leaders at all levels and individual Soldiers themselves to protect not only their hearing, but also their lives. Your future is calling—will you be able to hear it? 

Contact the author by e-mail at james.hudson5@us.army.mil.

Common approved earplugs, muffs, and caps:

Elvex Quatro—
NSN 6515-01-492-0443, one size

Bilsom 655 NST—
NSN 6515-01-461-7931, S; NSN 6515-01-461-7893, L

Triple Flange—
NSN 6515-00-442-4821, S; NSN 6515-00-442-4818, M; NSN 6515-00-467-0092, L

Hand-formed Sound Guard Earplugs—
NSN 6515-00-137-6345

Combat Arms Earplugs—
NSN 6515-01-466-2710, double-ended;
NSN 6165-01-512-6072, single-ended

Aural Protector Sound Muff, Type II—
NSN 4240-00-022-2946

High Performance Muff, Navy, Type I—
NSN 4240-00-759-3290

Replacement Seal, Dome—
NSN 4240-00-979-4040

Replacement Filter, Dome—
NSN 5965-00-674-5379

Ear Canal Caps, Wilson Model 10—
NSN 6515-00-392-0726

Ear Canal Caps, Aerao Co. Model—
NSN 6561-01-149-4133

Ear Canal Caps, Wilson Model 20—
NSN 6515-01-059-1821

Earplug Case—
NSN 6515-01-100-1674



RECOGNIZING EXCELLENCE in Accident Prevention

CW4 PAUL CLARK
Awards Coordinator, Accident Investigator
U.S. Army Combat Readiness Center

Throughout the Army, Soldiers and leaders are taking bold and innovative measures to reduce the needless loss of lives and equipment through Composite Risk Management. As such, the Army Accident Prevention Awards Program recently underwent some changes to better recognize these

contributions. The new program will appear in a consolidated update of existing safety regulations, but in the interim the new policy can be reviewed and downloaded from the Combat Readiness Center's (CRC) Web site at <https://crc.army.mil/awards>.

The renovated program features positive measurements of current Army goals, improved

plaques and certificates, and streamlined submission processes. It also allows organizations to develop additional awards tailored to meet their unique accident prevention and recognition goals. The new program is an exciting way to recognize, promote, and motivate accident prevention success.

As you review the awards site, you'll notice our attractive new award plaques. Each has a common design theme that includes a polished metal section beginning at the base and narrowing to a point at the top. The shape symbolizes a cutting edge that represents the total Army force, melded together for strength, yet sharpened and polished for precision and skill. An individual's place on that edge might be at or near the tip in the theater of operations or at home in training or support activities. Regardless, it's a place where everyone can contribute to mission success while slashing needless losses. Please use the new awards program to Own the Edge!

The following paragraphs highlight new changes to the program.

DA-level awards

Chief of Staff, Army (CSA), Army Headquarters Safety Award. This plaque is awarded by the CSA to Army commands, Army service component commands (ASCCs), and direct reporting units (DRUs) that have demonstrated significant improvements, sustained excellence, and leadership in accident prevention programs.

CSA Exceptional Organization Safety Award. This plaque is awarded each fiscal year to battalion through division and garrison organizations with the most effective overall safety program.

CSA Individual Award of Excellence for Safety. This plaque is awarded each fiscal year to individuals who make the most significant contribution to accident prevention in each of four categories: officer, NCO and enlisted, Department of the Army civilian, and contractor.

Director of Army Safety (DASAF) Composite Risk Management (CRM) Award. This plaque is awarded by the DASAF to organizations or individuals who have made significant contributions to Army readiness through CRM.

Sergeant Major of the Army (SMA) Superior Soldier Safety Award. This plaque is awarded by the SMA to Soldiers who demonstrate pockets of excellence or best practices in safeguarding Army operations and personnel.

United States Army Safety Guardian Award. This certificate and plaque are presented by the DASAF to individuals who, through extraordinary individual action in an emergency situation, prevent an imminently dangerous situation, injury to personnel, or damage to Army property.

Army Aviation Broken Wing Award. This certificate and plaque are presented by the DASAF to individuals who, through outstanding airmanship, minimize or prevent aircraft damage or injury to personnel during an emergency situation.

The **new** program is an exciting way to recognize, promote, and **motivate** accident prevention success.

Army Headquarters and organization-level awards

Army Accident Prevention Award of Accomplishment. This award is presented by commanders of Army commands, ASCCs, and DRUs to subordinate units for completion of an accident-free year or major exercise.

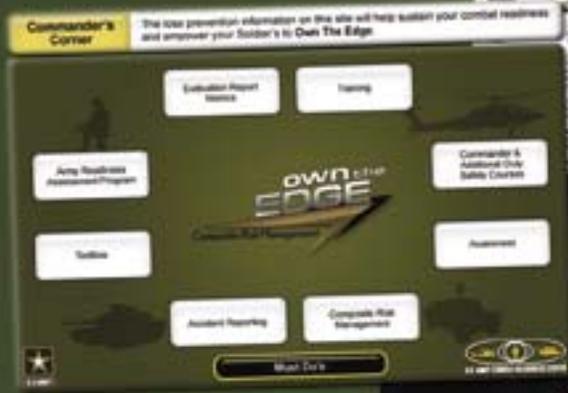
United States Army Aircrew Member Safety Award. This award is presented by commanders to aircrew members for specific periods of accident-free flying.

Other individual and organizational awards. Leaders at all levels will recognize the safe performance of individuals and subordinate organizations. Leaders are encouraged to develop awards tailored toward recognizing accident prevention accomplishments within their sphere of activity, interest, or operation. Leaders may use DA Form 1119-1 and are authorized to design and use locally produced certificates and trophies.

Impact awards. Commanders are encouraged to develop and issue policies for impact awards to promote safety awareness through on-the-spot recognition of safety-related actions that are above and beyond what is required of an individual or organization. 

Anyone with questions or comments concerning the Army's Accident Prevention Awards Program can e-mail the Combat Readiness Center at safetyawards@crc.army.mil, or contact CW4 Paul Clark by e-mail at paul.clark2@us.army.mil or by phone at (334) 255-2443 (DSN 558-2443).





Introducing 'Commander's Corner'

The Chief of Staff, Army (CSA) recently mandated several initiatives to help leaders in the field manage risk as they fight the Global War on Terror and simultaneously transform our Army. In accordance with the CSA's goal, the Army Combat Readiness Center (CRC) recently established a "Commander's Corner" page on its Web site to assist all levels of leadership in developing strong safety programs. The power of this Web site is its easy navigation to Composite Risk Management (CRM) training, programs, and tools including ASMIS-2 POV, an online planning program that pairs supervisors and subordinates in the risk management process for POV trips. You'll also find information covering quantifiable safety metrics for the DA 67-9-1; digital accident and loss reporting tools; and links to our hard-hitting safety publications, *Countermeasure*, *Flightfax*, and *ImpaX*. The site can be accessed online at <https://crc.army.mil/commanderscorner/index.html>. Two new "Commander's Corner" additions under the "Toolbox" tab are the "CRM Interactive Worksheet Tool" and "Commander's Toolbox" links. The worksheet provides step-by-step guidance for leaders conducting CRM, while the toolbox contains reference materials for every leader and safety professional. Both items also can be found in the "New Tools" section on the CRC homepage at <https://crc.army.mil>.

And the Winner

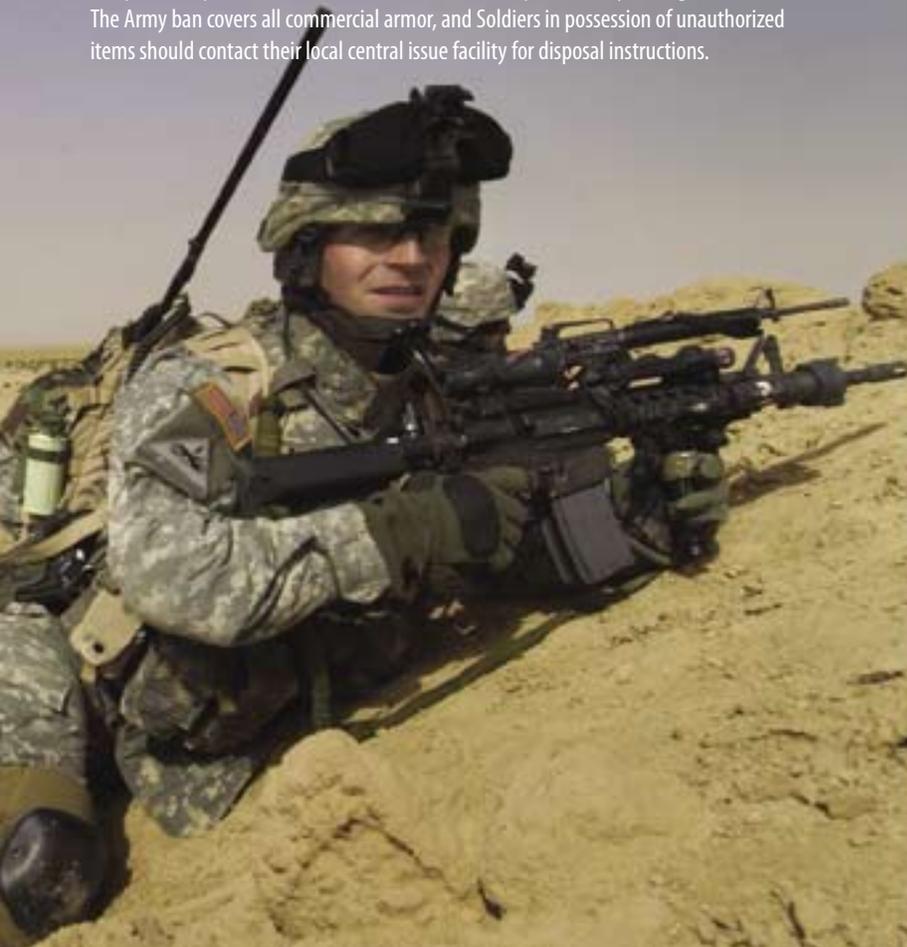
Two Soldiers correctly cited the unauthorized modifications to the M1114 HMMWV on page 19 of the March 2006 *Countermeasure*: LTC Jerry Hurtgen Jr., safety and occupational health manager for the Michigan Army National Guard in Lansing, MI, and CPT Eric Coulson, commander of the Army Reserve's A/321st Engineer Battalion in Boise, ID. The photo featured under the caption "A Moving Violation" showed an M1114 HMMWV outfitted with, among other illegal parts, an activated Claymore mine on its bumper.

To quote CPT Coulson, "What were they thinking? Please tell me an officer or senior NCO didn't know about that!" The other unauthorized modifications included extra headlights on the vehicle's grill and bumper, which also were unapproved; the tow bar and tow chains that, in addition to the bumper, were locally fabricated; and the driver-side mirror, which had been moved to a lower position.

Anyone with questions regarding this column may contact the editor at (334) 255-1218, DSN 558-1218, or by e-mail at countermeasure@crc.army.mil.

Got Commercial Body Armor?

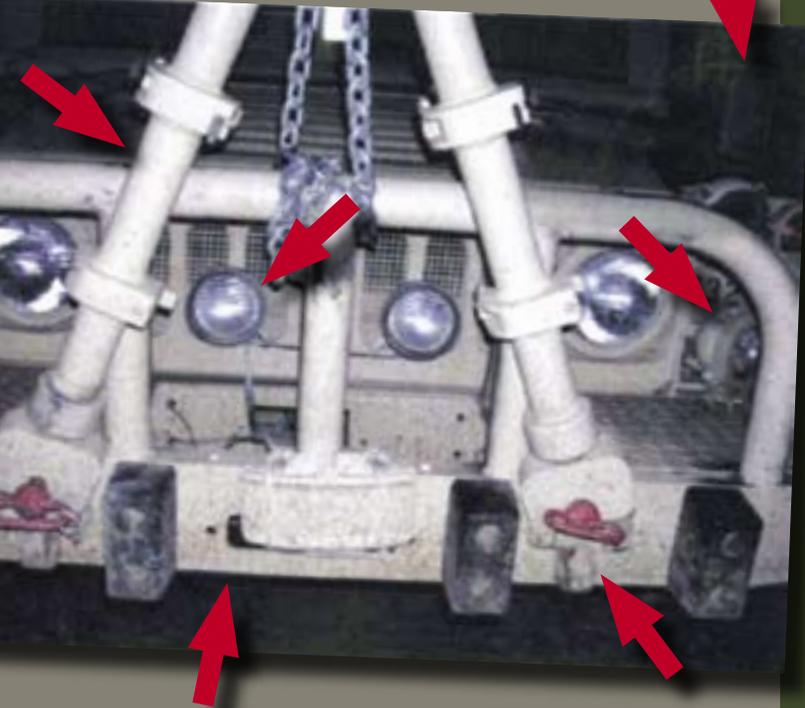
The U.S. Army Tank-Automotive and Armaments Command recently released Safety of Use Message 06-017 prohibiting Soldier use of commercial body armor. The order was prompted by concerns that individual Soldiers or their families were contacting private companies to purchase commercial armor that hasn't passed Army testing standards. The Army ban covers all commercial armor, and Soldiers in possession of unauthorized items should contact their local central issue facility for disposal instructions.



'Fort to Port' Video Download Available Now

The first installment of "Letters from War: Fort to Port" is now ready for download. The video covers port operations and can be downloaded from the CRC Web site at <https://crc.army.mil>. Once on the site, click the "Media and Magazines" button; from there, click the "Videos" link; and then scroll down to "Ground Videos." The video, which is for official use only, can be downloaded from the same page. Other installments are in development, and each one will be available for download as they're completed. A final compilation DVD will include deployment topics such as convoy operations, rail and barge movements, and port operations. Anyone with questions regarding this or other CRC video productions may contact Rebecca Nolin at (334) 255-2067, DSN 558-2067, or by e-mail at video@crc.army.mil.

rs Are ...



A HMMWV Pocket Protector

The Program Manager, Tactical Wheeled Vehicles recently published a combined safety smart card to help familiarize Soldiers with new equipment upgrades and emergency procedures regarding the M1114 HMMWV. The card includes tips and procedures for equipment such as the automatic fire extinguisher system, single-movement combat locks, emergency rescue wrench, and improved gunner and personal restraint systems, as well as emergency procedures for rollovers and water egress. The card can be found on the CRC Web site at https://crc.army.mil/tools/gta/m1114_combined_safety_card.pdf.





Class A

■ A local national suffered fatal injuries when his vehicle was hit by a Bradley Fighting Vehicle (BFV). The BFV was crossing a main supply route and was unable to avoid the civilian vehicle, which failed to stop at the intersection. No Soldier injuries were reported. The accident occurred during the early morning.



Class A

■ One foreign national soldier was killed and another was injured when a U.S. M1070 HET struck them while turning at a checkpoint. The foreign nationals were manning the checkpoint, and the HET was part of a convoy. No U.S. Soldier injuries were reported. The accident occurred during the late evening.

■ A local national was killed when his vehicle struck an M915 truck. The M915 was part of a convoy, and its driver pulled into the local national's path while attempting to change lanes. The local national's vehicle struck the M915 and rolled over. No Soldier injuries were reported. The accident occurred during the mid-morning.

Class C

■ Soldier suffered fractures to his left arm when the M1114 HMMWV he was riding in struck a curb and rolled over. The Soldier was serving as the vehicle's gunner. No other injuries were reported. The accident occurred during the mid-afternoon.



Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class D

Two Soldiers escaped without injury when their M1027 HMMWV rolled over multiple times down a 50-foot embankment. The Soldiers were positioning the vehicle for connection with a wrecker when the HMMWV's tires hit some rocks and slid toward the roadway's edge, which then gave way under the truck. The HMMWV stopped rolling when it hit a large rock. Both Soldiers were wearing their seatbelts and conducted proper rollover procedures. The accident occurred during the early afternoon.

The crew of an M1114 HMMWV was unharmed after their truck overturned numerous times during a combat logistics patrol. The HMMWV was the trail vehicle in a convoy and had fallen behind the other vehicles. The driver, who had little experience driving the M1114, was trying to catch up with the other vehicles when he approached a turn. Although his VC was telling him to slow down, the driver maintained the vehicle's speed and wasn't able to brake enough to negotiate the turn. The HMMWV went into a skid and rolled over multiple times. All crewmembers were wearing their restraint systems and PPE. The accident occurred during the mid-afternoon.

Two Soldiers were uninjured when their M923 5-ton truck rolled over. The Soldiers were returning from an equipment delivery run when the driver lost control of the vehicle. The truck spun around and skidded off the roadway before overturning, and the impact crushed the hood, cab, and cargo side rails. Both Soldiers were wearing their seatbelts and Kevlar helmets. The accident occurred during the late morning.

One Soldier suffered minor head injuries and another was unharmed when their Bongo truck slid off the roadway and hit an embankment during a rainstorm. The truck, which belonged to the Soldiers' motor pool, hydroplaned after one of its tires blew out. Both Soldiers were wearing their seatbelts, and the truck suffered front-end damage. The accident occurred during the mid-morning.

Soldier suffered a serious head injury when the M1025 HMMWV he was riding in overturned into a trench. The Soldier was serving as the vehicle's gunner and hit his head on the vehicle's M249 Squad Automatic Weapon during the rollover. No other injuries were reported. The accident occurred during the mid-afternoon.



Class A

Soldier suffered a fatal head injury during a combative training exercise. The Soldier fell backward and struck his head on the ground mat after taking a punch from his sparring partner. The Soldier died 2 days later at a local hospital. He was wearing all appropriate personal protective equipment (PPE), including headgear. The accident occurred during the mid-afternoon.

Soldier died after complaining of chest pains while playing basketball during a unit PT event. The accident occurred during the mid-morning.

Soldier collapsed and died during an organized

PT street hockey game. The accident occurred during the mid-morning.

One Soldier was killed and four others were injured when an 81 mm high explosive round detonated in the tube. The Soldiers were participating in a field training exercise live-fire iteration and were inside the mortar pit when the round exploded. The degree of injury to the surviving Soldiers was not reported. The accident occurred during the late afternoon.

Soldier suffered second-degree burns to his legs when a flare fired inside an M1114 HMMWV. The Soldier was serving as the vehicle's gunner and had placed the flare on the turret ledge in preparation for a possible escalation of force incident. He then inadvertently bumped the flare, which ignited inside the HMMWV. The Soldier was treated for burns and infection over a 2-month period. The accident occurred during the early morning.

Class B

Soldier suffered total blindness in his right eye after being struck by a chisel while repairing an M1114 HMMWV. The Soldier was using the

Soldier was paralyzed from the waist down after falling from the top of a CH-47 aircraft. The Soldier had climbed on the aircraft to take a hydraulic sample but a rotor blade struck his head, causing the fall. The accident occurred during the mid-morning.

chisel and a hammer to strip some bolts from the vehicle's armor when the chisel fell and struck him in the eye. The accident occurred during the late afternoon.

■ Soldier's right-hand ring and pinky fingers were partially amputated during a vehicle recovery operation. The Soldier was connecting a tow bar to a BFV when he pinned his hand between the bar and the vehicle. The accident occurred during the mid-morning.

■ Two Soldiers suffered third-degree burns to their hands

and legs resulting in permanent partial disabilities when a kerosene heater caught fire. The Soldiers were on duty in a guard tower when the fire broke out, reportedly from improper use of the heater. The accident occurred during the early morning.

Class C

■ Soldier suffered unspecified burns when a generator caught fire. The Soldier was checking the fuel levels on several generators and was not wearing any PPE. The accident occurred during the early morning.

WHAT THINK

A MILLION-DOLLAR WOUND



In the movie "Forrest Gump," the title hero got drafted, went to Vietnam, and during an enemy ambush, got "bit ... right in the buttocks." He said the Army doctors told him it was a "million-dollar wound" and, although Forrest never saw any of that money, he did get to show his scars off to President Lyndon Johnson. His injured posterior provided some laughs amid the seriousness of combat, but it's not likely the Soldier described below was laughing when he suffered the same injury, only this time by a friendly element. An NCO was participating in his unit's night live-fire exercise. He'd been on duty for 12 hours with only 6 hours' sleep, and it was just after midnight. The NCO and two other platoon members, including his platoon leader, had just exited their vehicle at a target site. Amid confusion regarding who was supposed to link up with whom at the site, one Soldier became disoriented and started walking toward the fire lanes. To his horror, the NCO saw the other Soldier walking straight into the waiting ambush that, although a pretend scenario, involved very real bullets.



WERE THEY MIA?

Acting on instinct, the NCO stepped in front of his platoon leader and began walking toward the disoriented Soldier. Unfortunately, he did so without calling “cease fire.” It was dark, and as far as the platoon leader knew, everything was going according to plan. The platoon leader fired his M4, but the screams that followed were unexpected. Turns out he hit the NCO with a 5.56 mm round; lucky for the NCO, only his left buttock was affected.

After surgery, 9 days in the hospital, and all the ice

cream he could eat, the NCO reported for light duty and was expected to make a full recovery. His entire unit learned some valuable lessons that night. Among others, stay aware of your surroundings, especially where live ammunition is involved. An Army bullet will kill just as surely as the enemy’s. And, in the event of any dangerous situation during live-fire training, make sure you call a cease fire before moving to correct the situation. 



THE DOMINO EFFECT

Have you ever noticed when one thing goes wrong, a whole string of catastrophes seem to follow? One Soldier experienced this “domino effect” during a day live-fire exercise. He’d just finished a gunnery run downrange with his HMMWV crew when the first incident happened.

Dismounting a vehicle shouldn’t be challenging, but anything’s possible, especially when spent .50 caliber cases are lying

around. The Soldier stepped on wayward case, slipped, and went flying through the air. He obviously wasn’t maintaining three points of contact before he fell, a mistake he tried to correct—which leads us to the second event in this chain of disasters.

Where there’s empty .50 caliber cases, there’s got to be a weapon that fired them. When you’ve just come off the range, that weapon will most likely be hot. Like something from a bad Wile E. Coyote cartoon, the Soldier grabbed the barrel of the HMMWV’s .50 caliber machine gun to steady himself. He found out the barrel wasn’t just hot, it was searing. So searing, in fact, he lost 2 days of work for burn treatment.

Lucky for the Soldier, the vehicle wasn’t moving at the time. At least he wasn’t run over. 

POV
stats
FY06
through April 06

Class A-C accidents/Soldiers killed

■ Cars	79/31
■ Vans	1/0
■ Trucks	22/8
■ Motorcycles	46/14
■ Other*	1/0

*Includes tractor-trailers, unknown POVs, and bicycles

53

total DEATHS

FY05: **69** 3 year average: **55**

May: Motorcycle Awareness Month

SHARF

the Road

Respect the motorcyclist:

Remember the motorcycle is a vehicle with all the privileges of any vehicle on the roadway. Give the motorcyclist a full lane of travel.

Look out:

Look for the motorcyclist on the highway and at intersections, when a motorcyclist might be making a left turn, and when a motorcyclist might be changing lanes. Clearly signal your intentions.

Anticipate a motorcyclist's maneuver:

Obstructions (debris, potholes, etc.) that you might ignore or not notice can be deadly for a motorcyclist. Predict evasive actions.

Allow plenty of space:

Don't follow a motorcycle too closely. Allow enough room for the motorcyclist to take evasive actions.



U.S. ARMY COMBAT READINESS CENTER

learn more at
<https://crc.army.mil>

OWN the
EDGE

Composite Risk Management



COUNTERMEASURE
Vol 27 06/06

Know Your Edge

plus own the
EDGE

Composite Risk Management

pull-out posters



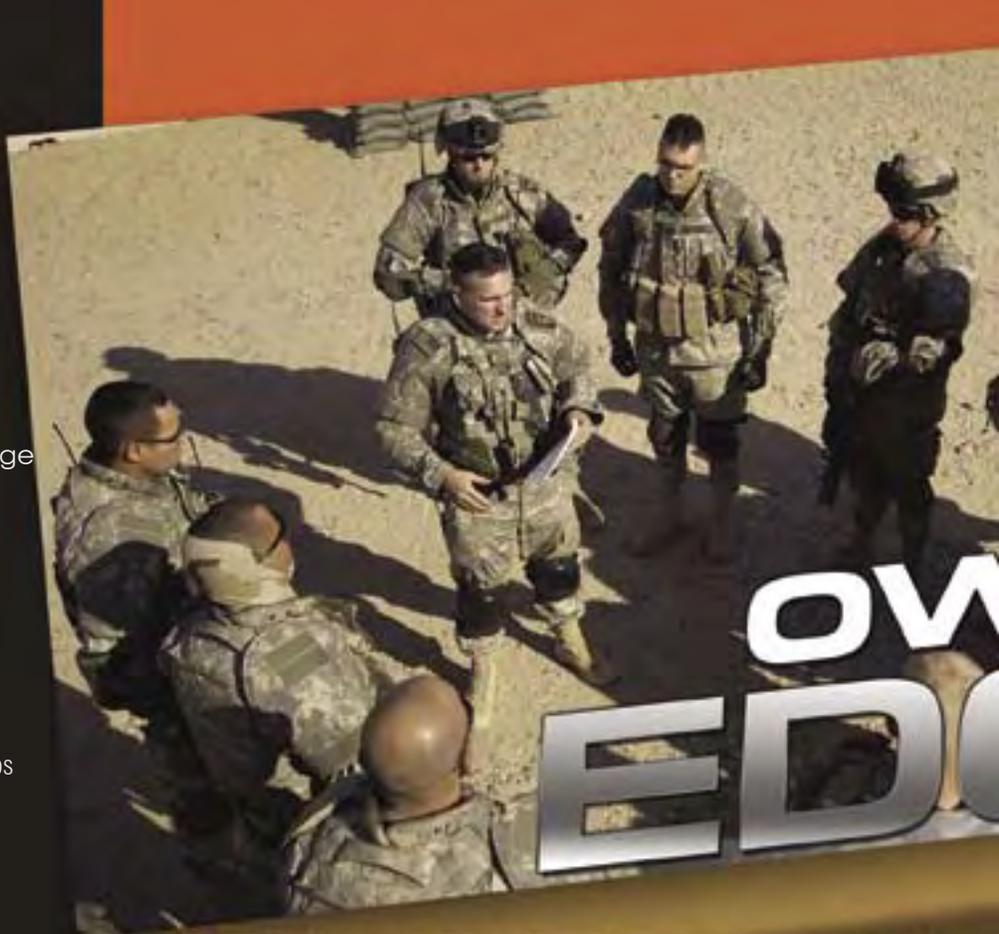
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Army Ground Composite Risk Management Information

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Composite Risk Management

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on the web

<https://crc.army.mil>

Know the Edge ... Then Own the Edge

Our Soldiers continue to do a great job for our Nation in more than 120 countries. In training or in combat, exposure and tempo are high; the terrain is complex and the missions are certainly challenging. Our Soldiers are combatants and on the edge. Composite Risk Management (CRM) teaches Soldiers to

manage risk and "Own the Edge" by applying the proper control measures.

I recently gave a brief to a diverse group of folks and focused on the need for leaders to train Soldiers to Own the Edge through CRM. After the brief, a retired general officer scribbled a simple note on a piece of paper and handed it to me. In the message, he asked how Soldiers could



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Own the Edge

Own the Edge if they didn't know where the edge was. It was a profound question.

Leaders at every level, from squad leader to general officer, are responsible for knowing their Soldiers and identifying where they are most at risk, then teaching, coaching, and mentoring them to emplace control measures. Because of maturity, experience, and training, the edge is different for each Soldier. Whether it's during a complex air assault in combat or a weekend on the lake, leaders must know where their Soldiers are at risk, reach into their kit bag, pull out the tool that fits that Soldier, and apply it to the specific situation. Leaders have to show Soldiers where the edge is ... and then teach them to own it!

The Army is counting on each of us to preserve the human capital in our formations, and you're doing great work! For the first time in 3 years, our Army's loss rates are beginning to turn downward. We're currently 12 percent below last year's accident rates for this time of year, with almost 27 percent fewer accidental fatalities. This is an encouraging trend and we must keep pressing forward. For ideas and tools, visit the CRC's Web site at <https://crc.army.mil> and select the "Commander's Corner" link.

Whether in combat, training, or just blowing off steam, leaders need to be involved in identifying risks for each Soldier. With leader involvement, Soldiers can know where the edge is ... by applying CRM, they can OWN IT! ☆

BG Joe Smith
Director of Army Safety
CG, CRC

Leaders at every level, from squad leader to general officer, are responsible for knowing their Soldiers and identifying where they are most at risk, then teaching, coaching, and mentoring them to emplace control measures.

OFF THE BEATEN PATH

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center



The accident sequence

After completing a tactical exercise without troops, 11 student NCOs and two instructors made an unplanned stop at a demolition area. After discussing the terrain and possible methods for disposing of explosive material, the students left the access road and walked 100 meters south to the hulk of an abandoned armored personnel carrier (APC).

The students talked about the APC's capabilities and characteristics for several minutes. Following the discussion, six students and one instructor returned to their vehicle while the remaining five students and instructor stayed at the hulk. One student noticed a flattened, tarnished, cylindrical-shaped object lying on the ground and picked it up. After visually examining the object, he tossed it on the abandoned APC's ramp.

The object wasn't ordinary trash, however. It was a 40 mm unexploded ordnance (UXO) round, and it blew up when it hit the ramp. The five remaining student NCOs were hit by shrapnel, and three—including the NCO who handled the UXO—were seriously injured. One Soldier suffered a permanent partial disability.

After reading this newspaper-style description of what happened, you might conclude



When a Soldier learns, understands, and applies the Combat Readiness Center's concepts and tools, he can **"Own the Edge"** without even knowing he is managing risk because it becomes **instinctive, intuitive, and predictive.**

—BG Joe Smith, Commanding General,
U.S. Army Combat Readiness Center



the NCO who picked up and tossed the UXO suffered a really bad lapse of judgment, which is a correct assumption. However, let's look at ...

The rest of the story

The accident investigation revealed three additional contributing factors:

- The course manager didn't properly communicate his intent to the instructors. He also didn't ensure the instructors understood they were not authorized to do anything other than the tactical exercise without troops. This failure resulted in the instructors making an unapproved stop at the demolition area, which was significant because the primary instructor wasn't range certified and was unaware of the hazards there.
- The primary instructor failed to conduct even basic planning before stopping at the demolition area. As such, he wasn't conscious of

potential hazards in the demolition area. This also was his first time on the range complex.

- The area where the accident occurred was not visibly marked as a UXO-prone environment. There were no visible signs to alert personnel the only cleared area on the range was the access road. Had signs been present, the instructors and students would've known the hazards and never left the access road.

Bottom line

Seldom is an accident the result of one person's actions. Only through close examination of the events that led up to an accident can all the contributing factors be discovered. This same approach can be used when close calls occur, and they happen all the time. Look closely to see what events leading up to the accident could've been interrupted or eliminated. In most cases, if only



one event was interrupted or eliminated, the accident could've been prevented.

Although interruption and intervention are valid methods for dealing with risk, identifying and mitigating hazards before operations begin is far more effective than acting when a problem does occur. Using Composite Risk Management (CRM) is the best way to accomplish this task. CRM is the cornerstone of the Army concept that allows individual Soldiers and leaders at every level to positively impact operations. By coupling knowledge and experience with modern risk management tools and techniques, CRM lets everyone in the formation operate at the edge of their capabilities while safely performing their missions.

To learn more about CRM, visit the Combat Readiness Center's Web site at <https://crc.army.mil>. It's better to be prepared than make an unplanned stop at the hospital. Own the Edge! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

DID YOU KNOW?

The Army Combat Readiness Center (CRC) posts all accident information on its Risk Management Information System (RMIS) Web site, <https://crc.army.mil/rmis/>, for your use in accident prevention purposes. This information is intended for use as a briefing tool at the unit level to educate personnel on mission hazards, associated risks, and lessons learned while helping Soldiers develop effective control measures.

All you need to access the site is your AKO user name and password. To retrieve accident data, click on the "Accident

Overview" icon on the left side of the screen, then select "Preliminary Accident Report." From there, select "Aviation" or "Ground," depending on the type of data you need. Following these steps, you must click the "Accept Conditions" button to go any further. You then can view accident data such as executive summaries, histories, findings and recommendations, and actual vignettes with hazards and controls. Anyone with questions concerning RMIS can contact the CRC Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil.



The 4th Fires Brigade is just past the halfway point in its current Operation Iraqi Freedom rotation. We're pausing for a moment to identify areas where we think we've set the conditions for safety, as well as areas we can improve.

Cornerstones of a Successful Safety

Our organization consists of 12 battalion- or separate company-sized units made up of more than 3,000 Soldiers and 700 pieces of equipment either organic to the brigade or under our operational control during the deployment. Within that framework are hundreds of different missions ranging from our organic TAB battery's mobile training team operations, which provides technical and tactical expertise in the employment of the Army's new Lightweight

LTC TIMOTHY J. DAUGHERTY
Deputy Commanding Officer
CPT JARED J. SUTTON
Brigade Liaison Officer

CSM GILBERT L. CANUELA
Command Sergeant Major
4th Fires Brigade, 4th Infantry Division
Camp Liberty, Iraq

Counter Mortar Radar, to the headquarters of headquarters battery running convoys for the brigade commander's movement through Baghdad.

In the monthly review of our safety program, we've identified some key building blocks that have enabled us to conduct varied operations throughout our battle space. During these

operations, we've experienced limited accidents and injuries to our Soldiers and equipment while maintaining our focus on warfighting and accomplishing the mission. Not all our success comes from actions typically thought of as risk mitigation, but the following elements have proven significant in keeping our Soldiers safe and successful.



Program

In the monthly review of our safety program, we've **identified** some key building blocks that have enabled us to **conduct** varied operations throughout our **battle space.** ; ;

Brigade safety officer

Our safety officer is the cornerstone of the commander's safety program and is responsible for ensuring safety is observed throughout the brigade. He consolidates all safety guidelines and standing operating procedures (SOPs) that are significant to every scenario and event Soldiers might encounter daily. Our units recently conducted M1114 lanes designed to evaluate Soldier performance and actions before, during, and after convoy operations. In response to the convoys' actions during the simulated scenarios, additional safety guidelines and SOPs have been developed and added to the existing convoy SOP.

Daily risk assessments

Daily risk assessments are the foundation of our risk management strategy. At the morning battle update brief (BUB), the brigade safety officer assesses the hazards for the day. He begins this process each Sunday, when he updates a weekly composite risk assessment based on projected weekly missions, other coalition operations, weather, and the current enemy situation and tactics, techniques, and procedures (TTPs). Then, each morning before the BUB, the safety officer ensures the risk assessment is still valid and makes any needed changes. During the brief, he focuses the battalion, battery, and company leadership on key hazards they might face that day. The BUB provides an opportunity for the commanders and the safety officer to come together and discuss current safety issues.

Command climate

Another key building block of our success here is the relationship between the commanders and special staff. The staff and commanders have a mutual trust and understanding regarding the safety program. Every effort has been made to ensure free dialog continues between the command teams and the safety subject matter expert. This policy has created an environment where subordinate units can meet and



objectively discuss issues at the monthly safety meetings or incident review boards without fear of the discussion turning into a “blame game.” This special relationship also allows for positive reinforcement with weekly safety inspections.

At the Wednesday morning BUB, the safety officer announces the week’s inspection focus. This focus is determined with significant input from the subordinate units. The inspection is conducted by the safety officer and gives the subordinate commander an additional set of objective eyes to assess the safety programs at their level. The areas of inspection cover a wide variety of topics such as fire extinguishers, ensuring proper documentation is in the dispatch books, or the type of protective eyewear worn by Soldiers. The results of the previous week’s inspections are displayed at the BUB, but care is taken to ensure only trends are displayed, not which units had issues. This strategy preserves the open

working environment between the subordinate units and safety officer while highlighting areas that need additional focus.

Monthly safety council meetings

Monthly safety council meetings are opened by the brigade commander or the deputy commanding officer and run by the brigade command sergeant major. These meetings provide a forum for dialog on current trends and safety issues. The safety officer is always present at these meetings and helps capture the brigade’s trends and TTPs for success. The command sergeant major keeps the focus on what we’ve done, what we did well, and where we can improve. This forum atmosphere keeps the focus on fixing an issue rather than simply providing time for a standard pitch by the safety officer.

‘Heightened awareness’ and other programs

In the event of an incident or if a unit isn’t following safety guidelines, the brigade adopts a “heightened awareness” posture at the unit level. The unit conducts a safety stand-down for 24 hours to provide corrective training and safety awareness. Instead of the usual white flag, a red flag is flown over the headquarters building during this time. The red flag lets others know the unit is conducting additional safety training or investigating an incident or accident that occurred as a result of non-compliance with safety guidelines.

Other factors, including training events and Soldier caring programs, increase our safety

posture by providing a fresh look at areas where Soldiers might become complacent, such as repetitive missions in a combat environment. Events such as semi-annual combat logistics patrol lanes provide an excellent opportunity for leaders to check unit safety considerations and procedures and certify sections in their ability to conduct the given task. Soldier caring programs help identify at-risk personnel and are an effective risk reduction tool and key component of the unit’s safety program.

Individual counseling

Our units conduct individual counseling with Soldiers on a regular basis. The need for safety in day-to-day operations is reinforced during counseling. The units also conduct personalized counseling for Soldiers getting ready to return home on leave, which ensures safety expectations are explained down to the Soldier level throughout the brigade. Every supervisor also maintains a leader’s book to help them implement the appropriate risk reduction measures for their section and identify potential areas or personnel who pose an increased risk to themselves or the unit.

The accident prevention chain

Risk mitigation controls are a series of links in the accident prevention chain, and it takes only one successful link to keep an accident from occurring. Most accidents aren’t caused by a single error; rather, they’re due to a series of control measure failures. Any leader or Soldier can prevent an accident from happening, but only if

they know the control measures.

