

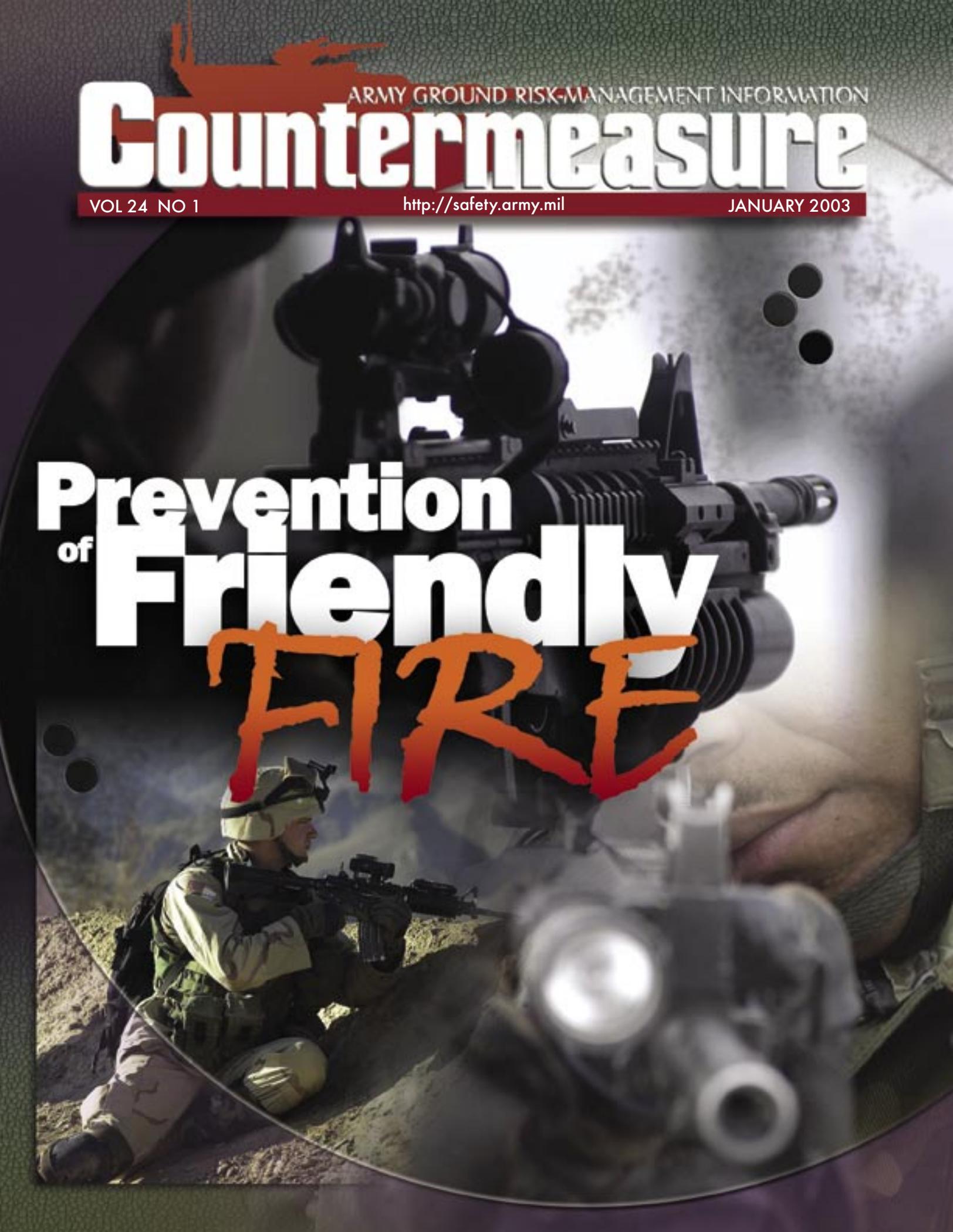
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 1

<http://safety.army.mil>

JANUARY 2003



Prevention of Friendly FIRE

CONTENTS

- 3** DASAF's Corner
- 4** Prevention of Friendly Fire
- 7** One Moment Can Affect a Lifetime
- 8** From the Front: EOD in Afghanistan
- 11** Fighting Position, or Death Trap?
- 12** Properly Maintain Your POV in the New Year
- 14** Don't Let Static Electricity Burn You
- 16** Keep Your Workplace Safe This Year
- 17** FAQs
- 18** News & Notes
- 19** Accident Briefs

features



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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4906, 5th Avenue, Fort Rucker, AL 36362-5353. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Ms. Julie Shelley) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



Managing Risks Prevents Fratricide

Each time we extend into conflict, the number of accidents goes up both in the areas of operation and in the training bases preparing to support the operation. Statistics show that we lose more soldiers to accidents than to enemy action during conflicts. In every major conflict since the Korean War, we have suffered more casualties due to accidents than to enemy action. In addition to accidents, friendly fire incidents have claimed a significant number of lives as well.

In combat operations and intensified training conditions that nearly replicate combat conditions with large numbers of armored combat vehicles operating in congested areas, convoy operations at night and often limited visibility, aviation operations, and huge numbers of personnel on the ground, the “fog of war” can result and the stage is set for friendly fire incidents. In Operation Desert Shield/Desert Storm, we experienced 12 direct-fire, 1 indirect-fire, and 2 air-to-ground fratricides, and 77 percent of our combat vehicle losses were due to fratricide. Combat identification was the number one problem.

Since Desert Shield/Desert Storm, fratricide prevention has been a point of discussion for soldiers attending leader courses. It is also a subject of great concern at our training centers. However, technological solutions for fratricide prevention have not advanced significantly in the years since Desert Shield/Desert Storm. In fact, other than schoolhouse training and development of situational awareness tools, we actually have made no measurable improvement in our ability to prevent fratricide since Desert Shield/Desert Storm.

Recognizing the need to address this potential hazard and proactively define controls to reduce its risk before we engage in future conflicts, the Chief of Staff, Army directed a fratricide avoidance risk assessment. Data and lessons learned collected from FORSCOM units and TRADOC institutions show that we remain at high risk for fratricide incidents.

Reducing that risk requires continued education and training. Soldiers must learn to maintain situational awareness. Vehicles and individuals must be marked appropriately, and soldiers must be sufficiently trained to identify those markings. Other mitigation efforts include fielding combat identification panels or thermal identification panels on all vehicles at brigade and below. Soldiers must also master the use of global positioning systems and land navigation. We also can reduce this risk by developing a standard method for employing attack aviation in the close fight, by certifying our battalion commanders on the effects of weapons systems and fire and control of direct and indirect fires.

The intent of conflict or war is to inflict harm on only those we intend to—the enemy—and not our own forces. The loss from accidents or fratricide of any of our assets greatly reduces our readiness. But when we lose soldiers due to friendly fire, this needless loss of combat power also results in a general degradation of cohesion and morale, which can cause us to lose the initiative and our aggressiveness during fire and maneuver operations. The impact can be so great that it leads to a hesitation to conduct limited visibility operations, loss of confidence in the unit’s leadership, an increase in leader self-doubt, hesitation to use supporting combat systems, or even over-supervision of a unit.

As leaders charged with executing the many missions given to our Army while simultaneously protecting the men and women who so selflessly serve, it is incumbent upon us to address proactively common recurring hazards that accompany intensified training preparations and real-world missions. Fratricide is one hazard we must ensure our soldiers have been properly trained to prevent on the battlefield. 🇺🇸

Train Hard, Be Safe!
BG James E. Simmons

Friendly fire is the employment of a friendly weapons system against friendly troops or equipment. 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 at your own forces, then you have carried out friendly fire; if you hit the personnel or equipment in the unit you engaged, then you have committed fratricide.

During Operation Desert Storm (ODS), there were 15 reported incidents of fratricide—12 as a result of direct fire, 1 as a result of indirect fire, and 2 as a result of air-to-ground fire.

Of the 12 direct fire incidents, 11 occurred at night, with the majority occurring within 1500 m. Four of those incidents occurred across task force boundaries.

Approximately 77 percent of combat vehicle losses were due to fratricide.

Contributing factors to fratricide incidents during ODS included inadequate fire and maneuver control; inadequate direct fire

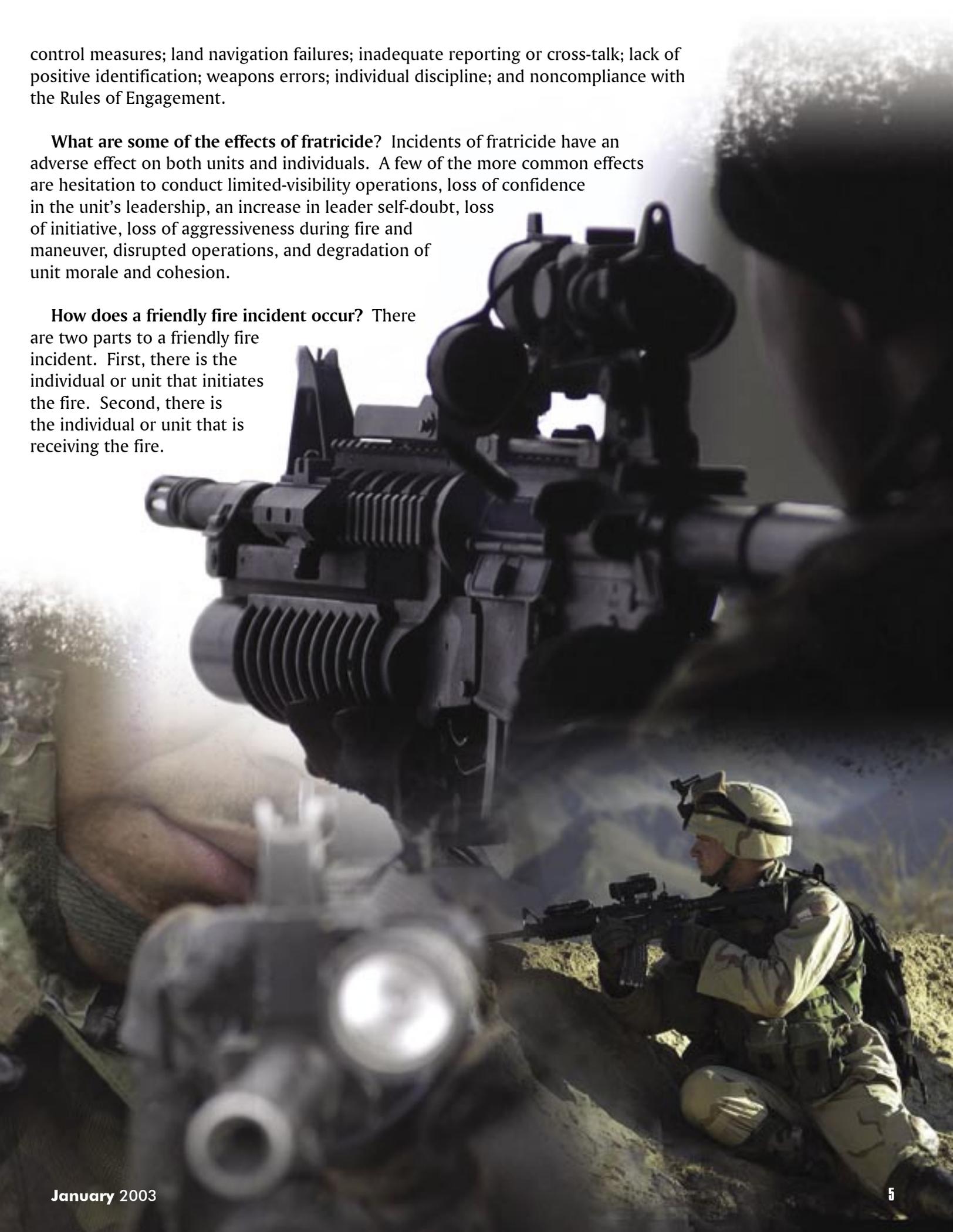
Prevention of Friendly FIRE



control measures; land navigation failures; inadequate reporting or cross-talk; lack of positive identification; weapons errors; individual discipline; and noncompliance with the Rules of Engagement.

What are some of the effects of fratricide? Incidents of fratricide have an adverse effect on both units and individuals. A few of the more common effects 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 parts to a friendly fire incident. First, there is the individual or unit that initiates the fire. Second, there is the individual or unit that is receiving the fire.



This 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.

How does one get into a position that they might receive friendly fire? There are several ways that an individual or unit can put themselves at risk of receiving friendly fire. The first is **loss of situational awareness**. This can be caused by a multitude of things, to include: inadequate control measures in place to keep direct fire oriented towards 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. The second is **inadequate land navigation**. This can either be going outside assigned sectors, becoming disoriented and possibly traveling in the wrong direction, or even reporting an incorrect location to a higher element so no one outside your immediate element really knows exactly where you are. The third is **not marking vehicles and personnel** with some type of marking device that will aid in identifying them as friendly forces. These markings need to address day and night visibility and should be tailored to be identified easily by the platforms that are operating in the same sector. An example is that a thermal sight on a tank cannot see a chem light or GLINT tape. A marking system becomes even more critical in times of limited visibility or in a fire fight that puts friendly and enemy forces in close proximity.

How does one get into a position to commit an act of delivering friendly fire? These causes are much the same as the categories above. The first is the **loss of situational awareness**—not keeping the weapon system oriented in the right direction and deviating out of the engagement area, or failure to adhere to the control measures in place. Then you have **land navigation**. If an individual or unit does not know its location or the location of other

friendly units, then it cannot be certain who is operating in their vicinity. The third is **failure by individuals to positively identify the target** as an enemy before initiating fires (direct or indirect). This is especially critical in times of limited visibility, whether that be darkness, fog, rain, or a sandstorm.

Now that we have defined friendly fire and discussed how it can happen, it is time to lay out a plan to **reduce the risk** of a friendly fire incident. The key is tough, realistic training with leaders actively involved in eliminating friendly fire incidents. This can be done by ensuring a number of things happen. Good units with good leadership make these things happen in every operation. They include (1) ensuring the unit has adequate control measures to conduct the operation and that these control measures are distributed down to the lowest level; (2) ensuring all soldiers understand the operation and schemes of maneuver by their unit and adjacent units; (3) rehearsing the plan to ensure that all soldiers understand the plan and the orientation of their unit during the plan; (4) using all position location and navigation devices available and understanding that if a unit gets disoriented or lost, they must contact higher headquarters immediately for instructions and assistance; (5) keeping soldiers informed and ensuring they understand clearly the friendly and enemy situations; (6) making positive identification before engaging targets; (7) marking unit vehicles and personnel so they can be identified by other friendly units operating in the same sector (i.e., combat identification panel system (CIPS), thermal identification panels (TIPs), GLINT tape, thermal tape, smoke, etc.); and (8) ensuring all soldiers and leaders understand the Rules of Engagement.

Doing all of these things will not eliminate the possibility of a friendly fire incident; however, it will reduce the risk significantly. 

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One Moment Can Affect a Lifetime

As we begin a new year, it is only fitting that we pause for a moment to reflect on the 198 soldiers that were killed in accidents over the last 12 months. 198 of our people gone forever. Our soldiers are our most precious resource; we can and must do better. We can't afford not to.

We owe it to our soldiers and we owe it to the people of this great Nation that we are sworn to protect. Our citizens send us their sons and daughters in good faith, confident that we will train them and protect them to the best of our ability. How can we justify losing even one of our soldiers to a needless accident that could have been prevented? How can we explain that loss to a grieving parent, a young widow, or to a child that can't understand why their mother or father isn't coming home?

While it may seem strange, good intentions are a common factor in Army accidents. Accidents are not caused by evil people; they are caused by people just like us that are merely trying to accomplish their daily tasks, on and off duty. Frequently they are doing things that many of us also have done before—we were just lucky enough to get away with it. The fatigued soldier speeding to get home over a long weekend; the motivated troop trying to “make it happen” in the face of inadequate time, training, or information; the operator or mechanic taking the maintenance shortcut that “never caused a problem before.” These are just some of the examples that have led to disaster for our soldiers. These were great people trying to do great things but failing to properly identify, assess, and control the hazards, whether through inattention, overconfidence, indiscipline, or a simple lack of knowledge.

One thing that always has distinguished our Army from that of other nations is our ability to take initiative and make things happen. In the absence of proper supervision and effective training, this positive trait can actually work against us in the accident prevention

arena. Do not discourage initiative; it is a vital part of what gives us the ability to fight and win wars. Encourage initiative, but we must ensure that we have provided soldiers with the tools required to accomplish their tasks properly and safely.

Soldiers are adults with adult responsibilities and a serious mission. Let them stand on their own two feet, give them responsibility that is commensurate with their rank and maturity, but never relax your guard. That young soldier is squared away and has the best of intentions, but he or she does not have the experience you have. Increase their responsibilities as they grow, but continue to provide leadership and mentorship so they can rise to your level of expertise and continue the tradition by leading and mentoring their own soldiers. Gaining experience is a continual process. Some lessons come easy; others are painful. We learn and grow by trying new things and often by making mistakes. Let your soldiers learn from the mistakes you may have made and the lessons you have learned so they do not have to relearn the things that we already have discovered the hard way.