Here's an example. A Soldier had a Class C accident when he lost his footing and fell while dismounting the back of an FMTV. Attempting to break his fall, the Soldier pushed himself away from the vehicle. However, he landed on his side and fractured his elbow. After a thorough investigation, brigade leadership determined the cause of the accident was simply a failure to observe common safety measures. This incident could've been prevented if any one of the following controls had been observed: the Soldiers should've been trained properly on their new vehicles, systems, and operations; the Soldiers should've emplaced and used ladders when mounting and dismounting oversized vehicles like the FMTV; the injured Soldier should've maintained three points of contact when mounting and dismounting the vehicle; and the Soldiers should've used designated loading docks when loading and unloading heavy cargo.

Conclusion

As our brigade continues its mission, our Soldiers likely will encounter significant changes in their surroundings that require different approaches. As the situation progresses, existing courses of action will become outdated and require major changes. To remain competent and effective, our brigade safety officer will continue to develop safety programs designed to tackle every situation. We'll continue conducting monthly safety council meetings and reevaluate and recertify each unit's safety program quarterly or semi-annually. Brigade leadership has made safety a priority, and we ask each of our Soldiers to take safety seriously. They deserve nothing less than our best effort! 🚙

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Simulated IEDs, REAL PROBLEMS

Improvised explosive devices (IEDs) are one of the biggest threats currently facing our Soldiers in Southwest Asia. In an effort to better prepare their Soldiers for operations in theater, some commanders and units are constructing makeshift IEDs for use in pre-deployment training. Although their intentions are good, the risks associated with using homemade IEDs might be worse than the potential training benefits.

Some models of these training devices use standard approved munitions in nonstandard, untested, and unorthodox ways. Several devices use the M21 Artillery Flash Simulator, often referred to as the "Hoffman," which is actually the firing device for the M21. The

Hoffman is one of the most dangerous simulators in the Army inventory and is responsible for more explosives accidents and personnel injuries than any other simulator.

In addition to the dangers presented by the Hoffman, at least two different devices contain flour, which might seem harmless enough. However, flour creates an inhalation hazard for personnel, and finely pulverized flour dispersed in air can become explosive. The combination of flour particles with military munitions can create

a fuel-air explosive.

Use of nonstandard munitions, or using approved munitions in nonstandard ways, is prohibited by Army regulations and also might violate federal law. Some restrictions include:

- Army Regulation (AR) 385-63, *Range Safety*, paragraph 2-2, which requires all munitions and lasers used on ranges to have a surface danger zone (SDZ).

Nonstandard items do not have approved SDZs.

- AR 385-63, paragraph 2-3, which prohibits the use of nonstandard ammunition or the alteration of standard ammunition.

- Department of the Army Pamphlet 385-63, "Range Safety," paragraphs 3-3a, c, g, and h, which reinforce the restrictions put forth

“**Real IEDs** are claiming enough lives in theater—don't let a **simulated** one at home take any of your Soldiers out of the fight!”

BLEMS

BRUCE HARRIS
U.S. Army Defense Ammunition Center
McAlester, OK

in AR 385-63 and prohibit the use of standard items in new and unique ways.

Explosive ordnance disposal personnel will be contacted to respond to any of the following situations: if a makeshift IED training device is inadvertently left on the range and later found; if such a device is

found unattended at any location; if such a device is found under other unknown or suspicious circumstances; and if such a device is transported off post. In any of these scenarios, the simulated devices will be treated as a real IED threat. In addition, the individuals responsible

for the devices could be prosecuted under federal law. The Federal Bureau of Investigation considers the discovery of any such device under suspicious circumstances an IED incident.

The good news is the Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI) recently procured a greatly improved IED training kit and is currently fielding it throughout the Army. Called Training Improvised Explosive Device Increment 2 (TIED2), the kit includes several devices of different sizes—large, pressure-sensitive mine, and booby trap.

The TIED2 is a safe, effective system that provides non-pyrotechnic signatures using carbon dioxide and is much improved over the initial TIED many Soldiers might've used in the past. Initial fielding by PEO STRI to installation training support centers recently was completed, with each post receiving between 6 and 44 kits. Additional kits have been fielded to Marine Corps and miscellaneous other CONUS and OCONUS units and installations. Each kit, which can be configured for remote initiation with multiple devices, contains an operator's manual (Technical Manual 9-6920-923-10), an approved trainer program of instruction, and approved SDZs. A pocket guide, prepared system safety assessment, and health hazard report also are available.

We must do everything we can to protect our most valuable asset, our Soldiers. Leaders must procure only approved training aids and devices when preparing their Soldiers for combat, not homemade items that haven't been tested or approved for Army use. Real IEDs are claiming enough lives in theater—don't let a simulated one at home take any of your Soldiers out of the fight! 

Editor's note: The PEO STRI point of contact for the TIED2 is MAJ Carl Kimball, who may be contacted with questions about procuring the system at (407) 384-5213, DSN 970-5213, or by e-mail at charles.kimball@us.army.mil.

Contact the author at (918) 420-8804, DSN 596-8804, or by e-mail at bruce.g.harris@us.army.mil.



Feel the

HEAT

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Editor's note: While the HMMWV Egress Assistance Trainer currently is not a standardized Army program or training tool and has not received an official safety confirmation, several Army commands have seen its usefulness in injury mitigation, built their own device, and developed tactics, techniques, and procedures for training.

Accidents can happen anywhere, anytime—even in a learning environment such as a training exercise. Therefore, it's important Soldiers are trained to prepare for any possibility, whether they're getting ready to deploy to theater, actively engaged in combat, or maintaining readiness at home. With this reasoning in mind, several safety officers developed the HMMWV Egress Assistance Trainer (HEAT) to arm vehicle crews with the knowledge to survive in the most extreme circumstances and mitigate injuries in potentially catastrophic rollover accidents.

The HEAT consists of a HMMWV cab mounted to a tank engine maintenance stand. An electric motor turns the device 180 degrees in about 6 seconds, and it can be stopped at a variety

of angles and turned upright with a flip of the same switch that inverted it. Instructors tilt the HEAT at a 30-degree angle early in the training to simulate the conditions found when a vehicle is about to roll over.

Personnel get the 180-degree effect near the end of the training, an experience that teaches them the value of their seatbelts and effective crew communication. Suspended upside down, trainees learn to react quickly to the situation and trust each other and their equipment. Once they realize their seatbelts can hold their weight—even with all their gear—they're able to focus on safety positions and communication drills.

CFLCC's HEAT has been operational for several months, and instructors have been training Soldiers on rollover and

other emergency procedures since early this year. Coalition troops also have been trained on the HEAT, including HMMWV crews from the central Asian republic of Georgia. One such crew credits HEAT training with their survival during a recent real-world rollover in theater.

The Georgian crew was participating in a training exercise on Udairi Range in Kuwait, and together they'd completed HEAT training the day before. Their HMMWV was proceeding down a counter-improvised explosive device lane when the driver steered around an obstacle, placing two of the vehicle's wheels on a 10-inch berm. The driver tried to get back on the road but overcorrected severely,





causing the HMMWV to roll over on its top.

The vehicle's gunner, CPL Levani Lomtadze, said he and the other crewmembers quickly realized the HMMWV was going to flip over and immediately assumed the correct positions they'd been taught in HEAT training. "We did what we were trained to do to survive," CPL Lomtadze said. "If we hadn't taken that class, we wouldn't have known what to do."

The Georgians' accident was the first rollover incident

involving service members that have gone through HEAT training. It's important to note the Georgians completed the training as a crew, and this cooperative approach is a key goal of the CFLCC HEAT team. If regular crews are allowed to train together, each individual becomes familiar with commands and reaction drills while growing more confident in their fellow crewmembers' abilities. Trust and communication are important factors in training

crews together before they face actual combat.

CPL Lomtadze certainly believes in the HEAT. He has these words of wisdom for Soldiers scheduled to take a turn in the device: "If you follow the rules set during the training, you'll avoid serious injury during rollover accidents." He should know—he's here to talk about it! 🙌

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"Don't worry, my weapon isn't loaded."
"I know mine isn't loaded. Are you
sure yours isn't too?"

"Yeah, don't worry—I'm a trained,
professional Soldier just like you. These pistols the
Army issues us are the safest handguns in the world.
Here, let me show you all the safety features."

"BANG!"

"Oh, man, are you okay? Oh, man. Don't die, man,
don't die. GET HELP! GET HELP FAST!"

bang!

Are You Dead?

CHRISTOPHER TRUMBLE

System Safety Engineer
U.S. Army Combat Readiness Center





This situation, unfortunately, wasn't hypothetical; it actually happened in Iraq. A short time after this exchange, the injured Soldier lay in an operating room, dying from a gunshot wound to his chest. The doctor who tried to save the Soldier told me this story. Sadly, the "shooter" now has plenty of time to think about firearms safety procedures as he serves a lengthy sentence at the U.S. Military Disciplinary Barracks in Fort Leavenworth, KS.

Do you think time at Leavenworth is too harsh a punishment for an accident? The Army disagrees—it's called "negligent discharge," not "accidental discharge." Pointing a firearm at an unintended target is negligence. Failing to properly unload a firearm is negligence. Horseplay with a firearm is negligence.

The Uniform Code of Military Justice (UCMJ) provides definitions for differing levels of negligence. There are a variety of actions under the UCMJ for negligent discharges, including Article 134, "Firearm, Discharging Through Negligence"; Article 134, "Negligent Homicide"; and Article 92, "Dereliction of Duty." Needless to say, no Soldier wants to ever be tried under any of these provisions. So, how do we stop negligent discharges within the Army?

The answer is simple: Soldiers must act professionally whenever they carry their weapons. When a Soldier is shot unintentionally, either through inattention or indiscipline, it reflects poorly on the whole Army. It's not a matter of just *looking* unprofessional; it's really about some Soldiers *being* unprofessional. All Soldiers can reaffirm their professionalism, however, by

learning and practicing the basics of firearm safety every day.

The basics

- Always assume the weapon is loaded
- Control the muzzle—keep it pointed downrange or in a safe direction at all times
- Don't touch the trigger unless you intend to fire the weapon
- Unload the weapon at times and in places you don't expect to use it, such as in dining facilities or secure areas

Here's a practical example of how the basic rules work. Let's say you've just entered a secured room and spot a pistol lying on a table. First, assume the pistol is loaded. Second, control the pistol's muzzle. Remember, you don't have to have the pistol in your hand to control the muzzle. If it's pointing toward you, move out of the way and approach the weapon from its rear or side. If the muzzle is pointing toward someone else, tell them to move out of the weapon's projected path. These steps should be accomplished before anyone touches the weapon.

Once the muzzle is controlled, evaluate the weapon without touching it to determine if you're familiar with that particular model. If you're not experienced with it, send for someone who is. Pick the weapon up only if you're confident you know how to operate it. When you have the weapon in hand, maintain muzzle control but keep your finger off the trigger and ensure no other items come in contact with it. If the muzzle can be pointed in a safer direction, such as at the ground, do so before attempting the final basic step—unloading. Keep in mind

DID YOU KNOW?

The Beretta M9 pistol has an integrated loaded chamber indicator. Soldiers can look at or even feel the extractor to determine whether a cartridge is in the chamber. The pistol is loaded if the extractor is raised (which can be determined by touch or by looking for a red mark on the extractor). This isn't the ideal method for checking the

weapon's status, but if the indicator shows the chamber is loaded and the pistol should be unloaded, take the appropriate steps to clear the weapon. Never assume the weapon is unloaded just because the magazine is removed; rather, always treat the weapon as if it's loaded and practice safe muzzle control.



you're still to assume the weapon is loaded, control the muzzle, and keep your finger off the trigger during clearing. Always follow the proper clearing procedures for the weapon type and ensure the weapon is on safe once it's cleared.

Someone gave me a piece of advice years ago that still holds true today. That advice was not to rely on only one sense, namely sight, to make sure a weapon is unloaded. After visually inspecting the chamber, double check by feeling the chamber's opening with your finger. This "fail safe" check should confirm the visual inspection, but if you have any doubt, look again or have a second person check the weapon. You can never be too safe.

Just because the weapon is unloaded and you're "dry firing" it doesn't mean you can point it at people, animals, or any other unintended target. Remember, safety always applies! Assume the weapon is loaded, control the muzzle, and don't touch the trigger.

Operational considerations

There will be times you have to carry a loaded weapon, but you still have to follow the rules. You can control the muzzle and keep your finger off the trigger while working in an operational capacity. You know the weapon is loaded instead of assuming so, which makes muzzle control even more important. Never

point the weapon at your buddies, allies, or any known non-combatants, and don't put your finger on the trigger unless you intend to fire the weapon.

There's no doubt weapons handling is more complex when you're in an operational environment. In addition to protecting your fellow Soldiers, you have to consider what's around any potential targets. For instance, is there a schoolyard full of kids just behind your vehicle checkpoint? If you were to open fire on a bad guy but injure a non-combatant in the process, you can bet you'd make the evening news. Always consider the potential second- and third-order effects every time you pull the trigger.

Storage

You can't be with your weapon all the time to ensure it's safe, so you should store it in accordance with your unit's standing operating procedures. Maintain muzzle control and always store the weapon unloaded, but remember to assume it's loaded. Place the weapon inside its case or locker so it's facing away from you when you open the container. If you store a pistol in a holster, point the holster and pistol in a safe direction before withdrawing or stowing the weapon. Pay particular attention to the retention straps on the holster or case and make sure none are close to the trigger guard or can apply pressure to the trigger. Also, never drag a rifle

SOMETHING TO THINK ABOUT ...



• In 2001, 422 males and 281 females in the United States died from negligent discharge of firearms (National Vital Statistics Report, U.S. Centers for Disease Control, 2003)

• In 2003, 10 Soldiers died from negligent discharge of firearms; in 2004, 9 Soldiers died from negligent discharges (U.S. Army Combat Readiness Center statistics, 2005)

Approximately 600,000 Soldiers and 125,000

Reservists served during the years 2003 and 2004. When you do the math, there are 10 times more negligent discharges reported annually in the Army than in the U.S. civilian population, despite the fact many civilians aren't properly trained in firearms handling. Today's well-trained warriors can eliminate these deaths and save about 10 Soldiers every year by practicing safe weapons handling.



or shotgun toward you by the barrel. If something is tangled around the trigger while you pull the weapon toward you, you're squeezing the trigger with the muzzle pointed directly at you.

Leadership and additional considerations

You must take immediate action and make an on-the-spot correction if you see other Soldiers or service members engaging in unsafe acts with firearms. Inaction in these situations is unprofessional and irresponsible. Remember, whatever you're willing to tolerate just became the new standard.

Never use ammunition or weapon parts not issued by the military. You're mistaken if you think you're a better ammunition or firearms designer than the experts working for the Government acquisition program. As a Soldier, you're expected to use the equipment the military supplies, and not doing so puts both you and your unit at risk. Using ammunition or parts that don't meet military specifications

or placing parts designed for the M4 on an M16A2 can create a "frankenweapon" that probably will fail you when you need it most. If that weapon malfunctioned and fired accidentally during clearing, it most likely would be recorded as a negligent discharge whether or not anyone was hurt. Any Soldier that takes deliberate steps to perform unauthorized modifications on their weapon is negligent.

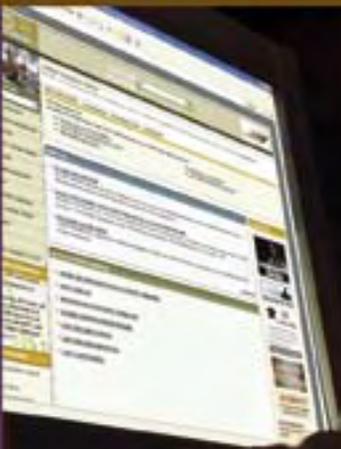
Final thoughts

I once knew a 28-year-old man who worked at a convenience store. One night, three teenagers robbed the store and forced the clerk to the back of the building, where they shot him in the back of the head with a shotgun. This was a very tragic incident, but we hear about these type things so much on the news that we're almost accustomed to shootings. Even so, I wasn't prepared to see that man's 5-year-old daughter sobbing at the funeral home, asking everyone when she'd see her dad again.

I tell this story because you might think a Soldier dying from a negligent discharge is different

from the deliberate murder of a store clerk. The end result, however, is the same—a grieving spouse, children without their parent, and a family without a loved one. Think about those families at home the next time you pick up your weapon. It's time for you, as a professional Soldier, to "Own the Edge!" 🖤

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New Web site puts CRM tools at Soldiers' fingertips

The Army Combat Readiness Center (CRC) recently launched a new design for its Web site, making it even easier for commanders, first-line supervisors, and individual Soldiers to find and use Composite Risk Management (CRM) tools and programs. The initiative is one aspect of the Army's ongoing "Own the Edge" campaign, which is a critical component of total Army transformation, acceleration of future force capabilities, and reduction of loss to enhance the current force.

The CRC, which serves as the knowledge center for all Army losses, focuses on sustaining readiness and achieving an overall reduction of these losses. This process requires increased emphasis on and development and implementation of specific safety programs and the CRM concept via interactive Web-based tools. Quick links, tabbed categories, and a new search engine coupled with a new structure are just a few of the features that make CRM tools, programs, and information more readily accessible on the Web site, helping Soldiers connect

the dots on loss prevention.

A safety program won't be successful if it doesn't provide the means and tools for each Soldier and civilian to participate in maintaining our combat force. The CRC's goal is to provide those means and tools within a few clicks to better serve our Soldiers. High-hit programs include "Commander's Corner," "Got Risk?," the ASMIS-2 POV Risk Assessment Tool, loss reporting links, and media and training tools. Additionally, Combat Readiness University is currently offering or linking to more than 1,700 courses and resources.

The CRC Web site and Own the Edge campaign are part of a knowledge-based strategy emphasizing Army tools and programs to support and improve combat readiness and reduce Army losses. Once Soldiers internalize CRM, they begin making smart risk decisions wherever they are, be it in theater, in garrison, at home, or on the road. To find out more about CRM and the tools that can help you Own the Edge, visit the CRC Web site at <https://crc.army.mil>.





U.S. ARMY COMBAT READINESS CENTER

<https://crc.army.mil>

The CRC, which serves as the knowledge center for all Army losses, focuses on sustaining readiness and achieving an overall reduction of these losses.



Motorcycle Mentorship Program

The Motorcycle Mentorship Program (MMP) is another initiative recently launched by the CRC to bring motorcycle safety awareness into focus at the lowest organizational level. This focused effort follows the loss of 45 Soldiers to motorcycle accidents during Fiscal Year (FY) 2005, a dramatic increase from the 22 Soldiers lost in FY04. Army leaders believe the MMP can make a great impact on reducing motorcycle fatalities because they know the program can work. It's modeled after a similar program initiated by the U.S. Air Force in 2004 after that service experienced a great increase in its motorcycle fatalities. Since that time, Air Force officials say they've experienced a 50-percent reduction in motorcycle accidents across the board.

The MMP is based on the formation of motorcycle clubs that allow more experienced riders to pass their knowledge,

training, life experiences, and learned safety skills to new motorcyclists. The clubs will provide an outlet for Soldiers to enjoy the experience of owning a motorcycle while they learn to ride safely. The mentors will become safer riders by developing their leadership, teaching, and coaching skills as they help the Army reduce motorcycle fatalities.

The CRC currently is coordinating with nine beta test phase locations to evaluate the interest and impact of the MMP on motorcycle accidents at the participating installations, which also are encouraging the establishment of local rider clubs. The overall development of installation-level clubs is a partnership between the club or association and the installation commander, who, according to Army Regulation (AR) 210-22, *Private Organizations on Department of the Army Installations*, can endorse each club's charter and allow it to function as a private organization. After meeting the regulatory guidance in AR 210-22, the club can coordinate

support from the installation safety office, commanders, first sergeants, supervisors, motorists, and the military and civilian communities at large. The establishment of motorcycle clubs as private organizations on installations is one component of this community approach.

To initiate an MMP on your installation, contact your post installation safety officer or visit the CRC's MMP Web site at <https://crc.army.mil/mmp/> for more information. The site contains training materials and MMP development guides produced by the CRC in cooperation with the Motorcycle Safety Foundation and Harley-Davidson Motor Company. Anyone with questions regarding the MMP may contact CW4 Earnest Eakins, Motorcycle Safety Program Manager, at (334) 255-2781, DSN 558-2781, or by e-mail at earnest.eakins@us.army.mil.

Comments regarding this article may be directed to Kelly Widener, CRC Public Affairs Officer, (334) 255-3770, DSN 558-3770, or by e-mail at kelly.widener@us.army.mil.



Class B (Damage)

■ A Long Range Site Surveillance System valued at \$400,000 was destroyed when a Stryker overturned during a training exercise. The Stryker and several other vehicles were traveling between ranges when the road became obscured by dust. The accident Stryker's driver failed to negotiate a turn and rolled the vehicle. The driver suffered minor injuries. The accident occurred during the late afternoon.



Class A

■ Soldier suffered head injuries resulting in a permanent total disability when the M1114 HMMWV he was riding in was hit by a truck traveling down the roadway's center. The "dingle," or cargo, truck was being driven by a local national. The Soldier was serving as the vehicle commander. No other injuries were reported. The accident occurred during the late morning.

Class B

■ Soldier's fingers were amputated during an M1114 rollover. The Soldier was serving as the vehicle's gunner on a patrol mission when the HMMWV overturned on an access ramp. He grabbed the turret shield but injured his hand on a sharp edge during the rollover. Four of the Soldier's fingers were severed during the accident and could not be reattached surgically. No other injuries were reported. The accident occurred during the early morning.



Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class D

■ Soldier suffered a minor abrasion and another Soldier was uninjured when their M916 tractor overturned while pulling a trailer loaded with a 22.5-ton crane. The assigned driver injured himself while securing the crane before the mission, so the assistant driver operated the vehicle in his place. The rollover occurred during a combat patrol between two forward operating bases after the driver negotiated a sharp left turn. Both Soldiers were wearing their seatbelts. The accident occurred during the late afternoon.

■ One Soldier suffered minor injuries and another Soldier was unharmed when their M1097 HMMWV rolled over on a winding, wet road. The vehicle was outfitted with a shelter and generator set, causing the HMMWV to be top heavy. The driver reportedly was traveling too fast for the road conditions and vehicle type and lost control of the HMMWV while attempting to negotiate a curve. Both Soldiers were wearing their seatbelts. The accident occurred during the late morning.

■ Two Soldiers escaped without injury when their M1026 HMMWV overturned during a training scenario. The Soldiers were conducting a patrol when some Soldiers in another vehicle tossed a chem light, which was supposed to simulate a grenade, into the HMMWV's path. The driver tapped the brakes in response, but the vehicle went into an uncontrollable skid. He then tried to steer into the skid but overcorrected, causing the HMMWV to leave the roadway and hit an embankment before the vehicle flipped. Both Soldiers were wearing their seatbelts. The accident occurred during the early morning.

Class B (Damage)

An ATEX 22-ton crane suffered Class B damage when it rolled over. The crane's outriggers were not deployed at the time of the accident. The Soldier operating the vehicle suffered minor injuries. The accident occurred during the mid-afternoon.

unspecified burns when a generator caught fire. The Soldier was checking the fuel levels on several generators and was not wearing any PPE. The accident occurred during the early morning.

■ Soldier suffered a permanent vision disability to one eye when he was struck by a simunition round fired by another Soldier during urban combat training. The injured Soldier raised his protective mask for unknown reasons during the training and was struck by the round, which was fired from an M4, shortly thereafter. The accident occurred during the late afternoon.

■ Soldier's leg was amputated below the knee following a static-line field training exercise jump. The Soldier's leg became entangled in his parachute's risers, causing serious injury when he impacted the ground. The accident occurred during the mid-evening.

■ Soldier suffered a permanent partial disability to his eyes after being struck in the head by a .38 caliber weapon. The Soldier was searching a foreign national



Class A

■ Soldier suffered a fatal closed head injury after jumping from a C-130 aircraft. The Soldier was conducting a non-tactical jump and hit the ground hard upon landing. He was pronounced dead at a local medical center. The accident occurred during the late morning.

■ Soldier was killed by a friendly element during an enemy combat engagement. The Soldier and a foreign service member suffered fatal gunshot wounds during the incident. One other Soldier and three additional foreign service members were injured. The accident occurred during the early morning.

Class B

■ Soldier suffered

Class A

■ Soldier suffered a fatal closed head injury after jumping from a C-130 aircraft. The Soldier was conducting a non-tactical jump and hit the ground hard upon landing. He was pronounced dead at a local medical center. The accident occurred during the late morning.

police vehicle at a checkpoint when the weapon fired. No other details were reported. The accident occurred during the mid-morning.

■ A Department of the Army civilian (DAC) suffered an unspecified injury resulting in a permanent partial disability when a detonation occurred at an ammunition plant. The DAC and two other civilians were unpacking and loading ammunition for burning and destruction when the detonation occurred. The other

two civilians also were injured. No other details were reported. The accident occurred during the mid-morning.

Class C

■ Soldier suffered a concussion after falling during a PT run. The Soldier reportedly complained of dizziness before he fell and hit his forehead on the ground. He didn't seek medical treatment until he started experiencing headaches, at which time he was diagnosed with a concussion. The accident occurred during the mid-morning.



SHOT IN THE FOOT

At some point or another, everyone's probably done or said something stupid that created problems for them either immediately or shortly thereafter. These temporary lapses of judgment might be called "shot in the foot" moments, because they're easy to get into but hard to walk away from. Soldiers aren't immune to such incidents, and recently several warriors literally shot themselves in the foot while handling their weapons in theater.

- Our first Soldier was preparing to leave base for a day combat mission and loaded his M9. While checking to ensure a round was chambered, he dropped the weapon, which fell to the ground with a thud and, unfortunately, a bang. The searing pain in his foot assured the Soldier a round was indeed chambered, although it's doubtful he wanted that sort of confirmation. The accident report attributed the Soldier's mistake to a failure "to



WERE THEY
WAG?



firmly grip/hold equipment/material.” The moral of the story is hold your weapon like your life (and at least your general health) depends on it, because it does!

- The next hapless Soldier was standing in a host nation office when his weapon discharged and sent a round through one of his desert boots. Those boots are tough, but not tough enough to deflect a shot from a small-arms pistol. The host nation staff was treated to a real spectacle when the medical folks showed up and sped the Soldier to the nearest clinic, where he still was recuperating as of the time the accident report was filed.

- Another Soldier was coming off a range. After leaving the range, he initially did what he was supposed to do—namely, clearing the weapon—but didn't do it where he was supposed to, i.e., the clearing barrel. You can probably figure this out by now: The weapon wasn't clear, a round hit the Soldier's left foot, and he wound up watching TV from a hospital bed instead

of doing his job. Clearing barrels are there to take the bullet for you, so use them!

- Our last incident involved two Soldiers “playing around” with an M14. Anytime the words “playing around” are used in conjunction with a weapon, the results can't be good. One of the Soldiers loaded a magazine into the M14, pushed the safety switch to fire, and aimed the weapon at his “friend” before pulling the trigger. Fortunately (and we're using that term loosely), only the Soldier's arm was hit. He wound up in the hospital too, but at least it wasn't the morgue. One has to ask if these two geniuses really didn't think anything bad would happen with a loaded weapon switched to fire and aimed at one of them. With friends like that, the injured Soldier certainly doesn't need any enemies. But in this case, his biggest enemy was himself—he shouldn't have been playing around with a weapon in the first place, much less allowed another Soldier to load it and point it at him.

Negligent discharges are no laughing matter and often end with tragic consequences. Lucky for these Soldiers, they lived to tell their stories and maybe can chuckle about them one day, but they'll have to return to duty first. Treat your weapon with respect and keep your feet planted firmly on the edge!

POV
stats
FY06
through April 06

Class A-C accidents/Soldiers killed

■ Cars	89/30
■ Vans	1/0
■ Trucks	29/10
■ Motorcycles	63/24
■ Other*	7/1

*Includes tractor-trailers, unknown POVs, mopeds, ATVs and bicycles

65
total DEATHS

FY05: **84** 3 year average: **67**

He's using the most powerful weapon a Soldier can own.

The enemy comes in many forms. So do the weapons to defeat it. And one of the most powerful weapons is knowledge.

Through the Combat Readiness Center (CRC) and a collection of risk management tools and practices, you can Own the Edge by learning to make smarter decisions about risk.

The decisions you make, even when off-duty, can mean the difference between life and death. So outsmart the enemy, no matter what the threat is, with help from the CRC.

Knowledge is the most powerful weapon you can own.

Engage it to the fullest.

**own the
EDGE**

Composite Risk Management

OUTSMART THE ENEMY

Knowledge is your greatest weapon.



TO LEARN MORE VISIT [HTTPS://CRC.ARMY.MIL](https://crc.army.mil)

CM

COUNTERMEASURE

Vol 27 07/06

in a rut?

plus own the
EDGE

Composite Risk Management

pull-out posters



Army Ground Composite Risk Management Information

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It's a situation all Soldiers have seen at some point: a HMMWV, FMTV, or other vehicle mired in mud or a tank with its nose buried in a ditch. Anyone who's ever been a crewmember in a stuck vehicle has felt the joy at seeing a recovery team coming their way. That joy can be short lived, however, if crucial steps and checks aren't completed before the recovery operation begins.



ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

A good recovery effort goes something like this. The wrecker lines up with the stuck vehicle. A ground guide steps out of the truck into a position clear of vehicle movement and makes eye contact with the wrecker's driver. (Eye contact between the ground guide and driver must be maintained throughout vehicle movement.) Using predetermined hand and arm signals, the ground guide directs the "puller" into place.

The recovery crew attaches and inspects the towing device, be it chains, rope, cable, or a tow bar. The ground guide then directs the wrecker to inch forward to add tension to the chains until they're tight and the slightest amount of tension is placed on the mired vehicle. Both drivers have a quick discussion about signals and mount their vehicles.

By now the ground guide is standing opposite the direction

of travel and farther back than the length of the chains. He ensures all personnel are clear and gives hand and arm signals for both vehicles to move forward simultaneously. Both trucks move slowly at first before the stuck vehicle is finally freed. The engines then are turned off, the brakes applied, and the chains removed, allowing both crews to continue their missions.

The scenario above describes how a recovery operation should



be conducted. In some real-world situations, however, Soldiers improvise with materials or skip steps, creating a risky situation for everyone involved in the operation. A recent accident in theater illustrates this point.

A Soldier was killed while helping recover a contractor truck loaded with concrete t-walls stuck in a gravel pit. The personnel attempting to free the truck initially tried to tow the vehicle with another truck but were unsuccessful. They called in a second vehicle and daisy chained the two trucks to the stuck vehicle to maximize pull. As the trucks moved forward and strained the chains, a link broke and flew through the air, hitting a Soldier in the neck. Although medics provided immediate care and the Soldier was MEDEVACed to the nearest medical facility, he died a short time later.

Most recovery-related accidents can be attributed to either backlash or acceleration impact, which is believed to have caused the accident above. If one vehicle increases its speed while the other maintains its speed, excessive stress is placed on the towing device. Backlash occurs when the towing device breaks free from its anchor or snaps altogether, whipping around to strike anything or anyone in its path.

So, what's the right way to conduct these operations? The answer can be found in "the books." Field Manual (FM) 9-43-2, *Vehicle Recovery Operations*, is currently under review and will be updated in the near future, but it's still the Army's official policy and contains the guidelines for these type missions. Soldiers must study up and consider

several hazards before linking up to conduct a recovery operation.

First, ground guides can mean the difference between an efficient recovery mission and a complicated accident. In 2004, an NCO was killed when a recovery vehicle backed over him during his unit's final convoy out of Iraq. The young driver had conducted literally hundreds of similar missions without incident while deployed, but he failed to use a ground guide during the fatal operation. Eye contact with personnel on the ground and others around you is critical during recovery operations.

Another consideration is holdback vehicles, which are used when the vehicle being

Pre-mission briefs are **essential** and must be conducted **before** every operation.



towed is heavier than the pulling vehicle or any time cables or chains are used for towing. The holdback vehicle provides drag for the mired vehicle and prevents it from contacting the tow vehicle.

Selection of proper equipment is essential to safe recovery. Younger Soldiers sometimes get a little eager to complete their missions and grab the first chains available. When they go to connect them, someone older and wiser usually redirects them to find the proper size chains. All Soldiers must know the capabilities of their equipment, no matter how big or small it might seem.

It's critical that supervisors inspect rigging before every recovery mission. Are the hooks for the tow chains positioned with their openings up or down? Are the chains rated to tow the weight of the stuck vehicle? Are the chains or tow bars attached properly, with the right shackles, and at the right locations on the vehicles?

Pre-mission briefs and risk assessments are essential and must be conducted before every operation. Likewise, leaders should conduct a review of FM 9-43-2 from time to time with their Soldiers, especially those new to the unit. The FM might be due for revision, but it's still the best starting point for conducting successful recovery efforts.

Here are a few common questions Soldiers should think about before their next recovery operation.

What can happen if I don't take the slack out of the towing device before pulling the mired vehicle?

Acceleration impact can occur because all the pulling vehicle's

forward momentum is added to the resistance of the mired vehicle, resulting in excessive strain on the chain, rope, or cable, which might break.

Where should my Soldiers stand when we start pulling?

According to FM 9-43-2, Soldiers should stand back at least the length of the towing device and in the opposite direction of travel. Experienced recovery crews recommend standing back at least double the length of the chain or cable. Either way, Soldiers must pay close attention to their surroundings and maintain situational awareness.

What are the dangers during recovery?

If chains are used, the hook could straighten or a link might break, resulting in a projectile that can injure personnel or damage equipment. In addition, the mired vehicle might shift or move freely if the towing device breaks. Vehicles also might shift from side to side during towing in muddy environments. Soldiers must stay clear of the moving vehicles and pay close attention to what's going on around them so they can react appropriately. Many other hazards can be found in chapter 4 of FM 9-43-2.

What are the resources for hand and arm signals?

FM 21-60, *Visual Signals*, is the primary source. Several other FMs further specify signals for technical jobs. Appendix C of FM 9-43-2 also details hand and arm signals for recovery operations.

Do I have the proper equipment for this mission?

The towing device must be rated equal to or higher than the weight of the mired vehicle. The pulling vehicle also must be heavier than the towed vehicle; if not, a holdback vehicle must be used. Chapter 4 of FM 9-43-2 explains the methods for calculating ratios and formulating resistance.

How fast should I travel when towing?

First, you must know the specifications and capabilities of the vehicles you're working with. Also consider the terrain to be covered, weather, time of day, and road conditions. In short, vehicle speed is situation dependent.

Vehicle recovery is a fact of life in our Army, and the Soldiers that perform this mission are a vital part of the fight. There's great relief for everyone involved when the work is done and all equipment and personnel are safe and mission ready. Make sure all your recovery efforts are successful by following the books and using Composite Risk Management before pulling out the chains. Own the Edge! 🐅

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

Loading equipment onto Heavy Equipment Transporters (HETs) and hired commercial carriers is among the riskiest tasks a unit can perform. Trust me, I speak from firsthand experience. My unit found out just how hard this task can be when we deployed to Iraq in late 2005.



Christmas quagmire

SEAN MORRILL

Safety Specialist
4th Brigade Combat Team, 4th Infantry Division
Fort Hood, TX

Our first big moves were planned thoroughly. The hazards were identified and assessed, and controls were developed and published in operations orders. Things went pretty well, thanks to our command ensuring the controls were briefed to the lowest level. There also was a leader present onsite during each operation.

We successfully uploaded our vehicles onto rail cars at our stateside location and downloaded them at the destination port in Kuwait. We then safely convoyed all our

vehicles and equipment to a staging area as part of the initial phase of deployment. But what came during our preparation to move into Iraq caught me off guard. I soon realized I'd underestimated one of the biggest hazards we'd face in this phase of the operation—namely, the austere conditions in which we'd upload our tracked and wheeled vehicles onto HETs.

For some reason, this part of the move didn't seem like such a big deal to any of us. We'd focused on the "major" tasks like rail loading, port operations, and convoys. Things were going well, and our primary focus was the

upcoming ground assault convoy into Iraq. Besides, we were all chomping at the bit to get into our future area of operations.

Most of the experienced leaders and track commanders considered HET loading "old hat" and nothing unusual. One thing struck me, though, as we began this part of our move. We'd been using improved facilities up to this point, but our current field conditions greatly increased the risk of a mishap.

We started loading our vehicles on Christmas Day, and it wasn't long before Murphy showed up to complicate things. Rain began falling steadily as our transporters

arrived, and the move to get them into place and stage our tracked vehicles quickly turned into the “Christmas Quagmire.” To make matters worse, our assigned HETs arrived later than expected due to poor road conditions, and we were running out of daylight fast.

When night fell, we had to position some HMMWVs so their headlights shone on the HET ramps as we loaded the vehicles. A sense of urgency hung heavy in the air. We had to get things done quickly so the transporters could get on the road and maintain movement into Iraq. The conditions were so bad we had to slow down several times to ensure the ground guides weren’t running or send them to get their jackets and reflective vests.

With these factors combined, it wasn’t long before we had a near miss. An M88 being driven onto a HET didn’t stop at its assigned spot and almost ran over a ground guide, who had to jump off the vehicle’s side to avoid being crushed. It turned out an unlicensed driver, eager to do his part, had hopped into the vehicle to load it but couldn’t find the brake pedal when he needed to stop! We suspended operations after that incident, gathered everyone together, and reviewed our controls. We then continued loading and completed the mission without an accident.

We returned to the tactical operations center later that night and developed additional controls based on our hard-learned experience. Another fleet of HETs was scheduled to arrive the next day, and we wanted to make sure they were loaded safely. The result of this meeting was a fragmentation order that required units to:

- Provide an adequate number of licensed troops for the mission

- Be prepared to provide supplemental lighting for night operations in case HET arrival was delayed

- Modify the standard uniform for loading (helmet, gloves, reflective vests, protective eyewear, earplugs, flashlights, and wet and cold weather gear)

- Designate specific areas for loading in track parks and establish traffic flow and control points, as well as prohibit neutral steers to keep the ground as level as possible for loading

- Require unit leaders to ensure a continuous presence, provide pre-loading safety briefings, and enforce controls onsite

We also published an accompanying sheet that focused on ground guide and driver procedures to assist with these briefings. The rest of our operations went well, but there were a few adjustments that had to be made along the way. A few blood pressure spikes later, we arrived safely in Iraq.