The profession of arms is inherently dangerous and will never be truly safe. We must continue to conduct hard, realistic training. The old adage still rings true: “Better to sweat in peace than bleed in war.” We must effectively manage risks by ensuring that the benefits to be gained outweigh the risks, controls are in place to reduce or eliminate the risks, and that decisions are made at the appropriate level. Build positive habits on duty that your soldiers will transfer to off-duty activities. Never miss an opportunity to emphasize safety or make an on-the-spot correction. Supervise and enforce the standards in all tasks. Mission accomplishment and welfare of the troops are simultaneous tasks that are interdependent upon each other. One moment can affect a lifetime. Talk to your soldiers and make them believe it. You may just save a life. 🇺🇸

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From the Front: EOD in Afghanistan

Operation Enduring Freedom (OEF) poses many unique challenges to the explosive ordnance disposal (EOD) soldier. After centuries of war, including a decades-long conflict with the former Soviet Union, Afghanistan is grossly contaminated with unexploded ordnance (UXO) and uncharted minefields. Some estimates place the total number of mines and UXO as high as 10 million. And, the problem is as complex as it is vast. Countless unexploded munitions lay strewn across a lunar-like landscape randomly seeded with mines of every type and origin. Yet, efforts to remove these hazards are frequently met with resistance from the indigenous populace who view UXO as a potential resource.

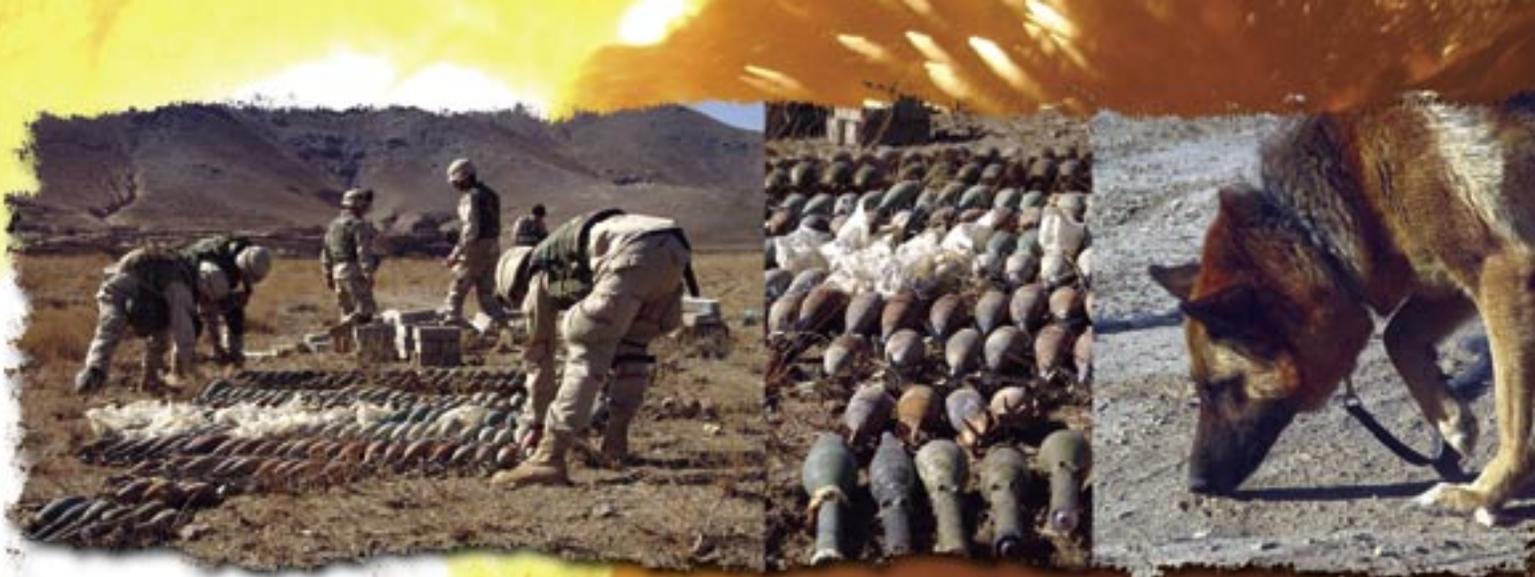
From the onset of OEF, the first priority facing EOD soldiers was clearing UXO from the airfields at Kandahar and Bagram so airflow could begin. In the early stages of OEF virtually everything moved by air, making restoration of the airfields a mission of the highest priority. Most of the UXO encountered in the initial runway surface clearance were from U.S. airstrikes early in the operation. They consisted mainly of large numbers of BLU-97 sub-munitions. Small arms UXO disposal (SMUD) techniques were used when possible; blow-in-place techniques were used when SMUD was not possible.

Coalition engineer and EOD soldiers coordinated support to the task force commander in his efforts to expand the living and working areas immediately around the airfields to accommodate an ever-increasing coalition population. The procedures used to clear these areas varied based on the terrain; the level of mine and UXO contamination; the manpower, equipment, and time available;

and the real estate's intended use. Because the majority of terrain to be cleared was heavily littered with all types of metallic clutter and many of the mines were constructed of non-ferrous materials, standard ordnance locators were useless. The preferred method of clearance was to use a mechanical device designed to either scrape away or pulverize the earth to a depth of 12 to 18 inches. The U.S. mine-clearing armor-plated (MCAP) dozer, the Norwegian Hydrema, the Jordanian Aardvark, and the U.S. mini-flail were used initially.

The MCAP is a D-7 bulldozer with an armored kit installed to protect its operator. It can effectively clear everything down to a depth of about 12 to 18 inches, depending on the soil makeup. Its blade, or rake, is set to "windrow" the UXO and mines into berms without detonating them. EOD soldiers then sift through the berms and dispose of, or render safe, the ordnance they locate.

Norwegian engineers used the Hydrema 910 mine-clearing vehicle. This is an articulated, wheeled vehicle with two engines, one powering the flail and the other powering the vehicle. The Jordanians used the Aardvark flail, which is similar to the Hydrema but is driven by tracks instead of wheels. The U.S. mini-flail was used for clearing tight areas around buildings or trails, but is too underpowered and prone to catastrophic detonation damage to work large areas. The flails are designed to



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mechanically destroy UXOs and mines without detonating them.

All of the mechanical clearing devices create dust clouds so thick that the direction of travel is determined by the wind, because the operator cannot see to drive when the dust blows back on the vehicle. The MCAP is relatively resistant to detonations; the flails to a lesser degree. Operational readiness rates are dependent on spare parts, mechanics, and availability of support equipment.

Eight teams of explosive-detecting dogs and their handlers were deployed under contract from Bosnia and were used for initial sweeps of low-threat areas and follow-up sweeps of mechanically cleared high-threat areas. The teams were very successful but slow, and with the advent of higher temperatures, their number of effective working hours decreased significantly.

Explosive hazards unearthed by these operations were disposed of routinely by supporting EOD personnel. They were either blown in place, moved for consolidated disposal later, or rendered safe, depending on location and condition. Render-safe procedures were performed at an estimated 25-percent rate during

clearance operations. The Army Engineer School had expressed concern that the mobility of combat maneuver forces on the battlefield could not be ensured because the existing EOD force structure was perceived to be neither sufficiently robust nor responsive enough to meet requirements. However, there was no evidence of this in OEF. All involved characterized the working relationship between the engineers at both Kandahar and Bagram as excellent.

The destruction of captured ammunition caches was a large part of the workload for EOD forces. Stockpiles of munitions of various national origin including missiles, rockets, bombs, mortars, grenades, and projectiles were encountered, often strewn with debris and UXO from recent airstrikes. The fact that no route into any mission area could be presumed to be mine-free further complicated the problem. Large caches that could not be destroyed on-site due to their proximity to people or critical infrastructure required transport to a safe disposal area. Booby-trapped caches also were found. The April 2002 deaths of three EOD soldiers in Kandahar during a cache-clearing operation tragically illustrates the necessity for extreme caution when disposing of captured munitions.

First-seen and modified ordnance was encountered in significant quantities. EOD elements did an excellent job of reporting and collecting these items for technical exploitation. At the time of this report, five pallet loads of this ordnance were undergoing exploitation by Joint Service and Technical Intelligence elements in CONUS.



LESSONS LEARNED

Three lessons are evident from the observations made of EOD operations in Afghanistan:

- **A well-trained EOD soldier is more important to success than any EOD equipment.**
- **The quality of an EOD soldier is more important than the quantity of EOD soldiers.**
- **Competent EOD forces cannot be mass-produced after a crisis occurs.**

EOD soldiers hurdled over or bulldozed through every obstacle they faced during OEF. Their superb training and modular organization allowed them to task-organize down to the two-man team level to meet the task force commander's priorities responsively. In the final analysis, their success is a testament to the EOD soldier who delivered a consistently outstanding performance in an environment that was as dynamic as it was harsh.

Lessons Learned

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POC: LTC John Stefanovich, Center for Army Lessons Learned (CALL) Combined Arms Assessment Team, <http://call.army.mil>

Editor's Note: EOD operations have taken on a significance not experienced in recent history as we deal with the proliferation of munitions, the global War on Terror, and Homeland Defense. This increased significance translates to increased exposure to operations requiring employment of EOD personnel and procedures. This exposure is not limited to EOD personnel. Commanders at all levels, across the full spectrum of organizations, must be prepared to make good risk mitigation decisions involving UXO. Risk mitigation must include the use of available personal protective equipment and limiting exposure to minimum essential personnel. Educating our soldiers and including EOD operations in our pre-deployment certification processes will go a long way toward giving leaders and soldiers the right tools to respond appropriately in an EOD operations environment.

Fighting Position, or Death Trap?

The Army recently experienced an accident where an MK19 fighting position collapsed on top of a soldier pulling guard duty. Sand shifted underneath a berm suddenly, causing the fighting position to give way—with the soldier underneath. Fortunately, two of the soldier's comrades were not under the bunker and were able to quickly dig their fellow soldier out from underneath the sand bags and wood that had fallen on him in a matter of seconds. The injured soldier was airlifted by MEDEVAC and treated for injuries to his neck immediately following the accident.

All soldiers must know how to construct solid, functional fighting positions. An improperly constructed position is actually dangerous for the soldier to occupy. It will not provide the protection from fire that he needs, and it may even collapse on him at any moment. Such unsafe structures should be torn down and rebuilt properly; otherwise, a position designed to protect could well present an even greater danger.

Throughout history, the Army has been called upon to seize key terrain and then dig in solidly to hold it. Infantrymen, assisted by their brothers-in-arms, the combat engineers, build the field fortifications and fighting positions that are key to surviving the enemy's fire and repelling his assaults. Well-constructed bunkers, trenches, and fighting positions protect soldiers and allow them to fight and survive in the deadly environment of modern combat.

On every battlefield, from the muddy trenches of World War I to the sandy desert of the Persian Gulf, improperly constructed positions have collapsed and killed or injured the soldiers they were intended to protect. Positions collapse in peacetime as well. At each of the Army's combat training centers, soldiers in improperly designed, poorly supported, and badly constructed fighting positions have been injured when the overhead cover came crashing down or the sides collapsed in on them, smothering them even as their comrades struggled to dig them out.

It is the responsibility of unit leaders to prevent this from happening. Each of them, from squad leader through battalion commander, must learn the standards for proper construction of a fighting position, and must supervise and inspect the soldiers under him as they build their positions. The fundamental design of well-constructed fighting and survivability positions is not new. Army Engineers have validated several basic designs that will survive direct and indirect fire from most enemy weapons,

and that will protect the men inside while they return fire.

Field Manuals (FMs) 5-103, *Survivability*, and 5-34, *Engineer Field Data*, contain detailed designs that ensure the structural integrity of the position and the safety of the occupants. The Infantry School has published Graphic Training Aid (GTA) 7-6-1, *Fighting Position Construction Infantry Leader Reference Card*, which contains multiple illustrations and detailed leader checklists. (These references are available at <http://www.adtdl.army.mil/atdl.html>.)

According to FM 5-103, sandy soil can weigh as much as 100 pounds per cubic foot. A 10' x 4' roof, if covered with 18 inches of soil, could weigh 6,000 pounds—3 tons! Unless the roof is waterproofed, that weight could double as the soil soaks up water during rains. That's nearly 6 tons balancing precariously over the head of the soldier manning that position.

A properly designed and built position provides 360-degree protection instead of just shielding its occupants from the front. The selection, number, and placement of the stringers supporting overhead cover is critical to the safety of a position. Weak stringers placed too far apart simply cannot carry the load.

Another key factor is the strength and location of the support base on which the stringers rest. If the base is too weak or too close to the edge, the sides of the position will slump inward, possibly suffocating the occupants before they can be dug out.

Do not be intimidated by all of this talk of construction standards, footings, timbers, stringers, and spacing. It is not technical information that can be understood only by an engineer. This is simple soldier-skill stuff, and Infantrymen have been building good, solid positions since before World War I.

Every soldier and every leader, combat arms or not, must know these guidelines. Supervising the construction of fighting positions is one of the fundamental tasks of a Noncommissioned Officer. It has to be done to standard because the lives of the soldiers and the success of the mission depend on it. Learn how to inspect a fighting position. If you do, you will never have to dig the lifeless body of a soldier out of one that collapsed on him. 

Article adapted from Spring 2002 *Infantry* magazine and authored by Arthur A. Durante Jr., Deputy Chief of Doctrine, Combined Arms and Tactics Directorate, U.S. Army Infantry School

Properly Maintain Your

A healthy car on the open road is as fundamental to driving safety as seatbelts or obeying the speed limit. Ignoring maintenance can lead to trouble: specific parts—or an entire system—can fail and lead to a breakdown or accident. Neglecting even simple routine maintenance, such as changing the oil or checking coolant levels, can lead to poor fuel economy, unreliability, or costly breakdowns.

The first step in preventive maintenance for your POV is simple: perform routine, scheduled maintenance! Make this one of your New Year's resolutions—it's easy and could extend greatly your car's life, as well as keep you and your family safe on the open highway. To avoid costly repairs, follow the manufacturer's maintenance schedule found in your owner's manual for the type of driving you most often do. Then become familiar with your vehicle and stop, look, and listen when you suspect a problem.

The more you know about your vehicle, the more likely you'll be able to head off repair problems. You can detect many common vehicle problems by using your senses: eyeballing the area around your vehicle, listening for strange noises, sensing a difference in the way your vehicle handles, or even noticing unusual odors.

Small stains or an occasional drop of fluid under your car may not mean much. But wet spots deserve attention—check puddles immediately! Proper fluid levels are vital to the proper and safe operation of your vehicle. You can identify fluids by their color and consistency:

- Yellowish green, pastel blue, or fluorescent orange colors indicate an overheated engine or an antifreeze leak caused by a bad hose, water pump, or leaking radiator.
- Dark brown or black, oily fluid signals that the engine is leaking oil. A bad seal or gasket can cause such a leak.
- An oily red spot points to a transmission or power steering fluid leak.
- A puddle of clear water usually does not indicate a problem, and could be normal condensation from your vehicle's air conditioner.

Remember always to clean up any automotive fluid you may see in a timely manner. Most automotive fluids are toxic to some degree, especially to small children and animals.

Some problems just smell like trouble.

- The smell of burnt toast—a light, sharp

odor—often signals an electrical short and burning insulation. To be safe, do not drive the vehicle until the problem is diagnosed.

- The smell of rotten eggs, a continuous, burning-sulphur smell, usually indicates a problem in the catalytic converter or other emission-control device. Do not delay diagnosis or repair if you suspect such a problem.

- A thick, acrid odor usually indicates burning oil. Look for signs of a leak if such an odor is present in your vehicle.

- The smell of gasoline vapors after a failed start could mean that you have flooded the engine. Wait a few minutes before trying to start the engine again. If the odor persists, chances are there is a leak in the fuel system, a potentially dangerous problem that requires immediate attention.

- Burning resin or acrid chemical odors could signal overheated brakes or an overheated clutch. Check to make sure the parking brake is not activated. After repeated hard braking, such as travel on mountain roads, allow the brakes to cool. If you see light smoke coming from a wheel, the problem could be a stuck brake, and the vehicle should be towed for repair.

- A sweet, steamy smell indicates a coolant leak. If the temperature gage or warning light does not indicate overheating, drive carefully to the nearest service station and keep an eye on the gages. If the odor is accompanied by a hot, metallic scent and steam is coming from under the hood, your engine has overheated. Pull over immediately—continued driving could cause severe engine damage. The vehicle should be towed for repair.

Your car can sound like trouble, too. Squeaks, squeals, rattles, rumbles, and other sounds provide valuable clues about problems and maintenance needs. Here are some common noises and what they mean:

- Squeal—a shrill, sharp noise usually related to engine speed that can indicate loose or worn power steering, fan, or air conditioning belts.
- Click—a slight, sharp noise related to either engine or vehicle speed that can mean a loose wheel cover, loose or bent fan blades, a stuck valve lifter, or low engine oil.
- Screech—a high-pitched, piercing metallic sound that usually occurs while the vehicle is in motion and generally is caused by

POV in the New Year

brake wear indicators to let you know it's time for maintenance.