The most important lesson I learned that night was never underestimate the effects of the desert environment on a “routine” operation. All our previous loading and unloading missions and movements had been uneventful, but they took place in hard-stand facilities with good lighting and support. Basically, we were lulled into a false sense of security. The desert terrain allowed plenty of room but provided nothing else. Add a little darkness, some bad weather, and pressure to complete the mission on time, and the risk increased dramatically.

I hadn’t thoroughly assessed the risks for this routine operation using mission, enemy, terrain and weather, troops available, time available, and civil considerations (METT-TC). My main focus was

Before you load that HET ...



- Conduct a safety brief for all personnel
- Wear the right uniform: helmet, reflective vest, gloves, eye and hearing protection, flashlight, and wet or cold weather clothing
- Never walk or stand between running or moving vehicles
- Ground guide from the front quarter (45 degrees)
- Never guide a vehicle on or off the HET with your back to the ramp or another vehicle; instead, stand on top of the ramp or to the side
- Use standard hand and arm signals, with only one person providing signals to the driver
- Never walk backward while ground guiding; stop the vehicle and reposition yourself
- Keep your “head on a swivel” and watch out for your buddy
- Don’t stand around the HETs if you’re finished ground guiding—get out of the area
- Allow only licensed drivers to operate vehicles
- Drivers will stop their vehicle if they can’t see the ground guide or don’t understand the signals

ground guide safety; I didn’t adequately consider the effects of the environment, time constraints, or weather. I’ll remember the controls from our Christmas lesson in the future—view the situation a little more holistically using METT-TC, and keep in mind that routine loading of heavy vehicles in the desert is the stuff of holiday fables. 🐻

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who needs a SEATBELT

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U.S. Army Combat Readiness Center

It's no secret the majority of Soldiers serving in Operation Iraqi Freedom don't wear seatbelts while conducting vehicle operations. Needless to say, most Soldiers who don't wear seatbelts in theater probably won't wear them when they return home. Although Army regulations, local

policies, and standing orders require seatbelt use in tactical vehicles, many Soldiers continue to do just what they did in combat—drive or ride without their restraint systems. This negative habit transfer directly contributed to the death of one Soldier and minor injury to another in a recent vehicle rollover.

The two Soldiers,

a private first class and a sergeant, had just begun barrier checks in an M998A1 HMMWV in support of an advanced platoon live fire exercise. The private was driving, and the sergeant was serving as the vehicle commander (VC). About 15 minutes into the mission, the private was speeding and lost control of the HMMWV

on a tank trail. The vehicle ran off the trail into a small drainage ditch and rolled over.

Neither Soldier was wearing his seatbelt. The sergeant was ejected into the path of the rolling vehicle when its left-front side hit the edge of the ditch. The HMMWV came to rest upside down, with the windshield frame



and right-side tarp support on top of the sergeant's head and neck. He was fatally injured. The private also was ejected and landed about 20 feet away, well clear of the vehicle. He suffered injuries to his head and right shoulder.

Investigators determined that had the sergeant and private been wearing their seatbelts, the severity of their injuries would've been greatly reduced and the VC would've survived the accident. Interviews conducted by the investigators revealed seatbelt use wasn't enforced at the user level through the platoon chain of command. They justified their position by stating their Soldiers didn't wear seatbelts in Iraq because doing so didn't make tactical sense. Although seatbelt use is required in all Army vehicles, the platoon leadership ignored the mandate because of their perceived necessity to egress quickly from vehicles during direct action, battle drills, or improvised explosive device (IED) or vehicle-borne IED attacks.

Composite Risk Management (CRM) helps commanders and leaders blend tactical and accidental hazards so they can develop agile and enforceable controls. They then can embed the controls in their military decision-making process. If the driver, VC, and platoon leaders in this accident had thought about their operational environment, recognized the accidental hazards, and then applied seatbelt use as a control, the Army wouldn't be short yet another Soldier today.

Everyone in your formation has a role in properly implementing CRM, which links the actions of every Soldier, NCO, and leader. When done right, the process will function as a multi-layered approach that can dramatically increase the effectiveness of control measures and modify negative behaviors in your formations. Many of those negative behaviors probably were developed in combat.

Keep in mind that just because a task was done a certain way in theater doesn't mean it was the right way there or back at home station. Leaders must present a united front and apply unwavering pressure to ensure all Soldiers employ tactics, techniques, and procedures commensurate with their environment. CRM takes into account these unique environments and allows us to develop controls specifically designed to mitigate risks to the lowest level possible.

The Army's modern risk management tools and techniques can be found on the Army Combat Readiness Center's Web site at <https://crc.army.mil>. Visit the site often to learn how you can use CRM in your formation. Own the Edge! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

Everyone in the military has their reasons for joining the service. I volunteered early because I needed to support my growing family, but I almost ended my career and my life when I was only 19. Like so many Soldiers before and after me, I rolled a HMMWV.

Thrown for a Loop

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I was an E-3 driver instructor for HMMWVs and 5-ton trucks. I'd been training personnel for about 18 months without an accident, and I got somewhat overconfident and complacent—even a little cocky. On this particular day I decided to try something different while demonstrating the HMMWV's off-road capabilities to a group of students. What I didn't realize, however, was "something different" and

"off-road" together can be a potent mix for disaster.

I was bored with the same old routine, so I steered the HMMWV to an unfamiliar area, intent on impressing my student with my amazing driving skills. It wasn't long before I had that HMMWV



DID YOU KNOW?

The door striker should never be removed from M1114 HMMWV doors. Some vehicles have been found in theater with the strikers removed, a practice that's not recommended because:

- Without the latch, the hinges alone support the door's weight. The hinges can fatigue and fail, causing the door to sag.
- The combat locks can't be engaged from outside the vehicle without the door striker installed.

• Army testing has shown that additional forces are placed on the combat lock nuts when the striker is removed, possibly causing the nuts to loosen when driving on rough terrain.

These problems occur only if the door striker is removed. A redesigned automotive latch, part of the door upgrade associated with FRAG Kit 5 (Objective Door), will begin production in August 2006 and be fielded as units become available.

wide open, but a 6-foot drop on the other side of a hill brought us to an abrupt stop. The HMMWV did a nosedive and rolled over before coming to rest on its roof. My passenger and I were hanging upside down from our seatbelts, somewhat stunned but thankfully alive.

I was extremely fortunate my student and I weren't severely injured. The skin over one of my kneecaps was peeled back and exposed the bone underneath, so I spent a day in the hospital getting stitches and another 18 on bed rest. I spent most of that time thinking about what could've happened and what repercussions the

accident would have on my career. I thought I'd have to pay for damages to the HMMWV and lose some rank for sure. Neither happened, but I learned some valuable lessons that day.

If it hadn't been for our seatbelts, both my student and I would've been thrown around inside the HMMWV or ejected during the rollover. Either way, we probably would've been seriously injured or killed. Hanging upside down from a seatbelt is no fun, but it's a lot better than being paralyzed or dead. Also, speed limits and driving ranges are established for a reason. I knew speeding in a HMMWV on ground

I wasn't familiar with was dangerous, but I wanted to inject a little excitement into a job that had become boring. Believe me, there are better ways to get an adrenaline rush than a HMMWV rollover. Don't try it!

Back then, I really wasn't concerned with Composite Risk Management (CRM). However, if I'd used CRM, stayed on familiar terrain, and kept the HMMWV at a safe speed, I wouldn't have been sweating over how I'd take care of my family later. Familiarize yourself with the CRM process and apply it to all your activities, whether you're training at home, conducting missions in

theater, or blowing off steam in your downtime. Your unit and your family are relying on you to make it home.

Now that I'm a little older, I can look back and see the dumb things I did. At 19 I was unstoppable—there wasn't anything I couldn't do and I'd never be in an accident doing it. Of course, I was wrong. Learn from my mistake and don't let overconfidence or cockiness cloud your judgment, because your next "good time" could be your last! 

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The “dog days” of summer are here, and our Soldiers are serving in some of the hottest locations on Earth. For example, the average daily temperature in Baghdad is about 110 °F during July and August. And that’s just the average. As any Soldier that’s been there will tell you, it’s really a lot hotter under the noonday sun when you’re wearing full battle rattle! Temperatures in Afghanistan generally reach the high 90s or low 100s during summer too, similar to stateside locations in the Deep South.

Considering it’s hot pretty much everywhere now and will be for a while longer in many locations, let’s take a quick look at the basic principles of heat injury prevention. More than 1,700 heat injuries and 6 heat-related deaths were reported Army-wide during Fiscal Year 2005. The vast majority of those injuries resulted from heat exhaustion, although more than 250 were attributed to heatstroke.

Preventing heat injuries and heat-related deaths is every commander’s and leader’s responsibility. Commanders and NCOs must ensure the following preventive measures are carried out through their formations:

- All Soldiers should drink a maximum of 1.5 quarts of water per hour, depending on environmental conditions, to ensure adequate hydration. Remember coffee, tea, juices, and sodas are not a substitute for water and can increase urine output.
- Soldiers and trainees should never empty their canteens to lighten a load.
- Soldiers should monitor their hydration

levels by noting their urine color, which should be relatively clear or light in shade.

- Soldiers should eat all their meals during scheduled breaks but never use salt tablets. All meals should contain adequate salt before consumption.
- Soldiers should be allowed enough time to eat meals and drink water.
- Enforce battle buddy checks by ensuring battle buddies are aware of each other’s eating, drinking, and urination frequency.
- Ensure identified controls are in place at all times.
- Update wet bulb globe temperature hourly when the ambient temperature is greater than or equal to 75 °F.

BEAT THE

JULIE SHELLEY
Managing Editor

• Soldiers should adhere to established work/rest cycles in all heat categories and rest in shaded areas. Extended rest periods should be allowed after strenuous activities.

• A designated leader should be in place at all times to observe and react to heat injuries.

It's important commanders and NCOs remember they can effectively eliminate most heat injuries simply by placing emphasis on prevention. Their Soldiers are looking at them to set the standard not only in heat injury prevention, but in all other areas of risk management

as well. For some good ideas on heat injury prevention programs, check out the U.S. Army Center for Health Promotion and Preventive Medicine's Web site at <http://chppm-www.apgea.army.mil/heat/>. Beat the heat and Own the Edge! 

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“ It's **important** commanders and NCOs remember they can effectively **eliminate** most heat injuries simply by placing **emphasis on prevention.** ”

THE HEAT

WHO YOU POINTING

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Weapons are designed to disable designated enemy personnel and, in the hands of properly trained Soldiers, accomplish this task exceptionally well. We must remember, however, a weapon is the instrument of its operator. It will dutifully shoot in the direction the operator points it. Therein lies the problem of negligent discharges, which are always unacceptable but nonetheless tragic when a Soldier is injured or killed.

Soldiers in sustained combat operations handle their weapons frequently. Before deployment, they must undergo repetitive, intensive training at home to prepare for the increased weapons exposure in theater. Manipulating both personal and vehicle-mounted loaded weapons is pretty routine now for every Soldier, regardless their occupational specialty.

Since the beginning of Fiscal Year 2005, nine Soldiers have died in negligent discharge incidents. The majority of these didn't happen under stressful combat conditions; in fact, several occurred during clearing or cleaning in garrison environments. Here's a brief look at three on-duty fatalities since October 2005:

- A private in a CONUS location was killed when an M2 .50 caliber machine gun discharged into his right hip. The Soldier was placing

the M2 in a HMMWV when it became stuck. The private then pushed the weapon with his hip, at which time it discharged. The private died at a local hospital.

- A private first class died after being struck in the neck by a round from an M4. A specialist was handling the weapon and pointed it at the private before pulling the trigger. The Soldiers had just completed a squad training exercise at a CONUS location.

- A sergeant suffered a fatal gunshot wound to the head after a round fired from his M9 pistol. The sergeant was standing in a tent in theater when another Soldier told him the weapon was still loaded with a magazine. The sergeant replied the weapon wasn't loaded, pointed the weapon at his chin, and pulled the trigger. The round exited through the top of the Soldier's head.

Perhaps what's most heartbreaking about these and other negligent discharge incidents is that, almost without fail, they were all preventable. Weapons safety is taught and emphasized on a daily basis from the beginning of a Soldier's career. How, then, are these negligent discharges occurring? One possibility is weapons handling has become an everyday occurrence for most Soldiers. An M4 rifle or M9 pistol is currently a basic component of the garrison

and deployed uniforms.

Another possibility for these incidents is some first-level leaders have become complacent in the repetitive nature of training their troops on weapons handling procedures. It's incumbent on leaders at every level to ensure the basics of correct weapons handling are taught and enforced throughout their formations. NCOs have an even greater responsibility since they're usually present during critical phases of weapons operations such as loading and clearing.

Several safety procedures and mechanisms exist to prevent negligent discharges. One that's often overlooked, however, is also almost 100 percent effective—basic muzzle awareness! If a Soldier should bypass every other procedural and mechanical safety measure other than making sure his weapon is always pointed in a safe direction, it's unlikely anyone will get hurt if the weapon fires. Of course, simply being careful about muzzle direction doesn't give a Soldier permission to skip the other steps of proper weapons handling. Leaders also must constantly reinforce muzzle awareness to the point it becomes habit for their Soldiers.

Likewise, Soldiers must get in the mindset that any weapon, whether it's firmly locked in an armory, has its magazine out, is lying with its chamber open



AT?

on a bunk, or being carried on a combat patrol, is capable of killing them. Soldiers must be trained to be skeptical no matter how benign a weapon looks. A weapon is a killing machine that's waiting for an opportunity to do so.

These principles apply to those working around weapons as well. Bystanders losing situational awareness or taking proper weapons handling for granted could find themselves on the

wrong end of an inadvertently pointed weapon. By remaining cognizant of their surroundings, other personnel will allow Soldiers to avoid potentially dangerous situations and also provide the opportunity for corrective training.

Current training and deployment requirements dictate Soldiers develop and maintain weapons proficiency. The law of averages indicates that as realistic training and combat

deployments continue, so too will the relative occurrence of negligent discharges. It's unlikely we'll ever be able to prevent all negligent discharges, but proper training and reinforcement can limit the damage and injury they cause. Keep your weapon in a safe direction and Own the Edge! 

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The Basics of Weapons Handling



- **Treat every weapon as if it's loaded. When first handling a weapon, especially if it's not your own, look to see if the chamber is clear. Also ensure all weapons are cleared before handling.**

- **Control the muzzle—keep it pointed downrange or in a safe direction at all times.**

- **Don't touch the trigger unless you intend to fire the weapon.**

- **Unload the weapon at times and in places you don't expect to use it, such as in dining facilities or secure areas.**

- **Leaders must ensure weapons handling, weapons status, and weapons clearing procedures are in place, communicated to all personnel, routinely reviewed, and ruthlessly enforced throughout their formations. The Army's official "Weapons Handling Procedures" guidebook can be found on the Army Combat Readiness Center's Web site at <https://crc.army.mil/Tools/handbooks/ground/safeweaponhandling.pdf>.**



Buyer Beware!

part deux

DON WREN
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Soldiers and their families often are overwhelmed by advertisements for commercial off-the-shelf (COTS) items claiming to offer “better protection” or “a more comfortable fit” than the Army’s standard-issue items. These ads appear in commercial military publications and Web sites, and major news networks have featured stories about families buying items such as body armor, gunner’s slings, camouflage suits, and even vehicle bumpers for

their Soldiers in theater. Since more and more of these items are being pushed to Soldiers, their families, and the public, the Army Combat Readiness Center (CRC) felt the need to follow up on a COTS article entitled “Buyer Beware!” published in the March 2006 *Countermeasure*.

The Army employs a group of professionals whose sole purpose is to purchase the most capable equipment—be it vehicles, personal protective equipment, or even tents—for Soldiers to

complete their missions safely and effectively. Before items are bought and distributed to Soldiers, another group of personnel rigorously tests the equipment for operational sufficiency and safety. This process ensures the best equipment available is procured to fill as many Soldier needs as possible. COTS items, however, aren’t always tested according to the Army’s thorough standards.

An example of these standards is an ongoing Army study that

“ Just because a **product** is advertised in a military publication or an ad features **photos** of Soldiers in uniform using a particular item **doesn't mean** it has the **Army's blessing.** ”

compares two fielded helmets. Researchers are determining how to combine the best characteristics of the two current helmets to develop a single helmet Soldiers can use in or out of a combat vehicle, with a focus on integrating communications gear and crash protection. To date, 17 separate tests have been performed on prototype helmets, all to ensure the final product is safe, effective, and comfortable for the warfighter. These tests are expensive and very precise for a reason. All findings are important; you can't focus on selective issues while ignoring others.

One COTS item that's received media attention lately is a set of suspension pads designed for use in the Personal Armor System, Ground Troops (PASGT) helmet. A non-military organization is soliciting donations to buy and send these pads to service members in Iraq and Afghanistan. That organization claims the pads, when installed in the PASGT helmet, provide impact protection equal to or better than a Department of Transportation-approved motorcycle helmet.

Although that claim might sound good on the surface, there are several questions regarding the pads that must be asked. Will the pads interfere with the wearer's ability to communicate with other troops? Will the helmet's fit change and possibly fatigue the wearer during extended missions? Specific tests must be conducted to answer these and other questions before Soldiers can safely install and use the pads.

Here's a recent example of the dangers some COTS items pose to Soldiers. Two Soldiers pulling guard duty in an observation tower were killed when their Ghillie suits caught fire. It appears the suits had been purchased off the Internet, and their fire retardant and flame resistant properties weren't up to Army standards. The deceased Soldiers' chain of command examined the remaining suits, which "went up in a New York second" when exposed to a small ignition source like a match.

The Army hadn't tested the particular Ghillie suits mentioned above, but it has examined numerous COTS items that didn't make the grade. Some items that have been tested by the Army, however, were found to actually improve current systems. These items include a version of a helmet suspension system that passed form, fit, and function tests and now is being fielded to troops. In this case, the Army procurement community determined the suspension system was the best item available for Soldiers and is working hard to get the kits to the field—a process they take with any item they feel is worthwhile and necessary.

The acquisition process often is superseded when COTS items are purchased. Regardless who purchased or donated the equipment, leaders assume full responsibility for the safety,

training, standards, serviceability, repair, maintenance, and logistics of any non-standard items their Soldiers use. Just because a product is advertised in a military publication or an ad features photos of Soldiers in uniform using a particular item doesn't mean it has the Army's blessing. Leaders must always be aware of this fact and prohibit their Soldiers from using untested COTS equipment.

The Composite Risk Management (CRM) process isn't just for mission planning—it applies to buying or using COTS items too. Among other questions, leaders should ask what risks might outweigh potential benefits offered by a COTS product to get an informed, "big picture" view of whether the item is really worth the money, time, and lives of the Soldiers using it. The CRC's Web site, <https://crc.army.mil>, has the tools leaders need to train and integrate CRM at every level of their formations.

The CRC isn't here to slow you down. Rather, we're here to ensure your safety whether you're in theater or in garrison at home. Losing a Soldier to a preventable accident and excusing it as the cost of doing business is unacceptable. Keep your Soldiers ready and equipped so they can Own the Edge! 

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Halfway There in FY06

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It's time for us to take a look at how we're doing as an Army regarding ground accidents thus far in Fiscal Year 2006 (FY06). After nearly 5 years in the Global War on Terrorism, our Soldiers are continuing their missions in Iraq, Afghanistan, and other operational theaters. Everyone knows optempo is high, but what do the accident numbers tell us and what can we do better?

This article provides a review of Army ground accidents during the first half of FY06 up to 18 May 2006. (Although these statistics are accurate as

of that date, late reports and changes to existing reports might alter figures and findings somewhat in the coming months.) There were 750 Class A through C ground accidents reported during the first 6 months of FY06, costing the Army \$42.5 million. A total of 120 Class A ground accidents were reported during this timeframe, resulting in 108 Army military fatalities.

There were 469 Class A through C Personnel Injury (PI) accidents, representing 63 percent of the total. Army Motor Vehicle (AMV) accidents accounted for 11 percent of

the total at 85 Class A through C accidents. A total of 158 Privately Owned Vehicle (POV) accidents were reported during this timeframe for a 21-percent share of the Class A through C numbers. When looking at Army military fatalities, however, the picture changes dramatically. Almost half—49 percent, or 53—of Army military fatalities occurred in POVs. A quarter of all fatalities, or 27, were attributed to PI accidents; and 21 percent, or 23, of fatalities occurred in AMVs. (This article will not discuss POV accidents because a separate publication, *Impax*, covers POV issues.)



Personnel Injury (PI)

PI accidents accounted for 63 percent, or 469, of Class A through C accidents and 23 percent, or 27, of Class A accidents during the first half of FY06. These incidents were responsible for 27 Army military fatalities and 454 non-fatal injuries that resulted in at least 1 lost workday and/or permanent partial or permanent total disabilities. A total of 86 Class A through C PI accidents occurred among Soldiers participating in Operations Iraqi and Enduring Freedom.

On-duty incidents accounted for 72 percent, or 340, of Class A through C PI accidents, resulting in 15 Army fatalities and 337 non-fatal injuries. The most common activities reported in these accidents include parachuting,

21 percent; physical training (running, jogging, confidence course, etc.), 16 percent; human movement (walking, running, entering or exiting vehicles, etc.), 13 percent; maintenance, repair, or servicing activities, 10 percent; and combat soldiering (hand-to-hand combat, infiltrating, assaulting, retreating, etc.), 8 percent.

Off-duty accidents accounted for 28 percent, or 129, of Class A through C PI accidents, with 12 Army military fatalities and 117 non-fatal injuries reported. The most common activities reported in these accidents include sports activities (basketball, skiing, snowboarding, football, water sports, etc.), 40 percent; and human movement (walking, etc.), 22 percent.

Army Motor Vehicle (AMV)

During the first half of FY06, AMVs were involved in 11 percent, or 85, of Class A through C accidents and 22 percent, or 26, of Class A accidents. A total of 23 Army military fatalities and 54 non-fatal injuries resulted from these incidents. The majority of these accidents, 71 percent, or 60, occurred in tactical vehicles. The HMMWV was the most frequently reported accident AMV at 45 percent, or 38 incidents, with 18 fatalities and

28 non-fatal injuries reported for all variants. The M1114 accounted for 22 of the 38 HMMWV accidents. At 18 percent, Government sedans and station wagons were the most frequent commercial vehicles involved in AMV accidents. About half the Class A through C AMV accidents and 81 percent of Class A AMV accidents occurred in theater.



Army Combat Vehicle (ACV)

ACV accidents accounted for 1 percent, or 9, of Class A through C accidents and 4 percent, or 5, of Class A accidents during the first half of FY06. These accidents resulted in two Army military fatalities and three non-fatal injuries. All but one of the Class A through C accidents and all five Class A accidents involved Soldiers in Iraq or Afghanistan. Three accidents were reported in Bradley Fighting Vehicles; two in M1A2 tanks; and two in Strykers.

Explosive and fire accidents

During the first half of FY06, explosive and fire accidents accounted for 1 percent, or 8, of Class A through C accidents and 2 percent, or 2, of Class A accidents. Five fire and three explosive accidents were reported during this period, resulting in two Army military fatalities and five non-fatal injuries. One Soldier died when his tent caught fire, and

another was killed when an 81 mm high explosive round detonated in a mortar tube. The 81 mm accident injured four additional Soldiers.



Conclusion

During the first half of FY06, PI accidents accounted for the majority of Army military injuries. However, as with previous years, POV accidents continue to claim more Soldiers than any other single accident category. Most of these accidents didn't have to happen. It's critical individual Soldiers and leaders at every level take positive action to

prevent losses by integrating Composite Risk Management in their on- and off-duty activities. Check out the Army Combat Readiness Center's Web site at <https://crc.army.mil> to find valuable Army tools that will help you Own the Edge! 🚀

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Class A

■ Soldier was killed when the M35A3 cargo truck he was riding in overturned after hitting a dirt berm on a curve. The Soldier was trapped beneath the vehicle and unable to escape when the truck caught fire. Nine other Soldiers suffered minor injuries. The accident occurred during the mid-morning.

■ Soldier died when the M998 HMMWV he was riding in rolled over on a tank trail. The crew was supporting a live fire training exercise and the deceased Soldier, who was ejected, was serving as the vehicle commander. The driver suffered minor injuries. Neither Soldier was wearing their seatbelt. The accident occurred during the early morning.

■ A Soldier suffered minor injuries and a recruiting applicant was killed when their GOV hit an overpass guard rail and overturned onto an access road below. The Soldier was driving the applicant, who was ejected from the vehicle, home. Seatbelt use by the Soldier was not reported. The accident occurred during the late afternoon.

■ A local national suffered fatal head injuries when the M1114 HMMWV he was riding in ran off the roadway into a steep embankment and rolled over. The HMMWV crew was under blackout drive at the time of the accident. The local national was sitting behind the driver and was ejected when the vehicle overturned. No Soldier injuries were reported. The accident occurred during the mid-evening.



■ A civilian driver was killed when their vehicle struck the side of a HEMTT fueler. The HEMTT driver was attempting to turn the vehicle around when it was hit by the civilian car. Neither Soldier in the HEMTT was injured. The accident occurred during the late evening.

Class B

■ Three Soldiers were hospitalized when their M1117 Armored Security Vehicle rolled over into a ditch. The vehicle was part of a convoy traveling at about 40 mph when one of its tires blew, causing the accident. The nature of the Soldiers' injuries was not reported. The accident occurred during the early morning.

Class B (Damage)

■ Seven forklifts valued at \$300,000 and parked at a field training exercise site were destroyed by a brush fire. The origin of the fire was not reported. The accident occurred during the early afternoon.



Class A

■ Soldier suffered fatal injuries when he was struck in the neck by a snapped chain. The Soldier was part of a group attempting to free a contractor truck that was stuck in loose gravel. The Soldiers connected two trucks with chains to the stuck truck, but one of the chains broke when the two vehicles began moving forward. The Soldier received first aid from medics onsite and was transferred to a local hospital, where he later died. The accident occurred during the early afternoon.

■ Soldier collapsed and died following a unit PT run. The Soldier was transported to a local hospital and pronounced dead. No other details were reported. The accident occurred during the mid-morning.

Class C

■ Soldier broke his ankle while participating in a road march. The Soldier stepped

Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class D

■ One Soldier suffered minor hand injuries and another was not injured when their M1088 fuel tanker ran off the roadway over the side of a bridge and rolled over into a canal. The driver fell asleep at the wheel and lost control of the vehicle during an extended convoy. Both Soldiers were wearing their seatbelts and all personal protective equipment. The accident occurred during the early morning.

■ One Soldier suffered minor injuries but the rest of his crew was unharmed when their M1114 HMMWV rolled over during a security patrol mission. The patrol was traveling along an unfamiliar route on unimproved roads when the accident HMMWV slid uncontrollably in a curve. The HMMWV slid down a 3- to 4-foot drop-off and overturned on its top. The driver's platoon sergeant had warned him to slow down before the accident. All crewmembers reportedly were wearing their restraint systems. The accident occurred during the mid-afternoon.

■ Soldier escaped without injury when the M997 HMMWV ambulance he was driving rolled down a 25- to 35-foot embankment. The Soldier was following another HMMWV when he swerved the vehicle to avoid some low-hanging tree branches, sending the passenger-side tires off the roadway. The HMMWV then overturned and slid down the embankment. The Soldier was wearing his seatbelt and helmet. The accident occurred during the mid-evening.

Class A

■ Soldier was killed when the M35A3 cargo truck he was riding in overturned after hitting a dirt berm on a curve. The Soldier was trapped beneath the vehicle and unable to escape when the truck caught fire. Nine other Soldiers suffered minor injuries. The accident occurred during the mid-morning.



off the edge of a paved road and impacted his ankle. The Soldier was carrying a rucksack and other equipment during the march. The accident occurred during the mid-morning.

■ Soldier broke his foot while running during a PT test. No other details were reported. The accident occurred during the mid-morning.

■ Soldier fractured his ankle while participating in unit PT. The Soldier was running and stepped off the road course, causing him to fall onto his ankle. The accident occurred during the mid-morning.

■ Soldier broke his nose while participating in an organized basketball game at a post gym. The Soldier was trying to catch a rebound when he collided with another player and hit his nose with the basketball. The accident occurred during the late evening.

WHAT THINK

RETURN OF THE SUPERHEROES

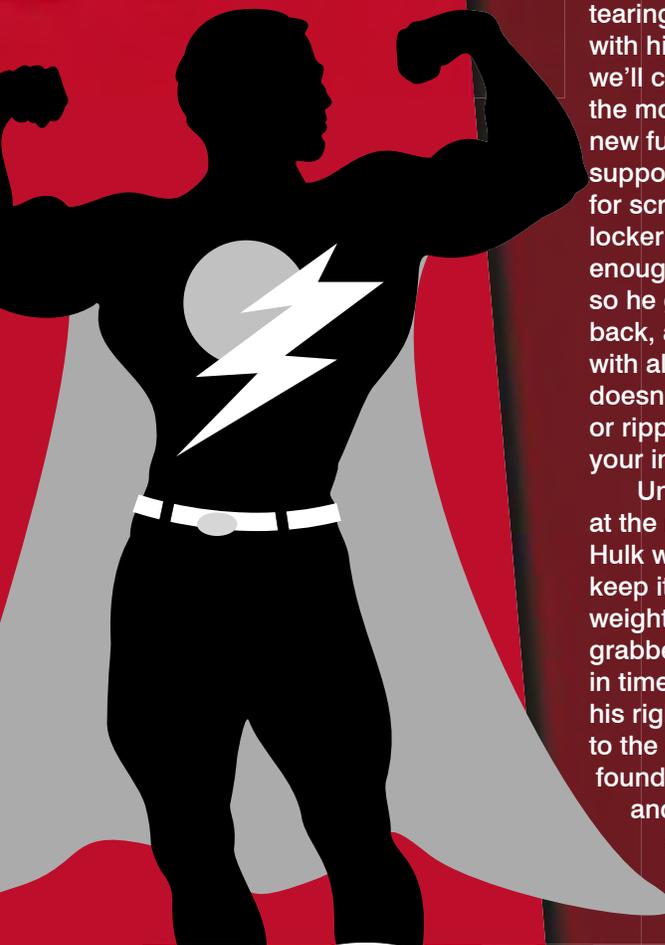
Most everyone probably knows a Soldier that thinks nothing bad can happen to him or her. They seem to have a superhero mentality that they're the strongest and the greatest at everything they do. Almost without fail, however, they're brought back to Earth with a thud, bang, or ouch. So, in honor of the comic book blockbusters of summer at the theater, we'll look at three super-Soldiers that tested their mortality on duty.

Our first pseudo-hero had a Batman complex. He was fearlessly protecting his AO in an M1026 HMMWV on a rainy, mid-afternoon police patrol. Things were slow in Gotham City, so the Soldier decided to make a little excitement of his own. He drove the HMMWV off the hardball onto a dirt road, threw the transmission into low gear, and slammed the gas. The vehicle spun around several times before one of the rear wheels caught a rutted berm, sending the Soldier and the HMMWV flipping through the air.

Luckily, our Bruce Wayne had a brief moment of brilliance and buckled his seatbelt before he went out on the patrol. Between the seatbelt and the helmet he was wearing, the Soldier was able to walk away from the accident



WERE THEY WAG?



unharméd. The HMMWV, however, wasn't so fortunate and needed almost \$10,000 in repairs. The Soldier had his driving privileges revoked, and his immediate chain of command had to undergo retraining in the art of supervision.

The next super-wannabe was tearing apart a wooden wall locker with his hands—yes, his hands—so we'll call him The Hulk. Apparently the motor pool had received some new furniture, and the Soldier was supposed to tear down the locker for scrap wood. However, the locker wasn't coming apart fast enough to suit our Bruce Banner, so he got mad, took a few steps back, and ran toward the locker with all his might. (The report doesn't state if he turned green or ripped off his shirt, so use your imagination on this one.)

Unfortunately, the locker fell at the moment of impact and The Hulk wasn't strong enough to keep it upright, what with his full weight forcing it to the ground. He grabbed the side of the locker just in time for the sharp edge to pin his right middle and ring fingers to the concrete floor. The Soldier found out even superheroes bleed, and he lost part of the tissue and bone on both fingers.

Turns out the proper tools for disassembling

the locker were within easy reach, but some Soldiers just have to do things the hard way.

Our last hapless hero was working on an M969A1 fuel tanker that must've contained kryptonite. The Soldier was still in Clark Kent mode when he jacked up the tanker to replace some leaf springs. Not one but two mere mortals working in the maintenance bay told the Soldier the jack stand wasn't centered correctly, but Superman always knows best and left it in its original location. A little later he needed more maneuver room and repositioned himself under the tanker, a task that required him to move the jack stand to yet another incorrect spot. The Soldier couldn't get out from under the tanker quickly enough, however, when the jack collapsed.

Even the real Superman might have trouble lifting a 118-ton fuel tanker trailer. Needless to say, the Soldier couldn't hold it up either, and his hand was crushed between the trailer and leaf springs. After 3 days in the hospital, 4 months away from work, and pain even Lois Lane couldn't take away, the Soldier rejoined his unit somewhat wiser in the ways of vehicle maintenance.

What can we learn from these moments of superhuman stupidity? First, Soldiers are still human, even if they feel 10 feet tall and bulletproof. These three Soldiers were lucky they weren't killed or permanently disabled during their respective accidents. Also, HMMWVs might be pretty neat, but Batmobiles they're not. Drive them with respect. Lastly, use the right tools for the job in the right way. If someone tells you you're screwing up, they just might be right. Take off your cape, put on your uniform, and Own the Edge! 

POV stats FY06 through May 06

Class A-C accidents/Soldiers killed

■ Cars	97/34
■ Vans	0/0
■ Trucks	33/12
■ Motorcycles	75/30
■ Other*	8/2

*Includes tractor-trailers, unknown POVs, mopeds, ATVs and bicycles

78

total DEATHS

FY05: 95 3 year average: 78



LOCKED and LOADED?

TREAT EVERY WEAPON AS IF IT'S LOADED

When first handling a weapon, especially if it's not your own, look to see if the chamber is clear.

Also ensure all weapons are cleared before handling.



CRM

COUNTERMEASURE

Vol 27 08/06

Leadership on a roll?



U.S. ARMY

plus OWN the
EDGE

Composite Risk Management

pull-out posters

Army Ground Composite Risk Management Information

<https://crc.army.mil>

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The U.S. Army Combat Readiness Center (USACRC) is playing a key role in the Army's transformation. When I came here 3 years ago, the then-Army Safety Center looked only at accidental losses. Increased operations in the Global War on Terrorism, however, have required leaders to look at the big picture and ask, "How do we keep combat power on the battlefield?"

To answer that question, we followed the strategy of former President Dwight D. Eisenhower, who said, "If a problem cannot be solved, enlarge it." We did that by looking beyond accidental losses to include those

resulting from combat and other causes such as suicide, homicide, and medical issues. We analyzed Armywide information collected on losses and determined the common factors or trends. The USACRC then developed a number of tools to find a solution to the Army's mounting losses.

As we began "connecting the dots," it became apparent we needed to transform our approach to safety. Instead of using the old compliance-based approach of simply telling Soldiers to be safe, we recognized we needed to tell them "why" and "how" to prevent accidents. The why reflected their value as individuals and members



Information The Way Ahead



Leader engagement, command climate, and individual commitment will contribute to developing a culture that embraces safety on and off the battlefield.”



of the Army team. As for the how, we're teaching Soldiers to manage risk through the use of Composite Risk Management (CRM). Soldiers live on the narrow edge dividing safety from tragedy, whether they're in a HMMWV in combat or in a privately owned vehicle (POV) on the highway. Wherever Soldiers are, we want them to reduce risk and own the edge by using CRM.

This transformed approach to safety has helped the Army make huge progress in reducing losses. For example, POV crashes accounted for about 75 percent of our accidental fatalities 3 years ago. Today, those losses have dropped significantly due in large part to Soldiers and

their leaders using CRM.

Our mission is to help people manage risk through a variety of tools available to every Soldier. One successful program is the Army Safety Management Information System-2 (ASMIS-2), an online tool that pairs Soldiers with their supervisors to mitigate risks associated with long POV trips. ASMIS-2 helps them recognize hazards posed by weather, road conditions, and vehicle type to reduce the likelihood of an accident on the highway. Of the 1.2 million assessments completed, the Army has lost only four Soldiers—two passengers and two drivers.

However, risk constantly changes. Just as Soldiers

Coaching CRM

- Accident Reporting Automation System
- Army Safe Driver Training
- Army Readiness Assessment Program
- ASMIS-1 Air, Ground
- ASMIS-2 POV
- Aviation Safety Training Division
- Loss Reporting Automated System
- Career Program-12
- Commander's Corner
- Composite Risk Management Integration
- CR University
- USACRC Publications:
 - Countermeasure
 - Flightfax
 - Impax
- Got Risk? Posters
- Loss Reporting
- Motorcycle Mentorship Program
- Preliminary Loss Reports
- Risk Management Information System



shift their fire to meet new threats on the battlefield, we're shifting our focus to meet new and emerging hazards. But, we can't act alone. First-line supervisors are a fundamental component of any loss-reduction program and must be directly engaged in this strategy.

Leader accountability and involvement

The involvement of first-line supervisors is critical to reducing Army losses. Every leader is responsible for creating an environment where their personnel can be successful. As increasing numbers of junior leaders come on board, they must learn to effectively promote safety and also believe they can make a difference.

We owe this to our young Soldiers because history shows they're at greatest risk. They must recognize the increased risk they face and use CRM.