- Rumble—a low-pitched, rhythmic sound that could point to a defective exhaust pipe, converter, or muffler, or a worn universal joint or other drive-line component.
- Ping—a high-pitched, metallic tapping sound related to engine speed that is usually caused by using gas with a lower octane rating than what's recommended. Check your owner's manual for the proper octane rating. If the problem persists, engine ignition timing could be at fault.
- Heavy knock—a rhythmic, pounding sound that indicates a worn crankshaft or connecting rod bearings, or a loose transmission torque converter.
- Clunk—A random thumping sound that indicates a loose shock absorber or other suspension component, or a loose exhaust pipe or muffler.

If your car does not look, smell, or sound like it has a problem, do not get too comfortable. Difficult handling, a rough ride, vibration, and poor performance are symptoms you can feel and almost always indicate a problem. Here are some common problems associated with a car's driving performance:

Steering. Misaligned front wheels or worn steering components, such as the idler or ball joint, can cause wandering or difficulty steering in a straight line. Pulling, the vehicle's tendency to steer to the left or right, can be caused by something as routine as under-inflated tires, or as serious as a damaged or misaligned front end.

Ride and handling. Worn shock absorbers or other suspension components, or improper tire inflation, can contribute to poor cornering. While there is no hard and fast rule about when to replace shock absorbers or struts, try this test: bounce the vehicle up and down hard at each wheel, then let go. See how many times the vehicle bounces. Weak shocks will allow the vehicle to bounce twice or more. Springs do not normally wear out and do not need replacement unless one corner of the vehicle is lower than the others. Overloading your vehicle can damage the springs. Always be sure to balance your tires properly. An unbalanced or improperly balanced tire causes a vehicle to vibrate and may wear steering and suspension components prematurely.

Brakes. Brake problems have several symptoms. Schedule diagnosis and repair if the vehicle pulls to one side when the brakes are applied; if the brake pedal sinks to the floor when pressure is maintained; if you hear or feel scraping or grinding during braking; or if the BRAKE light on the instrument panel is illuminated.

Engine. The following symptoms indicate engine trouble. Get a diagnosis and schedule repair if you have difficulty starting the engine; if the CHECK ENGINE light on the instrument panel is illuminated; if the engine is idling rough or stalling; if your vehicle is experiencing poor fuel economy; if the engine is using more than one quart of oil between changes; or if the engine continues running after the key is removed.

Transmission. Poor transmission performance could stem from actual component failure or a simple disconnected hose or plugged filter. When you take your car in for diagnosis, ensure the technician checks the simple problems first; transmission repairs normally are expensive. Some of the most common symptoms of transmission problems are abrupt or hard shifts between gears; delayed or no response when shifting from neutral to drive or reverse; failure to shift during normal acceleration; and slippage during acceleration (the engine speeds up, but the vehicle does not respond).

Fortunately, car trouble does not always mean major repairs. But, if your car does give you an indication of a problem, be sure to have it checked. Neglecting a major problem could mean major trouble on the open road. 🚗

Article adapted from material found on Ask an Expert Web site, www.askanexpert.net



The Army and Air Force Exchange Service (AAFES), which operates service stations worldwide, wants to remind motorists of the importance of avoiding potential problems with static electricity at the gas pump. Since the end of November 2002, three separate refueling fires at AAFES gas pumps have been reported, with all three customers being burned to some degree.

In many parts of the country, static electricity buildup is most likely to occur during the fall and winter months, when the air is cool or cold and dry—the optimal climate conditions for static electricity buildup. Static electricity can build up when a motorist exits or re-enters their vehicle during refueling. Upon returning to the vehicle fill pipe during or at the end of refueling, the motorist could experience a static discharge at the fill point, which could cause a flash fire or small sustained fire with gasoline refueling vapors.

Static electricity related fires have occurred at AAFES and other retail gasoline outlets. According to the American Petroleum Institute (API) and the Petroleum Equipment Institute (PEI), such incidents are on the increase. To date, over 150 incidents have been reported to PEI that have resulted in numerous injuries, property damage, and one fatality.

The most effective means by which a motorist can avoid static electricity problems at the gas pump is to stay outside the vehicle while refueling. While it may be very tempting to get back in the car during extremely cold weather, the average fill-up only takes around two minutes and staying outside the vehicle will greatly minimize the likelihood of any buildup of static electricity that could be discharged at the nozzle.

In the rare event a motorist does experience a fire while refueling, it is important to remember to

Don't Let Static Ele



leave the nozzle in the fill pipe of your vehicle and back away from it. Immediately notify the station attendant to shut off all dispensing devices and pumps with emergency controls. If the facility is unattended, use the emergency shutdown button to shut off the pump and use the emergency intercom to summon help. Leaving the pump nozzle in the vehicle will prevent any fire from becoming more dangerous.

Motorists who feel the need to get back into their vehicle during refueling should discharge any static buildup upon exiting the car before going back to the pump nozzle. This can be done safely by touching a metal part of the vehicle (such as the door) or some other metal surface with a bare hand.

Consumers can minimize these and other potential refueling hazards by following safe refueling procedures all year long (a list is provided below). For more information on avoiding

fresh air. Keep your face away from the nozzle or container opening.

- When dispensing gasoline into a container, use only an approved portable container and place it on the ground while refueling to avoid possible static electricity ignition of fuel vapors. Containers should never be filled while inside a vehicle or its trunk, the bed of a pickup truck, or the floor of a trailer.

- Only store gasoline in approved containers, as required by federal and state authorities. Never store gasoline in glass or any other unapproved container.

- When filling a portable container, manually control the nozzle valve throughout the filling process. Fill a portable container slowly to decrease the chance of static electricity buildup and minimize spilling or splattering.

- Fill container no more than 95 percent full to allow for expansion.

- Place the cap tightly on the container after

Electricity Burn You

potential problems with static electricity buildup at the pump and other safe motor fuel refueling, storage, and handling guidelines, see API's web site at www.api.org/consumer and PEI's web site at www.pei.org/static.

- Turn off your vehicle engine while refueling. Put your vehicle in park and set the emergency brake. Disable or turn off any auxiliary sources of ignition such as a camper or trailer heater, cooking units, or pilot lights.

- Do not smoke or light matches or lighters while refueling at the pump or when using gasoline anywhere else.

- Use only the refueling latch provided on the gasoline dispenser nozzle; never jam the refueling latch on the nozzle open.

- Do not re-enter your vehicle during refueling.

- In the unlikely event a static-caused fire occurs while refueling, leave the nozzle in the fill pipe and back away from the vehicle. Notify the station attendant immediately.

- Do not over-fill or top off your vehicle tank, which can cause gasoline spillage.

- Avoid prolonged breathing of gasoline vapors. Use gasoline only in open areas that get plenty of

filling, and do not use containers that do not seal properly.

- If gasoline spills on the container, make sure that it has evaporated before you place the container in your vehicle. Report spills to the attendant.

- When transporting gasoline in a portable container, make sure the container is secured against tipping and sliding, and never leave it in direct sunlight or in the trunk of a car.

- Never siphon gasoline by mouth or put gasoline in your mouth for any reason. Gasoline can be harmful or fatal if swallowed. If someone swallows gasoline, do not induce vomiting. Contact a doctor immediately.

- Keep gasoline away from your eyes and skin; it may cause irritation. Remove gasoline-soaked clothing immediately.

- Use gasoline as a motor fuel only. Never use gasoline to wash your hands or as a cleaning solvent.

- Do not use cellular telephones while refueling your vehicle. 🚫

Article printed with permission from AAFES Corporate Communications Office, Mr. Fred Bluhm, bluhm@aafes.com

Keep Your Workplace Safe This Year

What is it that we find so special about the first day of January each year? Even though it is really just another day, many of us have given it a special significance. We see it as a time to “wipe the slate clean”—an opportunity we have been given to work on our shortcomings. Some of the more common resolutions we make each year are to spend more quality time with our families, quit smoking, lose weight, get more exercise, put away more money in the bank, and work harder at our jobs. While each of these resolutions are admirable and would facilitate a positive change in our lives if we were to stick to them, usually by March they are all but forgotten. If you could make a New Year’s resolution this year that could prevent you from having an accident and possibly save not only your life, but the lives of others, would you make it and stick to it?

Before you make such a resolution, ask yourself these questions:

1. How many times during the past year did I walk past an unsafe condition in my workplace and not stop to correct it?

2. How many times did I observe one of my co-workers engaged in an unsafe behavior and not take the time to say something to them about it?

3. How many times did I find myself taking shortcuts that significantly increased the risks associated with the tasks I was performing?

Now that you have asked and hopefully answered these questions truthfully, consider making this your New Year’s resolution: **I resolve to do everything in my power to protect myself and my co-workers from accidents and injuries this year.** Okay. You’ve made the commitment, now how do you stick to it? Here are some tips that you may find helpful:

1. Remind personnel to keep floor surfaces clean and dry, and make sure carpeting is well secured and free of torn seams that could cause trips and falls.

2. Ask personnel to check all exits to ensure they are clearly marked, visible, adequately lit, and free of obstructions.

3. Inspect electrical appliances and equipment to ensure they are in good condition and properly grounded, and that there are a sufficient number of receptacles to prevent overloading of circuits.

4. Ask personnel to inspect their chairs to ensure they are in good condition and ergonomically sound, with no loose casters. Furniture should be free of sharp edges, points, and splinters.

5. Remind machine operators to ensure all belts, wheels, fans, pinch points, and other dangerous moving parts of machinery are adequately guarded.

6. Survey personnel to ensure they have been trained on the proper use of hazardous substances, and that they have been provided any necessary personal protective equipment. The materials used should be labeled, sealed, and stored properly. Ensure that material safety data sheets (MSDSs) are available for all hazardous substances in the workplace, and that all personnel know where the sheets are kept.

7. Check to make sure personnel who operate a vehicle as part of their job have been trained and licensed properly, that they understand how to perform preventive maintenance checks and services, and that they always wear their seatbelts. In addition, those who must communicate with the office periodically during the course of the day should be reminded never to operate a cellular telephone while the vehicle is in motion.

I hope you’ll take up the challenge to accept and stick to the New Year’s resolution I have recommended, because it could make for one of the most rewarding years of your life, as well as the lives of the friends and loved ones who care about you. Happy New Year! 🍀

POC: Frank McClanahan, Policy and Programs Division, U.S. Army Safety Center, DSN 558-1154, (334) 255-1154, e-mail frank.mcclanahan@safetycenter.army.mil

Q. I am looking for a regulation that would help justify purchasing a camera for use in a unit safety office. Can you help?

A. Take a look at Army Regulation (AR) 385-10, *Army Safety Program*, paragraph 2-1e, a portion of which states, “Commanders will provide sufficient funds and other resources to carry out all responsibilities of this regulation to assure safety and OH program effectiveness.” As key elements of a safety program consist of inspections, training, and accident investigation, cameras (especially digital models) can be extremely useful tools in assisting the briefing of commanders on workplace deficiencies, developing slide presentations for training, and documenting accident scenes during investigations.

Q. Are there any hazards associated with the use of night vision devices while wearing a nuclear, biological, chemical (NBC) mask?

A. Check out Training Circular (TC) 21-305-2, *Night Vision Goggles*, Chapter 4. If you will review Transparency 19f (“Driving With Goggles”), Item (5), you will see that it states the following: “Operating a vehicle with the goggles over the NBC mask will further reduce your field of vision to about 20 degrees. (This practice is not recommended.)”

Q. I am an installation safety manager and was contacted recently for assistance in supporting rappel training for ROTC cadets. Can you provide me a resource that spells out the requirements to conduct this training?

A. You should be able to find the answers to your questions in Section 5-5 of CCR 385-10, *Cadet Command Safety Program*. The website address is www-rotc.monroe.army.mil. Once there, select “The Right Site,” and this will take you to the regulations.

Q. I have been looking for a publication and haven’t been able to locate it. AR 385-30, *Color Code and Marking*, is listed as obsolete, but I have seen another publication referenced entitled *Safety Color Code Markings, Signs, and Tags Information Guide*. Does this publication still exist?

A. AR 385-30 was rescinded due to specific and varying color code requirements for many commodities, hazardous materials, and Army operations. The U.S. Army Safety Center published *Safety Color Code Markings, Signs, and Tags Information Guide* in February 1994. The guide provides general information and a list of references for specific commodities, hazardous materials, and operations. The guide is not currently available in electronic format, but you can obtain a printed copy by contacting our Media and Marketing Division at DSN 558-2062 (334-255-2062), or e-mail forehans@safetycenter.army.mil to request a copy. 

Editor’s note: Beginning in January 2003, Countermeasure will begin running a monthly feature, “FAQs From You,” which addresses frequently asked questions from the field as received by the U.S. Army Safety Center’s Policy and Programs Division. We welcome your questions! Just e-mail overstrh@safetycenter.army.mil or call DSN 558-2477 (334-255-2477), and we will address your question as soon as possible.

Food Safety a Click Away

Soldiers now can get more information about product recalls courtesy of a new Web site from the Defense Commissary Agency (DeCA). The "Food Safety Information" button on <http://www.commissaries.com> takes visitors to a section that publicizes pertinent food safety alerts and product recalls. It also links to other Web sites offering a wealth of food safety information.

Recalls are part of the safety chain that involve customer action and can be confusing at times. To lessen confusion, DeCA is harnessing the power of the Internet to ensure the broadest dissemination of accurate information. Recalls are usually local or regional and receive adequate publicity. But with almost 280 commissaries worldwide, DeCA is leveraging the extra link of Web site publicity.

The agency's Web site gives information on significant food safety alerts and recalls that may affect commissary shoppers. In most cases, recalled products are removed from supply systems before they are sold. However, should a recalled product end up in their refrigerator, customers can return the products to their commissary for a refund.

DeCA is integral to the Department of Defense's extensive food safety network, which includes monitoring acquisition and transportation processes to ensure service members have the best and safest food products available. 

Adapted from DefenseLink news article, www.defenselink.mil

Holiday Toy Recalls

The wrapping paper may be thrown away, but that does not mean the hazards associated with some holiday purchases won't last many seasons to come. The U.S. Consumer Product Safety Commission (CPSC) recently released the newest list of recalled toys on their Web site, www.cpsc.gov. An abbreviated version of the list is as follows:

- **Gearbox Pedal Cars**, distributed by Alpha International Inc. The paint on some of these cars contains high lead levels. Call (800) 368-6367 for more information.

- **Air Powered Rockets**, distributed by Estes Industries. The foam tips can break off, exposing sharp edges that can cause facial lacerations or eye injuries. Call (800) 576-5811 for more information.

- **Firestormer and Skyblazer Toy Air-powered Planes**, distributed by Spin Master Toys. The plastic air intake chamber of the air-powered toy planes can burst, throwing plastic pieces that can cause lacerations, bruises, or abrasions. Call (800) 622-8339 for more information.

- **Animal Toy Sponges**, distributed by Dollar Tree Stores. The eyes on the toys can detach, posing a choking hazard to young children. Call (800) 876-8077 for more information.

- **Stuffed Polyester Pool Animals**, distributed by Dollar Tree Stores. The seams of the toys can separate, exposing the polyester stuffing and foam beads. Call (800) 876-8077 for more information.

- **Cotton Candy Machine**, distributed by Rose Art Industries. The electric motor on the machine can jam and overheat, posing a fire hazard. Call (888) 262-4474 for more information.

- **Baby Walkers**, distributed by Oriental Trading Company and Bikepro. The walkers will fit through a standard doorway and are not designed to stop at the edge of a step. Babies using these walkers can be seriously injured or killed if they fall down stairs. Call Oriental Trading Company at (866) 666-9868 or Bikepro at (800) 261-2559 for more information.

- **Toy Tracks on Activity Center**, distributed by Graco Children's Products. The toy track can break, creating a cut or pinch hazard, and exposed small parts could pose a choking hazard to young children. Call (800) 673-0392 for more information.

In addition to the CPSC Web site, the complete list of recalled toys can be obtained by calling (800) 638-2772. 

Adapted from the CPSC Web site, www.cpsc.gov



Class A

- Soldier was killed when the M1A1 tank he was operating fell into a sinkhole filled with mud and water. SM was pronounced dead at the local hospital.

- Two soldiers were killed when they were struck by an M1A1 tank. The tank was maneuvering in response to simulated incoming artillery at the time of the accident.



Class A (Damage)

- M3A2 was damaged extensively after a fire started in the crew compartment during a post-service road check.

Class B (Damage)

- Soldier was operating an M1097A2 when he noticed a fire in the vehicle. The vehicle was damaged extensively. SM was uninjured.



Class A

- Soldier was killed when he lost control of his POV and the vehicle overturned.

- Soldier was killed when his POV ran off the roadway, hit a tree, and overturned. SM was thrown from the vehicle.

- Soldier was killed when he lost control of his motorcycle, ran off the roadway, and struck the back of a parked vehicle.

- Soldier was killed when his POV ran off the roadway and struck a parked tractor-trailer.



Class A

- Soldier was killed when his M16 rifle discharged. SM had been cleaning the weapon and was performing a function check with the butt of the rifle on the floor at the time of the accident.

- Soldier died from complications that resulted from heat-related injuries sustained during a 5-mile PT run. SM was initially treated for a body temperature of 105.7 degrees, which caused liver and kidney damage.

- Soldier collapsed while running with his company for PT. SM was taken to the local emergency room, where he was pronounced dead.

Class B

- Soldier sustained fractures to his leg resulting in a permanent partial disability during a deliberate demolition operation. Another SM also was injured in the accident and received minor injuries.

- Soldier received a gunshot wound to his abdomen while participating in a live fire maneuver exercise. The injury resulted in a permanent partial disability.

- Soldier lost the tip of his left-hand middle finger when an unidentified and unexploded piece of ordnance detonated in his hand. SM had reportedly presumed the ordnance was a weapon cleaning rod of foreign origin and was in the process of removing the tip portion when the device detonated.

- Soldier's finger was amputated when it was caught in a winch cable. SM had been

performing maintenance in the field at the time of the accident.

- Soldier's finger was amputated at the cuticle when an M981 engine shifted during replacement.

Class C

- Soldier sustained fractures to his foot after a trailer he was disconnecting from an M113 fell from the vehicle. The rolling wheel designed to support the trailer was not locked, which allowed the trailer to fall on SM's foot.

- Soldier dislocated his shoulder during preparation for an upcoming boxing match. SM attempted to block a punch from another SM with his gloves and forearm, but was hit in the elbow by the punch, which caused the injury.

- Soldier sustained fractures to his finger while uploading loose 30mm rounds into an AH-64. SM was attempting to free a jammed round by putting his finger in the side-loader assembly. The side-loader actuated while SM's finger was still inside, resulting in crushing injuries.

- Soldier received lacerations that required 18 staples after he hit his head on his barracks wall. SM had been drinking at a party before the accident.

- Soldier sustained injuries to his neck after an MK19 fighting position collapsed on top of him. SM was performing guard duty when the sand shifted under a berm, causing the sand bags and wood overhead to fall on top of SM. Two other SMs who were not underneath the bunker quickly dug SM out.

*We should all bear one thing in mind
when we talk about a troop who 'rode one in.'*

*He called upon the sum of all his
knowledge and made a judgment. He
believed in it so strongly that he knowingly
bet his life on it.*

*That he was mistaken in his judgment is a
tragedy, not stupidity.*

*Every supervisor and contemporary who
ever spoke to him had an opportunity to
influence his judgment, so a little bit of all of
us goes in with every troop we lose.*

—Author Unknown



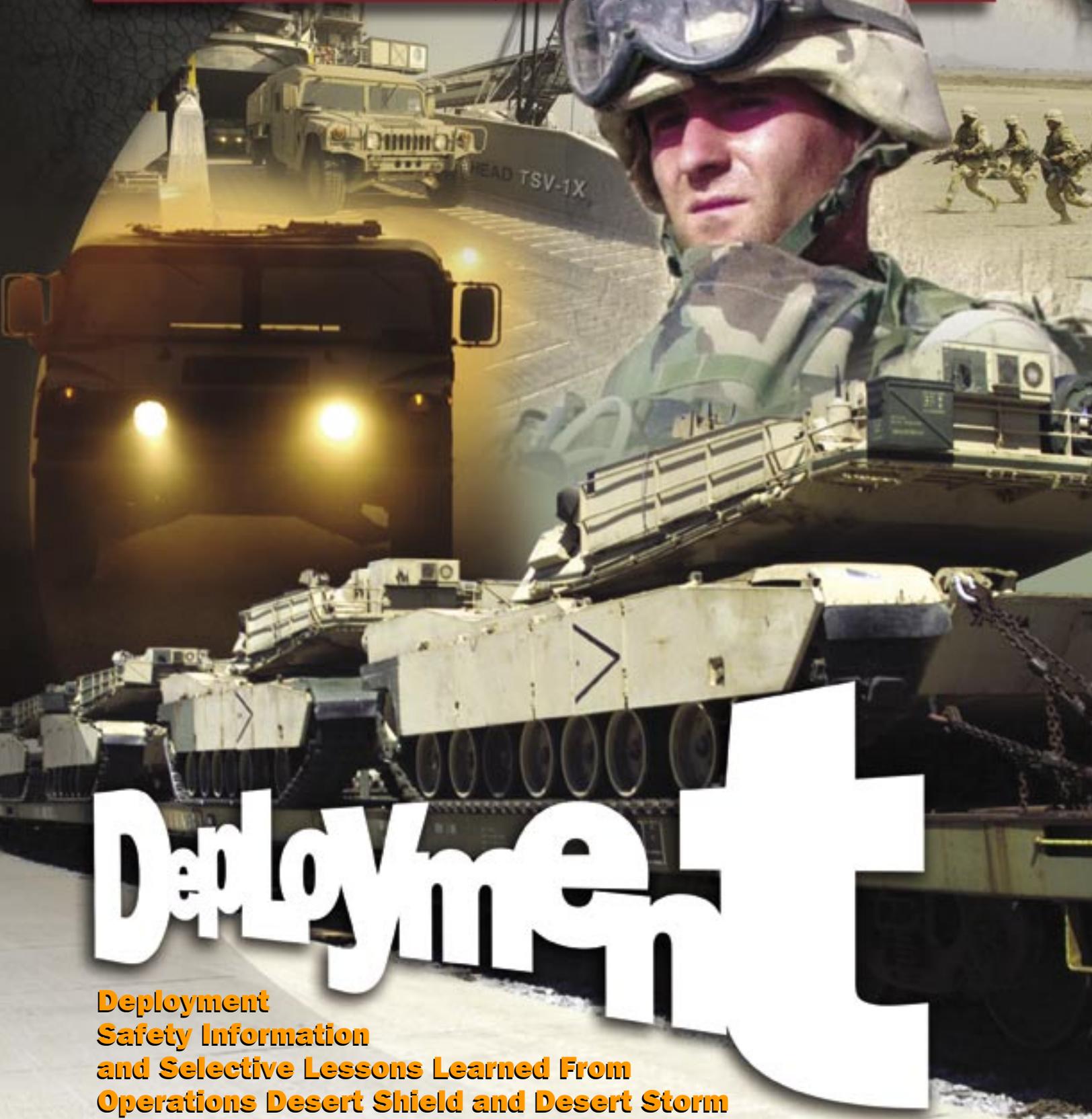
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 2

<http://safety.army.mil>

FEBRUARY 2003



Deployment

**Deployment
Safety Information
and Selective Lessons Learned From
Operations Desert Shield and Desert Storm**

CONTENTS

- 3** **DASAF's Corner**
- 4** **Deployment**
Going Somewhere?
- 8** **Who Ya' Gonna Call?**
- 9** **Investigators' Forum**
Lessons Learned in Light and Heavy Force Integration
- 10** **Severe Weather**
Field Hazard
- 14** **Keep Your Tires Rolling**
- 17** **1st Quarter FY03**
Safety of Use and Ground
Precautionary Messages
- 18** **FAQs**
- 19** **Accident Briefs**
- 20** **Unexploded Ordnance**

features



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4906, 5th Avenue, Fort Rucker, AL 36362-5353. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Ms. Julie Shelley) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.

Leading Is Not Always Easy, but Profoundly Rewarding



Conditions and situations that can tax even the most seasoned leader's skills abound in our Army today: uncertain world situations, multiple training and real-world missions and tasks, transformation of unit formations, testing and fielding of new weapons systems, back-to-back deployments to training centers and theaters of operation. In the midst of all these changes and uncertainties, leadership still encompasses the awesome responsibility of ensuring the combat readiness of our units and the safety of our soldiers.

Safe operations are dependent upon effective command and control. Leaders are multi-tasked with all of the administrative and command responsibilities associated with running a unit *and* finding time to be present with their units during training to help them understand where we are at risk. Whether it is a training mission or a real-world combat mission, leaders can make a huge difference in their unit's safety performance by being actively involved in the planning, preparation, and execution of the mission.

Despite the inherent challenges of tough, realistic training and the adverse conditions encountered on the battlefield, we can keep accidental losses to a minimum. We can train hard and we can execute combat missions safely if we successfully integrate risk management into planning and preparations. As leaders, NCOs, and soldiers, we can excel in safety performance and mission accomplishment by aggressively managing risks and executing missions to established standards.

Good training produces tough, disciplined, and highly motivated soldiers. When given a mission, soldiers will accomplish it. But we must ensure that our soldiers are disciplined to execute that mission to an established standard. Any shortcut, lapse in discipline (individually or collectively within the unit), or a failure to execute to standard is stepping on the fast track to an accident and a price much higher than we are willing to pay. If we mold disciplined soldiers, they will accept responsibility for their own safety, the safety of others, and the protection of valuable Army equipment. Being a leader who is a stickler for maintaining discipline on even seemingly minor issues may not make you popular within the unit today, but what soldiers really want is consistent leadership.

Sometimes, despite our best efforts to safeguard our soldiers, breakdowns in managing risks do happen and we lose soldiers in combat and in costly accidents. At the end of the first quarter of FY03 we had 16 Class A on-duty accidents with 15 fatalities, compared to 8 in FY02 and 9 fatalities. On a more positive note, our off-duty Class A accidents and fatalities were down: 24 Class A accidents versus 29 for first quarter FY02 and 24 fatalities versus 33. Of those 24 fatalities, 21 resulted from POV accidents.

With every fatality—accidental or combat loss—comes the hardest part of being a leader: helping the victim's family and helping the unit deal with the loss. All of leading is not about supervising the loading of trains and airplanes; it includes dealing with the sad realities of combat losses and losing soldiers to accidents that should have been prevented.

Effectively leading soldiers and managing risks appropriately make it possible for us to conduct tough, realistic training and operational missions while minimizing losses. Leading never will be an exact science with textbook solutions that can be applied to every situation. However, using the risk management process provides us with an invaluable tool to help execute exemplary training safely and conduct successful battlefield operations with minimal losses.

Knowing that soldiers' lives often depend on our risk assessments and decisions makes leading the sometimes overwhelming, intimidating, and difficult task that it is. But even though leading is not always easy, leading great soldiers—and leading them safely—is one of the most profoundly fulfilling jobs an individual can be blessed with the opportunity to do within our Army. 🇺🇸

Train Hard, Be Safe!
BG James E. Simmons

Going Somewhere?

Many of you are either in or on your way to a desert environment and the many different problems associated with living and fighting in it. Throughout history Greek, French, British, and American forces have learned and relearned the problems associated with desert operations. Most recently, our experience in Operations Desert Shield and Desert Storm provided numerous lessons learned that were captured in after-action reports. Fortunately, we have the ability to use those lessons and not relearn them the hard way.

It should be remembered that the principles and fundamentals of combat do not change in the desert. Priorities may alter, techniques will vary from those in temperate climates; but soldiers, leaders, and units who are fit and well-trained to fight in other environments will have little difficulty adjusting to desert warfare. This article highlights certain unsafe situations or hazards, many of which led to accidents, and offers suggestions on ways to eliminate or control these unsafe situations before they cause accidents again. Safety, survival, knowledge, and common-sense thinking will lead to mission accomplishment.

Deployment

Situation: Individuals abandoned safety in an effort to establish “combat posture.”

- Ensure that all personnel know and use the five-step risk-management process in all operations.
- Establish a command climate from the outset that promotes safety. Begin by establishing a safety network and designating safety personnel.
- Enforce standards and require all personnel to perform to standard in all operations.

Situation: Unsafe loading and shipment. Examples of violations include failure to identify and mark containers, mixing Class A explosives with incompatible Class C ammunition, corrosives improperly certified and mixed with unidentified hazardous lubricants, MRE rations and undocumented insecticides on same pallet, lack of MILSTAMP advanced cargo clearance, improper storage, and improper security.

- Train load teams to standard.
- Use Quality Assurance Specialist Ammunition Surveillance (QASAS) support.
- Nesting all equipment and supplies inside vehicles to deal with rough port handling and high seas.
- Comply with Air Force Regulation (AFR) 71-4 in airlift of hazardous material and with guidelines in Technical Manual (TM) 38-250 (11 December 2001).
- Ensure that vehicles have required tiedown shackles.
- Keep personnel out from under equipment being lifted aboard ship.
- Coordinate and understand requirements for “topping off” vehicles prior to shipment.
- Coordinate port of embarkation shipping requirements for bulk fuel and petroleum, oil, and lubricants tank transporters through the servicing installation transportation office.
- Ensure that vehicle master switches are turned OFF immediately after loading.

Situation: Chemical agent resistant coating (CARC) used to repaint vehicles for deployment.



- Ensure that CARC painting is done in accordance with established requirements.
- Caution users that CARC is flammable.
- Caution users that CARC is toxic and exposure can lead to respiratory problems.
- Ensure that users wear proper personal protective equipment.

Human factors

Situation: Air travel caused dehydration and fatigue.

- Encourage hydration before and during air travel.
- Ensure that arriving troops are given the opportunity to rehydrate and rest before being assigned duties.

Situation: Lack of depth perception in desert environment.

- Stress that lack of contrast in terrain features reduces depth perception.
- Ensure vehicle drivers follow proper ground-guide procedures.

Situation: Soldiers performing strenuous manual labor.

- In general, 2 weeks are required to adjust to the humidity and extreme heat.
- Remind soldiers to avoid strains and lifting injuries by using proper lifting

techniques (lift with the legs, not the back) and getting help with heavy loads.

Aviation operations

Situation: Aviation units have problems maintaining standardization.

- Deploy standardization and safety personnel with the advance party.
- Develop unit training program to address new operational hazards.
- Establish a deployment library and take essential maintenance, operational, and training regulations and safety publications.

Situation: Night vision goggle operations in desert environment.

- Operate according to the crawl-walk-run philosophy, especially in an unfamiliar environment.
- Conduct detailed planning and mission briefings regardless of pilot experience.
- Establish all crewmember duties.
- Identify crew coordination requirements, especially during critical phases of missions.
- Remind crews that continuous scanning is a must and that the pilot on the controls must “stay outside.”



- Require that all crewmembers assist in obstacle clearance.
- Remind aircrews that airspeeds must be adjusted downward during low illumination and visibility conditions and in areas of little or no contrast (go low, go slow).

Situation: Failure to establish Emergency Helicopter Instrument Recovery Procedures (EHIRP).

- Establish EHIRP for area of operation.
- Include EHIRP in mission briefings (unit standing operating procedure).
- Spell out crew duties and crew coordination requirements.

- Ensure that weapons are oriented away from other aircraft, troops, and facilities.

Ground operations

Situation: Vehicle operations result in accidents.

- Ensure driver and vehicle commander understand the responsibilities for safe vehicle operation; e.g., establishing and enforcing safe vehicle operations based on personnel, training, terrain, environment, and equipment.
- Ensure drivers are trained and licensed on the vehicle they are operating (check Optional Form 346).



- Execute unannounced EHIRP whenever possible.
- Situation: Failure to conduct local-area operation surveys.**
- Survey area of operation, and establish hazard maps and restricted flight areas as first order of business.

- Brief manmade and natural hazards and obstacles for every mission.
- Brief all crewmembers on their responsibility for scanning to detect hazards and obstacles and to inform the pilot on controls.

Situation: Uncommanded launch of ordnance from aircraft.

- Ensure that aircraft are downloaded or in a safe area when performing inspections or maintenance on weapons systems.

- Ensure soldiers drive defensively.
- Remind drivers to clear all sides before turning.
- Remind drivers not to allow passengers to ride on the outside of any vehicle unless it is command-directed.
- Caution drivers to use extra care when operating off improved roads; sand dunes drop off abruptly on the leeward side.
- Check loads to ensure cargo is secured correctly. Stress even load distribution, especially when traveling over sandy terrain.
- Train soldiers on rollover procedures in the vehicles in which they operate and practice rollover drills.
- Instruct tracked-vehicle commanders to ride no higher than name tag defilade.
- Enforce seatbelt and Kevlar requirements.
- Establish and enforce safe convoy and catch-up speeds for expected road and environmental conditions and include in the

pre-march briefing. Remind drivers that driving too fast for conditions is a primary cause of accidents.

- Train drivers in the correct use of ground guides and train *all personnel* in how to perform as ground guides. Remind drivers to always use two ground guides while backing.

- Recon routes for mountain passes or any sharp turn that might require special control measures, as well as bridges or underpasses that may be too low for large vehicles.

- Train drivers of M915 series vehicles in braking procedures.



- Train crews on vehicular fire drills and practice drills.

- Caution drivers that roads, bridges, and overpasses may not be posted with weight or height restrictions.

- Require safety briefings for senior occupants as well as vehicle drivers.

- Require the use of 10-foot extension hoses for inflating and deflating split-rim tires.

Situation: Not enough attention to weapons safety.

- Review fratricide-prevention procedures.
- Remind soldiers to handle all weapons as if loaded.

- Caution soldiers not to play with knives.

- Do not allow target practice and blank ammunition to be mixed.

- Caution soldiers not to burn ammo boxes and to handle them with gloves; some are treated with PCP, which is toxic.

- Execute drills on rules of engagement.

Situation: Unsafe fuel handling and burning.

- Use Field Manual 21-10 for guidance on proper fuel mixtures.

- Ensure that fuel is not used as a substitute for cleaning solvents.

- Prohibit burning of aerosol cans and unopened MRE packages—they will explode.