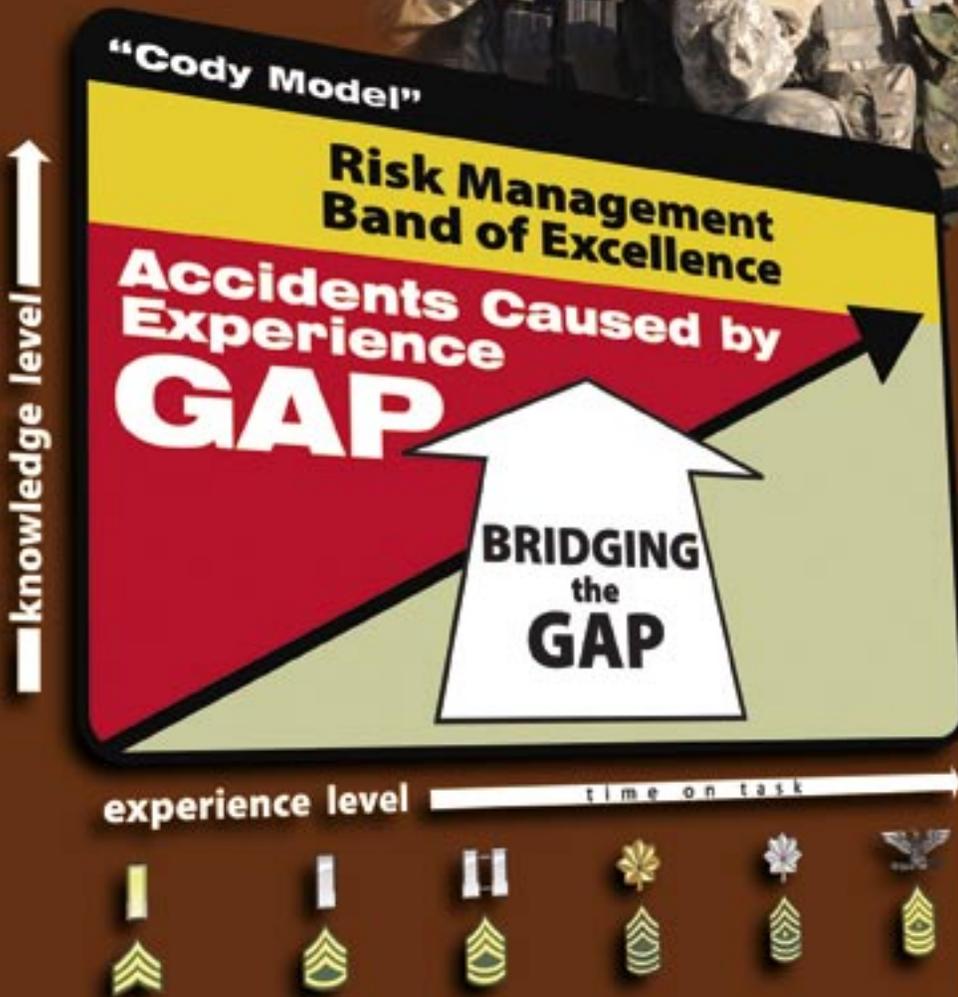
The "Cody Model" is a good starting point. This model shows how a lack of experience can hinder safety efforts. Experience can be gained only by spending time on the job. In the meantime, we must bridge this experience gap by sharing knowledge and information and using Army safety tools and concepts.

Big ships turn slowly

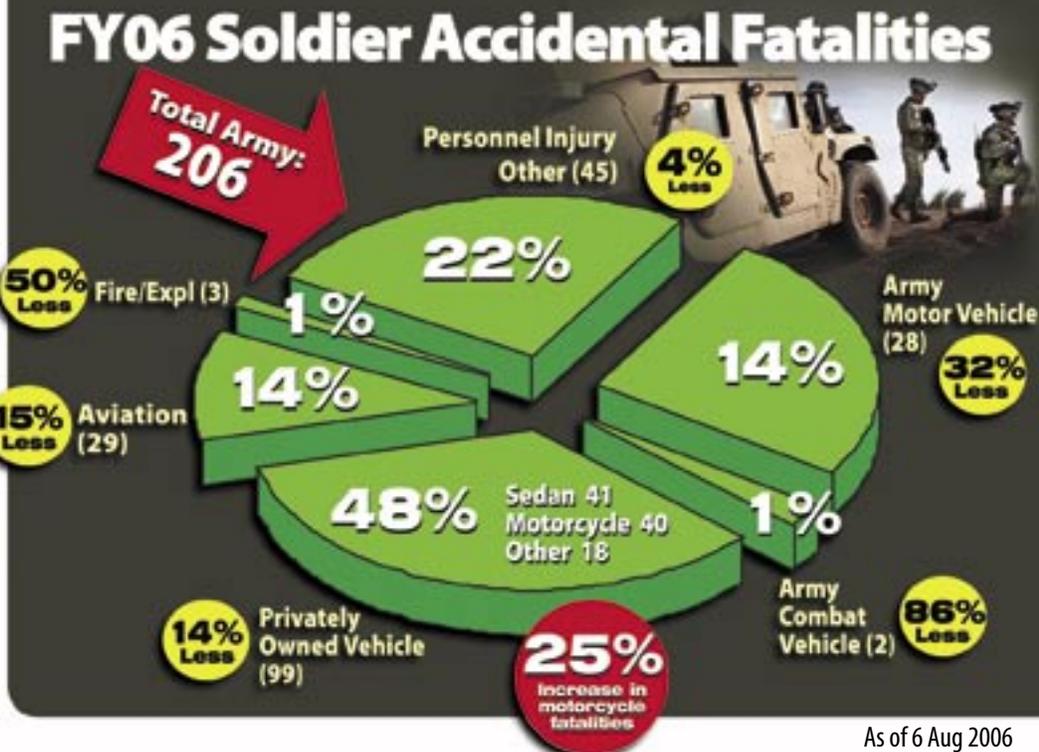
We're a million-man force with about 300,000 Soldiers deployed to more than 120 countries. According to GEN Peter J. Schoomaker, Chief of Staff, Army, it takes about 18 months to see noticeable change in an organization as large as ours. If you look at accident rates 18 months ago and where we now are in the process, he's absolutely on track. I predict Army accident rates will continue to drop during the next 6 months as more leaders and Soldiers actively engage in risk management.

Tempo and exposure

Since the attacks of 11 September 2001, our Army's operations tempo



(OPTEMPO) and risk exposure have increased greatly. Between those two, exposure is the main concern. It's one thing to drive a HMMWV in training at a CONUS location from point A to point B with no one shooting at you—that's OPTEMPO. It's another thing to drive the same distance or greater in theater at night with zero illumination and the enemy firing at you—that's exposure. It's hard to accurately measure exposure because it's subjective. Every new environment presents different hazards, OPTEMPO, and exposure to Soldiers. Therefore, Soldiers must remain aware of their surroundings to manage the ever-changing risks.



As of 6 Aug 2006

Tools for change

ASMIS-2 isn't the only program helping Soldiers and leaders manage risk. The Army Readiness Assessment Program is a Web-based initiative designed to help battalion commanders measure their organization's overall readiness. Additionally, the Loss Reporting Automated System allows Army losses to be reported quickly and easily. From that information, we do predictive analysis on fatalities, injuries, and near misses for quick turnaround to the field.

Another key initiative is the Motorcycle Mentorship Program (MMP). The MMP follows the warrior ethos of having experienced riders train and pass on their knowledge to less experienced riders. This is critical, considering the increase in motorcycle fatalities. Looking at the pie chart on this page, you can see every area is green except motorcycles. Motorcycle fatalities doubled from FY04 to FY05, and we've had a 22-percent increase this fiscal year.

Soldiers who've served in combat and survived the dangers of battle often see themselves as young and invincible. Once they return from combat, they feel safe and often fall prey to personal injuries. The increase in these type accidents is a warning that leaders must alert their Soldiers to the dangers they face away from combat. Friends and family also can engage Soldiers as soon as they return from deployment to help prevent them from taking needless risks.

The way ahead

Our Army's transformation is an evolving process that offers exciting results and we, like the rest of the Army, also are transforming. When I started this job, I thought safety involved a certain amount of luck. As I leave, I realize there's a lot more than fate involved in successfully carrying out our missions. Leader engagement, command climate, and individual commitment will contribute to developing a culture that embraces safety on and off the battlefield.

Each of you is critical to the fight. Whether you're an officer, enlisted, civilian, or contractor, your professionalism and dedication are second to none. Your commitment is without question, and your outstanding performance is what makes an inherently dangerous profession safer. I challenge you to know your enemies—both in combat and at home—and become an expert at managing risk. Your efforts are making a huge impact on our Army's ability to support our Nation in peacetime and at war. Thank you for what you do every day. ☆

BG Joe Smith
Director of Army Safety
CG, CRC

BG Smith served as the Director of Army Safety and Commander, U.S. Army Combat Readiness Center, from August 2003 to his retirement in August 2006 after 31 years of military service.

HMMWV Rollovers

S A M E O L D S T O

MSG DAVID PICKERELL
U.S. Army Reserve Command
Fort McPherson, GA

"Soldier was killed when the M1114 HMMWV he was riding in rolled over into a canal during a combat patrol mission. The Soldier was serving as the vehicle's gunner when the HMMWV began sliding and overturned into the canal. The Soldier was pinned beneath the vehicle and drowned. Injuries to other vehicle crewmembers were not reported. The accident occurred during the mid-morning."



"Soldier died when the M1114 HMMWV he was riding in struck a concrete barrier and rolled over during a combat patrol mission. The Soldier was serving as the vehicle's gunner. The HMMWV's driver and one foreign national interpreter were injured. The accident occurred during the late afternoon."

"Soldier suffered fatal injuries when the M1114

HMMWV he was riding in struck a civilian vehicle head-on at an intersection. The Soldier was serving as the vehicle's gunner and was thrown from the HMMWV upon impact. Four local nationals inside the civilian vehicle also were killed. The accident occurred during the mid-afternoon."

Do these scenarios sound familiar? The preceding paragraphs

appeared in the "Accident Briefs" section of the April 2006 *Countermeasure*, but the same types of accidents are occurring almost daily in theater. Fortunately, many of the Soldiers involved in these accidents live to tell their stories, but far too many have been taken from the fight for good. Since the beginning of Fiscal Year 2006, 44 HMMWV accidents that resulted



The NCO Creed

No one is more professional than I. I am a Noncommissioned Officer, a leader of soldiers. As a Noncommissioned Officer, I realize that I am a member of a time honored corps, which is known as "The Backbone of the Army". I am proud of the Corps of Noncommissioned Officers and will at all times conduct myself so as to bring credit upon the Corps, the Military Service and my country regardless of the situation in which I find myself. I will not use my grade or position to attain pleasure, profit, or personal safety.

Competence is my watchword. My two basic responsibilities will always be uppermost in my mind -- accomplishment of my mission and the welfare of my soldiers. I will strive to remain tactically and technically proficient. I am aware of my role as a Noncommissioned Officer. I will fulfill my responsibilities inherent in that role. All soldiers are entitled to outstanding leadership; I will provide that leadership. I know my soldiers and I will always place their needs above my own. I will communicate consistently with my soldiers and never leave them uninformed. I will be fair and impartial when recommending both rewards and punishment.

Officers of my unit will have maximum time to accomplish their duties; they will not have to accomplish mine. I will earn their respect and confidence as well as that of my soldiers. I will be loyal to those with whom I serve; seniors, peers, and subordinates alike. I will exercise initiative.

[[Mission accomplishment and maintaining the welfare of our Soldiers are listed as the two basic responsibilities of NCOs in the NCO Creed.]]



NAMETAG DEFILADE

Another problem associated with vehicle operations is the enforcement of nametag defilade in the gunner's position. Soldiers must not be allowed to ride too high in the gunner's position on HMMWVs or any other tactical vehicle. Most of the gunners killed in theater died because they couldn't get down in their HMMWV quickly enough during a rollover and either were thrown from or pinned under the vehicle.



in loss of life, permanent disabilities, lost workdays, or property damage were reported in the Army (statistics available as of 26 July 2006). This number includes 17 Class A accidents in which 18 Soldiers died.

Many Soldiers will tell you accidental deaths are a necessary part of accomplishing our combat missions. This statement couldn't be further from the truth—no preventable death, regardless its cause, is acceptable! Mission accomplishment and maintaining the welfare of our Soldiers are listed as the two basic responsibilities of NCOs in the NCO Creed. So, what can we

do to get our Soldiers out of this mindset and keep them safe?

Some leaders believe merely doing a risk assessment is their only responsibility in the risk management process. But it's not as simple as that. We must follow through and actually manage the risks we identified in the assessment, both tactical and accidental, to keep our Soldiers fit and ready.

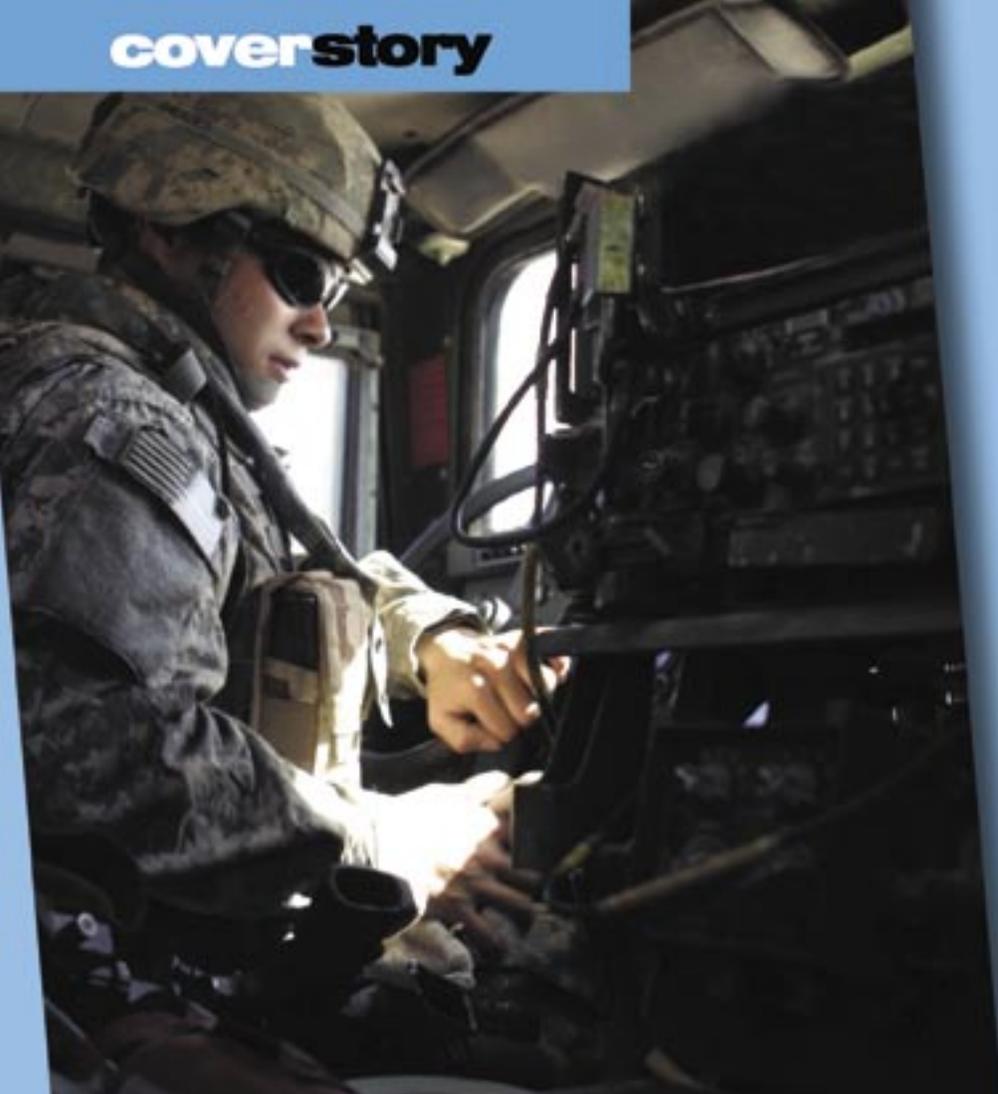
Vehicle operations present unique hazards for Soldiers eager to complete their missions. One of those risks is speed, which is consistently identified as a contributing factor in most HMMWV accidents. It's extremely important we make sure our Soldiers don't drive too fast for conditions and understand the consequences if they get caught speeding

or are involved in an accident attributed to reckless driving.

Another problem associated with vehicle operations is the enforcement of nametag defilade in the gunner's position. Soldiers must not be allowed to ride too high in the gunner's position on HMMWVs or any other tactical vehicle. Most of the gunners killed in theater died because they couldn't get down in their HMMWV quickly enough during a rollover and either were thrown from or pinned under the vehicle.

Equipment storage in vehicles is also a concern. Unsecured equipment can hit and injure vehicle crewmembers and passengers during quick braking maneuvers or sharp turns. Every unit should have an established load plan for each of their vehicle types, and





all passengers should be briefed before heading outside the wire so they can easily find spare ammunition or medical kits.

We can't prevent every accident, so we must train our Soldiers on what to do when one occurs. A majority of fatal HMMWV accidents involve rollovers. This is a complicated problem because the armor we put on HMMWVs raises the vehicles' center of gravity, making them more prone to overturn during abrupt maneuvers. But accomplishing our missions without this armor isn't an option, so Soldiers must be proficient in rollover procedures. An upcoming edition of Training Circular 21-305, *Training Program for Wheeled Vehicle Accident Avoidance*, will incorporate



What's That You're Sittin

GARY GULLANS
System Safety Engineer
U.S. Army Combat Readiness Center

CSM Jeffrey Mellinger, Multi-National Force-Iraq (MNF-I), recently released a message to MNF-I leaders stating many Cooper Slings remain in Army vehicles in Iraq despite a Safety of Use Message (SOU) that mandates their removal. Released on 26 January 2006, SOU 06-012 from the Army Tank-Automotive and Armaments Command states, "Units are to

immediately stop procuring and installing the Cooper seat with restraint system, sold by Black Mountain Industries, or any other non-approved restraint in turret openings on all tactical vehicles." CSM Mellinger's message reinforced the requirement that all Cooper Slings be removed from Army vehicles and an approved Army gunner system installed in its place.

The SOU was published because Army tests conducted on one

version of the Cooper Sling showed the device did not prevent the gunner from being ejected out of the gunner's hatch during a rollover. In fact, the device actually prevented rapid entry into the vehicle crew compartment during rollover drills. The Cooper Sling also held the gunner to the top of the vehicle during rollover testing, which would result in fatal crushing injuries during a real-world rollover.

Leaders must be aware they accept the



DIRTY JOB?

Mike Rowe, host of the Discovery Channel's "Dirty Jobs" series, explores the dirt behind some of the toughest jobs Soldiers do every day in a series of recently produced Army public service announcements. Check them out today on the USACRC's Web site at <https://crc.army.mil/>.

rollover drills. Until that document is released, however, units should post and practice the procedures found in Army Training and Evaluation Program 19-100-DRILL, found on the Army Knowledge Online Web site at https://akocomm.us.army.mil/usapa/doctrine/DR_pubs/dr_b/pdf/artep19_100_10.pdf, or those found in Graphic Training Aids 55-03-030 and 55-

03-031, found on the USACRC Web site at <https://crc.army.mil> under the "Guidance" tab.

All Soldiers must be trained on and rehearse rollover procedures. This training should include a rehearsal of the unit's casualty evacuation plans and vehicle evacuation drills. Vehicle crew and convoy members must practice these drills until they become second nature; if they

don't have to think about what they're doing, their reaction times will be that much faster.

In closing, I ask all leaders to remember this tenet of the NCO Creed: "My two basic responsibilities will always be uppermost in my mind—accomplishment of my mission and the welfare of my Soldiers." Vehicle operations are among the riskiest missions out there for our Soldiers today, but accidents don't have to be the cost of doing business. If you train and take care of your Soldiers, they'll ensure the missions are accomplished safely and successfully. Train as you fight and Own the Edge! 🚗

Contact the author by e-mail at david.pickerell@us.army.mil.

g On?

risks associated with unapproved equipment, including the Cooper Sling or any other commercial off-the-shelf item, when they allow its use within their formations. The office of the Program Manager-Tactical Vehicles (PM-TV) has been fielding an approved gunner's restraint system for the past several months under vendor part number 901-US-07001. If your unit hasn't received the approved restraint system, contact your logistics

area representative or MAJ James Dell'Olio in the PM-TV office at james.dellolio@us.army.mil.

The Cooper Sling might be comfortable to sit in for long periods of time, but a slightly sore rear end from using the authorized equipment is a good compromise to the alternative of death or serious injury! 🚗

Contact the author at (334) 255-3858, DSN 558-3858, or by e-mail at gary.gullans@us.army.mil.



Butt in a sling?

In fact, the device actually prevented rapid entry into the vehicle crew compartment during rollover drills. The Cooper Sling also held the gunner to the top of the vehicle during rollover testing, which would result in fatal crushing injuries during a real-world rollover.

During a recent Centralized Accident Investigation command outbrief, the senior commander present kept using the term “360-degree leadership.” He stated a leader must never allow his field of view to become constricted, either deliberately or inadvertently. As I thought about this, I drew parallels between 360-degree leadership and Composite Risk Management (CRM).

What is CRM?

CRM blends tactical, threat-based risks with accidental, hazard-based risks to create a more thorough evaluation of danger, thus enabling highly effective risk mitigation. CRM asks, “What’s going to kill me and my buddies?” In other words, CRM asks, “Based off everything we know, what hazards could we face and how can we mitigate the risk?”

By mitigating the known hazards to acceptable levels, this approach allows Soldiers to act confidently. CRM does not guarantee no harm will come, but it decreases the probability significantly. Such knowledge bolsters courage and increases unit effectiveness, thus making CRM an integral part of 360-degree leadership.

CRM and 360-degree leadership

If you’re still having trouble understanding CRM, try thinking of it in terms of 360-degree leadership. A 360-degree field of view means you have no blind spots. You’re aware of everything occurring around you, regardless of what it is. Applied to risk management, this means all hazards, both tactical and accidental, are considered. Some Soldiers suffer from tunnel vision,

focusing on one source of risk and discounting others—basically, 15-degree leadership. This type of Soldier might overlook dangerous hazards because of this limited field of view. Although it might not be possible to jump from a 15- to a 360-degree field of view in 1 day, incremental widening of the field of view will, without doubt, enhance risk management.





e Leadership

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

How do you know you're doing it right?

A simple way to gauge your success is by the length of your risk assessment worksheets (RAWs); they should have fewer items on them. The RAWs will be shorter because your hazard identification process will be more

precise and the controls better targeted. Here's the catch—you'll have more RAWs. Your total number of RAWs will increase because you'll see the traditional, single RAW for the entire field training exercise is inadequate. You might need a different one for each day, convoy, or range.

Another way to determine if

your CRM is strong is your attitude and the attitudes of the Soldiers around you. Does your unit have confidence? Do your Soldiers know everything has been done to ensure mission success? CRM will reinforce even the best training and move any formation closer to completing their missions successfully, be it

“ CRM will reinforce even the best training and move any formation closer to completing their missions successfully, be it training AIT Soldiers, reintegrating after a combat deployment, or conducting combat patrols. ”



training AIT Soldiers, reintegrating after a combat deployment, or conducting combat patrols.

Apply the 5 steps of CRM with a 360-degree field of view

Remember, in our Army, the official term is Composite Risk Management. But if labeling it 360-degree leadership enhances your understanding of the process, so be it. It will be difficult to delineate between tactical and accidental hazards as you begin to apply the process. However, the more you and your Soldiers internalize recognition of hazards and develop effective control measures, the less difficult it will become. Keep the process real, communicate to your Soldiers, and remember the end state—loss prevention and enhanced combat readiness. Lead your Soldiers to the edge, then help them own it through CRM! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (USACRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through USACRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

When in C Conduct C

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

After completing a tactical exercise without troops, 11 student non-commissioned officers (NCOs) and two instructors made an unplanned stop at a demolition area. After arriving and discussing the terrain and possible explosive material disposal ideas, the students left the access road and unknowingly walked 100 meters south into the impact area. One of the students picked up a flattened, cylindrical, tarnished object, visually examined it, and tossed it on the ramp of an abandoned armored personnel carrier. The object, a piece of 40 mm unexploded ordnance (UXO), detonated when it hit the ramp. Five student NCOs were injured by shrapnel, and three, including the NCO who handled the UXO, were seriously injured (one suffered a

permanent partial disability). Two other students suffered minor injuries.

You might be asking yourself why the students entered the impact area in the first place. What was its training value? Why did the instructors allow the students to go there?

The accident investigation team found the primary instructor failed to conduct adequate planning before making the stop at the demolition area. But it was an unplanned stop, right? How could he plan for it?

This type of reasoning is called “follower thinking,” but the primary instructor was a leader and should’ve thought as one. Leaders must plan continuously and take corrective action when required. Unplanned stops happen all the time because leaders conduct “opportunity training” whenever possible.

Charge, CRM



Most leaders internalize their planning, quickly determining the objective of the training and how it'll be conducted. Good leaders, however, also consider "unplanned" hazards that might come about during the training event.

The primary instructor involved in this accident knew his objective—he wanted to show the students the demolition area. But that's where his planning stopped. He didn't consider the location in relation to the impact area, and he failed to recognize his own lack of experience on the range complex as a hazard. He also allowed the students to deviate from the stop's intended purpose.

The primary instructor had attended the daily risk management meeting and knew the basic risk management steps. His

complacency with respect to the unplanned stop set into motion the events leading to the accident. Had he maintained a leader's mindset and thoughtfully considered how to conduct the unplanned training, he would've recognized the obvious hazard—namely UXO—associated with operating in close proximity to the impact area.

This accident could've been prevented if the instructor had asked himself a couple of simple questions: How am I going to conduct this training? What can hurt me and my students during the training? These issues parallel the two basic questions that are the foundation of Composite Risk Management (CRM): What am I (or my formation) doing today? What are the hazards (both tactical

and accidental) that can take us out of the fight?

Then take the process one step further. Substitute the acronym "IED" or "VBIED" for "UXO." Change "training" to "combat patrol." Either way, CRM still applies—in fact, it can be applied to training, combat, and even off-duty activities without major process modification. CRM's adaptability is one of its major strengths and the primary reason it's the cornerstone of the Army's "Own the Edge" campaign.

When in charge, either as an instructor, squad leader, or battalion commander, conduct CRM. Embed it in your mission analysis, planning, and operations orders processes. Work to achieve a level of CRM understanding that enables you to apply the process

intuitively. Instinctive application of CRM will allow you to consider hazards properly and implement controls in a timely and effective manner.

Use the up-to-date risk management tools and techniques provided at the U.S. Army Combat Readiness Center's Web site, <https://crc.army.mil>, to learn how CRM can be used in your formation. Own the Edge! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (USACRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through USACRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

Perhaps the happiest time in any deployment is that month or two Soldiers spend preparing to redeploy out of theater back to the fond and familiar terra firma of home. “Almost done,” however, doesn’t equal mission complete. There are some special hazards posed before and during redeployment that leaders must take into consideration well before packing begins.

Two separate factors each play a significant role in safe redeployment:

housekeeping and mission focus. The most critical aspect of successful redeployment is keeping all personnel—especially younger Soldiers—squarely focused on the mission until the “freedom bird” lifts off. But units still have to pick up and pack up all that stuff they’ve accumulated over the last year or so while completing their other missions, so let’s look at housekeeping first.

next stop, home!

1LT ERIK JOHNSON
Indiana Army National Guard
Indianapolis, IN



Cleaning house

The process of packing arms and materiel for the return home should be slow and deliberate. Soldiers are more likely to take shortcuts, make mistakes, and accept unnecessary risks if they feel they have to rush to meet timelines for movement out. It's not always easy to predict how much time you'll really have, however, because operational schedules are fluid and the departure date can change numerous times. Even so, each command should distribute its redeployment instructions as far in advance as possible from the first deadline for action.

Soldiers might be surprised at the quantity of hazardous materials their unit collected over the course of the deployment. Much of the leftover fuel, lubricants, and hydraulic fluids were used to sustain vehicles, generators, and power equipment, and it might seem logical to simply throw them away since they're no



longer needed. These materials are hazardous, however, and must be stored or disposed of properly before the unit departs. To make certain this process is successful, leaders should ensure suitable waste receptacles are available and provide adequate guidance during removal and dumping of the materials.

Soldiers should never be permitted to hide waste oil and fluid containers between CONEXes or dump the materials down shower or washbasin drains. The heat radiating from a CONEX heating or cooling unit combined with a flammable substance can be bad news, not to mention how detrimental such products are to the environment. In addition, all fuel cans must be labeled correctly so personnel can't mistake them for water cans.



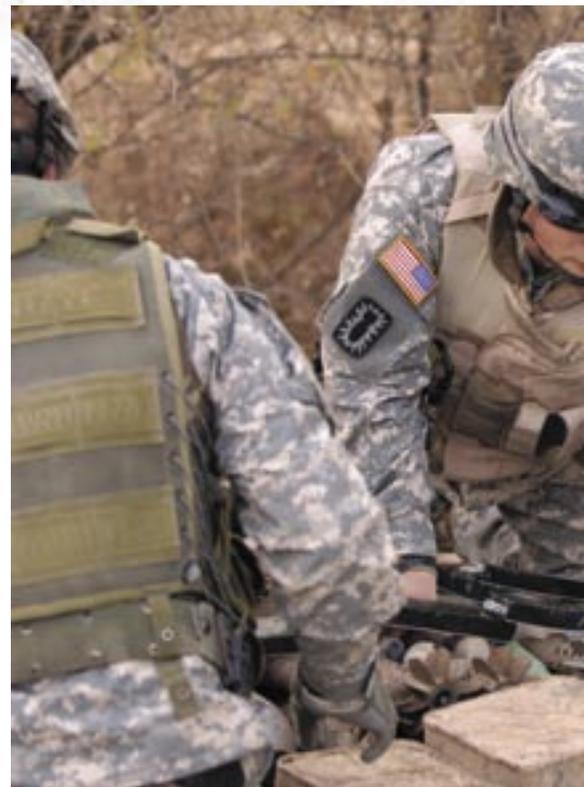
What should I do with this?

The greatest of care should be taken during ammunition and ordnance reconsolidation. Haste makes waste, as the old saying goes—but it can also make for a catastrophic event, the last thing anyone wants as the unit prepares to ship out. As such, leaders should supervise their Soldiers as they turn in ordnance to the arms room.

Weapons rounds should never be dumped in trashcans or dumpsters, and waste receptacles must be labeled with warnings detailing what items are prohibited. High on that list is small arms ammunition, but that's not all. Explosives such as grenades have been found

in dumpsters more often than you might think. Believe it or not, one ill-informed Soldier actually placed a howitzer round in a dumpster before a recent redeployment! Amnesty boxes are there for a reason, including Soldiers who might be afraid to take unaccounted rounds to their supervisors.

One final note on housekeeping: Never allow Soldiers to “personally reallocate” safety devices such as fire extinguishers from their deployment location back home. Although they might truly need such equipment at their home stations, their supply chains will have to make the proper arrangements upon the unit's return.



Mission? What mission?

Although everyone will be excited when the countdown to homecoming begins, leaders must be especially vigilant with their younger Soldiers. These personnel are most susceptible to distractions such as renewed energy and excitement that naturally attend redeployment, and they might try to rush or take shortcuts. Leaders have to minimize these distractions or they'll risk a breakdown in unit discipline that might impact the safety of all personnel.

There are some practical methods leaders can use to keep their Soldiers focused on the mission. For

starters, every leader must understand undisciplined behavior never corrects itself. Unless someone steps in to take action, the behavior inevitably continues until an accident happens. Leaders must require all operations be performed to standard, heighten their supervision, and immediately take corrective action when needed.

The idea, of course, is to never let any situation deteriorate into an Article 15 hearing. Leaders must involve all their Soldiers in the risk management process so they'll have the knowledge to prevent and avoid hazardous situations. This is especially important during redeployment, and leaders should make every effort to educate their troops well before reconsolidation.

A dress rehearsal or walk-through of events is a good starting point. Key topics to be discussed include a review of munitions to be turned in, reconsolidation of heavy equipment and vehicles, proper packaging of supplies for loading onto CONEXes or pallets, and the sequence of these events. Leaders also might ask their Soldiers for their thoughts or concerns



about the redeployment plan. Once they've recovered from the shock that someone actually asked their opinion, those Soldiers might make some productive suggestions the unit can use to conduct its redeployment more safely. They'll also probably be less likely to break the rules since they helped make them!

Conclusion

Caring leaders will diligently supervise their Soldiers to ensure they're conducting their assigned missions safely. Soldier care and safety go hand in hand, and redeployment is no exception. Take time to do things right and make it home to celebrate a job well done! 

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Class A

■ Soldier was killed when the 5-ton truck he was driving rolled over. The vehicle was part of a convoy returning from an annual training exercise when it left the roadway, hit a cement barrier, and overturned. The Soldier was thrown from the truck, which came to rest on top of him, and was pronounced dead at the scene. No other injuries were reported. The accident occurred during the mid-afternoon.



Class B

■ An M2313 Bradley Fighting Vehicle caught fire during tactical operations and suffered Class B damage estimated at \$200,000. No Soldier injuries were reported. The accident occurred in the mid-morning.



Class A

■ Four Soldiers were electrocuted, one fatally, when high winds blew the tent they were erecting over on a set of electrical wires. The deceased Soldier died at the scene, and the three other Soldiers were hospitalized for their injuries. The accident occurred during the late afternoon.

■ Soldier was killed when an M2 .50 caliber machine gun discharged into his right hip. The Soldier was placing the M2 in a HMMWV when it became stuck. The Soldier then pushed



the weapon with his hip, at which time it discharged. One other Soldier was struck by the round, and two additional Soldiers suffered minor injuries from shrapnel. The deceased Soldier died at a local hospital. The accident occurred during the mid-morning.

■ Soldier collapsed during the Army Physical Fitness Test and died at a local hospital. The accident occurred during the early afternoon.

■ Two Army contractors were killed and another two contractors were injured when an explosion occurred at an ammunition plant. The contractors were conducting explosives density testing at the time of the explosion. The degree of injury to the two surviving contractors was not reported. One building also was destroyed in the accident, and surrounding structures were damaged. The accident occurred during the late morning.

■ Three foreign national civilians were killed and three were injured when a Soldier inadvertently fired a 155 mm high explosive round from an M109A6 Howitzer into a populated area. The Soldier was participating in live fire training just before the accident and, although the unit had transitioned to dry fire, reportedly believed the live operations were still ongoing when he fired the round. The accident occurred during the late morning.

Class B

■ Soldier suffered a permanent partial disability to his foot when his M249 machine gun discharged. The Soldier was stepping out of a HMMWV when the weapon fell to the ground and fired as he attempted to grab it. The accident occurred during the mid-morning.

■ A U.S. Air Force Airman suffered a permanent partial disability resulting from a gunshot wound received during an Army-supervised

Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class D

■ Soldier escaped without injury when his non-tactical vehicle overturned in theater. The Soldier was returning from a supply run when he briefly lost consciousness, causing the vehicle to drift into a median and strike a lamppost. The Soldier then regained consciousness and steered the vehicle back onto the roadway, at which time he passed out again. The vehicle then crossed the roadway and ran up a 6-foot fence before it hit a 20-foot container and rolled over onto its roof. The vehicle was estimated to be a total loss, but the Soldier was wearing his seatbelt and was unharmed. The accident occurred during the late afternoon.

■ Two Soldiers were uninjured when their M1097 HMMWV rolled over on a main supply route in theater. The vehicle was towing an M101 trailer that caught the road shoulder when the driver swerved the HMMWV to miss a pothole. The driver corrected the vehicle, but the motion caused the trailer to flip over and roll the HMMWV. Both the driver and vehicle commander were wearing their seatbelts and personal protective equipment. The accident occurred during the early afternoon.

■ Two Soldiers were unharmed when their M998 HMMWV overturned on a hill. The Soldiers were conducting a fuel run when the driver steered the vehicle too close to the roadway's edge and overcorrected, causing the HMMWV to flip. Both Soldiers were wearing their seatbelts. The accident occurred during the late morning.

Class A

■ Soldier was killed when the M35A3 cargo truck he was riding in overturned after hitting a dirt berm on a curve. The Soldier was trapped beneath the vehicle and unable to escape when the truck caught fire. Nine other Soldiers suffered minor injuries. The accident occurred during the mid-morning.

live fire exercise. The round was fired from an M16A2 rifle being handled by another Airman. No other injuries were reported. The accident occurred during the late afternoon.

■ Soldier lost an eye when he fell from a HESCO barrier while erecting a tent cover. The Soldier fell 3 or 4 feet from the barrier and suffered fractures to his face and eye area, which resulted in his eye being removed during surgery. The accident occurred during the early evening.

■ Soldier's hand was amputated when a training grenade exploded in his hand. The Soldier, who also suffered skull fractures and shrapnel injuries, was packing black powder into the grenade at his private

residence at the time of the explosion. The accident occurred during the mid-afternoon.

■ Soldier's pinky finger was amputated when it became lodged in the air conditioning unit fan of an M1114 HMMWV. The Soldier was a passenger in the vehicle and had placed his hand on the fan guard to brace himself just before the HMMWV hit a pothole, causing the guard to give way. The accident occurred during the mid-evening.

Class C

■ Soldier suffered second- and third-degree burns over 71 percent of his body when a flash fuel fire occurred at a fuel point. The Soldier was holding a flashlight for a local national worker when the fuel ignited. The accident occurred during the mid-evening.



OH, MY ACHING HEAD!

The head—it's one of the most exposed parts of the human body. Our craniums hurt pretty bad when they or any of their attendant parts are hit just right, and many head injuries are caused by sheer stupidity. Soldiers are no more hard-headed, at least physically, than the average civilian out there, a fact our three heroes below found out through various knocks, bumps, and scrapes.

Our first Soldier was using a picket pounder to drive some posts into the ground at a temporary training area. The picket pounder is one of those marvels of modern technology that's supposed to make admittedly difficult tasks, such as hammering posts into hard earth, a little easier. But note the key words there—"supposed to." As we all know, things don't always work like they're supposed to, or maybe it's people that don't always work like they're supposed to. Either way, using any device that contains the word "pounder" in its title, combined with no personal protective equipment (PPE) on the person using it, is a potent mix for trouble.

It was a crisp fall evening, and the Soldier was in a hurry to finish



WERE THEY WHAM?



the job so he could join the rest of his unit for chow. In his haste, he somehow lost control of the picket pounder, which then pounded the poor Soldier in the head. Since he wasn't wearing a helmet or any other PPE, the Soldier suffered a nasty

laceration and some bruising that cost him 4 days of work and 2 weeks on restricted duty. He did, however, get an exciting helicopter ride to the local hospital.

Amazingly enough, yet another Soldier got hurt when he didn't wear his PPE, this time eye goggles. The Soldier was working on a water circulation pump in the engine room of an Army vessel. As he bent down to remove a bolt from the pump, his bare eye hit a zip tie that was placed on the pump as a lock out/tag out safety measure.

Too bad the Soldier couldn't watch TV while he was spending the next day convalescing at home. His right eye was covered with a patch and doctored with medicine to heal the abrasion caused by the zip tie. His lack of PPE, situational awareness, and training—the report stated “NEVER” in all caps in the “Last Training” block—obviously contributed to his injury. To think, it all could've been prevented if he'd only slipped

on a pair of protective goggles, which he should've been wearing anyway. But who says eye abrasions aren't fun?

Our last incident wasn't necessarily the fault of the Soldier involved; she just happened to be in the wrong place at the wrong time. Apparently, some whiz kid had placed a large paper cutter on top of a bookshelf in an office on post. The Soldier's printer had just run out of paper, and she spotted some reams of copy paper stored on the bottom of the bookshelf. She walked over, lifted a case of the paper from the bookshelf, and WHAM! The paper cutter smacked her on the head and back.

The sound of the cutter, paper, and Soldier falling to the ground must've been pretty loud because the other staff members—who were in another office, mind you—heard a “thump” and went to investigate. They found the Soldier on the floor, dazed and unaware of her surroundings but nonetheless conscious. She was transported to the post emergency room, diagnosed with a bumped and bruised head and back, and sent home, where she stayed until returning to work a couple of days later. The rest of the office workers received remedial training on the safe placement of heavy items.

These fables will surely live in unit lore for generations to come, and they illustrate some maxims all Soldiers should live by. For one, always wear the proper PPE when the job requires it. Those cute little illustrations of goggles, gloves, earplugs, helmets, etc. posted in maintenance bays and on heavy power equipment are there for a reason, namely to remind you to suit up so you don't get hurt. And, for Pete's sake, never put a paper cutter on top of an unstable bookshelf! 🛠️

Class A-C accidents/Soldiers killed

■ Cars	110/36
■ Vans	0/0
■ Trucks	45/14
■ Motorcycles	106/35
■ Other*	11/2

*Includes tractor-trailers, unknown POVs, mopeds, ATVs, and bicycles

POV
stats
FY06
through June 06

87

total DEATHS

FY05: **105** 3 year average: **89**

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Forrester Assumes Command

A rmy safety continued its transformation on 25 August 2006 as Director of Army Safety duties and command of the U.S. Army Combat Readiness Center (USACRC) changed hands during a ceremony at the U.S. Army Aviation Museum in Fort Rucker, AL. BG William H. Forrester assumed the roles and responsibilities from BG Joseph A. Smith, who held the positions for a little more than 3 years.

features



on the web
<https://crc.army.mil>



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The USACRC is responsible for improving combat readiness and preserving combat power. As a field operating agency of the Office of the Army Chief of Staff, the USACRC is the knowledge center for all Army losses and the focal point for analyzing accident, serious incident, and combat loss reports.

After congratulating BG Smith for his contributions to Army safety and awareness, BG Forrester said to the warriors of the USACRC that together they will continue the positive trends they've blazed, "always looking to raise the bar."

A 20-percent reduction in accidental losses overall is one positive trend USACRC

and Army members are witnessing this fiscal year.

"Joe Smith has done something no one before him has ever been able to do. He has turned the tide," said LTG James L. Campbell, Director of the Army Staff. "He has turned that mammoth battleship in saving Soldiers' lives. As a result of his passion and sheer determination, our United States Army reduced our accidental losses by 20 percent from last year to this year. That is Soldiers' lives ... and the stakes don't get any higher."

Officials at the USACRC attribute the majority of the decline to leader involvement and the implementation of



Assumes of USACRC

Kelly Widener
Public Affairs Officer
U.S. Army Combat Readiness Center

several new initiatives, including the Army Safety Management Information System-2, or ASMIS-2, POV risk assessment tool.

This risk-planning tool allows travelers to create a tailor-made risk analysis and receive specific guidance to lower risks on road trips. Since its inception, statistics show that Soldiers have completed more than 1.3 million assessments. Of those people who completed the assessments, only four have been killed while operating a vehicle.

"It is obvious there was much work accomplished and all focused on preserving our Soldiers, civilians, and equipment," BG Forrester said about the USACRC warriors.

BG Forrester comes to the USACRC after serving as the assistant division commander (support) for the 2nd Infantry Division, Eighth U.S. Army, Korea. Though he was previously assigned at Fort Rucker as the U.S. Army Aviation Warfighting Center and post chief of staff, BG Forrester said this assignment has a broader focus over the full spectrum of the Army.

"As is the case in this great Army of ours, as one superb leader steps down, another superb leader steps forward to take the reigns and take the organization to even a higher level," LTG Campbell said. "Forrester joins the (USACRC) with a rich background in operational experiences. He has commanded an aviation brigade in combat ... and his experiences here at Fort Rucker as the chief of staff of the U.S. Army Aviation Warfighting Center, where the importance of preserving combat readiness is there every single day, will make him even more effective as a leader of the USACRC."

Drawing from his experiences, BG Forrester revealed his outlook on the way ahead for the USACRC.

"My wife and I are humbled by the continued opportunity to serve our Army," he said, "and we fully realize that our assignment at the Combat Readiness Center is just that. We look forward to forging strong professional and personal relations with organizations across the Army and the Department of Defense."

As is the case in this great Army of ours, as one superb leader steps down, another superb leader steps forward to take the reigns and take the organization to even a higher level.

LTG James L. Campbell
Director of the Army Staff

Directly following the change of command, the USACRC conducted a retirement ceremony for BG Smith, who completed more than 32 years of service. He said serving in this position was very rewarding.

"When I think about each Soldier that has died, I am convinced that we have saved not some lives, but many lives. That's what it's all about." 🇺🇸

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The accident investigators assigned to the U.S. Army Combat Readiness Center (USACRC) are often asked what we really do when we're deployed. We've written this article to explain the purpose and goals of our investigations so everyone can understand what we do and how we do it. Most Soldiers would agree their jobs are dangerous, but those tasks don't have to be unsafe. If a Soldier is seriously hurt or killed, it's our job to find out what went wrong so you can accomplish your missions safely.

Our primary objectives are to identify contributing factors and/or system deficiencies and make recommendations to

remedy causes and minimize the chances of similar accidents occurring in the future. We simply want to know what happened, why it happened, and how it can be prevented from happening again to save lives, reduce damage to equipment, and maintain the fighting force. But before we discuss how the board actually works, here's some background information to help you understand the administrative side of our investigations.

**WHY AND HOW
CENTRALIZED AS**

HOW WE DO IT

ACCIDENT INVESTIGATION

ACCIDENT INVESTIGATION DIVISION
Ground Branch
U.S. Army Combat Readiness Center

Our manual is Army Regulation (AR) 385-40, *Accident Reporting and Records*, which mandates that all Class A and B accidents be reported to the USACRC. We have a first-up team that's deployed from the USACRC in Fort Rucker, AL, to conduct a centralized accident investigation (CAI) for selected Class A and Class B accidents. In some instances, the accident is investigated by a local installation accident investigation (IAI) board, but the investigators here provide advice

and review all documentation before the IAI board's results, findings, and recommendations are finalized.

The USACRC's CAI teams include a minimum of two people, the board president (rank of major or above) and board recorder (rank of sergeant first class or master sergeant). These Soldiers are the core of the accident board and have been schoolhouse-trained in accident investigation procedures. A point of contact is assigned as well, usually a trained safety officer delegated by the appointing authority. Additionally, subject matter experts (SMEs) including senior maintainers, training managers, and doctors or physician's assistants are drawn from other units to assist us when needed. Finally, depending on the mission, other service representatives might be assigned to the board on a case-by-case basis.



So where does the priority of our investigations fall in the grand scheme of things? There are three types of investigations that can occur for any given accident: a Criminal Investigative Division (CID) investigation; a safety accident investigation; and a collateral investigation. CID representatives usually are onsite before we arrive, and they'll either have released the accident site or tell us no criminal intent was found, allowing us to begin our investigation. In the rare event we start an investigation and discover criminal intent, we stop and let CID take over, but we provide them with only the factual, non-privileged portions of our documentation.

We have priority over the collateral investigation for access to evidence, witnesses, and the accident scene. Even so, we must maintain a spirit of cooperation with the collateral board, which serves a very important function itself. In that spirit, we provide them with common-source, factual, non-privileged information as we review and record evidence.

With all that said, what do we do and how do we do it? First and foremost, our investigations are for accident prevention purposes only! Leaders and individual Soldiers must understand we gather the facts so we can keep the same accident from happening again. Our first-up teams are deployable within 2 hours of notification and placed on orders for the duration of the investigation, typically 14 to 21 days.

Contrary to popular belief, we don't collect witness statements. We question the Soldiers and witnesses involved and summarize each interview so the conversations

legally become hearsay evidence. We want people to talk freely with us without fear of retribution from their chain of command, and this process protects our evidence and findings from being used in legal proceedings. Remember, our investigations aren't conducted for legal or punitive purposes, and the USACRC has an assigned legal officer who protects the confidentiality of our information.

Everyone involved in an accident investigation must be as honest and forthright as possible. We need to know everything, even if it's admitting a task was done the wrong way. It's possible other Soldiers are doing the same task wrong as well, and we must change how that task is being performed. USACRC investigators also assist in maintenance of and have access to an Army-wide accident database to determine trends and pinpoint recurring problems in different systems. Should your unit experience an accident or incident, report it. If we don't know about it, we can't fix it.

Each investigation's timeline has already been established before we arrive onsite and consists of several phases. Phase one is the organization and preliminary examination stage, where the board president has their inbrief, organizes the board, assigns duties and responsibilities, assumes site control, and performs an initial site assessment. This phase typically lasts 1 to 2 days.

Phase two of the investigative

process, data collection, begins on day 3. During this time we look not only at the accident, but also the unit as a whole and the chain of command all the way up to the Army Command. This process allows us to make accident prevention recommendations to the Department of the Army (DA) Staff. We handle witness summaries and also review the unit's maintenance and personnel records, personal protective equipment, and duty logs; check weather on the accident date; and perform any equipment teardown or operational checks. Data collection usually takes 3 to 8 days to complete.

Analysis and deliberations make up phase three, when we start putting all the pieces together. This process lasts 4 to 7 days. Phase four—completing the field report—occurs between days 12 and 18. The findings of this report are staffed upon completion through the USACRC SMEs as a quality assurance measure. When the investigators receive approval of their results, they outbrief the accident unit's chain of command. The outbrief consists of an informal pre-brief with the unit and their higher command (if time, location, and schedules permit) and then a formal outbrief with the unit's major command. The deployed investigators return to the USACRC when this phase is complete.

For a variety of reasons, Soldiers are often reluctant to talk about any accident their unit suffers, especially with us. Here are a few myths we've heard over the years:

- The investigators are out to get the accident crews.
- The investigators are out to get the accident chain of command.
- The investigators are here because the unit is messed up.
- The investigators are here to upset as many people as possible in the shortest amount of time.

These myths couldn't be further from the truth. We simply want to prevent another accident from happening, and we have very strong feelings about it. Several different factors make people feel uncomfortable around us too, including:

- We're from the outside and not part of the accident unit.
- We don't know the people involved.
- We disrupt the unit's routine.
- We ask that a lot of information be made available to us in a short amount of time.
- We aren't there because you had a good day.
- We are a DA-level investigation.

What accident investigations ultimately come down to is this: We take our jobs and your life very seriously. There is no need to feel uncomfortable; after all, investigations are conducted for accident prevention purposes only. We simply want to make sure the same accident doesn't happen again to you or anyone else.

If you're called upon to conduct or assist with an accident investigation, feel free to give us a call at the number listed in this article's contact block or access the tools on our Web site, <https://cra.army.mil/>. (IAI board members should find the "Investigator's Handbook" very helpful; a new edition will be available online in October 2006). The USACRC investigators are here to help, not hinder. We really don't want to see you or your buddies, not because we don't like you, but because if we show up that means someone's been seriously hurt or killed. Play by the rules and use Composite

Risk Management for all your missions, and maybe you'll never run into one of us. Nothing would make us happier! 🚛

Comments regarding this article may be directed to the USACRC Accident Investigation Division Ground Branch at (334) 255-2932 or DSN 558-2932.

ACCIDENT INVESTIGATION



"Put the weapon down and step away!" You usually only hear that phrase on television cop shows late at night, and if you hear it in real life, you're probably in big trouble. But these words don't apply only to criminal situations. Many a negligent discharge might've been prevented if someone had spoken up when they saw a comrade acting in an unexpected or less-than-safe manner. Such was the case in a recent negligent discharge accident.

After 30-odd pages of analysis, the local and centralized accident investigation boards came up with a recommendation for live fire ranges. When something unsafe or unexpected happens on the range, the person(s) involved should put the weapon down and step back before doing anything else. The chance for error and a negligent discharge is greatly reduced when the most dangerous object around is removed from human hands.

Before this particular accident, some Soldiers and Air Force members were training perimeter defense techniques. Two Airmen situated side by side fired their M16s over a wall at moving targets downrange. Hot brass from the left Airman's weapon landed on the other Airman's neck and

rolled down his back. The burned Airman jerked his left hand up and pivoted his body to the left as he tried to brush away the scorching metal. However, his rifle was still in his right hand, and he didn't remove his finger from the trigger as he turned toward the other Airman. The M16 slipped off the table support, and its falling weight applied pressure to the burned Airman's trigger finger, causing the weapon to fire and hit the Airman to the left. He suffered extensive abdominal injuries but fortunately survived the incident.

Could this type accident happen on your range? The odds of this exact incident happening again are phenomenally small, but there's always a chance when live ammunition is involved. Hot brass is a fact of life on live fire ranges, and it's also a common problem in close combat and military operations in urban terrain environments. But anything from a bee sting to a lightning strike or just a good scare could cause any Soldier to react in the same manner as the Airman in this accident, regardless their operational location.

Leaders and individual Soldiers applying Composite Risk Management (CRM) to their live fire training should automatically identify negligent discharges as a primary hazard on the range. But it's important

HOT BRASS IN T



not to discount the other events and circumstances that might result in an accident. A good resource for leaders preparing for a live fire exercise is the lessons learned from other units that have either recently completed similar training or conduct it on a regular basis. Identify what their problems were, assess your unit's risk, and mitigate accordingly.

The unit in this accident had the required officer in charge (OIC) and range safety officer (RSO) on the range that day, as well as additional safety officers who were acting as observers/controllers (O/Cs) during the exercise. Although not a contributing factor, it's possible the O/Cs could've missed an unsafe act because they were preoccupied with their controlling responsibilities. When training Soldiers or Airmen who aren't accustomed to live fire ranges, leaders must assess their safety officers' duties to ensure they aren't overtasked. For units that regularly train on these ranges, leaders should assess the need for safety mechanisms above and beyond what's usually required.

Before they take over the range, OICs and RSOs are required to attend training with their local range control, and there are several vital questions that must be asked during this interaction. What are the steps for medical evacuation? What is the fastest and safest route to the nearest treatment facility? How will range control assist the unit with evacuation operations? These are important issues that must be discussed and planned for before the first shot is fired. When an accident or other injury occurs isn't the time to figure out the actual execution of a medical evacuation.

It's as simple as this: Put some thought into planning your next training event. CRM isn't just a paper drill for the operations order. Rather, it's a tool to help leaders identify how their Soldiers are at risk and how they plan to mitigate it. Visit the U.S. Army Combat Readiness Center's Web site at <https://crc.army.mil> to find out more about CRM and how you can Own the Edge both on and off the range. 🚗

Comments regarding this article may be directed to the USACRC Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through USACRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationssupport@crc.army.mil.

THE SUMMERTIME

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

Only someone who's been there knows the relief when you finally hear a bird is on its way to pick you up from some remote, hostile locale. For one unit, this welcome news came after 3 weeks of hard fighting in the rugged mountains of central Afghanistan. A CH-47 Chinook was scheduled to extract the Soldiers from their remote observation points (OPs), but at night—a decision that both relieved and concerned the unit's NCO in charge (NCOIC).

THEY FINISH

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

The NCOIC was relieved his men were getting a well-deserved break, but he was concerned about using OP Alpha for a night extraction. The area was marked by several trees and littered with loose debris and trash from the unit's time there. To make matters worse, the helicopter landing zone (HLZ) on OP Alpha was big enough for only the CH-47's back two wheels to touch the ground. The aircraft's nose would remain in the air over a steep cliff, and all these factors together made for one tough mission at night. Other CH-47s had landed at the HLZ before, but in the daylight; even then, there were a few tense situations because of the tight fit.

The NCOIC recognized the difficult circumstances and surveyed the area to see if anything could be done to help ensure a safe outcome. He directed a team to pack up and position the unit's equipment on the HLZ to facilitate rapid loading. The other NCOs supervised the collection and burning of the trash and debris.

The NCOIC then tried to tackle the tree problem. He wasn't sure of the aircraft's exact clearance requirements, but he felt certain that if at least one of the HLZ's two trees were cut down the pilots would have an easier time maneuvering the aircraft in the small area at night. He tasked a couple of his subordinates to cut down what he thought was the most problematic tree.

This job proved easier said than done. The tasked Soldiers couldn't find an axe, machete, or tree saw on the remote OP. They found a pick, hammer, and k-bar knife, though, and running short on time, they did what most Soldiers would do—they worked with what they had with all the hooah they could muster. They began hacking at the foot-wide tree trunk with the knife at a feverish pace, but after several hours they were exhausted and had cut only halfway through the tree. The Soldiers were out of time and short on water, so they finished the other preparations and marked the HLZ.



ED THE JOB

They marked the obstacles with small chem lights, which they placed slightly above the ground for better visibility. The HLZ was narrow and there wasn't room for a full inverted Y, so the Soldiers secured two large chem lights on the ground near where the aircraft's rear tires were to touch down. Only minutes after the final checks were conducted, the inbound CH-47 crew called the pick-up zone control and announced they were 2 kilometers out from landing.

The aircraft made a couple of missed approaches before

the pilots successfully executed the difficult backing approach onto the small landing area. The 70-foot gap between the trees allowed only 4 to 5 feet of rotor clearance on both sides of the aircraft. But despite these challenges, the initial passenger and equipment loading went as planned.

About 45 seconds after landing, however, the first of the accident's chain of events happened. The aircrew saw some small, glowing spots directly below the aircraft's nose and apparently thought they were taking enemy fire.

They made a hasty departure off the HLZ with only part of their passengers and cargo. The aircrew soon discovered the spots were merely burning embers from the trash pit just to their side; the aircraft's rotor wash had stoked the burn pit and caused the embers to fly through the air. Some Soldiers covered the burn pit with dirt, and the CH-47 crew attempted another approach to pick up the rest of the passengers and cargo.

On this last approach, the CH-47's rear rotor disk contacted a tree on the left side of the HLZ. The aircrew attempted

“ Ground troops work together to all in the hectic and combat operations”

an emergency departure, but the rear rotor system collapsed 5 seconds after the tree strike. Tragically, the aircraft crashed on the nearby cliff and was consumed by a post-crash fire, killing all 10 Soldiers onboard.

A Marine platoon arrived at the HLZ soon after the accident to provide security. They saw the partially chopped tree and, realizing it would be in the way of the aircraft that would come get *them*, started taking the tree down with a tree saw. Within 10 minutes they'd finished the job the ill-equipped Soldiers had started earlier that day. They then walked down the cliff to assist in recovering the deceased Soldiers' remains from the crashed aircraft.

By now you might be wondering why this accident account is appearing in *Countermeasure* and not *Flightfax*, the U.S. Army Combat Readiness Center's aviation risk management publication. The aircraft pilot in command is generally regarded as the final authority on HLZ suitability, but it's the whole team's responsibility, from private to commanding officer, to exercise

Composite Risk Management (CRM) to minimize overall risk. We must apply the hard-learned lessons from this accident to future combat operations; after all, our ground troops rely on aircraft to get them in and out of places vehicles can't go.

HLZ preparation might seem like a small part of the big picture, but it plays a huge role in the CRM process for troops operating in remote areas. Just because an HLZ begins as an unimproved area doesn't mean it has to remain so. No Soldier tasked with HLZ preparation should be lulled into a false sense of security, even if an aircrew has managed to "squeeze in there" a time or two. No two pilots are alike, and no two missions are the same. What might be a fairly simple daytime landing for an experienced aircrew can be extremely challenging for a junior crew that's facing high winds, heavy sling loads, or low-illumination night operations. The goal of combat HLZ preparation is to maximize the chances of success in even the most challenging high-threat conditions, not

simply do enough to get by and hope for the best.

There are a number of simple steps and resources Soldiers and leaders can use when preparing combat HLZs. Two good references are Field Manual (FM) 10-450-3, *Multi-service Helicopter Sling Load: Basic Operations and Equipment*, and the recently updated FM 3-21.38, *Pathfinders Operations*, both of which address the essentials of HLZ operations. The most basic task is landing site selection, which is based on a number of tactical and safety factors including:

- Security and concealment: Landing sites should be shielded from the enemy as much as possible and offer good masking terrain on the approach and departure paths.
- Convenience: Landing sites should be situated in areas that limit the ground movement of cargo and troops as much as possible.
- Slope: Helicopters have a varied tolerance for landing on slopes, depending on the aircraft type and wind conditions. As a general rule, the less slope on the landing surface the better; but a 7-degree maximum

and **aviators** have to to ensure the **safety** of **dangerous** world of **operations.** ”

slope on the landing surface is a good figure for planning. A global positioning system is a great tool for establishing the distance and gradient of slopes. Down-slope landings should be avoided because most aircraft have an extremely low tolerance for landing with the nose pointed down. Additionally, passengers and cargo should never be loaded from the upslope side because the steeper the slope, the closer the rotor system is to the ground.

- Surface suitability: Sod, hardstand, rock, or packed earth are the preferred landing surfaces for Army helicopters. Dusty surfaces should be avoided whenever possible.

- Obstacle clearance and size: The HLZ must have an obstacle-free approach path (i.e., clear of tall wires and unlit towers) and suitably large obstacle-free zones to accommodate the type and number of aircraft using the HLZ. FM 10-450-3 and FM 3-21.38 define the parameters for the three zones (red, green, and white) required at every HLZ. If more than one aircraft is scheduled to land in the HLZ, each helicopter must have its own obstacle-free zones.

- Marking and signaling: A number of marking and signaling devices and techniques are available, but the most basic landing systems are the inverted Y for nighttime landings and the VS-17 landing T for daytime missions. The marking materials must be secured to withstand winds greater than 100 mph from the aircraft's rotor wash.

Ground troops and aviators have to work together to ensure the safety of all in the hectic and dangerous world of combat operations. Neither our ground nor air forces are fighting in ideal conditions, so cooperation between the two is vital to everyone's survival. The 10 good Soldiers we lost in this accident thought they were leaving

the worst behind them, but it took only one broken tree and a few seconds for disaster to strike. Use CRM and take into account all the hazards your unit will face in combat, including those posed when the "freedom bird" lands. 

Comments regarding this article may be directed to the USACRC Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigation Division may be reached through USACRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

A MAP, BUT NO DIRECTION

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

Editor's note: The following article is based on an installation accident investigation (IAI). IAIs are forwarded to the U.S. Army Combat Readiness Center (USACRC) for finalization upon their completion at the Major Command level.

Two M1A2 Abrams tanks were tasked by their squadron commander to escort an explosive ordnance disposal (EOD) team to and from an enemy weapons cache site. The tanks were to provide security for the EOD team along the route of travel and during the demolition. The squadron tactical operations center briefed the tank crews, who'd been on patrol for another mission, via radio after they linked up with the EOD team on a main supply route (MSR). Although they identified the route, neither of the tank crews nor the EOD team was familiar with it or the area where the weapons

cache was located. Their maps and imagery didn't provide them with enough information to adequately plan the mission either, so the teams' leaders decided to take an alternate route to look for other roads leading to the cache site.

It was around 1600 when the patrol finally departed the linkup point, with the two tanks leading the EOD team's RG-31 Mine Protected Vehicle. The trip took significantly longer than planned because the route wasn't definitive, and the teams turned off several wrong roads before they found the cache site. They arrived there after dark around 1730, and the EOD team finished destroying the cache about 1845. The leaders then decided to return to the MSR using the same roads they'd traveled that afternoon, even though it was dark and they'd found the route through trial and error in the daylight.

The vehicle crews

began the return trip in their earlier configuration and moved south on a sandy, clay road that paralleled the eastern side of a canal. The lead tank crossed a bridge over the canal and turned right into the northbound lane of a road along the canal's west side, and the trail vehicles followed soon thereafter. At this time the patrol was traveling about 5 mph under white lights with a 300- to 400-meter separation between the lead and trail tanks.

After making the right turn, the trail tank's rear began to shake violently as it moved across the base of a berm to the vehicle's left. The crew heard the track commander (TC) tell the driver to go left, and the driver accelerated the tank as he attempted to steer left. However, the right edge of the road collapsed under the tank's weight as the driver tried to correct the vehicle. The crew heard the TC announce "rollover,

rollover, rollover" as the tank overturned into the water-filled canal below.

The tank came to rest on top of its turret at the base of the canal and was submerged in waist-deep water. The TC was partially ejected outside the turret and trapped beneath the water. The gunner, loader, and driver briefly lost consciousness as the tank struck the canal's bottom and were unaware the vehicle was submerged until the gunner turned on an interior dome light and saw water inside the turret. On the TC's side, the water was knee deep; in the loader's area, it was several inches deep; and the turret was partially filled with water and sand.

The gunner and loader found the TC, but only his lower back, buttocks, and legs were visible inside the turret. They attempted to pull the TC wholly back into the turret but were unable to free him under the tank's weight. His legs



were limp and floating in the water, but the rest of his body was rigid. The TC didn't respond verbally or move when the gunner and loader pushed an air hose through the TC's hatch, and the gunner couldn't find the TC's pulse. The loader cut away part of the TC's protective vest and again tried to pull him inside the turret without success.

The driver couldn't open the driver's hatch and had to exit the vehicle through a small space between the gun breach inside the turret. Using an air hose to breathe, the loader and gunner egressed the tank through a crawlspace dug by the EOD team and lead tank's crew. The troop commander arrived several hours later at 0121 with three M88 Hercules recovery vehicles. It took about an hour for the recovery team to right the tank, and at daybreak they finally pulled it completely out of the canal and removed the TC's body. His death was

attributed to blunt-force trauma suffered during the rollover and a lack of oxygen after the tank settled in the water.

The installation accident investigation conducted after this incident revealed two primary failures: a failure to adequately plan the mission and failure to execute proper rollover procedures. First, the two tank crews couldn't complete a map recon of the route to the demolition site because the maps they had in their possession didn't provide sufficient detail for the crews to successfully navigate the area of operations. Leaders must ensure their mission fragmentary orders include detailed maps and sufficient route instructions so their crews can safely accomplish their missions.

The TC also didn't follow standard rollover procedures after the emergency was verbally acknowledged among the crew. Although he declared the rollover

himself, the TC didn't continue the procedure for his position—namely, quickly dropping down inside the turret. His upper body was pinned between the turret edge and canal bottom as a result. This tragic loss illustrates the importance of rollover drills, which every Soldier must rehearse until the actions become instinctive. This feat can be accomplished by involved, caring leaders that emphasize the necessity of rollover training throughout their formations.

This accident was undoubtedly tragic, but there were a few simple steps the unit's leadership and the crews themselves could've taken to ensure mission success. We've already discussed proper planning and rollover procedures, but we haven't talked about Composite Risk Management (CRM). Had the tank crews used CRM when they were trying to identify alternate routes, they might've realized the hazards they faced

on the unimproved roads they ultimately selected. This instance wasn't the first time a canal road collapsed under a tactical vehicle in theater; similar roads have caved in under vehicles weighing far less than an M1 tank, including HMMWVs. The bottom line is every Soldier must take into account all the hazards, both tactical and accidental, that can hurt or kill them or their buddies. We need each one of you, so use CRM to stay ready and Own the Edge! 

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Warm, sunny weather is what most folks think about when it comes to the southern United States. It's not just warm, but downright hot here several months of the year. But the other extreme is also true—winters can be brutal, even if we don't have a lot of snow. Believe it or not, we've seen cold injuries here at the U.S. Army Ranger School in Fort Benning, GA, well below the Mason-Dixon Line.

The Frosty Toe Mystery

JIM WIEHE
Headquarters and Headquarters Detachment
Ranger Training Brigade, U.S. Army Ranger School
Fort Benning, GA

Soldiers that fall victim to cold injuries usually end up much worse off because they and their leaders aren't trained to identify the early signs and symptoms of these afflictions. The Ranger School has an internal standing operating procedure in accordance with Army Regulation (AR) 350-1, *Army Training and Education*, and it's designed to mitigate the risks our students will face in extreme weather conditions. However, the three phases of Ranger training occur in different geographical locations—Fort

Benning; Dahlonga, GA; and Eglin Air Force Base, FL. Although these locations are relatively close together, there's enough distance to create a unique set of environmental concerns for the training battalions in each area. And, despite our precautions, late last December a series of events resulted in a student suffering a cold weather injury that should've been avoided.

The student started complaining of pain in his right big toe on the fourth day of a field training exercise (FTX). The unit medics conducted foot checks in accordance with AR

350-1; they noted mild swelling and a ruptured, healing blister on top of the student's toe, but no accompanying redness or warmth. They diagnosed a likely sprain aggravated by a bunion.

During the second FTX 4 days later, the student complained the pain in his toe was worse, but he didn't attend sick call on change of mission day. Although the student limped when he saw the medics, he didn't do so while being observed earlier in the day. The senior medic discussed this fact with the Ranger instructors (RIs) and told them to watch the student, whose original diagnosis remained unchanged.

The senior medic evaluated the student again the next day in the field during sick call. The student's toe was red and tender around the old blister, so the medic administered an oral antibiotic to combat the inflammation, which he assessed as cellulitis. The student was seen again the following day at the troop medical clinic (TMC). The TMC medics saw the student's condition was worsening and administered intramuscular antibiotics in addition to the oral medication he was already taking. The student continued taking the medicine until the FTX was over, at which time he returned to Fort Benning to begin processing for exodus leave.

Upon his return, the student was evaluated by a physician's assistant (PA) who told him to finish the oral antibiotics and seek additional treatment at his leave location if the condition worsened. While on leave a few days later, both the student's big toes swelled and, in his own words, "hurt like hell." The tips of his big toes became discolored a couple of days later, so he visited a civilian doctor who changed the antibiotics and told the student to follow up with medical personnel when he returned to Fort Benning.

Back at Fort Benning, the battalion PA evaluated the student before his scheduled departure to Eglin and noticed the discolored areas. He referred the student to the brigade PA, who then diagnosed the student with second-degree frostbite on both toes. The podiatry department at the post hospital confirmed the PA's diagnosis the following day. The student received a medical drop, was given a 6-month profile, and instructed to contact the TMC at his home station for follow-up care.

The investigation into the

incident revealed the underlying soft tissue infection and resultant swelling decreased circulation in the student's toes, greatly increasing the risk for a cold weather injury. This infection, coupled with repeated exposure to the cold, resulted in the student's frostbite injury. The student also didn't take responsibility for his own foot care, exacerbating the damage caused by the frostbite. He said the frostbite symptoms, including the discolorations, didn't develop until he was several days into his leave, and he didn't mention the symptoms during his multiple on-duty evaluations. No other students in the class reported any similar symptoms.

The Ranger School learned several lessons from this incident, and we'd like to share those with you now. First, distal extremities such as fingers and toes, areas of limited circulation, and exposed body parts, including the hands and feet, are much more prone to cold weather injury than the more insulated body areas. Likewise, Soldiers with underlying infections on those extremities are at even higher risk, as our student found out.

Our cadre are now more suspicious and thorough in their foot checks, especially during sustained training in inclement weather. They're also enforcing the students' sock and footgear changes to a higher degree. Hydration is another key issue our cadre are tackling in cold weather injury prevention. Our

DID YOU KNOW?

Frostbite can occur in as little as 30 minutes when an outside temperature of 10 °F is coupled with high winds, and even faster for lower temperatures. For this and other cold weather injury facts and prevention tips, visit the U.S. Army Center for Health Promotion and Preventive Medicine's Web site at <http://chppm-www.apgea.army.mil/>.



students and all Soldiers operating in extreme environments must continue to hydrate even when they don't feel like it.

Remember, cold weather injuries can happen even in the sunniest of places and to the most hooah of Soldiers. Our student spent 6 months on profile for a preventable injury when he could've been doing his duty as a Ranger instead. No one can change the weather, but we can adapt our behavior to beat it and fight another day. 🚢

Contact the author by e-mail at james.wiehe@us.army.mil.



Big Pic

DON WREN
System Safety Engineer
U.S. Army Combat Readiness Center



etting the ture

It's been a few months since I wrote an article on Composite Risk Management (CRM) pertaining to commercial off-the-shelf products—since last March, to be exact. A photo that accompanied the article and showed several unauthorized

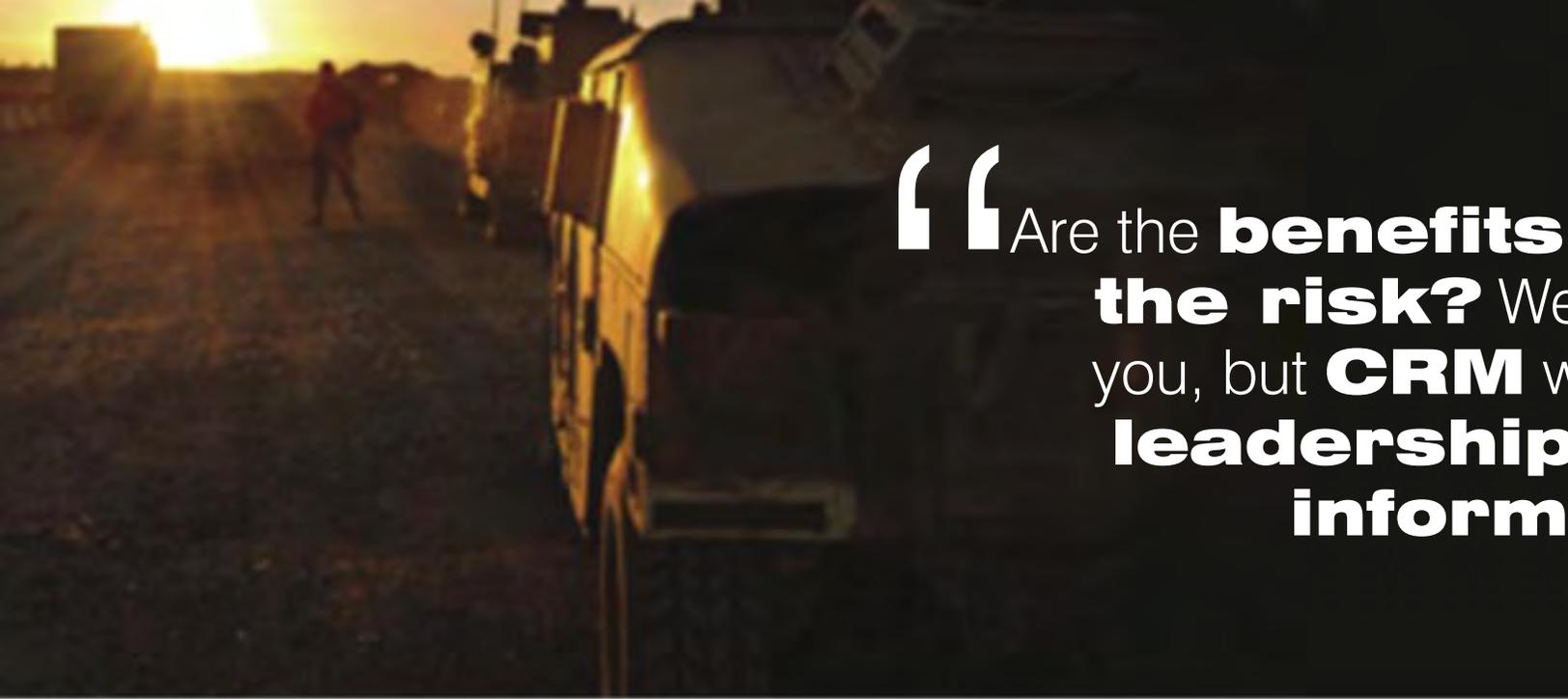
HMMWV modifications, including a Claymore mine zip-tied to the front bumper, prompted several Soldiers to write *Countermeasure* with their concerns. The messages invariably said we at the U.S. Army Combat Readiness Center (USACRC) just don't know what it's like in theater and further explained the modifications are needed to carry out real-world missions in Iraq and Afghanistan.

The issue isn't that Soldiers and commanders truly need some vehicle modifications to fit their mission requirements, and we've never said not to do what's needed. What we have said, however, is every Soldier should step back and use CRM to determine the big-picture effects of their actions. In the case of vehicle modifications, the issues to be weighed include vehicle type, intended operations, and maintenance and logistics to keep the vehicle and equipment running.

One point of contention regarding the HMMWV photograph was the additional lights installed on the non-approved bumper, so let's start there. Lights like the set in the photo do indeed provide more illumination for drivers in dark or dimly lit areas during patrols. This is a good thing, but you also have to look at what other hazards the lights might present for that vehicle.

Additional lights increase the electrical current drawn from the vehicle's systems. Currently, a standard HMMWV's alternator is at its calculated maximum output with all approved additions before anything else is added. I've received reports and personally seen additional equipment on HMMWVs that goes well beyond what's needed for the mission, including car stereos, coffee pots, and some things I don't even recognize. This extra wattage increases current flow, and the vehicle's wires can warm up to the point they ignite. Vehicle electrical fires aren't easy to fight, either, since most wires are hidden in the tiniest of spaces.