- Train soldiers in the process of burning human waste.

Situation: Eye exposure to sunlight degrades night vision.

- Enforce the wear of Ballistic Laser Protection System (BLPS). The sunglasses will reduce the adverse effects of sunlight on night vision. The sunglasses and clear lens also will protect against eye injury.

- If BLPS are not available, allow soldiers to wear sunglasses during the day to protect against night vision degradation.

For more information on general deployment safety, check these excellent references:

Aviation/Ground Operations:

<http://safety.army.mil>; click on the TOOLS tab; scroll down to Leaders' Guides and Handbooks. The Safety Center has many publications developed in support of Operations Desert Shield and Storm: *Desert Shield Leader's Safety Guide*, *Southwest Asia Leader's Safety Guide*, and *Redeployment and Port Operations Leader's Safety Guide*.

The Center for Army Lessons Learned (CALL) Web site, <http://call.army.mil>, also has several publications on lessons learned during desert operations. The first is Newsletter No. 90-7, August 1990, *Winning in the Desert*, Newsletter No. 90-8, *Winning in the Desert II*, and Newsletter 90-11, December 1990, *Getting to the Desert*.

Other Web sites pertinent to deployments:

<http://hppm-www.apgea.army.mil>

<http://tri.army.mil>

<http://deploymentlink.osd.mil>

Human factors:

www.hqmc.usmc.mil/safety.nsf 

POC: Paula Allman, *Flightfax* Managing Editor, DSN 558-9855, (334) 255-9855, e-mail paula.allman@safetycenter.army.mil

Does your unit need risk management training and information to better prepare your officers and NCOs to conduct tough missions safely? Current world events have intensified the need to ensure we are tactically and technically proficient in all areas. Don't forget that you have some excellent sources for help. You don't have to go anywhere...the training comes to you. More comprehensive information is available on our Web site at <http://safety.army.mil>.

NCO Risk Management and Safety Training

The intent of this training is to teach safety to NCOs, not to produce a safety NCO. NCOs are the leaders on the ground "where the rubber meets the road" and are most likely to have a direct impact on accident prevention. Therefore, the U.S. Army Safety Center has designed a 5-day, 45-hour course focused on hazard identification and risk management. The target audience is sergeants and staff sergeants who will be able to integrate risk management into both the planning and execution phases of training and operational missions.

Junior Officer Professional Development

This course is tailored to the junior officer level of responsibility. The 3-day, 24-hour course is focused on hazard identification, risk management, the Army Safety Program, and leader responsibilities. The target audience is the young company grade officer or warrant officer technician

charged to integrate risk management into both the planning and execution phases of training and operational missions.

Assistance Visit Program

USASC offers a nine-event, unit-tailored visit to provide training in risk management and risk management integration, POV toolbox application, ground and aviation systems safety, and driver's training program applications. Units identify their requests and USASC tailors a team of subject-matter experts to address the areas of concern.

Risk Management Information System (RMIS)

From this site, you can get detailed information on the types and kinds of accident hazards, risks, and controls for your area of operations. You can even get accident prevention lessons learned from Desert Storm or major training exercises. You can apply for a password at our Web site above or by calling DSN 558-2920.

If you would like to schedule a visit or if you have questions on course content, contact SFC Pat Stoker, DSN 558-9854/9579 (334-255-9854/9579). 

Who Ya' Gonna call?

HEADQUARTERS
US ARMY
SAFETY CENTER

4905



Lessons Learned in Light and Heavy Force Integration

What happened?

While moving forward to assist with a company obstacle breaching operation at night, the driver of an M1A1 Abrams Main Battle Tank equipped with a mine clearing blade was instructed by the tank commander to proceed around the right side of a stationary tank sitting 20 to 30 meters to their direct front. The driver, as instructed, proceeded 6 to 8 feet to the right of the stationary tank. As a result, the right-side track of the tank rolled over two Infantry soldiers, who both sustained fatal injuries.

Why did it happen?

A number of factors contributed to this accident, a few of which will be discussed briefly. The units involved in the accident had little experience with light and heavy force integration. They had not included similar light and heavy forces in training exercises at their home station before the maneuver training center rotation. As a result, the light and heavy forces were not adequately familiar with their respective capabilities and limitations. For example, the Infantry soldiers were not aware of the low-decibel noise level characteristics associated with an operating M1A1 engine and movement of the tank's tracks in various terrain conditions, particularly in the tank's front area.

The crew of one of the M1A1 tanks lost situational awareness as a result of inadequately marked Infantry soldiers. Proper markings would have enhanced the ability of the tank's crew to identify the soldiers through night vision devices, such as the driver's night sight, during zero-percent illumination.

The chain of command did not provide a detailed location of the Infantry soldiers during this time period and failed to implement the requisite ground guide procedures in accordance with (IAW) the Exercise Rules of Engagement (EXROE) as tracked vehicles maneuvered in close proximity to the Infantry soldiers. Light and heavy forces were not adequately integrated into rehearsals at the company level. Additionally, the team commander assumed that since all vehicles preceding the involved tank were moving along the left side of the stationary tank as they proceeded to the obstacle area, that the mishap tank also would move along this same route.

What to do about it?

1. Ensure that adequate light and heavy force integration training is conducted before maneuver training center rotations and other operations.
2. Ensure that a dismounted soldier marking system easily detectable by infrared (IR) and thermal systems is implemented during light and heavy force integration to enhance situational awareness and command and control.
3. Conduct in-depth rehearsals with all necessary team elements and ensure that procedures to enhance situational awareness during light and heavy force integration are embedded.

POC: Ground Systems and Accident Investigation Division, DSN 558-3562, (334) 255-3562

HAZARDS

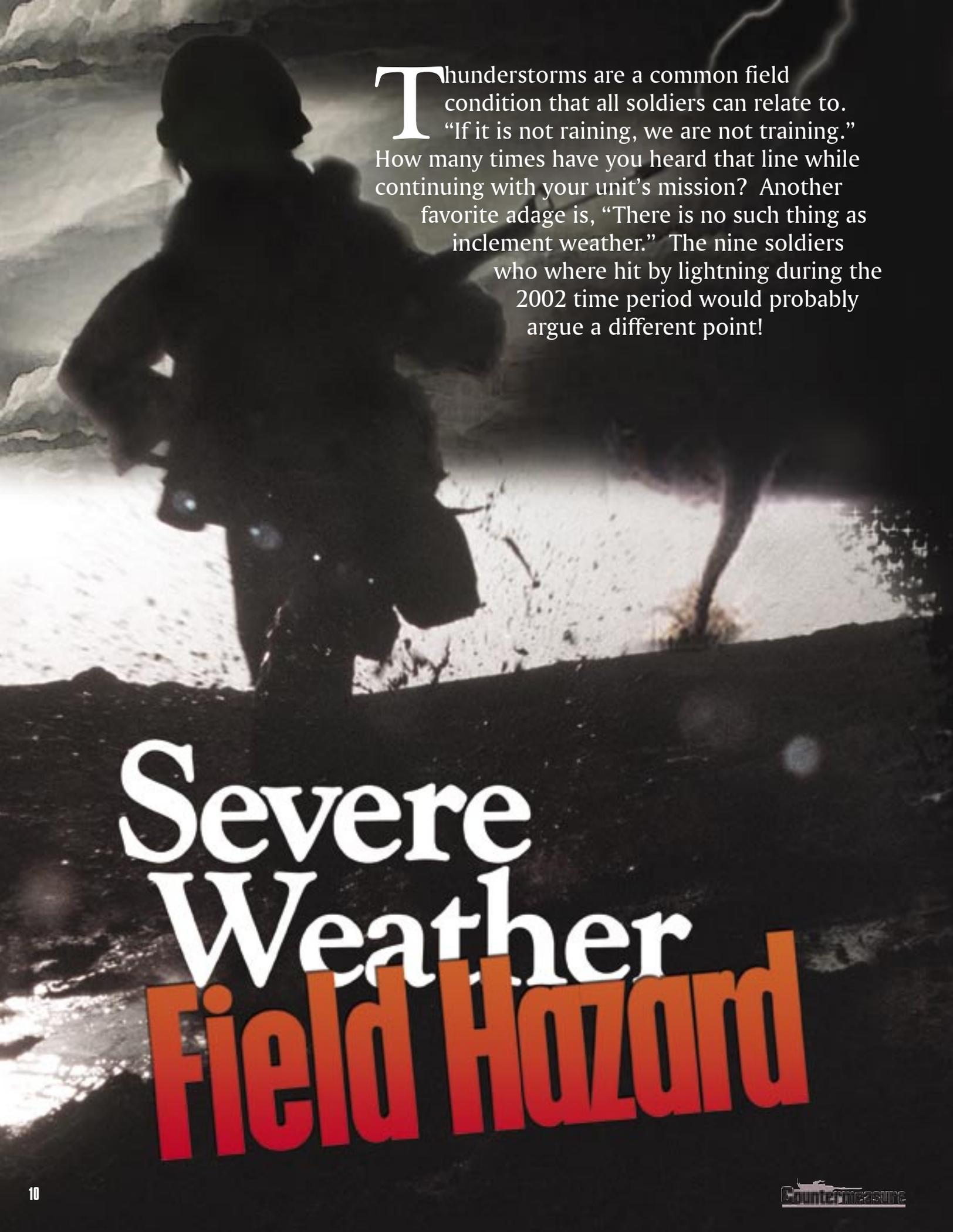
- Reduced situational awareness as a result of inadequately marked Infantry soldiers
- Inadequate light and heavy force integration prior to a major training event
- Haste during obstacle breaching operations

CONTROLS

- Integrate marking systems into tactical operations to enhance situational awareness and command and control
- Ensure haste does not overcome the ability to disseminate the location of forces during light and heavy operations
- Ensure adequate light and heavy force integration training is conducted prior to major training center rotations and other operations



RESULTS ■ 2 fatalities



Thunderstorms are a common field condition that all soldiers can relate to. “If it is not raining, we are not training.” How many times have you heard that line while continuing with your unit’s mission? Another favorite adage is, “There is no such thing as inclement weather.” The nine soldiers who were hit by lightning during the 2002 time period would probably argue a different point!

Severe Weather Field Hazard

As more units depart the garrison environment for field training exercises and local area training, leaders need to be aware of the hazards that accompany their troops' stay. Depending on location, certain weather conditions could be a constant. Severe weather is a hazard that all leaders should be well aware of during risk assessment and planning, and the spring and summer months present a variety of weather-related risks to the training environment. The Soldier's Manual of Common Tasks (STP 21-24-SMCT), Skill Levels 2 through 4, Task 850-001-2001, "Assess Potential for Accidents," states that a risk assessment must consider environmental conditions such as weather that could increase accident potential.

One of the most common weather phenomena encountered in the field is thunderstorms. Potential hazards like lightning and hail are common with most thunderstorms. Thunderstorms become severe when winds reach 57.5 mph or faster, or when hail three-quarters of an inch in diameter or larger is present with the increased winds. The strong winds and large hail are increased dangers with severe thunderstorms, and the additional hazards of flooding and tornadoes also are cause for concern.

Whether in field training or in garrison training, the best method to maintain situational awareness is to monitor weather reports. This usually is accomplished in the field via the chain of command and tactical operations centers receiving routine weather data as part of operations. However, if the National Weather Service has deemed weather severe enough to put out a watch or warning, then your chain of command usually will provide more guidance on unit actions. If you do not have access to immediate weather data, you can rely on your own judgment and still take appropriate measures to prevent or limit risk to you and your soldiers.

If you are caught outside in a thunderstorm

with lightning, seek shelter in a sturdy structure or a hard-top vehicle. If you find yourself in a metallic-type vehicle, sit with your hands in your lap. Electronic communications equipment should be shut off, if possible. Do not use communications equipment unless you have to. If you are inside a building equipped with a telephone, do not use it unless it is necessary.

Avoid large metallic pieces of equipment, and make risk decisions concerning vehicles that are loaded with various types of explosives or ammunition. Each type of explosive or ammunition has a different explosive radius for fragmentation and damage. Keep this in mind when making a call on how far to clear away.

When caught out in the open with no place to go and lightning is striking, ensure that you are not close to tall trees or structures that represent the highest points in an area. In a wooded area, seek shelter under a thick growth of small trees. Avoid tall objects, isolated trees, bodies of water, sheds, and fences. If you are part of a group, spread out and squat down in an attempt to keep as low a profile as possible while keeping both feet planted firmly on the ground. (Do not sit or lie on the ground.) The tactical situation dictates other types of mitigation; for instance, radio operators should take down long whip antennas. This will help in creating that low profile.

Fighting positions create a unique point of interest. During lightning storms you should make sure that you are not leaning or resting your body on the inside of the hole. Center yourself and remain alert until the

"If you see lightning, begin counting seconds; if you hear thunder within 30 seconds, you are in a hazard area."

storm passes. A properly constructed fighting position will provide you with overhead cover from hail and high winds, and you will have the lowest possible profile.

Keep in mind that most lightning strikes occur after the thunderstorm has passed. Wait approximately 30 minutes after the storm passes to resume activities. A general rule of thumb in estimating the hazard area for lightning strikes is flash-to-bang time. If you see lightning, begin counting seconds; if you hear thunder within 30 seconds, you are in a hazard area. If your hair begins to stand on end, squat down immediately and place your

hands on your knees with your head between your legs.

Tornadoes are a violent atmospheric condition with winds ranging from 200 to 300 mph in the most severe cases. If you find yourself or your unit caught out in the field when a tornado hits, here are a few guidelines:

- Seek shelter immediately.
 - Avoid trailers or vehicles.
 - Do not attempt to out run a tornado in a vehicle; instead, abandon it immediately.
 - Seek shelter in a substantial structure and go to the basement or an interior room.
- If no shelter is available and you are caught

Did You Know?

Lightning kills or injures hundreds of people each year, and many people do not know the dangers lightning poses. It is important to know that the single-best way to protect yourself in a lightning storm is to seek shelter indoors. In addition, you also should know how frequently thunderstorms occur in your area, because they occur in every state—Florida, for example, has the highest incidence of lightning in the U.S. Regions along the Pacific West Coast have the least cloud-to-ground lightning.

Just because you cannot see a cloud does not mean that the danger is not still present. Lightning has been known to strike more than 10 miles from a storm in an area of clear sky above,

and the longest bolt of lightning ever recorded was 118 miles long! An average of 20,000,000 cloud-to-ground flashes are recorded annually in the 48 continental states, with about half of all flashes having more than one ground strike point.

Many myths about lightning add to the confusion surrounding this beautiful, yet deadly, phenomenon. Take the “true or false” quiz below and see how enlightened you are!

Lightning always strikes the tallest object.

False! Lightning strikes the best conductor on the ground, not necessarily the tallest object. In some cases, the best conductor could be a human being.

A car’s rubber tires give it protection from lightning.

False! Actually, the car itself is very well insulated and offers more protection than being outside in the storm. Of course, the exception to this rule is the convertible, which provides virtually no protection from lightning.

Lightning never strikes the same place twice.

False! Many structures have been struck many times by lightning, including the Empire State Building. 

Adapted from The Weather Channel Project SafeSide Web site, www.weather.com, and the National Severe Storms Laboratory Web site, www.nssl.noaa.gov

in a convoy, dismount and lie flat in the nearest ditch or depression. Be sure to maintain your Kevlar helmet and other protective items to prevent injury from flying debris. In a defensive position or base camp, a properly constructed fighting position will place you below the ground with overhead cover if suitable structures are not available to take shelter in.

Flash floods are another hazard that comes with storms. You may not even have to be the area receiving the rain for this particular hazard to strike. When selecting sites to set up operations, stay clear of low-lying areas and dry river beds, or river flood plains and canyons. If you are caught outside in a flash flood, move to higher ground immediately. Avoid rivers, streams, and low spots. Do not try to walk through flowing water over ankle-deep, and do not attempt to drive through flooded areas. Hazards under the water are not visible, and water that is over 1 foot in depth can easily displace 1,500 lbs—just 2 feet of water will move or carry most automobiles.

These are just a few general tips. Depending on your particular circumstances, you may wish to conduct further research into what you can do as a leader when faced with changing weather that will affect your unit's mission outcome.

Fortunately, thunderstorms typically last less than half an hour. Now that you are aware of some of the hazards that weather can add to your risk assessment, you will be better prepared to implement the factors you need to mitigate that risk. Train hard and train safe—train as you fight! 

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Stay Informed With Weather Radio

The National Oceanic Atmospheric Administration (NOAA) Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. NWR broadcasts National Weather Service warnings, watches, forecasts, and other hazard information 24 hours a day.

Working with the Federal Communication Commission's (FCC's) Emergency Alert System, NWR is an "all hazards" radio network, making it your single source for comprehensive weather and emergency information. NWR also broadcasts warning and post-event information for all types of hazards, both natural (such as earthquakes and volcanic activity) and environmental (such as chemical releases or oil spills).

Known as the "Voice of the National Weather Service," NWR is provided as a public service by the NOAA, a part of the Department of Commerce. NWR includes more than 750 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. NWR requires a special radio receiver or scanner capable of picking up the signal. Portable and stationary weather radio receivers can be found online or at electronic stores for about \$40 to \$100. Broadcasts are found in the public service band at these seven frequencies (MHz): 162.400; 162.425; 162.450; 162.475; 162.500; 162.525; and 162.550. 