Have trouble believing this? It happens a lot more than you might think. A HMMWV in theater recently caught fire and burned to the ground; it



“ Are the **benefits** **the risk?** We you, but **CRM** w **leadership** **inform**

and the mission equipment it was carrying were written off as total losses. The HMMWV was outfitted with some extra equipment that overloaded its power systems, and the incident was attributed to “improper and unknown” wiring that caught fire. The crew escaped without significant injuries, but they probably had a hard time explaining to their commanders why \$200,000 worth of Army equipment was lying in a molten pile on the ground.

Here are some things to consider when installing optional equipment on tactical vehicles. Does the wiring include proper-sized wire and insulation for the current required to operate the equipment? Are the proper fuses in line and readily accessible to the crew inside the cab? How will the equipment be turned on or off? There are many more questions to be answered, but as you can see, it’s often not as simple as merely installing something and expecting it to work.

When installing lights, here’s something else to think about— shadows. Lights mounted close to the front grill have to shine through the Vehicle Push Assistance System. The bumper manufacturer doesn’t mount their lights at the back of the bumper; they install them up front. The reason is this location eliminates

shadows. The Army found that headlights mounted behind slat armor create shadows for the drivers and anyone else looking forward on the roadway. The Program Manager-Brigade Combat Team assessed the hazard and moved the lights to shine up and over the armor to illuminate the entire driving area.

Commanders that allow their equipment to be modified become the program manager trainer, and logistician for the additional gear, so they must use CRM to mitigate any potential hazards associated with it. One recent example is a new vehicle that was designed, tested, and fielded by a program manager who set the vehicle’s maximum safe operating speed at 55 mph. Field commanders who received this vehicle decided to modify the design out of mission necessity, but the changes made the vehicle unstable at the approved speeds. In response to this hazard, the commanders tested the modified system, determined a new maximum speed of 45 mph, and disseminated the updated guidance to their units.

The steps these commanders took are a model example of CRM. They identified and assessed the hazards, established corrective

measures, implemented necessary changes, and maintained oversight while determining what factors would affect their mission. If left uncorrected, the speed hazard could’ve affected their mission greatly in terms of lost time, equipment, and manpower.

Leaders must document their equipment modifications and forward an operational needs statement (ONS) to their Training and Doctrine Command representatives for review and possible inclusion in materiel changes. In the example discussed above, the unit submitted an ONS that ultimately was approved and forwarded to the program manager’s office. Now another



greater than
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 will allow you and your
 to make **better-**
ed decisions. ” ”

vehicle system that includes the field modification is in development, thanks to the foresight of that unit's leadership.

Our Army can no longer just “check the box” or be a compliance-based organization when it comes to safety. We must take it one step further and integrate CRM to assess all the threats and risks, whether they're from the enemy or the surrounding hazards, including our equipment and any modifications to it. CRM gives us the ability to fully recognize and answer the question, “What can take me or my buddy out of the fight?” Through this process, you and your leadership can take action to mitigate any risks, regardless your mission. Use CRM and stay in the fight! 🚗

Contact the author at (334) 255-3774, DSN 558-3774, or by e-mail at donald.wren@us.army.mil.

“ Our Army can no longer just
“check the box”
 or be a **compliance-**
based organization
 when it comes to safety. ” ”

Editor's note: The following paragraphs are excerpts from messages sent by Soldiers in response to the modified HMMWV featured in the March 2006 and May 2006 Countermeasure issues. The photo of the HMMWV was accompanied by a brief article explaining why the vehicle modifications seen in the picture were unapproved and unsafe. Both issues prompted several responses from readers in the field that, in turn, resulted in the publication of this follow-up article.

“The only thing I see totally off the wall is the Claymore (stupid). But there are units out there that don't have the luxuries of other units. We didn't get tow bars and other parts we needed for our gun trucks, so we and a lot of other units had to improvise. There are ways to modify parts to make your vehicle safer to drive, especially in the desert—bigger bumpers, extra lights, anything to give you an extra edge. There were days we had to bump vehicles, but the stock bumpers we had were garbage, so we had a bunch of bumpers and extra headlights put on our gun trucks. The extra headlights were needed especially to brighten up the roads to spot hazards. Tow bars were hard to come by in the desert and if you didn't bring any with you, you were stuck like chuck trying to order some.”

SGT Felipe Hernandez

“I find it interesting that most all the modifications identified are commonplace here in Baghdad. The extra headlights on the vehicle grill and bumper are in place to better enable Soldiers to identify hazards in the road. The unapproved bumper and compatible tow bar are manufactured and sold by a company here in the AOR. We are fortunate there exists companies such as this one that come up with realistic solutions to problems the Army supply system has failed to adequately address. The chain is in place for fast recovery, although this task is more commonly accomplished with a tow strap. The driver side mirror is located in a lower position via brackets provided in the Fragmentation Kit 5 the Army provides! I can't comment much on the Claymore mine. While I agree it's ill advised, it does make quite a deterrent to would-be suicide bombers.

“What these Soldiers were thinking is SURVIVABILITY! You probably cannot imagine how much a Soldier on a 20-mph route regulation mission at 0400 appreciates extra light, or how beneficial quick recovery is when the enemy has mortars ready, or even how much safer it is to have a large bumper to provide some standoff and protection from barriers that must be breached. Never mind how important it is to have outward visibility after installing an armor upgrade. But I'm sure you'd disapprove of that armor too, since the M1114 wasn't equipped with it off the assembly line.

“Thanks for all the support. With all due respect, your ignorance speaks volumes. If any of you are interested in gaining a new appreciation for all those 'unauthorized modifications,' I have an empty seat waiting for you, or perhaps you'd like to be a gunner for a day. Hooah!”

Ssg Joshua Holden

**Class A**

Two Soldiers died and two were injured when their M1025 HMMWV was rear-ended by a civilian tractor-trailer. The four Soldiers had completed a training exercise and were traveling to their barracks when the truck hit the HMMWV, which ran off the road and overturned several times. All four Soldiers were wearing their seatbelts and helmets, and the driver was traveling at an estimated 50 to 55 mph in a 65 mph zone with clear road conditions. The Soldiers sitting in the front and backseat passenger positions were ejected clear of the vehicle when their seatbelts sheared at the attachment points; both suffered moderate injuries and are expected to recover fully. The driver and driver-side backseat passenger remained inside the HMMWV and were killed during the rollover. The accident occurred during the late evening.

Class B

The gunner of an M1117 Armored Security Vehicle (ASV) suffered unspecified injuries when his vehicle struck an M923 5-ton truck. The M1117's driver was attempting to pass another vehicle when he steered the ASV off the roadway. He then overcorrected the vehicle and hit the 5-ton truck. Both the ASV and 5-ton overturned, and the M1117's turret was sheared from the vehicle during the rollover sequence. No other injuries nor seatbelt use were reported. The accident occurred during the early morning.



■ Soldier suffered a partial finger amputation when the M1114 HMMWV he was riding in hit a barricade and rolled over. The HMMWV crew was on a nighttime combat patrol mission and didn't see the barricade, which was sitting in the middle of the roadway, until they were too close to avoid striking it. The injured Soldier was serving as the vehicle's gunner and was taken to a local hospital for treatment. No other injuries were reported. The gunner and crew were using their restraint systems and wearing all required personal protective equipment (PPE). The accident occurred during the late evening.



Class C

■ Soldier suffered fractures to his arm when the Stryker he was riding in rolled over during a driver's training exercise. The vehicle was traveling on a tank trail when the driver trainee steered the Stryker up a steep embankment, causing the vehicle to roll over. The injured Soldier was riding in the back of the Stryker and was hurt when equipment stored in the vehicle's benches came

loose during the rollover and hit his arm. The Soldier was wearing all required PPE. No other injuries were reported. The accident occurred during the mid-afternoon.



Class A

■ Soldier suffered a fatal gunshot wound from another Soldier's 9 mm weapon. The deceased Soldier was on guard duty when he was shot in the chest with a round from the 9 mm, which the other Soldier was clearing. He was medically evacuated to a local combat support hospital, where he died a short time later. The accident occurred during the early morning.

■ Soldier collapsed and died about an hour after playing soccer during organized physical training. No other details were reported. The accident occurred during the mid-morning.

Class C

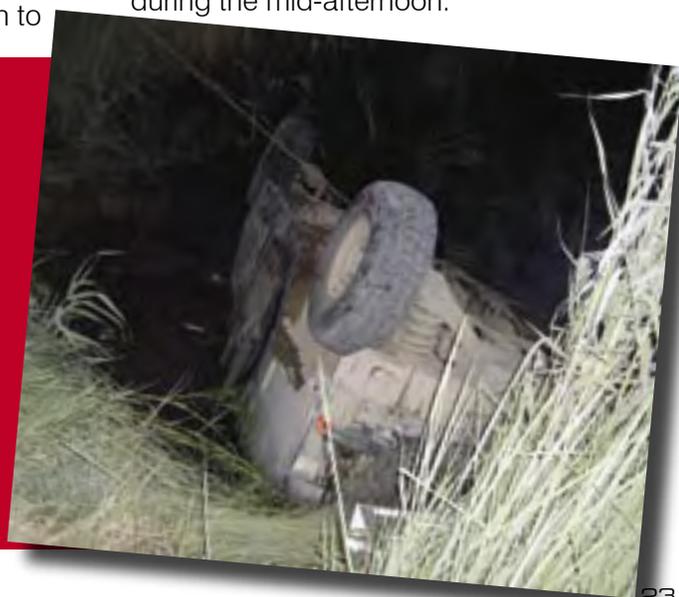
■ Soldier suffered a gunshot wound to his left elbow when his weapon discharged in the unit armory. The Soldier was returning the weapon to

the armory when it fired. No other details were reported. The accident occurred during the late morning.

■ Two Soldiers suffered from heat exhaustion after completing a 5-hour daytime tactical road march. The first injured Soldier complained of feeling faint and weak just before the end of the march, at which time he was evacuated to a local hospital and treated for heat exhaustion. The second Soldier complained of nausea and dizziness while setting up tents about 20 minutes after finishing the march. He was given intravenous fluids, packed in ice, and evacuated to a local hospital, where he was diagnosed with heat exhaustion and received additional fluids and painkillers. Both Soldiers conducted the 7-mile march while carrying 35-pound rucksacks and wearing flak vests that were damp following an earlier rainstorm. The outside temperature was in the mid-90 °F range during the march, and the Soldiers were not given water until they reached the march's end point. The accidents occurred about an hour apart during the mid-afternoon.

Class A

■ Two foreign national civilians were killed when their vehicle rear-ended an M1114 HMMWV and spun into a canal. The HMMWV also crashed into the canal and landed on top of the car. Both civilians were pinned in the car beneath the water and drowned. No Soldier injuries were reported. The accident occurred during the mid-morning.



Be an armed force

What you do right now impacts everyone.



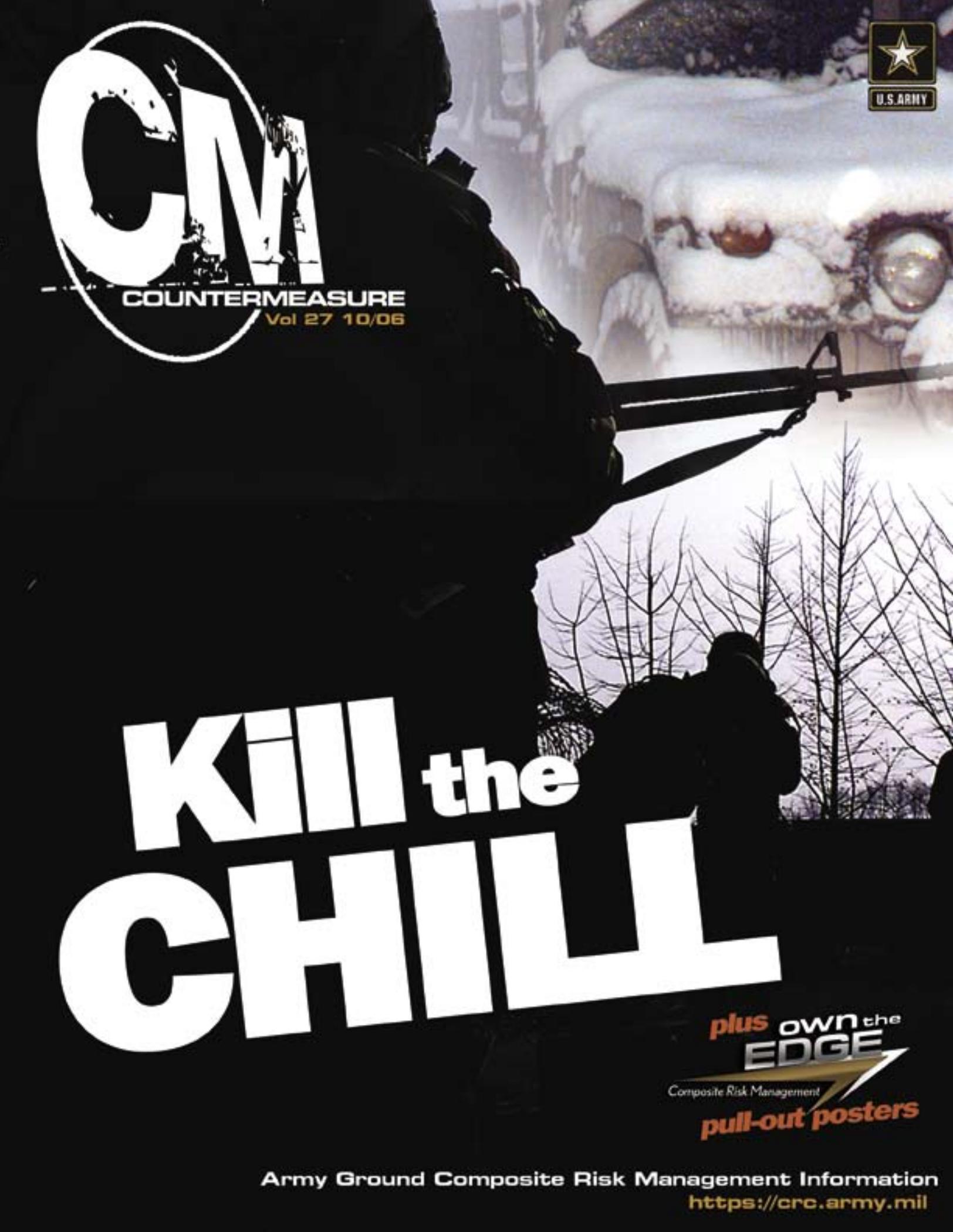
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EDGE
Composite Risk Management



CM

COUNTERMEASURE
Vol 27 10/06



Kill the CHILL

**plus own the
EDGE**

Composite Risk Management

pull-out posters

Army Ground Composite Risk Management Information
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from the Director of Army Safety

I'm Bill Forrester. On August 25, I assumed command of the U.S. Army Combat Readiness Center and the responsibilities as your Director of Army Safety. It is my distinct honor and privilege. The team at the USACRC is committed and passionate in doing whatever it takes to preserve our combat power.

Initial burst of my thoughts in my short time are in three areas.

1st - Individual.

We say the Army Safety Risk Management Information System is a winner. To date, there are five recorded deaths in the 1.3 million uses. Not only does the program give solid information to the user, it provides a built-in opportunity for the first-line supervisor to engage. This is a low-pain, high-gain initiative. So, what about the other 100-plus Soldiers that were killed and didn't use ASMSIS-2?

2nd - Unit.

The Army Readiness Assessment Program is a Web-based initiative that provides battalion-level commanders with data on their formation's readiness posture. Consider that units scoring in the bottom 25 percent are four times more likely than the top 25 percent to experience a Class A mishap, and the cost of lost equipment is 14 times greater than units scoring in the top 25 percent. The Army Readiness Assessment Program is big bang for the bucks, yet enrollments are soft and completions softer.

3rd - Army.

We say accidental deaths are down about 20 percent from last year's tally. Yet, we are still 250 percent above our directed goal when using fiscal 2002 as the baseline for a 50-percent reduction. We are not winning—yet—and there is clearly much work required.

So, what do we know?

We know our warriors live



Army Safety

and operate on the leading edge, but they should not be alone on the edge. Leaders must be there, engaged and accountable. Leaders must stay engaged. We must lead on the edge. There is no such thing as an anonymous leader. Leaders commit.

We know accountable leaders, engaged at the correct/appropriate echelon, immediately save lives and promote change in our Soldier's culture, instinct and intuition for our future. Consider that during the rise in motorcycle deaths this fiscal year, two-thirds of the 45 fatalities were sergeants and above. It is not just specialists that require or deserve engaged and accountable leaders.

We know that preliminary loss reports clearly reveal preventable mishaps where engaged leaders could have made a difference. Someone always knows . . . someone knows when a platoon member just bought a motorcycle but

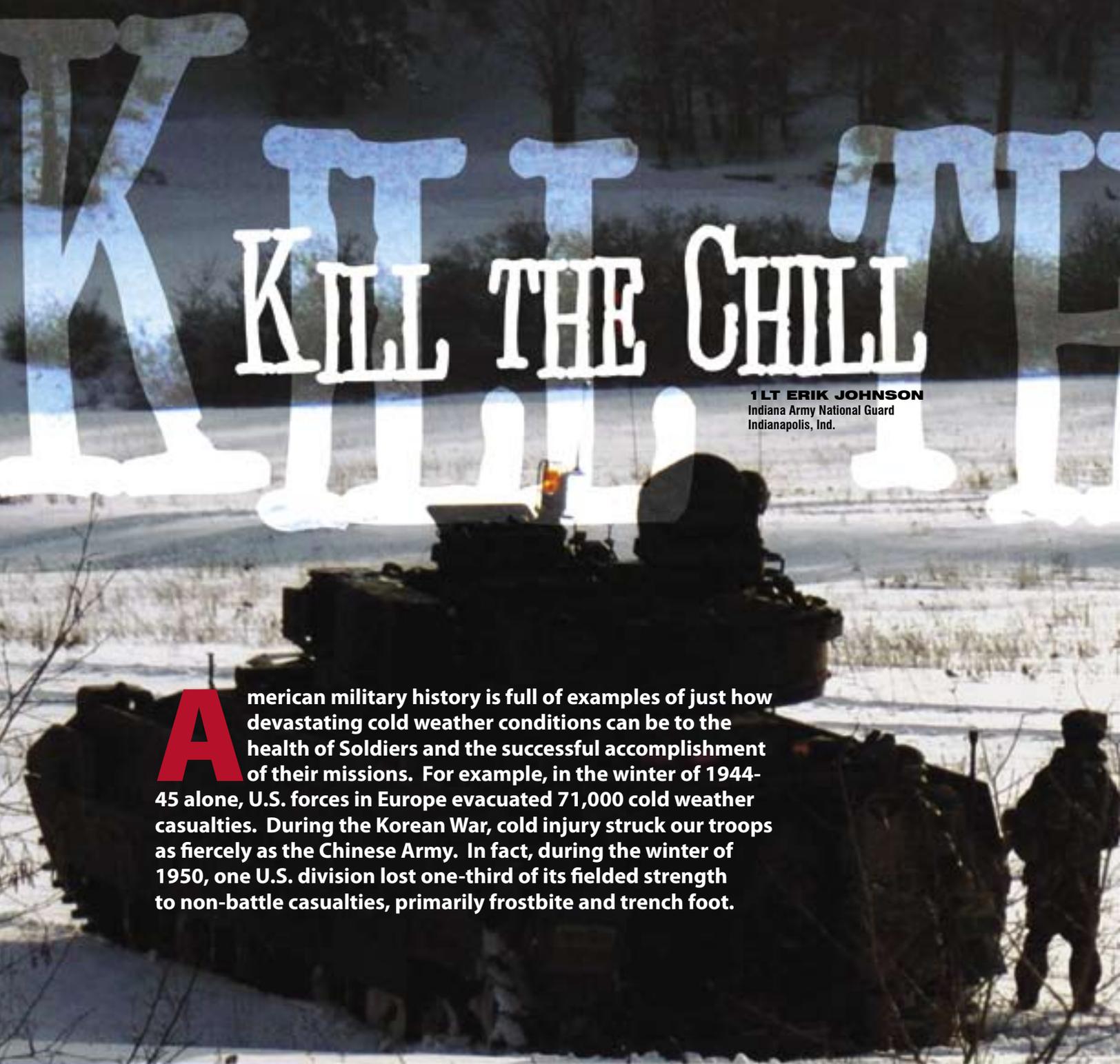
never completed required training . . . someone knows when an aviator's reputation is to "cowboy" aircraft . . . someone knows when Soldiers routinely fail to buckle up when driving. Someone knows and should engage.

Our job as leaders and Soldiers: Engage. Engage at the lowest level. The tools are there and we only get the Soldiers we have now. There is no strategic reserve we can call up when the ones we have are DEAD. We know we "never leave a fallen comrade." Please let the USACRC know how we can improve to preserve, maintain and improve OUR Army. ☆

***Leading on the edge
– Own the Edge.***

William H. Forrester
Brigadier General, USA
Commanding

Our job as leaders and Soldiers: Engage. Engage at the lowest level. The tools are there and we only get the Soldiers we have now.



KILL THE CHILL

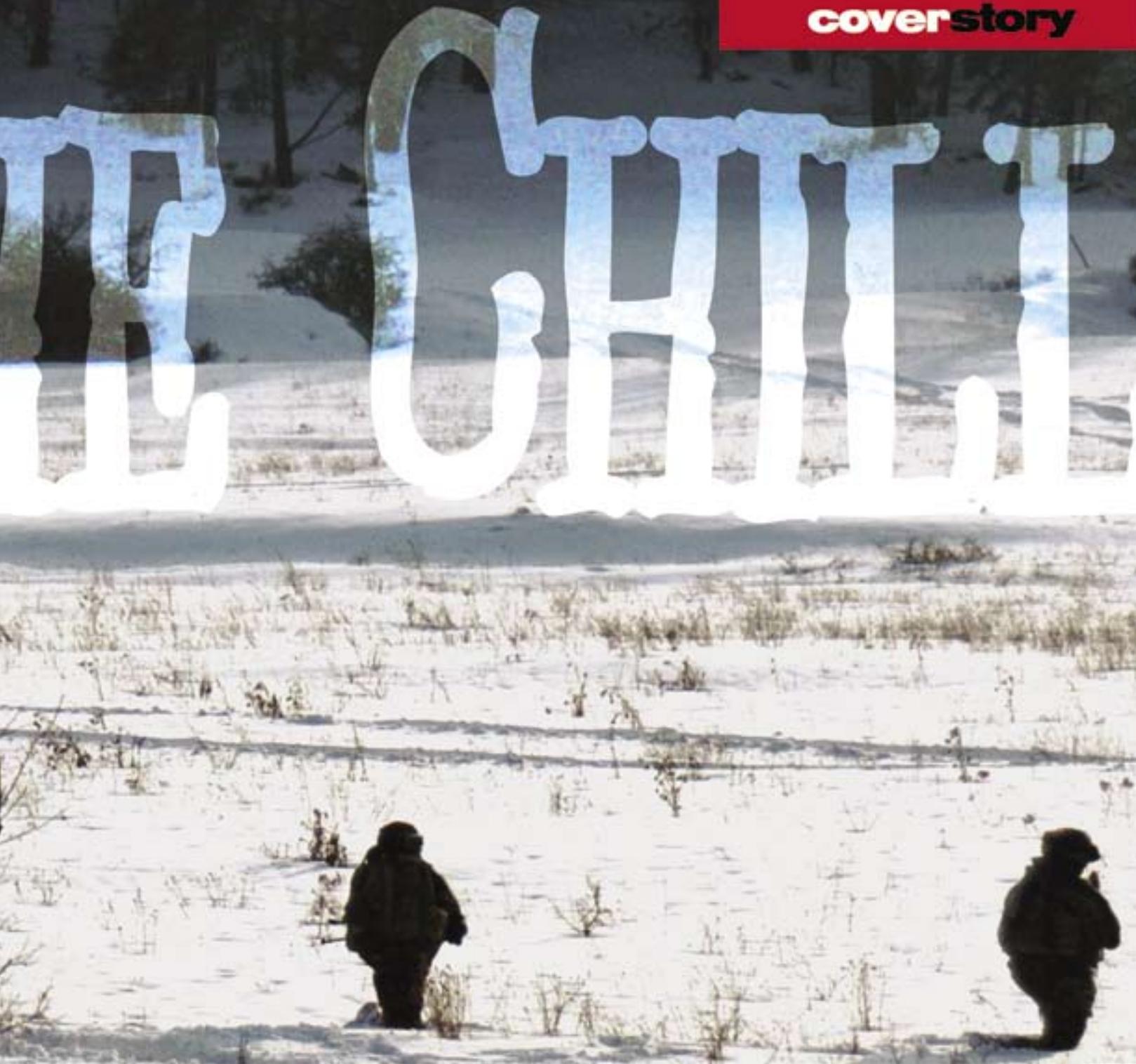
1 LT ERIK JOHNSON
Indiana Army National Guard
Indianapolis, Ind.

American military history is full of examples of just how devastating cold weather conditions can be to the health of Soldiers and the successful accomplishment of their missions. For example, in the winter of 1944-45 alone, U.S. forces in Europe evacuated 71,000 cold weather casualties. During the Korean War, cold injury struck our troops as fiercely as the Chinese Army. In fact, during the winter of 1950, one U.S. division lost one-third of its fielded strength to non-battle casualties, primarily frostbite and trench foot.

When my unit was deployed to Camp Bondsteel, Kosovo, we were in a more-or-less defensive posture. We patrolled but didn't attack, so we were in a static position, and our Soldiers were more susceptible to cold injuries than their counterparts in an attack posture. The reason is Soldiers in an attack posture have more

allowance for shelter and rest than those in a defensive state, who are always on guard and ready to act.

Because of this, we were particularly vulnerable to cold-weather injuries, but our leadership knew we couldn't afford to lose our strength to such injuries or accidents. Our commanding general at the time, BG Tod



Carmony, had a simple rule that, however brief, conveyed an important message: "Don't do stupid!" Therefore, leadership established a prevention program focused on education and training for cold-weather operations. Here are a few things we learned about cold-weather during our Kosovo deployment.

There are several elements unique to the profession of arms that put Soldiers at increased risk for cold injury, including clothing and equipment requirements, fatigue, intense physical activity, super-normal nutritional requirements, and a never-ending need for current training. As leaders, we must give due

consideration to the sometimes difficult circumstances of our lower ranks. It's the corporal who finds himself out in the cold on patrol or setting pickets, not the commander. These Soldiers are most susceptible to cold injury due to the nature of their work, so it's imperative prevention training should be focused on them first.

Clothing

Almost without fail, Soldiers who suffer a cold-weather injury aren't dressed properly. Sometimes Soldiers don't wear the right gear, and other times that gear simply isn't available to them, such as when the temperature suddenly fluctuates downward. All Soldiers must be issued the full complement of cold-weather gear, including insulated boots, gloves and a field jacket liner.

Soldiering is a physically demanding job, and intense physical exertion results in a loss of body heat through perspiration. Clothing dampened by sweat or environmental elements such as sleet or rain provides no insulation against the cold and actually increases the risk of injury. Once a Soldier's clothing becomes drenched in sweat, the layers stick together and prohibit warm air from being trapped between them.

Soldiers must dress as lightly as possible for the conditions to reduce the hazard of excessive perspiration and subsequent chilling. Clothing should be worn loose and in layers so it can be vented at the neck. Garments and footwear that fit too tight restrict circulation and reduce insulation and ventilation in the covered areas, providing an environment ripe for cold injury. Also remember the human head loses heat faster than any other body part, so headgear is especially important, as is proper footwear and gloves.

Nutrition and hydration

Heat may flow from a Soldier's body at a rate equal to or greater than the rate at which it is produced. An

average-sized male generates 100 watts of heat lying still and up to 1,000 watts during moderate work. When heat loss exceeds production, the body uses the heat stored in tissue, causing a rapid drop in overall body temperature—especially in the extremities. This is when you start shivering, which is the body's "emergency procedure" to produce heat and warn you that you need additional clothing or exercise, food or warmth.

Good nutrition is essential because it provides the body with fuel to produce heat. The number of calories needed to maintain normal bodily function generally increases as the weather gets colder. However, adequately clothed and protected Soldiers in cold climates don't require

more than the usual ration of 3,600 to 4,600 calories they're provided every day in MREs or DFAC meals.

We can't forget one of the most important aspects of the battle against cold injury—hydration. People generally minimize their activity in cold weather and even eat and drink less simply because they want to stay warm. However, adequate hydration and nutrition are vital to staying healthy in cold weather.

Leaders can help their Soldiers stay hydrated by providing them with liquids they'll actually drink. Lukewarm drinks with some flavoring are more palatable than icy cold, tasteless drinks in the winter. Leaders should remember excess coffee, tea, hot chocolate and soda can actually increase fluid output and lead to dehydration.

“ It's never too soon to **begin preparing** for cold weather, so consult your local **safety officer** for advice on how you can **beat the chill** this winter. ”

Mission considerations

One of the most fundamental elements of wintertime mission planning is ensuring all Soldiers know how to prevent, detect and give first aid for cold-weather injuries. Soldiers also must maintain behavioral discipline for any mission plan to have a real chance at success. It goes without saying that Soldiers must never drink alcohol just before or during operations. But in cold weather, the same goes for tobacco products. The nicotine in cigarettes and chewing tobacco constricts the blood vessels that circulate nutrients and heat throughout the body, especially in the extremities.

This might seem an obvious point, but always remember to use weather data when planning missions in the winter. Properly clothed personnel are in little danger of suffering a cold injury when the ambient temperature

remains between 40 and minus 15 F. However, when a 15-mph wind meets a minus 15 F ambient temperature, what the body actually feels is a temperature of minus 40 F. This phenomenon is called wind chill. In other words, human flesh suffers the same harm at minus 15 F with a 15-mph wind as it does at a temperature of minus 40 F with no wind.

Granted, many of our current operational locations never see temperatures below freezing, but think about it like this. Most people can stand around in 40 F weather wearing regular clothing and not be affected adversely. However, if you add a 15-mph wind, the surface temperature of their flesh is now freezing, making them susceptible to cold injury. Knowing what

the weather hazards will be allows for more informed and effective mission planning. You can't change the weather, but you can be prepared for it.

Conclusion

Our Army has been learning the lessons of cold-weather operations since the encampment of revolutionary forces at Valley Forge, Pa., in December 1777. That's 229 years of experience, and we don't need to relearn those lessons the hard way. It's never too soon to begin preparing for cold weather, so consult your local safety officer for advice on how you can beat the chill this winter. Best of luck and, better yet, best of training in preparation for the cold-weather season! 

Contact the author by e-mail at erik.n.johnson@us.army.mil.

DID YOU KNOW?

The average monthly temperature for Baghdad, Iraq, varies from 63 F in November to 48 F in January. Head further north to Mosul, and you'll find average temperatures ranging from 57 F in November to 44 F in January. Soldiers in Kabul, Afghanistan, face much cooler temperatures: 43 F in November and 28 F in January. In Kosovo, Soldiers can expect average low temperatures of 33 F in November, falling to 22 F in January.





Get Help Now!

The following cold injuries require immediate medical attention, so don't delay if you or your buddy exhibits any of the following symptoms:

Hypothermia

Shivering, an altered sense of consciousness and uncoordinated movements. Hypothermia can be fatal if treatment is not given immediately.

Carbon monoxide poisoning

Flu-like symptoms including fatigue, drowsiness and headache. Affected individuals also might become confused and develop blurred vision. Carbon monoxide is odorless, colorless and tasteless. Suspected carbon monoxide victims must be moved to fresh air and given medical attention immediately.

Frostbite

Loss of feeling or a tingling sensation in the affected area along with white, gray, red, yellow or waxy-looking skin. The frozen tissue will feel solid to the touch.

Trench foot

Numbness in the feet accompanied by burning sensations and shooting pain. Severely affected tissue will appear pale and slightly blue. Trench foot can lead to gangrene.

Chilblain

Reddened, slightly swollen skin accompanied by a prickly or burning sensation. Left untreated, chilblain can lead to more severe cold injuries.



Great Flying Stoves!

MSG (RET) RONALD ANDREE
Installation Safety Office
Fort Richardson, Alaska

Have you ever deliberately put yourself in a situation you didn't think you'd get out of alive, only to survive and vow never to do the same thing again? If so, you're not alone. I'm lucky I'm alive and well after all the stupid stuff I've done. Playing football on a semi-thawed lake, passing traffic uphill in a no-passing zone, driving drunk and boating in a lightning storm—none of these are sound decisions, but I've done them all. When you're young, it's hard to distinguish risk from what we perceive as adventure.

Fortunately, most of us learn from our mistakes and live long, productive lives. I, however, didn't grow out of my irresponsible behavior until well into my Army career. There's one particular act of stupidity I remember well that should've left me dead or at least grievously injured, and I'll start my story by saying it's never cold enough to risk getting blown to bits starting a stove.

Our artillery battery was conducting a field training exercise one January in Fort Campbell, Ky. We'd been in the field about a week, and everyone was numb from the cold and rain. We erected a warming tent for the unit to move through, and we'd assembled an old potbelly stove to heat the tent. There was one problem, though; the stove was missing the inner components that allowed it to burn diesel fuel. Undeterred, we gathered some wood from outside and crammed it into the stove, but the wet timber wouldn't ignite.

I took it upon myself to find something, anything that would light the wood, and what better place to look than the gun line? This line of thinking took me to the point where stupidity overtook common sense. At the gun line, I found a powder pit and grabbed the most volatile propellant there, a charge 7. The charge 7 is a semi-fixed ammunition propellant containing seven separate charges connected by a thin acrylic cord. When ignited collectively, the charges can hurl a 33-pound projectile about 11,000 meters.

When I got back to the tent, I threw the propellant into the stove, closed the lid and vented the bottom wide enough to accommodate a lighted match. Before "blastoff," everyone but me evacuated the tent, and I was holding the matches. I heard somebody say, "This is the stupidest thing I've ever seen." By then I didn't care if anybody got warm or not—I simply

wanted to see what would happen.

I found out a few seconds later. Me, the stove and tongues of flame leapt into the night as the charge exploded. The intense heat from the blast melted the tent lining, and I lay smoldering on the ground. My buddies were laughing hysterically and, although somewhat stunned and shaken, I joined them. Somehow, I was alive!

Since then I've often asked myself, "What the hell was I thinking?" I'd been in the Army for more than 10 years. I was supposed to set a good example for the young Soldiers in our unit, but I nearly wound up being a warning poster instead. Additionally, I performed every act that night in front of my chain of command. While they didn't give me verbal permission to use the charge in the stove, they didn't stop me either, and I interpreted their silence as consent. They were the first ones to leave the tent before I went into action, and nobody ever held me accountable for the damage to the tent and stove.

Today's Army places much more emphasis on safety than the Army I retired from several years ago. Our Soldiers face the lethality of combat under the privileged tradition of duty, honor and country, consciously going into battle knowing they might make the ultimate sacrifice. But it doesn't have to be that way in training and everyday activities. We can step back and make smart decisions, which is the beauty of Composite Risk Management. Even in combat, Soldiers of all ranks have the authority to stop unsafe acts and implement controls to ensure everyone makes it home from the fight. Please take advantage of this great tool and apply it to everything you do, especially if you see some idiot pulling charges out of a powder pit! 

Contact the author by e-mail at ronald.bruce.andree@us.army.mil.

Working in cold weather is a fact of life for Soldiers. At some point, nearly every Soldier will be shivering in a tent somewhere in the world.

And, as surely as winter comes, Soldiers will choose to heat their tents by means of a space heater, stove or other heating device.

**TURN U
THE HE**

JULIE SHELLEY
Managing Editor

UP AT

Heat on a cold winter night provides many advantages for Soldiers. One major benefit is that Soldiers lose less body heat and conserve more energy while sleeping in a warm environment, potentially improving their performance the next day. Despite the advantages inherent with the use of heating devices, they also pose some unique hazards—especially concerning fire and carbon monoxide poisoning.

Fire can engulf a tent in 10 seconds and destroy it in 60 seconds, giving Soldiers very little time to react. Conversely, carbon monoxide is odorless, colorless and tasteless and can quickly kill Soldiers while they're sleeping. It's released when fuels are burned inefficiently. In fact, most people killed in house fires die from carbon monoxide poisoning before they're burned.

Commercial off-the-shelf heaters and stoves might seem to be a good solution for heating problems in the field, but the fact is none have been approved for Soldier use for a variety of reasons. For example, unflued or unvented (i.e., no smokestack) COTS heaters vent exhaust fumes, including carbon monoxide, directly into living spaces. In addition, no COTS heaters on the market meet Army requirements for field environments. Standard military heaters, on the other hand, are designed to vent combustion fumes to the outside, are tested for safe field use and should be used instead of COTS heaters.



YOU MIGHT NEED TO KN

Released in fall 2005 by the Army Communications-Electronics Command, Safety of Use Message 05-01 is still in effect for certain devices Soldiers might use to keep warm this winter. The SOUM concerns Field Deployable Environmental Control Unit models FDECU-2, FDECU-3, FDECU-4, and FDECU-5 (NSN 4120-01-449-0459/LIN A26852).

The FDECU provides cooled or heated air in various portable shelters and tents. However, a few Soldiers have suffered smoke inhalation when the heater assembly (P/N 9454066, NSN

The following heaters are approved for Army use:

H-45 (NSN 4520-01-329-3451)

The H-45, or Space Heater Medium, replaces the old potbelly M-1941. The H-45 burns liquid and solid fuels and is designed to heat General Purpose, Tent Extendable Modular Personnel, and Tactical Operations Center tents. It has an output capacity of 45,000 BTU.

Space Heater Arctic (NSN 4520-01-444-2375)

This heater replaces the gasoline-burning M-1950 Yukon heater and is a lightweight, portable heater for five- and 10-man arctic tents. It burns liquid and solid fuels and has an output of 25,000 BTU.

Space Heater Small (NSN 4520-01-478-9207)

This heater has an output capacity of 12,000 BTU and is ideal for use in smaller tents such as the four-man Soldier Crew Tent. It burns liquid fuel and has a built-in tank, so no fuel can or stand is needed.

Space Heater Convective (NSN 4520-01-431-8927)

This heater provides forced hot air for tents and shelters. It generates its own power, recharges its battery and has an output of 35,000 BTU.