Adapted from information found on the National Weather Service Web site, www.nws.noaa.gov

KEEP YOUR TIRES ROLLING

Your car. You spend hours waxing and buffing the exterior to a beautiful finish and religiously keep the interior clean and free from crumbs and dust. But, if you look beyond the shiny paint and pristine interior, you might find that you have ugly tires—underinflated, or just plain worn out.



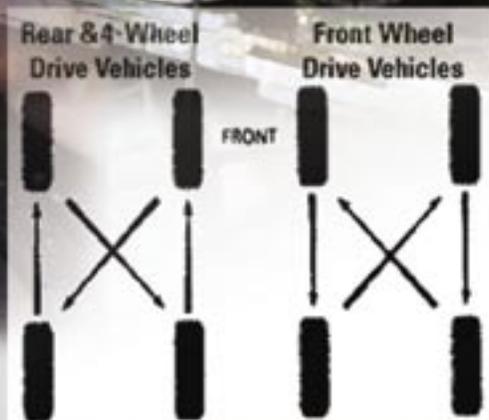
The most important aspect of your car is not its looks, it is safety, and safety is more than skin-deep. Your tires are a vital part of vehicle safety. Americans do a lot of driving: in 1999, 2.4 trillion miles were driven by non-commercial vehicles in the U.S., with 647 tire-related deaths recorded during that same year.

All four of your vehicle's tires, plus the spare, should be checked once a month and before every long trip to ensure their PARTs are in proper and safe working order:

Pressure—underinflation results in unnecessary tire stress, irregular wear, loss of control, and accidents. A tire can lose up to half of its air pressure and not appear to be flat!

It is important to have the proper air pressure in your tires, as underinflation could lead to tire failure. The right amount of air for your tires is specified by the vehicle manufacturer and is shown on the vehicle door edge, door post, glove box door, fuel door, or owner's manual. Before checking your tires, observe the weather: air pressure in a tire goes up (in warm weather) or down (in cold weather) 1 to 2 pounds for every 10 degrees of temperature change.

When checking air pressure make sure the tires are cool, meaning they are not hot from driving even a mile. If you have to drive a distance to get air, check and record the tire pressure first and add the appropriate air pressure when you get to the pump. It



is normal for tires to heat up and the air pressure inside the tire to go up as you drive. Never “bleed” or reduce air pressure when tires are hot.

If you overfill a tire, release air by pushing on the metal stem in the center of the valve with a fingernail or the tip of a pen. Then recheck the pressure with your tire gage. Visually inspect the tires to make sure there are no nails or other objects embedded that could poke a hole in the tire and cause an air leak. Also check the sidewalls to make sure there are no gouges, cuts, bulges, or other irregularities.

Alignment—A bad jolt from hitting a curb or pothole can throw your front end out of alignment and damage your tires. If your car's suspension is out of alignment, your tires will wear unevenly and you could experience handling problems. Have a tire dealer check your alignment periodically as

specified by your vehicle owner’s manual or if handling problems develop, such as pulling or vibration. Remember that front-wheel drive vehicles, as well as those with rear suspension, require alignment of all four wheels. In addition to alignment, also have your tire balance checked periodically—an unbalanced tire and wheel assembly could result in irregular wear.

Rotation—Regularly rotating your vehicle’s tires will help you achieve more uniform wear. Each tire on your car supports a different amount of weight, and this uneven weight distribution causes your

tires to wear at different rates. By rotating your tires, you can extend their useful life. Unless your vehicle owner’s manual has a specific recommendation, the guideline for tire rotation is approximately every 6,000 miles. If your tires show uneven wear, ask your tire dealer to check for and correct any misalignment, imbalance, or other mechanical problem involved before rotation. Sometimes front and rear tires use different pressures. After rotation, adjust individual tire air pressure to the figures recommended for each wheel position by the vehicle manufacturer.

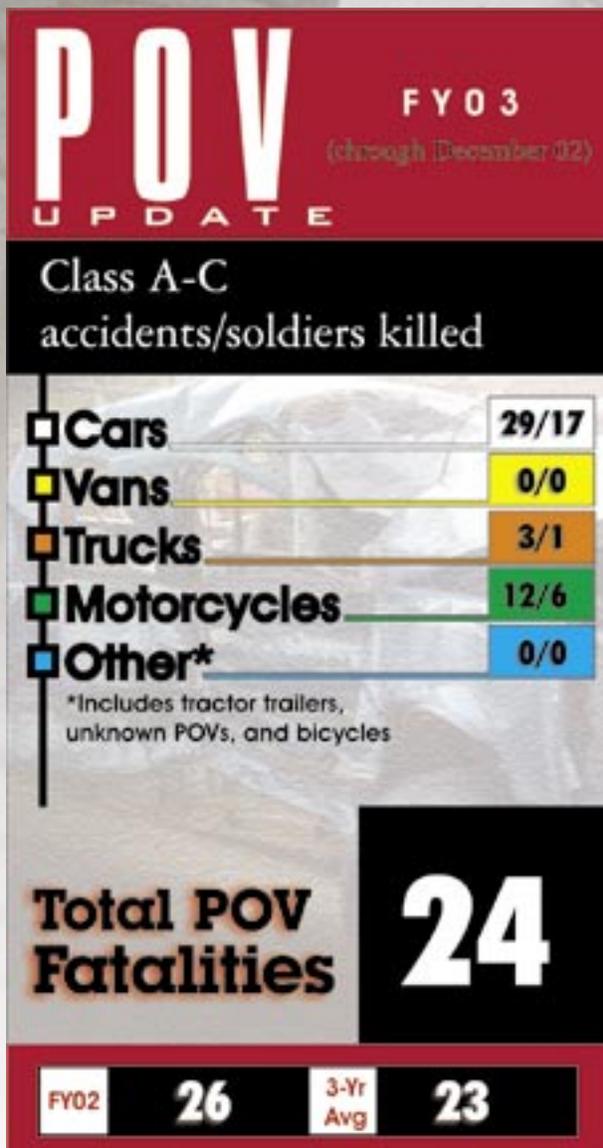
Tread—Advanced and unusual wear can reduce the ability of tread to grip the road in adverse conditions. Visually check your tires for uneven wear, looking for high and low areas or unusually smooth areas. Also check for signs of damage.

Tires must be replaced when the tread is worn down to 1/16 of an inch in order to prevent skidding and hydroplaning. An easy test is to place a penny into a tread groove. If part of Lincoln’s head is covered by the tread, you are driving with the proper amount of tread. If you can see all of Lincoln’s head, you should buy a new tire.

Built-in tread wear indicators, or “wear bars,” which look like narrow strips of smooth rubber across the tread, will appear on the tire when the tread is worn down to 1/16 of an inch. When you see these wear bars, the tire is worn out and should be replaced.

Tires are as important as a seatbelt—if they are maintained properly. Take care of your tires. Your life is riding on them! 🚗

Adapted from material found on the Rubber Manufacturers Association Web site, www.rma.org



1st Quarter FY03 Safety of Use and Ground Precautionary Messages



The following is a list of selected safety of use messages (SOUMs) and ground precautionary messages (GPMs) issued by the Army Communications and Electronics Command (CECOM). Complete copies of the SOUMs and GPMs are available on the Army Electronic Product Support Bulletin Board via their Internet Web site at <http://aeps.ria.army.mil/>.

SOUM-03-01, subject: Army Space Heater (ASH), Electric Powered, Multi-fuel, 120,000 BTU, Model H-120, NSN 4520-01-367-2739 and H-120-1, NSN 4520-01-439-1682, LIN: H00586, TM 9-4520-258-14, Change 2, issue date: 31 October 2002. POCs: Mr. Ralph Lederer, DSN 992-6053, (732) 532-6053, e-mail ralph.lederer@mail1.monmouth.army.mil; Mr. Greg Wesley, DSN 992-0522, (732) 532-0522, e-mail gregory.wesley@mail1.monmouth.army.mil; and Mr. Steve Chan, DSN 992-0084 (ext. 6413), (732) 532-0084 (ext. 6413), e-mail steven.chan@mail1.monmouth.army.mil.

GPM-2003-001, subject: Movement Tracking System (MTS), AN/UYQ-90(V)2, NSN 7010-01-476-0935, LIN C18278, issue date: 11 October 2002. POCs: Mr. Ralston Mims, DSN 687-6646, e-mail mimsr@lee.army.mil; and Mr. Tom Brennan, DSN 992-0084 (ext. 6404), e-mail thomas.brennan@mail1.monmouth.army.mil.

GPM-03-003, subject: 3KW Tactical Quiet Generator (TQG) Set: MEP-831A, NSN 6115-01-285-3012; MEP-832A, NSN 6115-01-287-2431; AN/MJQ-42, NSN 6115-01-322-8583; and AN/MJQ-43, NSN 6115-01-322-8582, issue date: 18 December 2002. POCs: Mr. Mike Payne, DSN

654-3175, (703) 704-3175, e-mail mike.payne@pm-mep.army.mil; Mr. Greg Youll, DSN 992-4748, (732) 532-4748, e-mail dondald.youll@mail1.monmouth.army.mil; Mr. Bob Kea, DSN 992-0872, (732) 532-0872, e-mail bobby.kea@mail1.monmouth.army.mil; and Mr. Steve Chan, DSN 992-0084 (ext. 6413), (732) 532-0084 (ext. 6413), e-mail steven.chan@mail1.monmouth.army.mil.

GPM-03-004, subject: 5KW, 28VDC, Auxiliary Power Unit (APU) MEP 952B, NSN 6115-01-452-6513, TM 9-6115-664-13&P, issue date: 23 December 2002. POCs: Mr. Raymond Billings, DSN 654-3200, (703) 704-3200, e-mail raymond.billings@pm-mep.army.mil; Mr. Greg Youll, DSN 992-4748, (732) 532-4748, e-mail dondald.youll@mail1.monmouth.army.mil; Mr. Nick Petouses, DSN 992-7122, (732) 532-7122, e-mail nicholas.petouses@mail1.monmouth.army.mil; Mr. Bob Kea, DSN 992-0872, (732) 532-0872, e-mail bobby.kea@mail1.monmouth.army.mil; and Mr. Steve Chan, DSN 992-0084 (ext. 6413), (732) 532-0084 (ext. 6413), e-mail steven.chan@mail1.monmouth.army.mil.

GPM-03-006, subject: AN/TSC-154 Secure Mobile Antijam Reliable Tactical Terminal (SMART-T), NSN 5895-01-435-0571, LIN T81733; PU-815/TSC-154 Diesel Engine Generator Set (DEGS),

NSN 6115-01-454-6413, issue date: 8 January 2003. POCs: Mr. Edwin Rivera, DSN 992-0974, e-mail edwin.rivera@c3smail.monmouth.army.mil; Mr. Mel Pointer, DSN 992-1922, e-mail pointer.melvin@c3smail.monmouth.army.mil; and Mr. Andrew Burbelo, DSN 992-0084 (ext. 6415), (732) 532-0084 (ext. 6415), e-mail andrew.burbelo@mail1.monmouth.army.mil.

GPM-2003-005, subject: Advanced Field Artillery Tactical Data System (AFATDS) Version 6.3.0 and 6.3.1, issue date 8 January 2003. POCs: Mr. Bun Tse, DSN 992-6734, (732) 532-6734; and Mr. Farid S. Youssef, DSN 992-0084 (ext. 6439), (732) 532-0084 (ext. 6439).

GPM-03-004, subject: 5KW, 28VDC, Auxiliary Power Unit (APU) MEP 952B, NSN 6115-01-452-6, issue date: 8 January 2002. POCs: Mr. Raymond Billings, DSN 654-3200, (703) 704-3200, e-mail raymond.billings@pm-mep.army.mil; Mr. Greg Youll, DSN 992-4748, (732) 532-4748, e-mail dondald.youll@mail1.monmouth.army.mil; Mr. Bob Kea, DSN 992-0872, (732) 532-0872; e-mail bobby.kea@mail1.monmouth.army.mil; and Mr. Steve Chan, DSN 992-0084 (ext. 6413), (732) 532-0084 (ext. 6413), e-mail steven.chan@mail1.monmouth.army.mil.

Q. Can you provide safety information on backpacks for motorcycle riders?

A. Here are some safety and ergonomic considerations for backpack use by motorcycle riders:

- Ensure that the size of the backpack is appropriate for the size of the motorcyclist.
- Motorcyclists should choose a backpack with a padded back that rests against the body.
- Select a backpack with compression straps that allow expansion or compression of the backpack based on load.
- Choose a backpack with a sturdy padded belt and shoulder straps.
- Consider a backpack with load control straps for proper weight balance.
- Some backpacks are available with inflatable straps and lumbar support, which is adjustable to ensure personal comfort.
- Individuals should carry no more than 15 percent of their body weight on their backs. Motorcyclists must load their backpacks to ensure proper balance and maneuverability at all times.
- Choose a backpack with retro-reflective material affixed to it to ensure visibility to other vehicles at night.

Q. We have a question from one of our fire departments regarding the use of JP-5 as a cleaning agent. Is there something in writing that prevents JP-5 from being used as a cleaning agent?

A. Recommend your firefighters cite the Army technical manuals that identify approved solvents to be used for cleaning, rather than trying to pinpoint a document that states JP-5 is prohibited.

From a health perspective, JP-5 (as well as JP-4 and JP-8) can be very harmful. Field Manual (FM) 3-04.301, *Aeromedical Training for Flight Personnel*, Chapter 5, Paragraph 5-29, states: “JP-4, JP-5, and JP-8 are mixtures of hydrocarbons, producing different grades of kerosene. Each JP fuel has a specific vapor pressure and flash point. JP fuels do not contain tetraethyl lead. The recommended threshold limit for JP fuel vapors has been set at 500 parts per million. Toxic symptoms can occur below explosive levels; therefore, JP fuel intoxication can exist even in the absence of a fire hazard. In addition to being an irritant hazard to skin and mucous membranes, excessive inhalation of JP fuels degrades central nervous system functioning. JP fuels, in high enough concentrations, can produce narcotic effects.”

A Material Safety Data Sheet (MSDS) on JP-5 provides the following:

Eyes. Contact with liquid or vapor may cause mild irritation.

Skin. May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Ingestion. The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure, and even death. Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting, and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Inhalation. Excessive exposure may cause irritation to the nose, throat, lungs, and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

You might also suggest to your firefighters that they contact their installation and state environmental management offices, as the practice of using a fuel as a cleaning solvent could already be prohibited from a spill contamination standpoint. 🚛

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Personnel Injury

Class A

- Soldier was killed when he was crushed between the 2½-ton truck and trailer he was working on.

Class B

- Soldier's hand was amputated and he received cuts and lacerations to his head and chest when a rocket-propelled grenade detonated during misfire procedures.

Class C

- Soldier sustained fractures to her foot when she lost her grip on the scuba compressed gas cylinder she was carrying up a flight of stairs.

- Soldier received a contusion to his head when he was struck by the wrench he was using, which slipped off a bolt. SM was servicing a 5-ton dump truck at the time of the accident and pulling on the wrench instead of pushing.

- Soldier sustained fractures to his clavicle after slipping while putting a camouflage net over a Howitzer. SM required seven stitches to his head in addition to the fractured clavicle. The terrain conditions at the time of the accident were muddy and slippery, and SM's Kevlar was found next to him with the chin strap undone.

- Soldier sprained his ankle when he came out of his tent and stepped on a large stone.

- Soldier received a concussion when he was struck by a tent pole. SM had been supervising a work detail unloading material from the back of a 2½-ton truck at the time of the accident.

- Civilian sustained a contusion to his right hand when he missed the top step of a railcar and fell to the ground. Civilian had been tasked to remove tie-down material on a set of railcars before the accident.

- Civilian received contusions to his back and knee when he fell into a paint pit. Civilian's right foot was caught in a reclining air supply of his spray pistol, causing the accident.



POV

Class A

- Soldier was killed when he was struck by a POV while walking along an interstate highway.

- Soldier was killed when the vehicle he was riding in was rear-ended by a tractor-trailer. SM was in the backseat of the POV at the time of the accident. Another SM was injured in the accident. The civilian drivers of the POV and tractor-trailer were uninjured.

- Soldier was killed when he lost control of his POV, exited the roadway, attempted

to return to the roadway, and the vehicle overturned.

- SM was killed when her vehicle was hit broadside by another vehicle at an intersection. The civilian driver of the other vehicle was not injured.

- Soldier was killed when he lost control of his vehicle and the vehicle overturned.

- Soldier was killed in a POV accident while on PCS leave status. Details of the accident were not provided.

- Soldier was killed when he lost control of his POV and hit a ravine.

- Soldier was killed when his POV ran off the roadway, flipped, and struck a tree. SM had fallen asleep at the wheel and was partially ejected from the vehicle. Another SM, who was a passenger in the vehicle, was uninjured.

- Two soldiers were killed and two others injured when their vehicle collided head-on with a vehicle driven by a civilian. The civilian driver of the other vehicle also was killed.

- Soldier was killed when his vehicle left the roadway and struck a tree. 