Thermoelectric Fan (NSN 4520-01-457-2790)

The Thermoelectric Fan is a compact, self-powered unit that fits on top of any military tent heater. It uses heat to turn the fan blades, which circulate heated air, improve comfort and save fuel.

OW...

4520-01-494-3852) overheated and filled their tent with smoke. Worn wiring insulation is believed to have caused the overheating.

Unit maintainers must inspect the heater assembly annually. Now is an excellent time to complete this inspection since winter is approaching quickly. Follow the procedures in item 6, table 4-1 of the Unit Preventive Maintenance Checks and Services in Technical Manual 9-4120-411-14.

To read the complete SOUM, go to the Army Electronic Product Support

Web site at <https://aeps2.ria.army.mil/commodity/soum/cecom/05/csoum05-01.html>. If you have any additional questions contact Steven Chan, CECOM Directorate for Safety, at DSN 987-7473 or (732) 427-7473; or William Pardy, CECOM Logistics Readiness Center, at DSN 992-4256 or (732) 532-4256.



To keep Soldiers both warm and safe this winter and in all cold-weather environments, follow these tips:

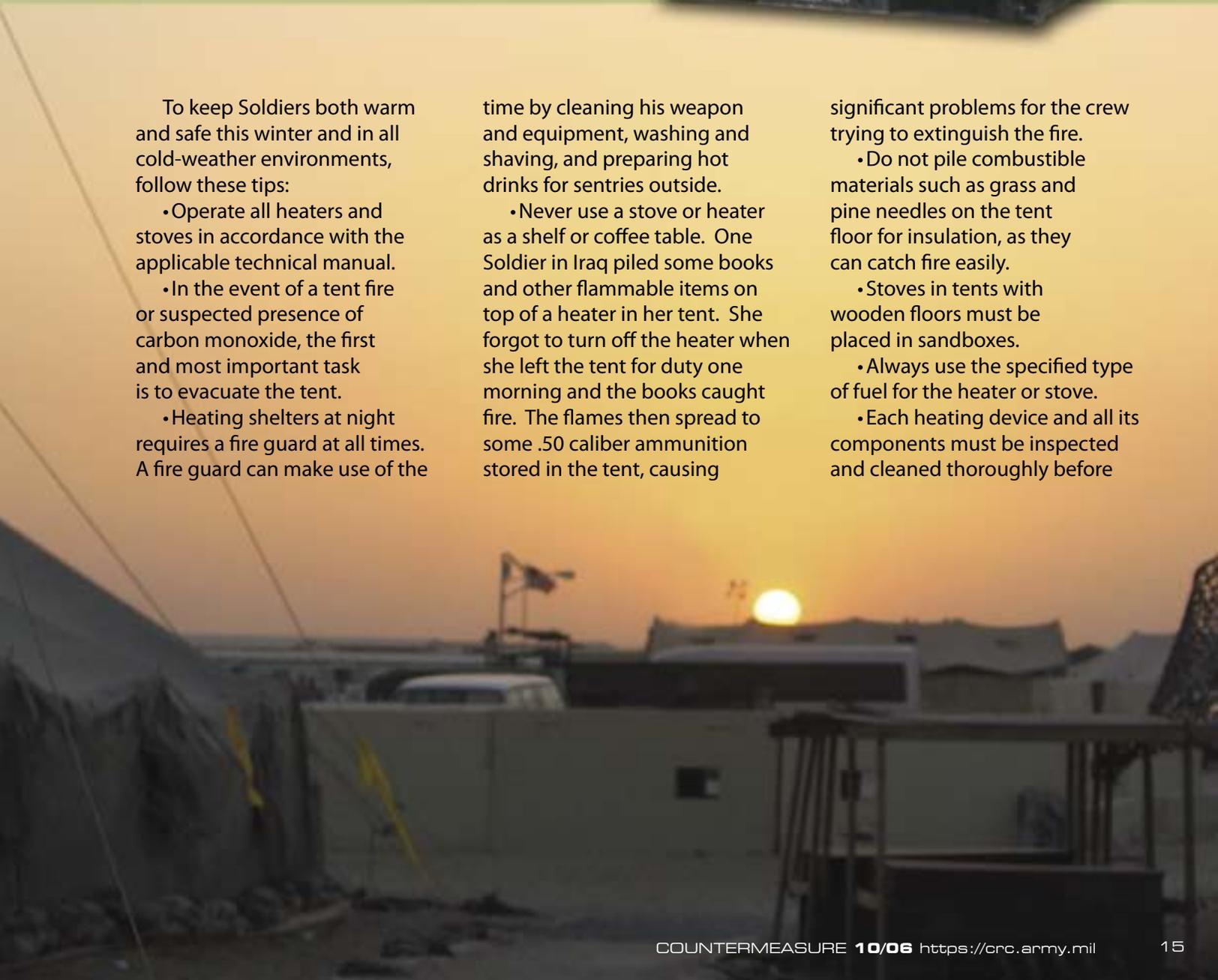
- Operate all heaters and stoves in accordance with the applicable technical manual.
- In the event of a tent fire or suspected presence of carbon monoxide, the first and most important task is to evacuate the tent.
- Heating shelters at night requires a fire guard at all times. A fire guard can make use of the

time by cleaning his weapon and equipment, washing and shaving, and preparing hot drinks for sentries outside.

- Never use a stove or heater as a shelf or coffee table. One Soldier in Iraq piled some books and other flammable items on top of a heater in her tent. She forgot to turn off the heater when she left the tent for duty one morning and the books caught fire. The flames then spread to some .50 caliber ammunition stored in the tent, causing

significant problems for the crew trying to extinguish the fire.

- Do not pile combustible materials such as grass and pine needles on the tent floor for insulation, as they can catch fire easily.
- Stoves in tents with wooden floors must be placed in sandboxes.
- Always use the specified type of fuel for the heater or stove.
- Each heating device and all its components must be inspected and cleaned thoroughly before



“ In any **dangerous** situation, the first response is to save Soldiers’ lives—Soldiers **lose their lives** in inches and seconds. In a tent fire or carbon monoxide incident, there are no seconds to **spare.**”



storage and use. Special attention should be paid to checking for leaking valves, holes in gas cans and proper assembly.

- Secure stovepipe opening covers with tie tapes so the covers won't contact the stovepipe.
- Use enough stovepipe sections so one complete section is above the highest point of the tent. Ensure the sections are vertical and do not contact any part of the tent.
- Be sure to leave enough space between the tent wall and the heater or stove. Heating devices situated too close to the tent wall can ignite the tent.
- If the flame is accidentally

extinguished, wait until the burner cools before relighting. An explosion could occur.

- Fuel should not be taken inside a tent warmed by fire. The fuel can for the heater must be located outside and as far from the tent as the fuel hose allows.
- Do not exchange the heater unit fuel can unless the heater is turned off.
- Do not smoke or drop cigarette butts around combustible materials or go to sleep with a lantern or candle burning.
- Do not open a stove or heater while it's still hot, even after a flame-up has subsided. Fresh air will feed a fire and reignite it.
- Adding water to a gas fire will cause the fire to flame up and spread.
- Even in extreme cold, do not operate heaters at full capacity. An overheated stovepipe could ignite the

tent, and high temperatures can warp grates and damage other components.

- Provide sufficient ventilation for fresh air to enter the tent at all times.
- Ensure fire extinguishers are available in every tent that has a stove or heater and have a fire plan ready and rehearsed.
- Ensure emergency agencies such as fire departments and paramedics have access to all structures using heaters and other flame sources.
- Do not leave stoves or heaters unattended. As fuel levels decline, pressure drops and the drip valve must be readjusted to maintain the proper flame.
- When lighting a heater or stove, always turn your face away from the chamber door. If a flash occurs, it most likely will happen when the fuel first ignites.



Original or Extra Crispy?

MIKE GALLAGHER
Tactical Safety Specialist
Marine Corps Air Station New River, N.C.

- Keep stoves clean and always practice safety when doing so. Hitting a stovepipe and pouring in a little water to clean out soot is extremely dangerous; throwing blanks into a burning stove to clean out carbon buildup in the stovepipe is even worse.

- Do not touch metal parts of heaters or stoves when temperatures are below freezing without protective gloves. Skin may freeze upon contact and cleave from the flesh.

- Use caution when handling sharp-edged pipes to avoid cuts.

In any dangerous situation, the first response is to save Soldiers' lives—Soldiers lose their lives in inches and seconds. In a tent fire or carbon monoxide incident, there are no seconds to spare. Use the right equipment and stay ready for the fight! 

Contact the author at (334) 255-1218, DSN 558-1218 or by e-mail at julie.shelley@us.army.mil.

I'm the fire chief of the local volunteer fire department in my hometown. Most of the calls we receive are either false alarms or routine small fires that don't do a lot of structural damage. But we recently responded to a structure fire with "flames showing," which means a working fire is in progress. As we arrived at an expensive, gated subdivision, it wasn't hard to spot the flames leaping from the side of a two-story house.

Our firefighters quickly attacked the blaze from inside the house and had the fire extinguished within a matter of minutes. Fortunately, the structure didn't burn to the ground, but it was heavily damaged on one side of the first floor. The home's somewhat stunned occupant then told us the events leading to the fire, and I couldn't help but ask myself, "What was this guy thinking?"

A young Marine lieutenant was renting the house during his assignment at the nearby Marine Corps air station. Sometime the week before the fire, the lieutenant was issued a small, multi-fuel stove to use during field exercises. He wanted to test the stove's capabilities before going to the field, though, and decided the bathtub on the ground level was as good a place as any to fire it up.

The lieutenant filled the stove with fuel and, using the pressure valve, pumped it to what he thought was a suitable level for lighting. The stove, however, wouldn't ignite. Becoming frustrated, he applied more pressure to the stove via the valve,

but fuel unexpectedly began spewing into the bathtub. It was then the stove finally ignited, but not in the way the lieutenant desired or expected. The spilled fuel in the bathtub burst into flames and spread to the gallon can he'd stored the fuel in, which promptly erupted into a small fireball. Although the lieutenant tried to extinguish the flames, the fire quickly grew out of his control and he was forced to call 911.

Why would this young officer do such a seemingly foolish thing? He never gave us a reasonable explanation as to why he lit the stove in the bathtub and not in the yard or on the concrete driveway, where damage would've been minimal. He did say he never thought something like this would happen to him because "fires only happen to other people." More than \$69,000 in house repairs later, however, the lieutenant now knows the other guy can become you in a hurry. Did I mention he didn't have renters' insurance?

The lieutenant was lucky the house wasn't a total loss and nobody was hurt during his experiment with the stove. He's also fortunate it didn't happen in a tent during a field exercise or in combat operations in theater, considering how fast tents burn. Always follow the -10 for your heaters and stoves and respect basic safety precautions to ensure fires don't happen to you. 

Contact the author by e-mail at michael.l.gallagher@us.army.mil.

DEAD

BATTLE

CW3 DAVID MUEHLEISEN
U.S. Army Combat Readiness Center

As this past Labor Day weekend came and went, I was reminded cooler days and much colder nights aren't too far in the future. We've already discussed the effects of cold weather on Soldiers in this issue of *Countermeasure*, but it's important to remember our equipment and vehicles are also susceptible to the chill of winter. Combined with a lack of vehicle battery maintenance, cold weather has a way of bringing out borderline batteries that worked fine in the summer but suddenly don't have the cold cranking amps required for a wintry-morning start. As such, there's no better time than now to prepare your unit's vehicle batteries for

the cold months ahead.

The battery industry uses the CCA rating to gage a battery's ability to start an engine in cold temperatures. Say we have a new, fully charged 12-volt battery. Its rating is the number of amps the battery can deliver at zero degrees F for 30 seconds while maintaining a voltage of at least 7.2 volts. The higher the CCA rating, the greater the battery's starting power. So what exactly will provide good CCA in a lead acid battery? These type batteries are made of plates, lead and lead oxide and contain electrolyte, a 35-percent sulfuric acid and 65-percent water solution that causes a chemical reaction to produce electrons.

Proper fluid levels are

essential in keeping lead acid batteries serviceable, so regular maintenance and fluid checks are a must. Fluid should be replaced using only mineral-free water, and distilled water is best. Never overfill battery cells—the electrolyte ideally should touch the bottom of the vent splash band. Once filled, test the battery with a hydrometer to measure the amount of sulfuric acid in the electrolyte. A low reading means the chemistry that makes electrons is low, and if the hydrometer indicates 1.20 of specific gravity or less in a single cell, you should recharge or replace that battery.

Many battery problems are caused by dirty or loose connections. Batteries

should be cleaned regularly with a solution of two tablespoons baking soda per pint of water. Also remember to clean and tighten the cable connections. You can prevent corrosion by using a small bead of Grease, Automotive and Aircraft on clamp and cable ends and by placing a felt battery washer (NIIN 011014147) at the base of the posts.

You must think safety when working with or around batteries. Be sure to remove any jewelry such as wedding rings and ID tags when you enter the maintenance shop. You don't want to lose a finger or have your ID tags melt into your neck while you're wearing them. This is also a time to use the personal

Winter Weapons Handling

SFC (RET) JAMES ROONEY
U.S. Army Mountain Warfare School, Jericho, Vt.



Cold temperatures can greatly affect the maintenance, functioning and employment of infantry weapons. To properly handle and care for your weapon under a variety of adverse conditions, you must take temperature into consideration. Your weapon is only as good as your maintenance, and this is especially true when the mercury falls below freezing.

Never let condensation form on your weapon. Condensation, often referred to as "sweating," forms on weapons when they're taken from extreme cold into any type of

heated shelter. The moisture freezes when you leave the heated area and internal parts might freeze together, causing stoppages. For this reason, it's best to leave weapons outside during freezing temperatures.

When left outside, weapons should be readily accessible, guarded and sheltered where ice and snow will not get into the working parts, sights or barrel. Because the condensation process will continue for about an hour after a weapon is taken inside a warm shelter, wait until the sweating stops before cleaning. Once you're inside the shelter,

READY?

protective equipment found on the safety board or in the unit tool room. Every mechanic should wear steel-toed safety shoes during battery maintenance, especially when removing batteries from equipment. Chemical protective goggles or a safety face shield protect the eyes and face from splashing electrolyte and bits of corrosion, and rubber gloves protect the skin from sulfuric acid. A rubber apron is an essential part of PPE because battery acid can destroy the Army Combat Uniform. Additionally, a metal fume respirator is a good idea if you're working in a battery shop that produces harmful fumes.

The Army spends millions of dollars every month replacing Class IX vehicle batteries. But with a little attention and proper maintenance, you can be sure your vehicles will start when and where you need them, regardless the temperature outside. Combined with the use of PPE, both you and your equipment will stay fully mission capable for a long time to come. 🚗

Contact the author by e-mail at dmuehleisen@us.army.mil.

FIVE TIPS FOR A HEALTHY BATTERY

- Clean and tighten terminals and clamps
- Ensure battery is securely mounted to the battery tray
- Fill battery to appropriate levels
- Vent holes open for gas emission
- Always use proper PPE



keep your weapon near the floor to minimize condensation. In addition, keeping the interior of the shelter close to 32 F will minimize condensation.

Once you move back into the cold, operate your weapon manually by pulling the charging handle to prevent the internal parts from freezing. Charge the handle several times during the first five minutes after leaving a warm shelter. But make sure you don't inadvertently load the weapon and have a negligent discharge!

When you clean your weapon, completely strip it and use a non-residue solvent to remove all lubricants and rust-prevention compounds. Once it's clean,

use a lubricant that won't thicken and cause the weapon to operate sluggishly or jam. Use Lubricant, Arctic Weapon rather than BreakFree CLP in all weapons except the M249 squad automatic weapon and M2 .50 caliber machine gun. Remember to use lubricants sparingly.

Another consideration is your battle-sight zero. You should battle-sight zero your weapon in the area where you're going to use it. Temperature, elevation and atmospheric pressure all affect where the round hits and how the weapon operates. A common error is to battle-sight zero your weapon at home station and then deploy to a different area, where you'll wonder why your weapon

isn't shooting to the point of aim. If you want to accurately engage your enemy with precision, battle-sight zero your weapon in your area of operation.

These are only a few of the things you need to consider when operating your weapon in a cold climate. We will continue to operate in cold-weather environments worldwide, and we must be able to maintain our weapons in any climate. Including the basic lessons in this article in your pre-deployment training plan will help ensure you and your Soldiers are battle ready! 🚗

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Class A

■ Soldier died one week after the M1114 HMMWV he was riding in rolled over into a canal. The HMMWV fell into the canal after the road it was traveling on gave way beneath the vehicle. Two other Soldiers in the HMMWV suffered injuries associated with near drowning. The deceased Soldier was serving as the vehicle commander. The accident occurred during the late afternoon.

■ Two National Guard civilians were killed when the GSA pickup truck they were riding in rolled over several times on an interstate highway. The civilians were in the truck's backseat and were not wearing seat belts. One civilian was thrown from the vehicle, and the other was pinned inside. Two Soldiers, the driver and front passenger, were wearing their seat belts and suffered minor injuries. The driver lost control of the truck after falling asleep at the wheel. The accident occurred during the mid-morning.

Class B

■ Soldier suffered a permanent total disability when the FMTV she was riding in rear-ended a HEMTT fuel tanker. The vehicles were part of a seven-vehicle convoy during a range training movement. The driver of the FMTV was not injured. The accident occurred during the late morning.

Class C

■ Soldier suffered a concussion injury when the five-ton wrecker he was driving rolled over and struck a tree.



The vehicle was traveling on a civilian two-lane road and the driver steered it toward the shoulder to allow clearance with oncoming traffic. The rear passenger tires slid off the roadway, causing the driver to lose control of the truck. The wrecker overturned several times before hitting the tree. Speed was not a factor, but the driver was not wearing his seat belt or helmet. The accident occurred during the late afternoon.



Class A

■ Soldier collapsed and died during physical training. He was pronounced dead at a local hospital. The accident occurred during the mid-morning.

■ Soldier suffered a fatal gunshot wound to his torso during a live fire training iteration. The 5.56 mm round was fired from an M4 being handled by another

Soldier. Neither Soldier was wearing their personal protective equipment. The accident occurred during the mid-morning.

Class B

■ Soldier's finger was amputated to the knuckle as he was climbing down from a two-and-a-half ton truck. The Soldier grabbed one of the vehicle's mirrors as he was moving down and caught his wedding band on a screw protruding from the mirror. The accident occurred during the mid-afternoon.

■ Soldier's finger was amputated to the base of the hand after an accident on an LMTV. The Soldier was dismounting the LMTV following maintenance and caught her finger on an unknown object. The accident occurred during the late morning.

■ Soldier's finger was amputated to the first joint after his wedding ring caught on a protruding object on a

Seat Belt Success Stories

Spotlighting Soldiers who wore their seat belts and walked away from potentially catastrophic accidents

Class D

■ Soldier was uninjured when the M998 HMMWV he was driving rolled over during a 22-vehicle convoy. The Soldier and other crews were returning the vehicles to the unit motor pool following a field training exercise. The driver overcorrected the HMMWV after its right wheels drifted off the roadway, causing the vehicle to roll over. The Soldier was wearing his seat belt and PPE. The accident occurred during the mid-morning.

■ A HMMWV crew was unharmed when their vehicle struck another HMMWV during a combat patrol. The accident HMMWV's driver fell asleep at the wheel after having been on duty for nine hours. The vehicle commander yelled at the driver in an attempt to wake him but couldn't in time to avoid the impact. The crew was wearing their seat belts and PPE. The accident occurred during the early morning.

■ Soldier escaped injury when the forklift he was driving rolled down a steep incline and struck a HEMTT and five-ton truck. The Soldier was attempting to remove a tarp from the back of another truck and couldn't see the incline. He was wearing his seat belt and PPE. The accident occurred during the mid-morning.



Class A

■ Soldier was killed when the M1114 HMMWV he was riding in rolled over while maneuvering across a river levee. The Soldier was serving as the vehicle's gunner. Injuries to other crewmembers were not reported. The accident occurred during the mid-afternoon.

Paladin. The Soldier was dismounting the Paladin and lost his balance after the ring snagged the unknown object. The accident occurred during the mid-morning.

Class C

■ Soldier suffered a gunshot wound to his foot while attempting to clear his 9 mm weapon. The Soldier was reporting to duty at a worksite when he noticed the magazine was still in the weapon. The Soldier decided to clear the weapon but didn't remove the magazine. Instead, he moved the chamber slide back, visually inspected it, and released the slide, at which time one round entered the chamber

from the magazine. The round fired and hit the Soldier's toes when he pulled the trigger. The Soldier was hospitalized for one day, lost two workdays and was on restricted duty for two weeks. The accident occurred during the late afternoon.

■ Soldier suffered heat exhaustion injuries after a day of extended outdoor training. The Soldier was hospitalized for a week. The accident occurred during the early evening.



DOPS, THAT'S GLASS...

Have you ever seen a bird fly repeatedly into the glass of a windowpane or door? Try as they might, the birds will never make it through the glass—they're just too small. Humans, on the other hand, are big enough to crash through glass when and if they want to, like in a bar fight scene in the movies. Although far from the glitz of Hollywood, one Soldier in Iraq had a camera-ready moment while leaving his battery command post late one evening. Instead of using the handle to open the door, the Soldier put his hand on the glass pane and pushed the door open. He must've pushed too hard, because the door didn't budge, the glass shattered, and the Soldier's arm went through the door, followed by the rest of his body. The Soldier's injuries required him to spend two months in the hospital, six months away from work, and a year on restricted duty. The other Soldiers in the unit received remedial training on the proper use of door handles. Needless to say, the door won.

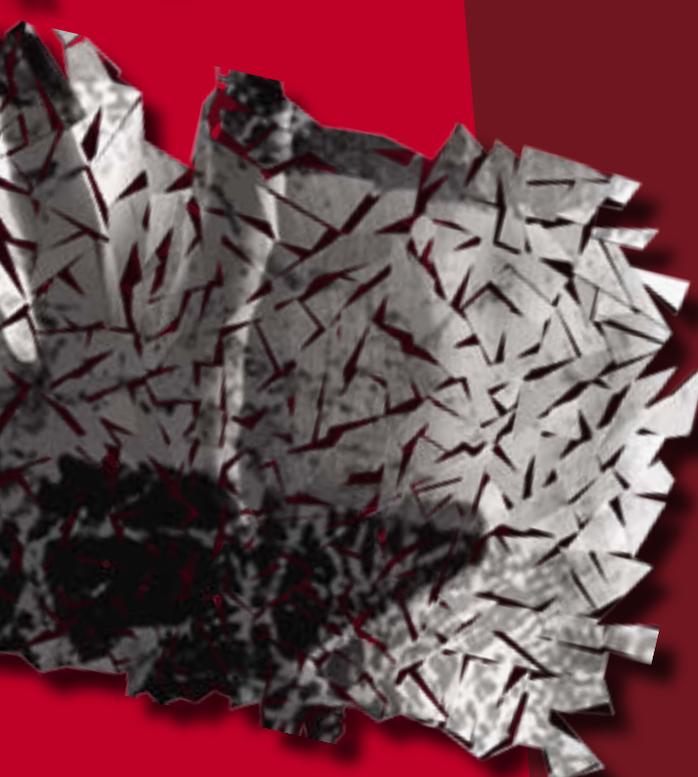


WERE THEY
WAG?

OW, THAT'S WOOD...

You have to feel sorry for the poor guy that's tasked with "conducting barracks beautification" (yes, that's a direct quote from the accident report), which for one Soldier meant scrubbing down the communal shower room. It was late one morning and getting close to lunchtime. The report was scant on details, but this we know:

While cleaning the shower, the Soldier slipped, fell and hit his jaw against a wooden bench. In fact, the Soldier hit the bench so hard he was hospitalized for a week and lost six workdays due to various jaw fractures. The bench apparently was unharmed in the incident. Had the Soldier been wearing non-skid shoes, he probably would've been ok too.



AND FINALLY...
OUCH, THAT'S FIRE!

Two Soldiers had just changed the fuel filter on a five-ton truck and were in a quandary. They needed to prime the truck's engine, but the clear plastic tube that ran the primer pump had been removed and capped off. The Soldiers, along with their battalion motor sergeant, decided restoring the fuel system to its original condition would take too long and interfere with mission requirements. Their alternate course of action consisted of priming the truck

using a technique known as "gas ragging," a process that requires an uninterrupted chain of events to forestall disaster. This day, however, there was a kink in the chain. As one Soldier held the gas-soaked rag in the engine's air intake system, the other Soldier turned the engine to ignite the fumes, a sequence of events that was supposed to end with the engine cranking. But when the engine backfired, the Soldiers' plan literally went up in smoke. The fumes ignited and sparked a fire in the rag the Soldier was holding, which quickly spread to his uniform and the five-gallon gas can used to douse the rag. At the end of the ordeal, the Soldier that cranked the truck suffered only minor burns, but the Soldier holding the rag suffered second- and third-degree burns over 30 percent of his body. That's a pretty serious outcome for a "field expedient" method that was supposed to save time.

POV
stats
FY06
through June 06

Class A-C accidents/Soldiers killed

■ Cars	129/47
■ Vans	0/0
■ Trucks	53/18
■ Motorcycles	130/45
■ Other*	13/3

*Includes tractor-trailers, unknown POVs, mopeds, ATVs, and bicycles

113

total DEATHS

FY05: **126** 3 year average: **114**



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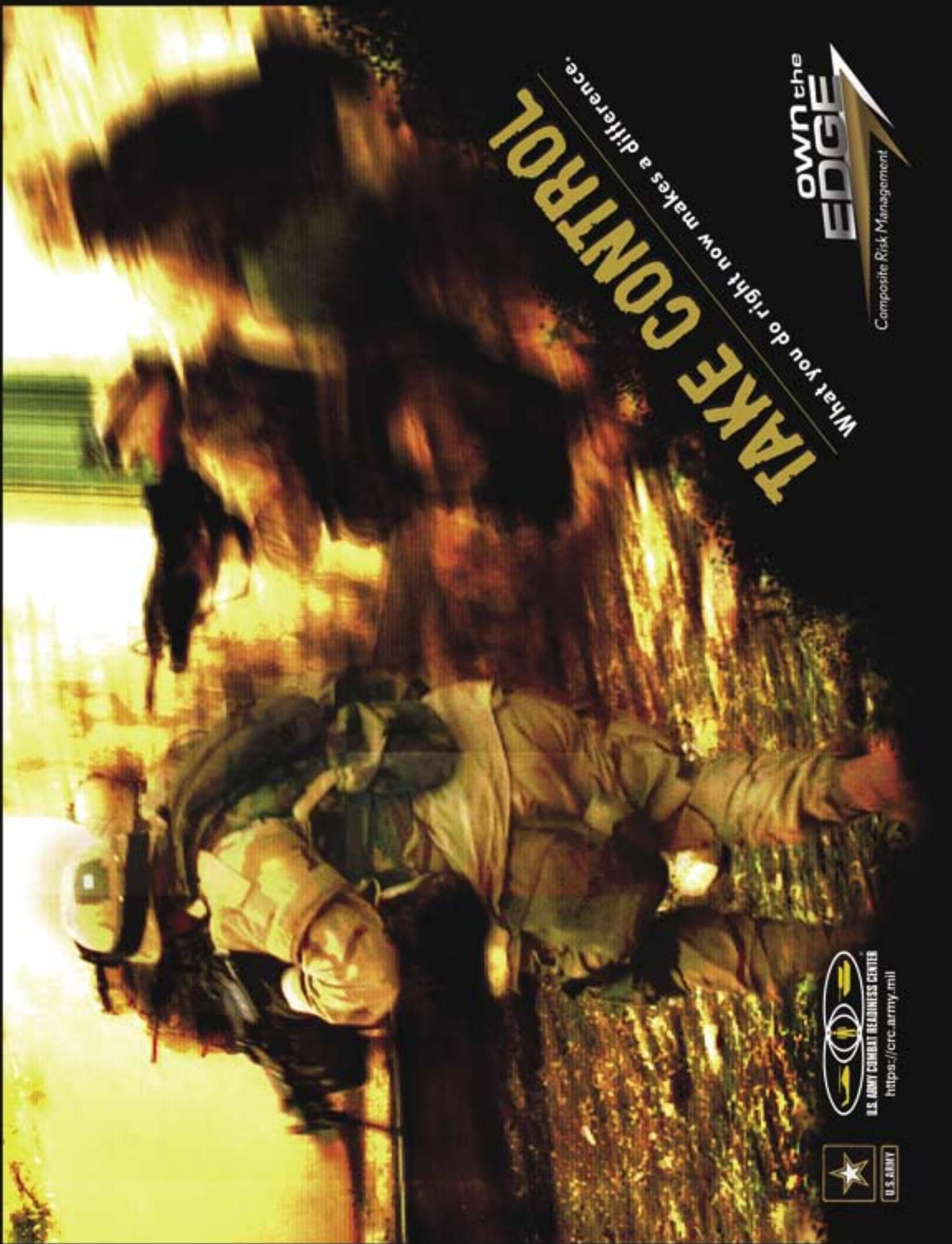


U.S. ARMY

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TAKE CONTROL

OWN the
EDGE
Composite Risk Management



CM

COUNTERMEASURE

Vol 27 11-12/06



U.S. ARMY



That's a Wrap

Army Ground Composite Risk Management Information

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ENGAGED LEADERSHIP AT EVERY ECHELON

We're losing Soldiers to needless accidents throughout our Army. I believe in every instance, there is an individual that could make a difference and change the conditions leading to an accident. How do we know when to intercede and achieve success in protecting our force? How will we know in what manner to interject our commitment to never leave a fallen comrade? The answer is through transformation.

Transformation! It's a word you've heard parlayed back and forth over the last four years. Have you ever given any thought to what it means outside of changes in our formations? As a professional Soldier charged with leading our Nation's sons and daughters, it's worth taking a minute to discuss how we, as leaders, can best embrace transformation.

Transformation is a triad involving leaders, forces and institutions and is paramount to achieving the Army Vision. As you well know, our Army is executing the largest reorganization of our forces since World War II. The goal is to provide combat commanders a campaign-quality Army

with joint and expeditionary capabilities while maintaining the quality of the all-volunteer force.

I propose to you that transformation is far more than an equipment change. I further contend that transformation is more than buying bigger, smarter, faster tools and toys for Soldiers to employ to defeat a threat. While the changes in our forces and institutions are significant in scope and breadth, they pale when compared to the positive impacts leaders can achieve.

We are realigning our forces across our formations to place key elements of our combat power in the hands of brigade combat team commanders. While this gives us a more adaptable and flexible force, how can leaders likewise transform to increase their flexibility and effectiveness? How can we use the culture changes at the heart of transformation to get us there? The truth is, while the changes in our cultural thinking have us on solid footing for a successful future, we still have miles to go.

In our not too distant past, safety was considered the sixth paragraph of a five-paragraph operations order. Safety professionals were seen as the ever-present *safety police* in our

formations, ensuring we all embraced the correct way of doing things. Do you remember those days? Do those stereotypes still seem in the past? Reading our Preliminary Loss Reports (PLRs), it becomes painfully obvious we need further transformation in the thinking of our leaders. Let me provide several PLR examples. As we look at these, let's *peel the onion* and examine how an engaged leader could have saved the life of a Soldier.

PLR 07-013: A Soldier was killed in a single-vehicle crash on Nov. 4, 2006, at 0250 local. The 22-year-old PFC was driving a pickup truck with a fellow Soldier, traveling at a high rate of speed. The PFC lost control of the vehicle, ran off the road and rolled several times before coming to stop in a ditch. The PFC was not wearing a seat belt and during the accident sequence was thrown from the vehicle and fatally injured. The passenger, who

was wearing a seat belt, was treated and released.

What can we learn? Did this PFC know that trucks don't handle like sports cars? Did the PFC know that turning the steering wheel at a high rate of speed could send his vehicle out of control? Who knew the 22-year-old would be driving at 0250 hours? Why did the passenger display a semblance of good judgment by buckling up, but not encourage his/her comrade to do the same?

Aren't we all leaders? In our organization, when two privates are together one of them is in charge and serves as the leader. Do we have the guts to engage and lead? What about a culture change that says, "When we see something wrong, we make the appropriate corrections?" A transformed Army is one that is self-synchronizing and always looking and examining to make changes that will improve its capabilities. A transformed Army is one where every

member is a contributing piece, helping to improve the effectiveness of the whole force.

Here's another PLR!
PLR 07-007: Two Soldiers were killed on Oct. 14, 2006, at approximately 2205 local in a pedestrian accident. The 21-year-old PFC and 22-year-old SPC were attending a private barbeque near a railroad station. They had been consuming alcohol and, later in the evening, wandered too close to the train tracks. The driver of an approaching train sounded a warning signal and tried to brake, but both Soldiers were struck and killed.

Is the buddy system really an opportunity to provide an additional force protection measure, or simply the chance to have an eyewitness or another Soldier involved in the accident? When is a comrade a *fallen comrade*? The statistics we have show us that a teammate is a fallen comrade in far more situations than being

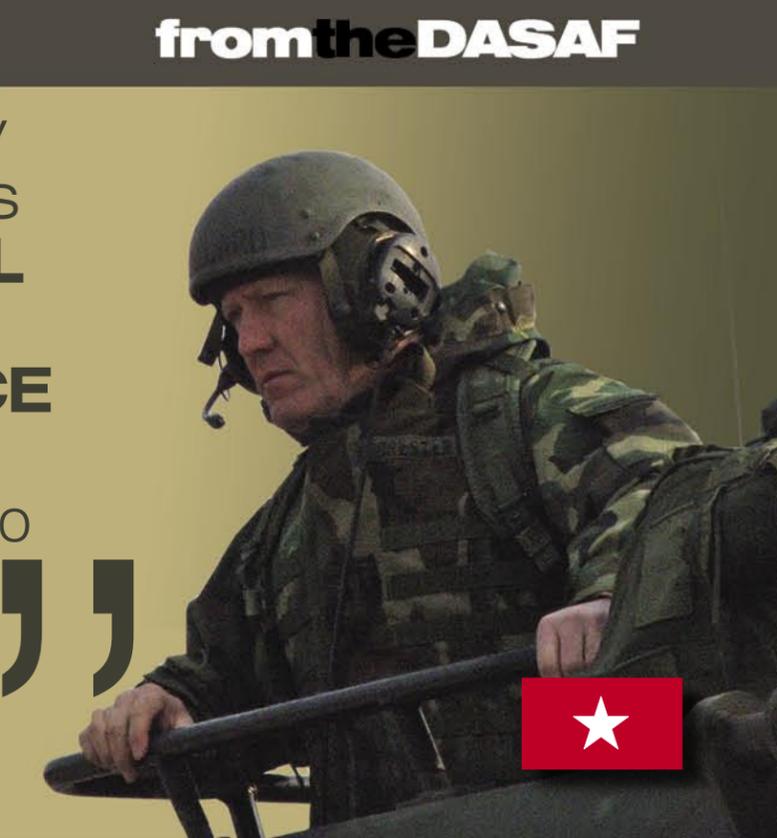
wounded in combat. Fallen comrades encompass those who are tired, intoxicated, medically impaired, sexually assaulted, depressed or who, for other reasons, are at a heightened risk.

As leaders, we must continue the Army's transformation, including how we deal with our Soldiers to take full advantage of all that each and every one brings to the fight—and the fight is not just in OIF or OEF. We are losing Soldiers every 26 hours in combat, but when we take a holistic view of our fatalities—combat and non-combat—we find a Soldier dies every 10 hours. Where is the greatest risk?

We save lives through "Engaged Leadership at Every Echelon." So, I challenge each of you to *get engaged* and make a difference. ☆

William H. Forrester
Brigadier General, USA
Commanding

I believe in every instance, there is an **INDIVIDUAL** that could **MAKE A DIFFERENCE** and change the conditions leading to an **ACCIDENT.**



FY06: A BETTER YEAR

MARY ANN THOMPSON
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Editor's Note: The statistics cited in this article are current from the U.S. Army Combat Readiness Center database as of Nov. 9, 2006. Delayed reports and follow-up details on preliminary reports could change the statistics and findings somewhat in the coming months.

Another fiscal year has ended, and it's time to see how the Army did regarding ground accidents. Although we're still engaged in the Global War on Terror, it's important to check our progress and ensure we're taking action to prevent accidental losses. Overall, the Army successfully reduced accidental losses from fiscal 2005 to fiscal 2006 across all major ground accident categories.

The Army experienced 1,923 Class A through C ground accidents in fiscal 2006, compared to 2,207 in fiscal 2005. Class A ground accidents and Army military fatalities decreased from 282 and 271 respectively in fiscal 2005 to 231 and 210 respectively in fiscal 2006. There were 1,209 Class A through C personnel injury accidents, representing 63 percent of the total. Of those accidents, 70 percent (849) occurred on duty. Army motor vehicle accidents accounted for 12 percent of all Army Class A through C accidents, with 240 total. Privately owned vehicle accidents comprised 19 percent

of the total with 371 reported Class A through C accidents.

The picture changes when looking strictly at Army military fatalities. Of those fatalities, POV accidents account for 59 percent of the total, with 123 Soldiers killed. Personnel injury accidents represent 20 percent (43) of this total, with 23 of these fatalities occurring on duty. AMV accidents account for 17 percent of total Army military fatalities, with 35 Soldiers killed in these type accidents.

On-duty Personnel Injury

On-duty accidents accounted for 70 percent (849) of the Class A through C PI total and 24 of the Class A accidents during fiscal 2006. This total was down from 960 Class A through C accidents and 33 Class A accidents in fiscal 2005, and Army military fatalities decreased from 28 to 23 for the same timeframe. In addition to the 23 fatalities, 820 non-fatal injuries resulted from PI accidents. (Non-fatal injuries are injuries resulting in at least one lost workday or

permanent partial/permanent total disabilities.) There were 270 Class A through C PI accidents that occurred on duty during Operations Iraqi or Enduring Freedom.