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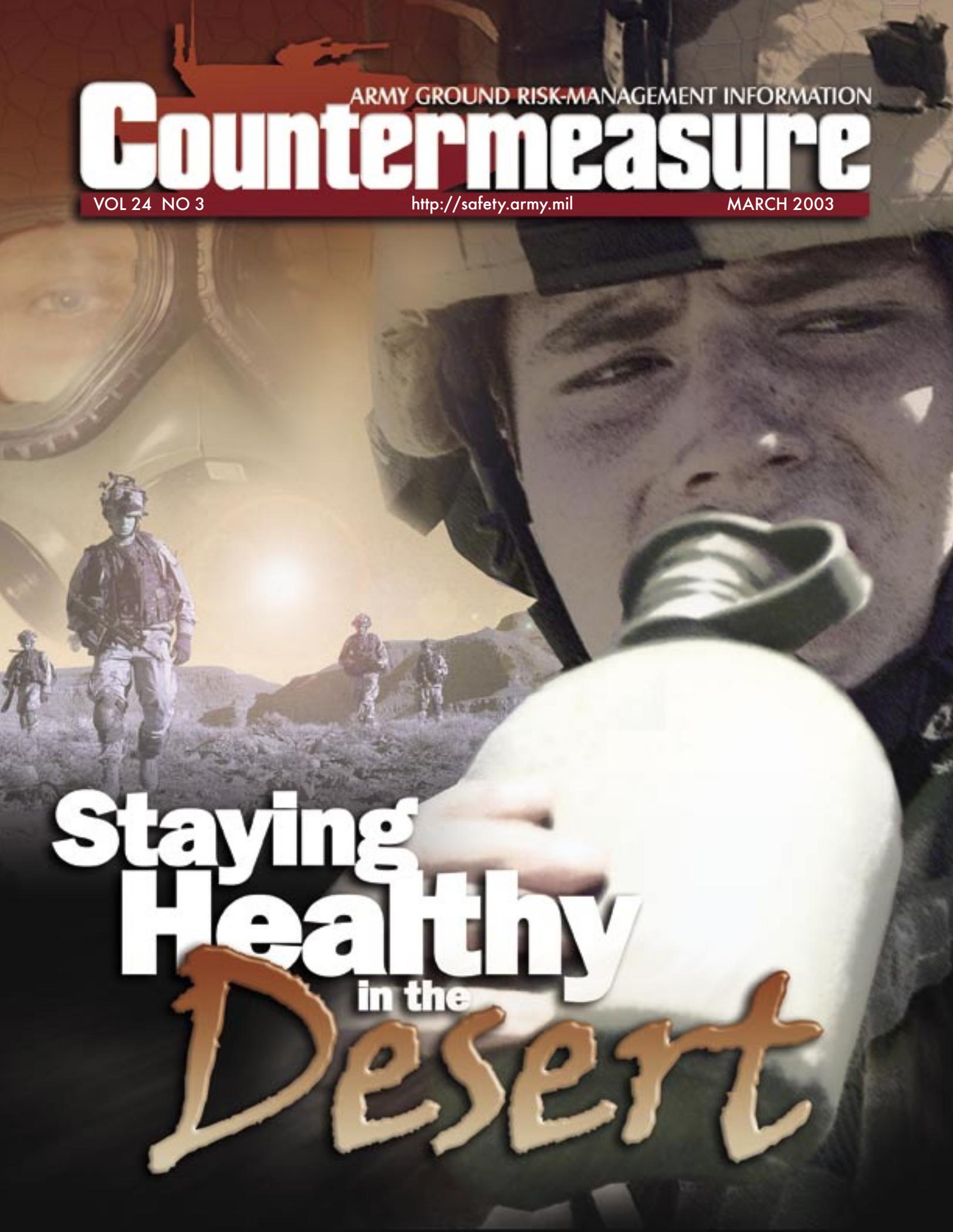
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 3

<http://safety.army.mil>

MARCH 2003



Staying Healthy in the Desert

CONTENTS

- 3** DASAF's Corner
- 4** Chemical Agents
Battlefield Foe,
Lethal Enemy
- 8** Don't Let the Desert
Defeat You
- 10** Is Your M2 Machine Gun
Ready for Battle?
- 12** Who's Sleeping in My Bag?
- 14** The Clear Facts on Water
- 17** FAQs
- 18** News & Notes
- 19** Accident Briefs
- 20** Speed Kills
Slow Down

features



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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Ms. Julie Shelley) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil>.

Keeping the Attack Aggressive on Deadly POV Accidents



The most deadly threat that soldiers face in peacetime is traffic accidents. Privately owned vehicle (POV) accidents kill more soldiers than all other on- and off-duty accidents *combined*. Although many of the Army's POV accident prevention programs have resulted in a decrease in fatality rates (from 0.32 per 1,000 soldiers in the early 1980s to the current rate of 0.19 per 1,000 soldiers), POVs still remain the number one killer of our soldiers.

An alarming trend in the analysis of POV accidents from 1998 through 2002 is the fact that failure to use protective equipment such as seatbelts and motorcycle helmets was reported in at least 118 military injury or fatal accidents. Failure to use appropriate protective equipment is a clear indication of indiscipline—failure to follow an established standard. Ours is an Army built on standards and discipline and we, as commanders and leaders at all levels, owe it to our soldiers to strictly enforce standards, including ensuring that they are disciplined enough to wear protective equipment and obey traffic laws whether they are on or off duty.

The Army's senior leadership has made clear their determination to end this needless loss of soldiers to preventable POV accidents and the adverse impact it has on readiness. In August 2002, General Eric Shinseki, the Chief of Staff, Army (CSA), directed major commands to analyze their POV and Army motor vehicle accidents and provide a summary of command initiatives to reduce accidental losses. General Shinseki then directed in September 2002 that commanders increase enforcement of motorcycle safety training course requirements, and that those requirements not be deferred by commanders. In addition, General Shinseki has reinforced repeatedly his commitment to the Six-Point Model Program as the minimum standard for the Army POV accident prevention program.

Our major Army commands have implemented specific POV accident prevention initiatives. For example, Forces Command implemented the "Combating Aggressive Driving Program" in conjunction with the American Institute for Public Safety, which received Congressional recognition and authorization for FY02. A Fatality Review Board consisting of principal staff, medical doctors, and psychologists was established to identify accident causal factors and trends following each fatal accident. Other units and organizations—Training and Doctrine Command, U.S. Army Europe, National Guard Bureau, etc. have implemented aggressive programs designed to reduce POV accidents as well.

Armywide and joint service POV accident prevention initiatives also are being developed. The Army Safety Coordinating Panel (a general officer steering committee) chartered a POV process action team to assist the Army Chief of Staff for Installation Management in developing, resourcing, and implementing an Armywide traffic safety program through the newly created Installation Management Agency. A Joint Service Traffic Safety Task Force also has been activated to promote inter-service cooperation in the development and implementation of effective traffic safety programs, as well as increase cooperation between the services and other interested traffic safety organizations such as the National Highway Traffic Safety Administration.

To provide risk-management tools and assist commanders in building effective POV accident prevention programs, the U.S. Army Safety Center (USASC) has created several groundbreaking, high-definition video and film productions and other accident prevention initiatives. A total of 10 "Drive to Arrive" infomercials starring country music artists deliver short, to-the-point messages on specific driving hazards before feature movies in AAFES theaters worldwide. "Every Drive Counts" is an unconventional safety video set at the Airborne School connecting safe, high-risk training to off-duty activities, specifically POV driving. The USASC Web site (<http://safety.army.mil/>) contains a one-stop shopping POV accident prevention page, which includes the POV Toolbox (<http://safety.army.mil/pov/index.html>) and the Six-Point Model Program.

In addition to videos and Web-based tools, USASC provides enhanced POV accident prevention training to each resident CP-12 safety intern class and to aviation safety officers attending the Aviation Safety Officer Course. USASC's mobile training and assistance visit teams travel worldwide to teach NCO and junior officer risk-management courses and to selected brigade and battalion units to assist commanders, at their request, in assessing their safety programs, including POV accident prevention programs.

Every life is extraordinarily precious. The needless loss of any single one has a tremendous impact on the victim's family, the unit, and the Army's combat readiness. The standards, programs, and tools exist to help us protect soldiers from the hazards associated with operating POVs and motorcycles. From the unit level to the joint service level, we each must be dedicated to continually and aggressively enforcing standards and discipline and to using all of the model programs and tools to attack this killer of our soldiers. If your organization needs further assistance with your POV accident prevention programs, contact our staff at povspt@safetycenter.army.mil. ☒

Train Hard, Be Safe!
BG James E. Simmons



Chemical Agents

Battlefield Foe, Lethal Enemy

With the recent massive deployment of U.S. troops to the Middle East, much talk has taken place concerning biological and chemical agents soldiers could be exposed to in a conflict there. On the biological side, deploying soldiers are routinely administered vaccines for contaminants such as smallpox and anthrax. However, there are no vaccines for chemical and nerve agents like tabun, sarin, soman, and VX—all just as deadly, if not more so, than biological threats.

The use of chemical and biological agents in war is not a new concept. The earliest recorded incident of chemical warfare occurred in the fifth century B.C. during one of a series of wars between Athens and Sparta, and the ancient Greeks used a combination of snake venom, gangrene, and tetanus to defeat their enemies. Centuries later, during World War I, the American Expeditionary Forces (AEF) in Europe suffered an estimated 200, if not more, battlefield fatalities as a direct result of poison gas exposure. Of 224,089 soldiers evacuated to medical facilities during that same conflict, records indicate 70,552 of these patients suffered from poison gas wounds, with 1,221 of them dying in AEF hospital wards. At the end of World War I General John J. Pershing, AEF Commander, told Congress, “Whether or not gas will be employed in future wars is a matter of conjecture, but the effect is so deadly to the unprepared that we can never afford to neglect the question.”

In the years since World War I and ensuing conflicts, technology protecting soldiers from chemical and nerve agents has come a long way. Terms like “nuclear, biological, chemical” and “chemical protective undergarment” are standard Army vocabulary. However, although the Army has countermeasures in place should a biological or chemical attack be launched on our soldiers, awareness is still a powerful weapon where chemical agents are concerned. Soldiers should know the signs and symptoms of exposure to the known chemical and nerve agents facing them, as well as treatment for themselves and their comrades should they come in contact with these lethal substances.

What are tabun, sarin, soman, and VX?

Tabun. Tabun, a colorless and tasteless liquid with a slightly fruity odor, was the first nerve agent discovered. It also kills quickly: the skin can absorb a fatal amount of tabun in only 1 to 2 minutes, with death following in 1 to 2 hours. Liquid tabun in the eyes and the inhaled form kill in 1 to 10 minutes. Victims of respiratory exposure exhibit symptoms much more quickly than those with skin exposure. Symptoms of tabun exposure include runny nose, tightening of the chest, dimness of vision, pinpointing of the pupils, difficulty breathing, drooling, excessive sweating, nausea, vomiting, cramps, involuntary urination and defecation, twitching, jerking, staggering, headache, confusion, drowsiness, coma, and convulsions. Symptoms are followed by a stop in breathing and death.

Sarin. Sarin is a colorless, non-persistent liquid that acts as a lethal cholinesterase inhibitor (i.e., blockage of nerve impulses). Sarin vapor is slightly heavier than air and hovers close to the ground. Sarin’s lethal duration is dependent upon weather: under wet and humid conditions it degrades quickly but, as the temperature rises up to a certain point, the duration increases despite the humidity. Doses of sarin that are potentially life-threatening can be only slightly larger than those producing the least effects.

Depending upon the level of exposure, symptoms of sarin contact can occur within minutes or hours and include constriction of the pupils, visual effects, headache, pressure sensation, runny nose, nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty thinking, difficulty sleeping, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, and involuntary urination and defecation. Severe exposure symptoms progress to convulsions and respiratory failure.

Soman. Soman, like sarin, is a lethal cholinesterase inhibitor. When pure, it is colorless and has a fruity smell; the industrial form is yellow-brown with a camphor-like odor. Similar to sarin, lethal doses of soman can be only slightly larger than doses that produce the least effects.

Symptoms of soman exposure can occur within minutes or hours and include constriction of the pupils, visual effects, headache, pressure sensation, runny nose, nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty thinking, sleeplessness, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, and involuntary urination and defecation. Symptoms of severe exposure progress to convulsions and respiratory failure.

VX. VX is one of a series of extremely toxic compounds discovered in the United Kingdom and investigated by the Army beginning in 1953. Unlike “G-series” agents such as tabun, sarin, and soman, these newly discovered compounds were not only more toxic, but also more persistent than their earlier counterparts. VX is an oily liquid that is clear, tasteless, and odorless, although it can also be amber-colored and similar in appearance to motor oil.

Much like sarin and soman, symptoms of VX exposure can occur within a time span of minutes or hours, dependent upon the level of exposure. VX also shares similar symptoms with sarin and soman exposure: constriction of the pupils, visual effects, headache, pressure sensation, runny nose, nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty thinking, sleeplessness, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, and involuntary urination and defecation. Severe exposure results in convulsions and respiratory failure.

How do you treat exposure to these agents?

Immediate treatment for tabun, sarin, soman, and VX exposure is the same for all four agents and is listed below. However, it is very important to know that any soldier who has come into contact with tabun, sarin, soman, or VX must seek medical treatment

immediately—DO NOT DELAY! Seconds count in minimizing the damage these agents inflict and in saving lives.

Soldiers who have inhaled tabun, sarin, soman, and VX should hold their breath until a respiratory protective mask is donned. If severe signs of exposure appear (chest tightening, pupil constriction, lack of coordination, etc.), all three Nerve Agent Antidote Kit, Mark I injectors (or atropine if directed by a physician), should be administered immediately in rapid succession. Injections using the Mark I kit injectors can be repeated at 5- to 20-minute intervals if signs and symptoms continue or worsen until three series of injections have been administered. No more injections should be given unless directed by medical personnel, and a record of all injections given should be maintained. If breathing has stopped, artificial respiration should be started; if mask-bag or oxygen delivery systems are not available, mouth-to-mouth resuscitation should be used except for cases of facial contamination.

If breathing is difficult, oxygen should be administered. Seek medical treatment immediately.

In cases of eye contact, the eyes should be flushed immediately with water for 10 to 15 minutes, followed by donning of the respiratory protective mask. Although miosis, or pinpointing of the pupils, can be an early sign of exposure, an injection should not be administered when it is the only symptom present. Instead, the victim should be taken immediately to a medical treatment facility for observation. In any case of suspected or known eye contact, medical treatment should be sought immediately.

When skin contact has occurred, contaminated clothing should be removed immediately and the respiratory protective mask donned. Immediately wash exposed skin with copious amounts of soap and water, 10-percent sodium carbonate solution, or 5-

“Awareness is still a powerful weapon where chemical agents are concerned.”

percent liquid household bleach. Rinse well with water to remove excess decontaminants. The Nerve Agent Antidote Kit, Mark I, should be administered only if local sweating and muscle twitching are observed. Seek medical treatment immediately.

The first symptoms of tabun, sarin, soman, and VX ingestion are likely to be gastrointestinal. Do not induce vomiting to individuals who have swallowed these agents. Instead, immediately administer the Nerve Agent Antidote Kit, Mark I, and seek medical treatment immediately.

What is mustard?

Mustard, although toxic, is considered non-lethal by the Army. Complications from mustard exposure can lead to death, though. The liquid form of mustard is colorless when pure, but usually is brown and oily. The vapor form of mustard has a slight garlic or mustard odor. With either form, mustard remains a health hazard for an extended period of time.

Mustard is a blister agent that affects the eyes, skin, and lungs. Soldiers exposed to mustard may not notice symptoms for quite some time and feel very little pain. However, the longer the delay in removing the mustard agent from the body, the more severe the damage will be to affected areas. The eyes are very susceptible to mustard contamination and react to very low concentrations of the agent. Symptoms of skin exposure can vary from redness and inflammation to severe blisters and extreme soreness. Inhalation of mustard will cause throat irritation, chest tightening, and hoarseness and coughing. If medical treatment is not received in the early stages of mustard exposure, severe bronchopneumonia with accompanying high fever can occur. There is no known antidote for mustard exposure, and its consequent cellular destruction is irreversible. Anyone who has been exposed to mustard must seek medical treatment immediately.

What is the treatment for mustard exposure?

Individuals who have inhaled mustard

should hold their breath until the respiratory protective mask is donned and get away from the mustard source immediately. Oxygen should be administered if breathing is difficult; artificial respiration should begin if breathing stops. Mouth-to-mouth resuscitation should be used when oxygen delivery systems or approved mask-bag systems are not available, except in cases of facial contamination. Seek medical treatment immediately.