The most frequent activities being performed in these PI accidents include physical training (running, jogging, marches or confidence course), 21 percent; parachuting, 20 percent; human movement (walking, entering or exiting vehicles), 11 percent; maintenance, repair or servicing activities, 11 percent; and combat soldiering (patrolling, scouting, reconnoitering, scouting, hand-to-hand combat), nine percent. Of the 23 Army military fatalities in on-duty PI accidents, physical training activities accounted for seven fatalities and negligent discharges accounted for five fatalities.

There were 31 on-duty PI accidents involving negligent discharges, resulting in five Army military fatalities and 29 non-fatal injuries. Of these negligent discharge accidents, 25 occurred during OIF or OEF. Handguns and rifles were the weapons most

frequently involved in negligent discharge accidents, and all but one of these incidents involved government weapons.

Army Motor Vehicle

Accidents involving AMVs accounted for 12 percent (240) of the Class A through C accidents and 17 percent (39) of the Class A accidents during fiscal 2006. These incidents resulted in 35 Army military fatalities and 168 non-fatal injuries. This total is significantly less than the 356 Class A through C accidents and 51 Army military fatalities reported in fiscal 2005.

Most of the fiscal 2006 AMV accidents—178, or 74 percent—involved tactical vehicles, with the HMMWV being the most frequently reported accident vehicle at 43 percent (104). Accidents involving HMMWVs were responsible for 26 Army military fatalities and 81 non-fatal injuries, and 84 of these accidents and 22 fatalities occurred during OIF or OEF. The M1114 HMMWV accounted for 64 of the 104 HMMWV accidents and 14 of the 26 Army military fatalities. Class

A through C HMMWV accidents, including rollovers, and resulting Army military fatalities decreased from fiscal 2005 to fiscal 2006.

Army Combat Vehicle

Two percent (34) of Class A through C accidents were attributed to ACVs in fiscal 2006, down from 74 Class A through C accidents in fiscal 2005. Three percent of the Class A accidents involved AVCs, resulting in seven separate accidents, four Army military fatalities and 14 non-fatal injuries. The two vehicles most frequently involved were the Stryker and Bradley Fighting Vehicles, with 10 and nine accidents reported respectively. All four of the ACV Army military fatalities and 28 of the 34 ACV accidents occurred during OIF or OEF.

Explosive and fire accidents

Explosive and fire accidents accounted for 1 percent of all Class A through C accidents with 21 reported incidents in fiscal 2006, of which five were Class

As. There were 15 fires and six explosive accidents during this period, resulting in four Army military fatalities, two Department of Defense contract personnel fatalities and 12 non-fatal injuries.

Three Soldiers died as a result of fires: one in a tent fire, one in a house fire, and one due to injuries suffered while using a flammable liquid to burn rubbish in his yard. Explosive accidents caused three fatalities (one military and two Department of Defense contract personnel) and multiple injuries. One Soldier died and four were injured after an 81 mm high explosive round detonated in a mortar tube. Two contract personnel were killed and another two were injured during a separate accident that occurred during explosives density testing. That explosion also destroyed the building where the testing was taking place.

Conclusion

Overall, a review of accident data for fiscal 2006 shows a good news story. We've improved in all major accident categories and engaged leaders and Soldiers are making a difference. But there's still a lot of work to be done as the Army continues to lose Soldiers and equipment to accidents. The continued engagement of leaders and Soldiers who integrate Composite Risk Management into their on- and off-duty activities will reduce accidents even further. The U.S. Army Combat Readiness Center has developed a number of easily accessible and user-friendly tools to help Soldiers and leaders manage risk. Find them on the USACRC Web site at <https://crc.army.mil> and let's make fiscal 2007 an even safer and more successful year!

ESCAPE ROLL CALL



JULIE SHELLEY
Managing Editor

At the beginning of each fiscal year, Countermeasure runs a “roll call” of Soldiers killed in accidents the year before. The roll call for fiscal 2006 includes only those Soldiers and Department of the Army civilians and contractors that died in ground tactical accidents—privately owned vehicle and off-duty fatalities are excluded. However, these statistics by themselves are sobering: 62 Class A ground accidents resulting in 65 Soldier fatalities, two Soldier permanent total disabilities, three civilian fatalities and three contractor fatalities. In addition, one Army recruiting applicant died in a government vehicle being driven by an on-duty Soldier.

How do these numbers affect readiness throughout not only the Army, but the military as a whole? Think about it—73 personnel gone from the fight forever in a single year alone, lost to accidents that, for the most part, were preventable. Any number of factors could’ve saved many of these men and women: better situational awareness, better communication, better standards enforcement, the single click of a seat belt. But now, it’s not about what should’ve been done—it’s about doing it right in the future.

M9, Iraq: Soldier was killed when he put his M9 pistol under his chin and pulled the trigger, firing the round through the top of his head. Another Soldier noticed a magazine in the deceased Soldier’s weapon just before the accident and asked him if the pistol was loaded. The incident was attributed to the deceased Soldier’s overconfidence the weapon was clear. The accident occurred during the mid-morning.

M1114, Iraq: Two Soldiers suffered fatal injuries when their M1114 hit a pothole, struck a civilian vehicle and rolled over. The Soldiers were serving as the HMMWV’s gunner and vehicle commander. Restraint system use by the two deceased Soldiers was not reported, but the HMMWV’s driver was wearing his seatbelt and was not injured. The accident occurred during the early morning.

AMV Truck, United States: A Department of the Army civilian was killed when the Army truck he was driving rolled over. The DAC reportedly steered the vehicle off the roadway, overcorrected and lost control, causing the truck, which was towing a 25,000-pound

drilling rig, to overturn. Seat belt use was not reported. The accident occurred during the mid-morning.

Dismounted Operations, Iraq: Soldier was killed when he was struck by a speeding SUV. The Soldier was providing security along a main supply route during an accident and was dismounted from his five-ton truck on the roadside. The SUV hit both the Soldier and the five-ton at an estimated 70 to 80 mph. The accident occurred during the early evening.

Personnel Injury, Iraq: Soldier choked at a dining facility and was pronounced dead at a local hospital. Another Soldier performed the Heimlich maneuver when the deceased Soldier started choking but was unsuccessful. The accident occurred during the early evening.

M997, United States: Soldier was killed when the M997 he was driving rolled over. The driver, who was wearing his seat belt but not his helmet, lost control of the ambulance and hit a concrete median while

traveling in a three-vehicle convoy. Injuries to other crewmembers were not reported. The accident occurred during the early afternoon.

Physical Training, United States: Soldier collapsed and died after he ran just over three miles during PT. CPR was performed, and the Soldier was transported to a local hospital where he was pronounced dead. The accident occurred during the mid-morning.

Dismounted Operations, Germany: Soldier was killed when he was struck by a civilian tractor-trailer. The Soldier was a passenger in an M931 that was sitting on the roadside because of mechanical problems. The Soldier was standing at the rear of the M931 when he was hit by the tractor-trailer. The driver of the M931 was not injured. The vehicle’s four-way hazard lights were on at the time of the accident, which occurred during the late evening.

Fratricide, Iraq: Soldier suffered a fatal gunshot wound from a friendly element. The Soldier was in an M1114 HMMWV in an unfamiliar area after dark when his element mistook



the friendly element for hostile forces. The two elements opened fire, at which time the deceased Soldier was struck in his left lung and shoulder. Three other Soldiers suffered unspecified injuries. The Soldiers reportedly were wearing their required PPE. The accident occurred during the mid-evening.

M1114 HMMWV, Iraq: Soldier died when the M1114 HMMWV he was riding in rolled over. A civilian vehicle ran a stop sign and pulled in front of the HMMWV just before the accident. The HMMWV's driver, a U.S. Air Force Airman, lost control while attempting to avoid the civilian truck. The vehicle was exceeding the command-directed convoy speed at the time of the accident. Besides the deceased Soldier, the vehicle's driver and two other Air Force personnel were ejected, but the degree of their injuries is unknown. The accident occurred during the early afternoon.

M923A2, United States: Soldier suffered fatal injuries when the M923A2 he was driving rolled over. The truck was part of an 11-vehicle convoy on an interstate highway. The driver lost control as the vehicle was traveling downhill

on a curve. The road was wet from a rain shower, and the vehicle fishtailed after hitting a slick spot. The truck struck an embankment and overturned, ejecting the driver. Another M923A2 directly behind the accident vehicle hit the same slick spot, spun around twice and came to rest in a ditch. The accident occurred during the late afternoon.

M1088, Iraq: Two Soldiers were killed when their M1088 was involved in a multi-vehicle collision. The truck was towing an M967 5,000-gallon bulk fuel tanker as the fifth vehicle in an 18-vehicle convoy. The convoy slowed due to road conditions, but the fourth vehicle, also an M1088 towing an M967 tanker, did not stop in time and hit the vehicle to its front. The fifth vehicle then struck the fourth vehicle, causing the fuel tanker to explode. The fourth and fifth vehicles subsequently caught fire. The Soldiers from the third and fourth vehicles escaped without injury. The Soldiers in the fifth vehicle were trapped inside the truck and suffered fatal burns. The accident occurred during the early morning.



Stryker, Iraq: Soldier suffered fatal head injuries when the Stryker he was riding in rolled over. The Stryker was part of a three-vehicle convoy when one of its rear wheels came off, causing the vehicle to overturn. The deceased Soldier was serving as the vehicle commander. Three other passengers were injured. The accident occurred during the mid-morning.

M998, Kuwait: A Department of the Army contractor was killed when the M998 HMMWV he was driving was struck by a civilian water truck. The contractor turned the HMMWV in front of the water truck, which could not stop in time

to avoid the impact. The water truck hit the HMMWV on the driver's side. The accident occurred during the mid-morning.

M998, Iraq: One Soldier died and two Soldiers were injured when their M998 HMMWV rolled over during convoy operations. The vehicle overturned after the driver failed to negotiate a turn. The deceased Soldier was serving as the vehicle's gunner and was pronounced dead at a combat support hospital. None of the Soldiers were wearing seat belts. The accident occurred during the mid-morning.

Personnel Injury, Kuwait: One Soldier suffered fatal head injuries and 19 others were injured when the bus they were riding in rolled

over while making a turn. The bus was being driven by a local national contractor who failed to slow down during the turn. Seat belts were not available on the bus. The accident occurred during the mid-morning.

Parachute, United States: Soldier suffered a fatal head injury during an Airborne jump. After the Soldier landed at the drop zone, a wind gust caught his parachute and dragged him about 400 feet across the ground. The Soldier was evacuated to a trauma center where he died the next day. He was wearing his helmet. The accident occurred during the mid-afternoon.

Fratricide, Iraq: Two Soldiers suffered fatal gunshot wounds during a friendly fire incident. The Soldiers were part of a dismounted platoon patrol that was attempting to evacuate the area following a hostile engagement. The accident occurred during the late afternoon.

M1025, Iraq: Three Soldiers were killed when their M1025 HMMWV struck an overpass pillar. The vehicle's driver veered off the

roadway's right side just before impact. The three Soldiers were pronounced dead at the scene. Initial reports indicate speed and fatigue were contributing factors. The accident occurred during the mid-afternoon.

Fall, Iraq: Soldier died after falling 15 feet from a guard tower. The Soldier was pulling security in the tower and apparently lost his footing while throwing garbage to the ground. The wood used at the trap door's opening was found on the ground to the left side of the door. The accident occurred during the mid-morning.

SUV, United States: One Soldier was killed and three others were injured when the vehicle they were riding in overturned on an interstate highway. The Soldiers were making an equipment run in support of hurricane relief efforts when a dump truck entered their lane and forced their small SUV off the road. The vehicle struck an embankment and rolled over. The deceased Soldier was sitting in the SUV's backseat and was ejected. The



M1A2, Iraq:

Soldier was killed when the M1A2 tank he was riding in overturned into a canal. The driver reportedly lost control of the tank after the ground below gave way. The deceased Soldier was serving as the track commander. The accident occurred during the early evening.

SUV's driver was treated and released, and the two remaining Soldiers were hospitalized. The accident occurred during the early afternoon.

M1114, Afghanistan: Soldier suffered fatal head injuries when he was thrown from the M1114 HMMWV he was riding in. A civilian vehicle merged into the HMMWV's lane during convoy operations. The M1114's driver swerved to avoid hitting the civilian vehicle, but the truck veered off the roadway and rolled over. The deceased Soldier was serving as the vehicle's gunner and was ejected when the vehicle overturned. The accident occurred during the mid-morning.

Physical Training, United States: Soldier collapsed and died while running during PT. The Soldier was running on a road adjacent to a U.S. Air Force base when he collapsed and was found by another Soldier, who then called for help. The Soldier was pronounced dead at a local hospital. The accident occurred during the early morning.

Physical Training, United States: Soldier collapsed and died while participating in a company PT run. The Soldier was transported to a local hospital where he was pronounced dead. The accident occurred during the mid-morning.



M1114, Iraq: Two Soldiers were killed when the M1114 HMMWV they were riding in was struck by a civilian dump truck. The Soldiers were serving as the HMMWV's gunner and vehicle commander

during a convoy escort mission. Additional injuries and seat belt use were not reported. The accident occurred during the mid-morning.

M1114, Iraq: Soldier died when the M1114 HMMWV he was driving struck an M1A2 tank and rolled over. The driver was operating the vehicle under night vision devices in blackout drive when it hit the tank. Two passengers inside the HMMWV were injured. Injuries to the Soldiers inside the tank and seat belt use in both vehicles were not reported. The accident occurred during the mid-evening.

M1114, Iraq: Soldier suffered fatal injuries when the M1114 HMMWV he was riding in struck a civilian vehicle head-on at an intersection. The Soldier was serving as the vehicle's gunner and was thrown from the HMMWV upon impact. Four local nationals inside the civilian vehicle also were killed. The accident occurred during the mid-afternoon.

M4, United States: Soldier suffered a fatal gunshot wound to his head following live-fire training. The Soldier was in the bivouac area following the exercise when another Soldier pointed an M4 rifle at him and fired the weapon. The accident occurred during the early evening.

Physical Training, United States: Soldier collapsed and died while conducting an individual three-mile PT run. Although lifesaving measures were performed immediately, the Soldier was pronounced dead at a local hospital. The accident occurred during the early morning.

M1114, Iraq: Soldier suffered a permanent total disability when the M1114 HMMWV he was riding in rolled over. The HMMWV was providing convoy security when it hit a wet spot on the roadway, slid sideways and overturned. The Soldier was serving as the vehicle commander. The driver suffered

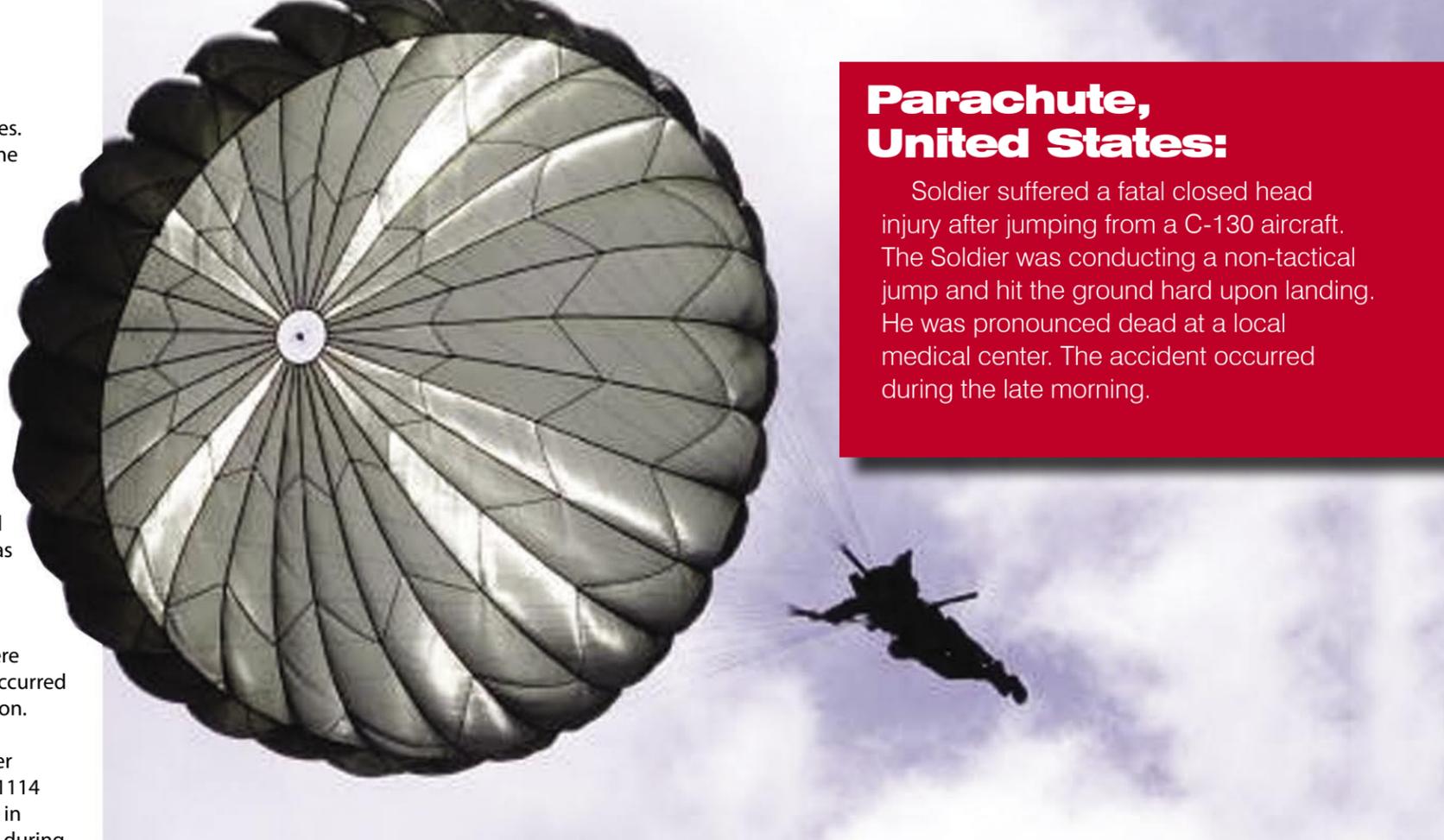
unspecified back injuries. Neither the nature of the vehicle commander's injuries nor seat belt use was reported. The accident occurred during the mid-morning.

M1114, Iraq: Soldier died when the M1114 HMMWV he was riding in struck a concrete barrier and rolled over during a combat patrol mission. The Soldier was serving as the vehicle's gunner. The HMMWV's driver and one foreign national interpreter were injured. The accident occurred during the late afternoon.

M1114, Iraq: Soldier was killed when the M1114 HMMWV he was riding in rolled over into a canal during a combat patrol mission. The Soldier was serving as the vehicle's gunner when the HMMWV began sliding and overturned into the canal. The Soldier was pinned beneath the vehicle and drowned. Injuries to other vehicle crewmembers were not reported. The accident occurred during the mid-morning.

Fire, Iraq: Soldier was killed when the tent he was sleeping in caught fire. The Soldier suffered second- and third-degree burns to more than 70 percent of his body and died on the way to a local medical facility. The accident occurred during the early morning.

Personnel Injury, United States: Soldier suffered a fatal head injury during a combative training exercise. The Soldier fell backward and struck his head on the ground mat after taking a punch from his sparring partner. The Soldier died two days later at a local hospital. He was wearing all appropriate personal



Parachute, United States:

Soldier suffered a fatal closed head injury after jumping from a C-130 aircraft. The Soldier was conducting a non-tactical jump and hit the ground hard upon landing. He was pronounced dead at a local medical center. The accident occurred during the late morning.

protective equipment including headgear. The accident occurred during the mid-afternoon.

Physical Training, Korea: Soldier died after complaining of chest pains while playing basketball during a unit PT event. The accident occurred during the mid-morning.

81 mm Mortar, United States: One Soldier was killed and four others were injured when an 81 mm high explosive round detonated in the tube. The Soldiers were participating in a field training exercise live-fire iteration and were inside the mortar pit when the round exploded. The degree of injury to the surviving Soldiers was not reported. The accident occurred during the late afternoon.

Fratricide, Afghanistan: Soldier was killed by a friendly element during an enemy combat engagement. The Soldier

and a foreign service member suffered fatal gunshot wounds during the incident. One other Soldier and three additional foreign service members were injured. The accident occurred during the early morning.

M1114, Afghanistan: Soldier suffered head injuries resulting in a permanent total disability when the M1114 HMMWV he was riding in was hit by a truck traveling down the roadway's center. The "dingle," or cargo, truck was being driven by a local national. The Soldier was serving as the vehicle commander. No other injuries were reported. The accident occurred during the late morning.

M998, United States: Soldier was killed when the M998 HMMWV he was riding in rolled over on a tank trail during a training mission. The Soldier was serving as the vehicle commander and was not wearing his seat belt. The vehicle's

driver suffered head and shoulder injuries. Both Soldiers were ejected from the vehicle. The accident occurred during the early morning.

Government Operated Vehicle, United States: A Soldier suffered minor injuries and a recruiting applicant was killed when their GOV hit an overpass guard rail and overturned onto an access road below. The Soldier was driving the applicant, who was ejected from the vehicle, home. Seat belt use by the Soldier was not reported. The accident occurred during the late afternoon.

M35A3, United States: Soldier was killed when the M35A3 cargo truck he was riding in overturned after hitting a dirt berm on a curve. The vehicle caught fire after the accident. Neither the nature of the Soldier's injuries nor injuries to other Soldiers in the vehicle were reported. The accident occurred during the mid-morning.

Personnel Injury, Iraq: Soldier suffered fatal injuries when he was struck in the neck by a snapped chain. The Soldier was part of a group attempting to free a contractor truck that was stuck in loose gravel. The Soldiers connected two trucks with chains to the stuck truck, but one of the chains broke when the two vehicles began moving forward. The Soldier received first aid from medics on site and was transferred to a local hospital where he later died. The accident occurred during the early afternoon.

Physical Training, Iraq: Soldier collapsed and stopped breathing while lifting weights at a gym. He was pronounced dead at the local combat support hospital. The accident occurred during the late evening.

Physical Training, United States: Soldier collapsed during the Army Physical Fitness Test and later died at a local hospital. The accident occurred during the early afternoon.

M2 Machine Gun, United States: Soldier was killed when an M2 .50 caliber machine gun discharged into his right hip. The Soldier was placing the M2 in a HMMWV when it became stuck. The Soldier then pushed the weapon with his hip, at which time it discharged. One other Soldier was struck by the round, and two additional Soldiers suffered minor injuries from shrapnel. The deceased Soldier died at a local hospital. The accident occurred during the mid-morning.

Electrocution, Korea: Four Soldiers were electrocuted, one fatally, when high winds blew the tent they were erecting over on a set of electrical wires. The deceased Soldier died at the scene, and the three other Soldiers were hospitalized for their injuries. The accident occurred during the late afternoon.

Explosion, United States: Two Army contractors were killed and another two contractors were injured when an explosion occurred at an ammunition plant. The contractors were conducting explosives density testing at the time of the explosion. The degree of injury to the two surviving contractors was not reported. One building also was destroyed in the accident, and surrounding structures were damaged. The accident occurred during the late morning.

Five-ton Truck, United States: Soldier was killed when the five-ton truck he was driving rolled over. The vehicle was part of a convoy returning from an annual training exercise when it left the roadway, hit a cement barrier and overturned. The Soldier was thrown from the truck, which came to rest on top of him, and was pronounced dead at the scene. No other injuries were reported. The accident occurred during the mid-afternoon.

M1025, United States: Two Soldiers died and two were injured when their M1025 HMMWV was rear-ended by a civilian tractor-trailer. The four Soldiers had completed a training exercise and were traveling to their barracks when the truck hit the

HMMWV, which ran off the road and overturned several times. All four Soldiers were wearing their seat belts and helmets, and the driver was traveling at an estimated 50 to 55 mph in a 65 mph zone with clear road conditions. The Soldiers sitting in the front and backseat passenger positions were ejected clear of the vehicle when their seatbelts sheared at the attachment points; both suffered moderate injuries and are expected to recover fully. The driver and driver-side backseat passenger remained inside the HMMWV and were killed during the rollover. The accident occurred during the late evening.

M998, United States: Soldier died when the M998 HMMWV he was riding in rolled over on a tank trail. The crew was supporting a live-fire training exercise and the deceased Soldier, who was ejected, was serving as the vehicle commander at the time of the accident. Injuries to the other crewmembers were not reported. The accident occurred during the early morning.

M1114, Iraq: Soldier was killed when the M1114 HMMWV he was riding in rolled over while maneuvering across a river levee. The Soldier was serving as the vehicle's gunner. Injuries to other crewmembers were not reported. The accident occurred during the mid-afternoon.

Pickup Truck, United States: Two National Guard civilians were killed when the GSA pickup truck they were riding in rolled over several times on an interstate highway. The civilians were in the truck's backseat and were not wearing seat belts. One civilian was thrown from the

vehicle, and the other was pinned inside. Two Soldiers, the driver and front seat passenger, were wearing their seat belts and suffered minor injuries. The driver lost control of the truck after falling asleep at the wheel. The accident occurred during the mid-morning.

M4, United States: Soldier suffered a fatal gunshot wound to his torso during a day live-fire training iteration. The 5.56 mm round was fired from an M4 being handled by another Soldier. Neither Soldier was wearing their personal protective equipment. The accident occurred during the mid-morning.

M1114, Iraq: Soldier died one week after the M1114 HMMWV he was riding in rolled over into a canal. The HMMWV fell into the canal after the road it was traveling on gave way beneath the vehicle. Two other Soldiers in the HMMWV suffered injuries associated with near drowning. The deceased Soldier was serving as the vehicle commander and was submerged for four to six minutes. The accident occurred during the late afternoon.

Physical Training, Germany: Soldier collapsed and died during physical training. He was pronounced dead at a local hospital. The accident occurred during the mid-morning.

M1114, Iraq: Soldier was killed when the M1114 HMMWV he was riding in rolled over into a canal. The HMMWV was serving as an escort vehicle when the driver turned onto a narrow road bordered by the canal on both sides. The HMMWV slid off the roadway and flipped into the canal during the turn, trapping the Soldier beneath the water. The Soldier was serving as the vehicle commander. The accident occurred during the mid-evening.



M2A3, Iraq: Two Soldiers were killed when their Bradley Fighting Vehicle rolled over into a canal. The vehicle was participating in a cordon and search mission on a dirt road above the canal when the ground beneath the vehicle collapsed. The BFV overturned into the water, and the two Soldiers were trapped inside and drowned. The accident occurred during the early morning.

M1114, Iraq: Soldier was killed when the M1114 HMMWV he was riding in rolled over during a logistics convoy. The HMMWV was traveling on a narrow, unimproved road in dusty conditions when a suspension failure caused the vehicle to spin 180 degrees and slide sideways into a 12-inch raised berm. The vehicle flipped when it struck the berm and came to rest on its roof, resulting in fatal injuries to the vehicle's gunner. The accident occurred during the mid-morning.

The U.S. Army Combat Readiness Center's Web site, <https://crc.army.mil>, features numerous interactive Army tools commanders and individual Soldiers can use to prevent these same accidents from happening again in their formations. For additional information on accident statistics, please contact the USACRC's Help Desk at (334) 255-1390, DSN 558-1390 or by e-mail at helpdesk@crc.army.mil.

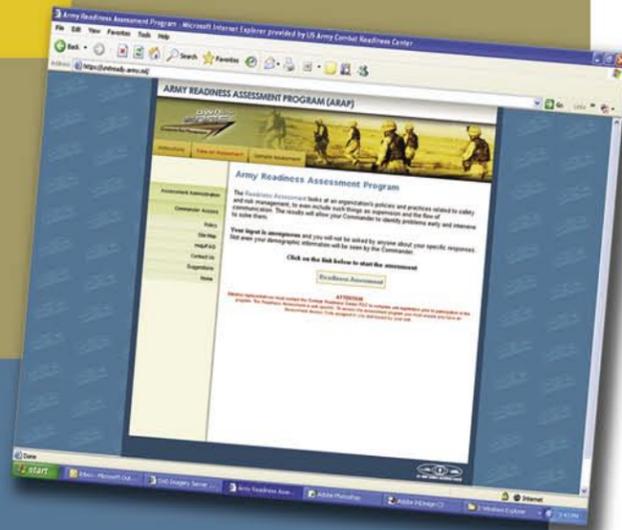
M9, Iraq:

Soldier suffered a fatal gunshot wound from another Soldier's 9 mm weapon. The deceased Soldier was on guard duty when he was shot in the chest with a round from the 9 mm, which the other Soldier was clearing. He was medically evacuated to a local combat support hospital where he died a short time later. The accident occurred during the early morning.

ARAP:

The Inside Look (One Year Later)

SAM REYNOLDS
ARAP Program Manager
U.S. Army Combat Readiness Center



ARAP is a 63-question assessment that assesses the safety climate in an organization by looking at five focus areas:

- Process Auditing**—Identifies hazards and corrects problems
- Reward Systems**—Assesses the unit's program of rewards and discipline to reinforce proper behavior and correct risky behavior
- Quality Control**—Places emphasis on high standards of performance
- Risk Management**—Assesses health of the unit processes
- Command and Control**—Assesses leadership, communications and policies as they relate to Composite Risk Management

On Oct. 5, 2006, the Army Readiness Assessment Program celebrated its one-year anniversary. ARAP is a successful program used by battalion commanders to gauge the safety climate within their organizations.

This past February the secretary of the Army, Honorable Francis J. Harvey, and the Army chief of staff, GEN Peter J. Schoomaker, signed a letter mandating all battalion commanders enroll in ARAP within the first 90 days of taking command and again after completing 12 to 13 months of command. Why does the Army's leadership have such a vested interest in ARAP? Well, simply put, they see the immediate benefits battalion commanders can glean from a program that provides critical information that can prevent accidents, change the culture and contribute to the overall success of the unit.

Personnel within these battalions who take the assessment appreciate ARAP because of the anonymity it offers. ARAP gives individuals the opportunity to tell their battalion commanders about things that are going well within the unit as well as discuss what's not going as well without fear of retribution. Commanders like ARAP because it gives an immediate indicator as to how well their unit is performing and its likelihood of having a severe mishap that results in loss of life or property.

Such mishap indicators aren't all ARAP has to offer, however. Expert USACRC staff members also outbrief and provide leaders with tools that have proven effective in mitigating mishaps. And that's important, considering units scoring in the bottom 25 percent are four times more likely than the top 25 percent to experience a Class A

mishap. Additionally, data show the cost of lost equipment in these units is 14 times greater than units scoring in the top 25 percent.

Another reason battalion commanders like ARAP is the mitigation process embedded in the program. Once a commander has been outbriefed, he is required to backbrief his higher commander. This step informs the higher commander of the unit's status and also involves them in the process, allowing them to apply resources and guidance as needed.

Since the inception of ARAP, more than 1,286 battalion commanders have registered for the assessment. This equates to more than 417,470 service members registered in the program, with completed assessments totaling 414 (32.19 percent) of the 1,286 units in ARAP—359 active battalions, 53 Reserve, and two National Guard units.

Comments from the field

An e-mail is sent automatically to the commander approximately three weeks after a battalion commander has been outbriefed. The following questions are asked in the e-mail:

1. What did the assessment highlight about my unit that I didn't already know?
2. What did I think I knew and

did the survey confirm it?

3. What action did you take due to the information you received from ARAP?

4. I was able to apply the following services and tools from the USACRC . . .

Listed below are sample responses received from the field:

- LTC, Aviation battalion: "The assessment highlighted the fact that our leaders were not providing command guidance down to the lowest levels. Many Soldiers indicated they were not provided intelligence updates, and they were not being briefed on current operations. That made us dig deeper to determine what else was not making it all the way down the chain, and we implemented checks to ensure this was corrected."

"At the time of the survey, we had just lost an aircrew to surface-to-air fire. The survey confirmed that our pilots had great consternation to operate during daylight hours until we received the necessary aircraft survivability equipment to defeat these missiles. We adjusted our tactics, techniques and procedures until the ASE was installed a few months later."

- LTC, Aviation battalion: "Thank you for the professional outbriefing today and for squeezing me into your

schedule. I find the results to be very useful and look forward to digging through them over the weekend. My assault aviation battalion activated only five months ago, and we have been running with scissors all summer. The results of this survey are very timely in that it is time for us to take our safety program to the next level. We deploy to Operation Iraqi Freedom next week and will push down the results and actions to get better as part of our RSOI in Kuwait."

- LTC, Aviation battalion: "This is a lot more than I thought I would receive—an eye opener! It seems our OPTEMPO has greatly affected the service members."

- LTC, Aviation regiment: "This is the best assessment program I have seen yet in my career."

- LTC, Special Troops battalion: "This is good stuff, a great product. It gives me a much better understanding of my organization and areas we should address. I appreciate the products and services provided."

- COL, Installation Management Agency: "Whoever is responsible for this program, I think they hit a homerun. The feedback is terrific, it's the best I've seen yet as it compares to other assessments."

- COL, U.S. Army Reserve: "This was a very enlightening program. I am totally impressed with the depth and insight gained from this survey. Frankly, I didn't know this survey provided this much information and excellent areas for improvement. Thank you!"

- LTC, Aviation battalion: "The Army should put up or shut up. Why don't we have an MTOE/TDA safety officer in every battalion-level organization? This should be a sought-after position, a volunteer duty, desired, career-enhancing, career progression and school-trained."

- LTC, Air Defense Artillery battalion: "Great program, looking forward to reviewing the data and identifying areas to address."

- LTC, Military Police battalion: "Thanks, this is a lot of information that I've been waiting for and we will take the time to digest and then disseminate the information to the companies. The shell brief

provides a definite framework and direction to present this information."

- LTC, Armored Cavalry: "The ARAP program is great. I've taken some of the suggestions in the courses of action from what we discussed and applied them to the squadron during my gunnery density, which I just completed. I will do the same for my field training exercise next month. The COAs helped me improve #50 and the questions associated with that one."

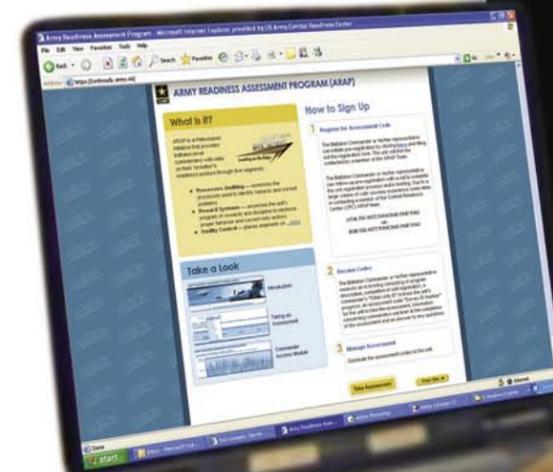
- LTC, Intelligence battalion: "As the commander, this looks very good, very powerful, very useful and very valuable."

- COL, Installation Management Agency: "This is very good, very powerful, and I see it being very useful. There is more here than I expected."

- O6-level commander: "Procedures you have set in place to maintain the anonymity of the Soldiers, as backbriefed to me, lead me to believe we are getting reliable feedback from the Soldiers."

- LTC, Engineer battalion: "I'm looking forward to reviewing the data and analyzing my staff."

For more information on ARAP or to schedule an assessment for your battalion, contact Mr. Sam Reynolds, ARAP Program Manager, at DSN 558-3901/9362 (334-255-3901/9362) or by e-mail at samuel.reynolds@crc.army.mil or arap@crc.army.mil.



ARAP Points to Remember

- All assessments are confidential. Only unit commanders or their designated representatives and the USACRC have access to results. A confidential debrief is conducted on a one-on-one basis between the commander and the USACRC.

- Assessments are predictive. Studies conducted by the U.S. Navy over the past six years show units in the survey's lower spectrum have twice the number of fatalities and more than twice the number of Class A accidents.

- All assessments and users are anonymous.

- These assessments are a "free look" inside a unit. They allow commanders to take an honest look at their safety culture and evaluate CRM processes.

- The program is Web-based, quick and easy: <https://unitready.army.mil>.

2006 Countermeasure

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COUNTERMEASURE:

That's a Wrap

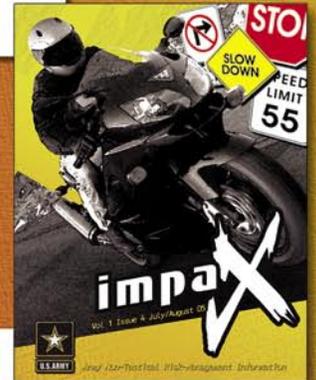
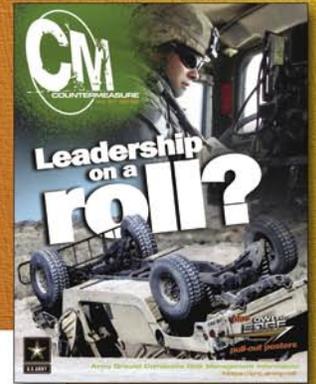
Dear Readers:

In our committed effort to continuously improve the value of our safety magazines and better serve our Soldiers and Army members, you'll see some changes in the U.S. Army Combat Readiness Center's publications in the near future. This issue of *Countermeasure* is the last you'll receive, but not to worry—tactical ground safety features still will be delivered to you each month in *Knowledge*, the USACRC's new monthly magazine. We've consolidated the information previously found in *Countermeasure*, *Flightfax* and *Impax* into a single magazine that highlights safety information pertaining to all career fields, ranks and missions, thereby allowing us to reach a larger audience of Soldiers than has been possible in the past. Don't worry about missing an issue; if you're already receiving *Countermeasure*, you'll automatically be added to the *Knowledge* distribution list.

Countermeasure has served the ground community as a valuable source of professional safety and accident prevention information since October 1979. We remain committed to you as we complete this consolidation and will continue to provide you with the high standards of information you've come to expect from our publications.

Archived issues of *Countermeasure* will remain online for your use, and each issue of *Knowledge* will be posted to the USACRC Web site at <https://crc.army.mil> just as the previous magazines were in the past.

If you have comments or suggestions regarding the publications, please let us know. Your feedback helps us improve, and your combat readiness remains our primary concern. As you transform to meet the challenges of the Global War on Terror, we too are transforming to better serve you.



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OWN the
EDGE

Leading on the Edge