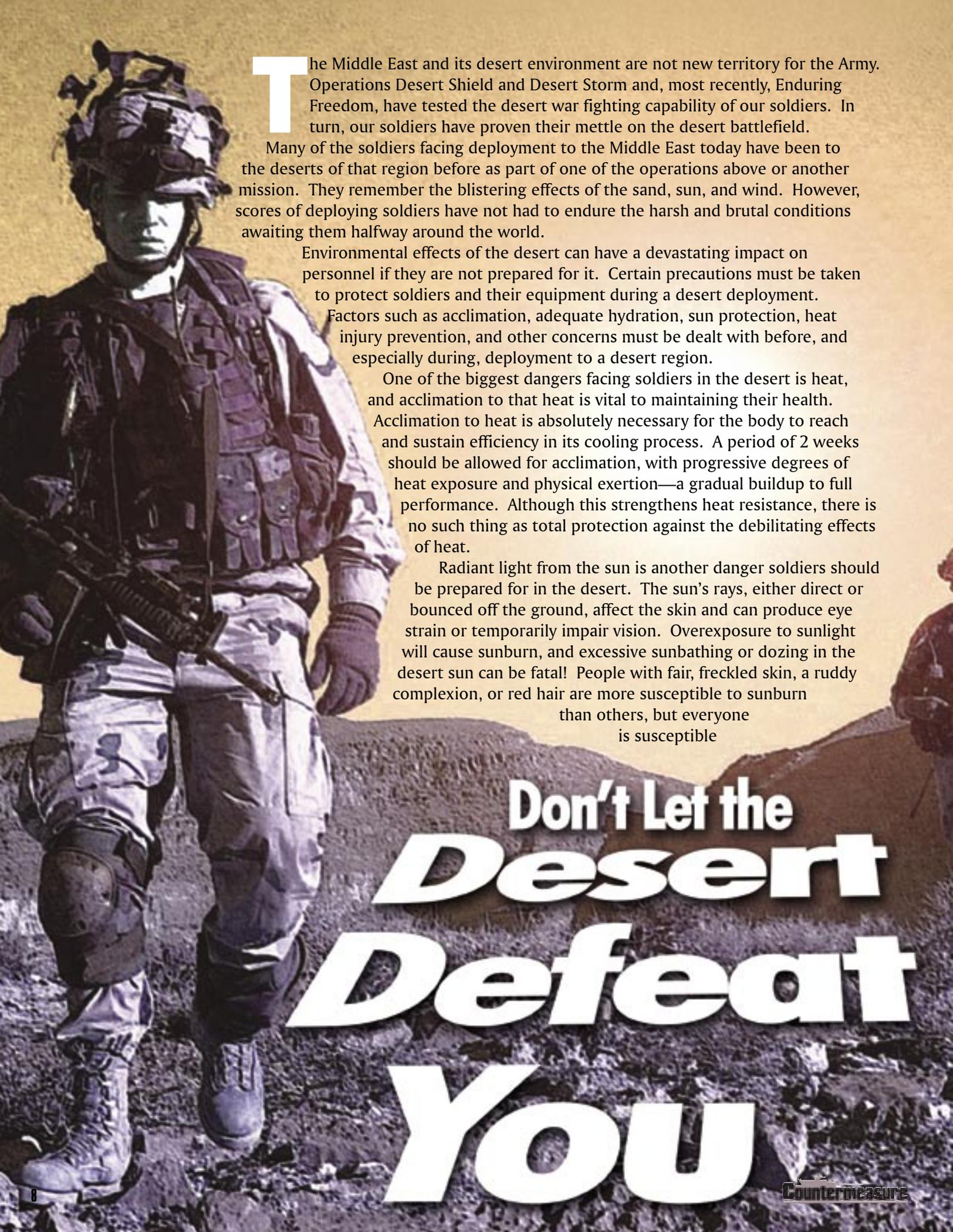
Speed in decontaminating the eyes is absolutely imperative for mustard-exposure victims. The eyes should be flushed immediately with water for at least 15 minutes by tilting the head to the side, pulling the eyelids apart, and pouring water slowly into the eyes. If protection is necessary, the eyes should be covered with dark or opaque goggles, not bandages. Seek medical treatment immediately.

For those who have come into skin contact with mustard, the respiratory protective mask should be donned, and within 1 minute the skin and clothes must be washed with a 5-percent solution of sodium hypochlorite or liquid household bleach. The clothing should then be cut off and removed and the affected skin area again flushed with a 5-percent sodium hypochlorite solution, followed by thorough washing with soap and water. Seek medical treatment immediately.

Vomiting should not be induced in cases where mustard has been ingested. Instead, give the victim milk to drink and seek medical attention immediately.

Danger looms in every battle, and chemical and nerve agents could pose a threat to our soldiers in this modern age of warfare. Know the threat, arm yourself with the facts, and stay alert to changing situations. You could save a life, as well as your own! 

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The Middle East and its desert environment are not new territory for the Army. Operations Desert Shield and Desert Storm and, most recently, Enduring Freedom, have tested the desert war fighting capability of our soldiers. In turn, our soldiers have proven their mettle on the desert battlefield.

Many of the soldiers facing deployment to the Middle East today have been to the deserts of that region before as part of one of the operations above or another mission. They remember the blistering effects of the sand, sun, and wind. However, scores of deploying soldiers have not had to endure the harsh and brutal conditions awaiting them halfway around the world.

Environmental effects of the desert can have a devastating impact on personnel if they are not prepared for it. Certain precautions must be taken to protect soldiers and their equipment during a desert deployment.

Factors such as acclimation, adequate hydration, sun protection, heat injury prevention, and other concerns must be dealt with before, and especially during, deployment to a desert region.

One of the biggest dangers facing soldiers in the desert is heat, and acclimation to that heat is vital to maintaining their health. Acclimation to heat is absolutely necessary for the body to reach and sustain efficiency in its cooling process. A period of 2 weeks should be allowed for acclimation, with progressive degrees of heat exposure and physical exertion—a gradual buildup to full performance. Although this strengthens heat resistance, there is no such thing as total protection against the debilitating effects of heat.

Radiant light from the sun is another danger soldiers should be prepared for in the desert. The sun's rays, either direct or bounced off the ground, affect the skin and can produce eye strain or temporarily impair vision. Overexposure to sunlight will cause sunburn, and excessive sunbathing or dozing in the desert sun can be fatal! People with fair, freckled skin, a ruddy complexion, or red hair are more susceptible to sunburn than others, but everyone is susceptible

**Don't Let the
Desert
Defeat
*You***

to some degree. A suntan will provide some protection against sunburn, but should be acquired gradually and in the early morning or late afternoon. "Gradual" means that the skin should be exposed no longer than 5 minutes on the first day, with 5 minutes more being added each additional day. Extreme caution should be used while working in the sun: the sun is as dangerous on cloudy days as sunny days, and sunscreen is not designed to give complete protection against excessive sun exposure. In all operational conditions, soldiers should be fully clothed in loose garments for sun protection and reducing sweat loss. When shade is required during the day, it can be provided best by tarpaulins or camouflage nets, preferably doubled to allow air circulation between the layers and dampened with any surplus water. Vehicle exteriors and tools can get extremely hot when exposed to sunlight for only a few minutes; crew members and maintenance personnel must wear gloves to prevent first- and second-degree burns when touching these items.

The combination of wind and dust or sand particles can cause extreme irritation to the mucous membranes, lips, and other exposed skin surfaces. Eye irritation caused by fine particles entering the eyes is a frequent complaint of vehicle crews, even when wearing goggles. Chapped lips are also common in the desert. The use of chapstick and skin and eye ointment is imperative in preventing and minimizing the effects of wind and sand.

Another danger of the desert is sandstorms. Fast, wind-blown sand produced in sandstorms can be extremely painful on bare skin, which is one reason why soldiers must be fully clothed at all times. When visibility is reduced by sandstorms to the extent that military operations are impossible, soldiers should not leave their group unless they are secured by lines for recovery. Pieces of cloth or bandannas must be carried to cover the face and neck during sandstorms. In sandstorms, vehicle drivers and other troops can get off course when they turn their heads to avoid sand being blown in their faces; for that reason, soldiers should take constant compass readings or use geographic reference points to stay in the right direction.

Climatic stress on the human body in the hot desert can be caused by any combination of air temperature, humidity, air movement, and radiant heat. The body also is affected adversely by such

factors as lack of acclimation, being overweight, dehydration, alcohol excess, lack of sleep, old age, or poor health. The ideal body temperature of 98.6 degrees F is maintained by conduction and convection, radiation, and evaporation, or sweat. The most important of these in daytime desert conditions is evaporation, since air temperature alone is probably already above skin temperature. However, if relative humidity is high, the air will not evaporate sweat easily and the cooling effect will be reduced.

Proper standards of personal hygiene must be maintained in the desert. Daily shaving and bathing are required if water is available; cleaning the areas of the body that sweat heavily is especially important. If sufficient water is not on hand for bathing soldiers can clean themselves by means of a sponge bath, solution-impregnated pads, a damp rag, or a dry, clean cloth. Underwear should be changed frequently and foot powder used often.

Soldiers should be checked for signs of injury, no matter how slight, as desert dust and insects can cause infection in minor cuts and scratches. Small quantities of disinfectant in washing water can reduce the chance of infection. It is important to remember that even minor sickness in the desert can have dire consequences—prickly heat and diarrhea can upset part of the sweating mechanism and increase water loss, raising susceptibility to heat illnesses. The buddy system can help ensure that prompt attention is given to these problems before they incapacitate soldiers.

The desert is full of diseases. Common scourges found in the desert include plague, typhus, malaria, dengue fever, dysentery, cholera, and typhoid. Although some of these illnesses can be prevented by vaccines or prophylactic measures, proper sanitation and personal cleanliness are vital to disease prevention. Proper mess sanitation is also essential in the desert.

The desert should not be feared, but preparation is key to surviving and winning a desert war. Arm yourself with the facts and stay safe! 🐪

POC: Julie Shelley, Countermeasure Managing Editor, DSN 558-2688, (334) 255-2688, e-mail julie.shelley@safetycenter.army.mil. Article compiled from material found on the Center for Army Lessons Learned Web site, <http://call.army.mil>.



Does your M2 .50-caliber machine gun have a lined or unlined barrel? The answer to that question could make a big difference if you are sending XM903 or XM962 sabot light armor penetrator (SLAP) ammo downrange. Here's a note from the program and item manager shops you need to check out if you have any unlined M2 barrels:

"The unlined barrel is not to be used when deployed. A message was sent out during the 1998 timeframe directing all units that the unlined barrel is to be used for training **ONLY**. A unit expecting to be deployed should not use the unlined barrel due to the probability of firing SLAP ammo. SLAP ammo will cause the unlined barrel to wear significantly faster than the lined barrel. The lined barrel is equipped with a stellite liner, which greatly enhances the life of the barrel.

If the unit has not replaced all their unlined barrels and is being deployed, we highly recommend they swap out their unlined barrels with a unit that is not currently being deployed. After they have swapped out the barrel, the unit should then procure the new lined barrel."

The life of an unlined barrel is about one-fifth that of a lined barrel—approximately 5,000 rounds compared to 25,000 to 30,000 rounds.

Barrel wear is not the only problem; other ugly things can happen with unlined barrels. If you chamber a SLAP round in an unlined barrel and don't fire the round, there is a good chance the sabot will "grab" the rifling. Then, when you try to extract the round, the sabot may separate

Is Your M2 Machine Gun Ready for Battle?



from the casing and dump the propellant powder into the chamber. *When you have a hot barrel this could be a particularly dangerous problem because of the probability of a cook-off.*

Here's some additional information from *PS Magazine*, Issue 521, page 34, "M2 Machine Gun ... The Line On Unlined Barrels":

"There are still some unlined M2 machine gun barrels in the field. A metal lining was added to most M2 barrels years ago to make them last longer.

"While unlined barrels work fine with .50-caliber ammo and can be used for training, they do not work fine with the new XM903 and XM962 SLAP ammo. SLAP ammo loses accuracy when fired through unlined barrels.

"Armorers, check your M2 barrels.

"Hold the barrel up to the light and look through the breech. If you have a lined barrel, there will be a gap in the lining 8 to 10 inches from the breech. No gap means an unlined barrel.

"If you find unlined barrels, it's OK to continue to use them, except with SLAP ammo. If your unit fires SLAP, exchange the unlined barrels for lined ones."

In addition to the note from *PS Magazine*, here is some additional information excerpted from a recent U.S. Army Reserve Command memorandum:

"Within the past few weeks, it has become apparent that screening for unlined barrels did not occur within war reserve stock. For this reason, it is requested that screening take place as soon as possible and this activity be notified of the results so we

can program in the quantity of lined barrels needed to support your requirement. It is important that these barrels be replaced.

"The M2 Unlined Barrel, NSN 105-00-652-8269, is of World War II vintage. To identify a lined barrel from an unlined barrel, look for the part number on the barrel. The part number for the lined barrel is 6528269; the part number for the unlined barrel is 7266131.

"No credit will be given for unlined barrels. These barrels can be used for training; however, at the same time, we must make sure that we do not take the risk and release any of the unlined barrels from war reserve stock to units deploying to a potentially hot environment. Lined barrels will be provided via receipt of a funded requisition. As stated above, it is important to provide the results to us as soon as possible in order to support your requirement. The updated POCs at TACOM at Rock Island, AMSTA-LC-CSIH, are: Item Manager, Ms. Deb Delf, DSN 793-2373, commercial (309) 782-2373; Equipment Specialist, Mr. Walter Hilliard, DSN 793-2108, commercial (309) 782-2108; Maintenance Engineer, Ms. Barbara Keleher, DSN 793-1896, commercial (309) 782-1896; Team Leader-Heavy Machine Gun Team, Ms. Pam Lund, DSN 793-7365, commercial (309) 782-7365."

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Who's Sleeping in My Bag?

Anyone who has served in the military for any length of time has found themselves living in the outdoors. We all have enjoyed the pleasures of at least one field training exercise. And, we will most likely have the opportunity to visit other domestic or foreign locations and sleep under the stars sometime in the near future. One common issue that must be considered while planning and preparing for the military camping package is that we will not be alone while living in the field.

There are approximately 850 types of ticks, 2,800 types of centipedes, 800 types of scorpions, and countless types of wasps, hornets, bees, arachnids, and ants—for the purposes of this article, we will classify these as “biting insects.” As if that weren’t enough company, there are also numerous variations of snakes and lizards, small-to-medium rodents, and mammals—we’ll call these “animals.”

Regardless of the circumstances of your trip to the field, maintaining situational awareness of the biting insects and animals that share your geographic area can save you from a possible life-threatening injury or becoming a disease and non-battle injury (DNBI). Loss of situational awareness or the onset of complacency easily can result in one of the following examples being used to describe you at your unit’s next social function:

- SM was bitten by a black widow spider while he was putting on his boot.
- SM was picking up his load-bearing equipment (LBE) after using the wood line as a latrine. It was early morning and dark outside, and SM did not see the baby rattlesnake hidden under his LBE. SM was bitten by the snake and required medical attention.
- SM was bitten by ants and had an allergic reaction to the bites. The allergic reaction sent his body into shock. SM had to be airlifted for medical treatment. He had no prior knowledge of an allergy to ant bites.

Although there are numerous other examples of

soldiers falling victim to natural field inhabitants, these cover the basics. Conducting an ongoing risk assessment will allow you to identify these hazards and then devise actions that will mitigate these risks.

Field Manual (FM) 3-05.70, *Survival*, contains an extensive listing of information on the species and regional locations of both insects and animals (as well as plants) that are harmful to humans. Soldier Training Publication (STP) 21-24-SMCT, *Soldier’s Manual of Common Tasks*, Task 081-831-0102, “Supervise Unit Preventive Medicine and Field Sanitation Procedures,” addresses the leader’s responsibility of identifying and dealing with field hazards, to include biting insects and animals.

Good platoon sergeants and first sergeants who are well versed in FM 21-101, *Field Sanitation*, MCRP 4-11.1.D, will:

- Plan for arthropod, rodent, and other animal threats.
- Enforce individual preventive medicine measures.
- Minimize exposure to arthropod, rodent, and animal threats.

The field sanitation team (FST) is the one team no one really wants to be on. Yet, in a field environment, it is the chain of

command's best tool to reduce and prevent DNBIs. Units must maintain a continuous field sanitation program that operates in garrison as well as when deployed. Too many times the kit rotates out of storage only for inventory during command inspections or change-of-command inventories.

Proper use of skin insect repellent (DEET) and clothing insect repellent (permethrin) is necessary to obtain maximum protection against insects and other biting creatures. But how many units do you know of that treat uniforms and sleeping equipment, to include tent liners, with permethrin as part of pre-combat inspections prior to deploying to the field for

training or military operations? FM 21-10/MCRP 4-11.1.D covers the requirements for treatment of such equipment. In addition, the uniform should be worn properly: pants tucked into boots, sleeves down, and undershirt tucked into pants.

Leaders must enforce the correct standards. Soldiers should not have to purchase their own insect repellents or, even worse, use improper equipment such as cat and dog flea collars. Leaders, you have the tools—use them. 🐞

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Desert Wildlife, Deployment Hazard

Soldiers in CONUS locations know that certain types of native wildlife pose unique hazards while in the field. The desert of the Middle East is no exception. Snakes, spiders, flies, and multitudes of other "critters" abound in the region. Deploying soldiers should be warned of the hazards posed by these native life forms and be aware of the proper procedures for dealing with them.

Snakes. Bottom line—tell your soldiers to leave snakes alone! There are poisonous snakes in the Middle East region (e.g., cobra and desert horned viper). Even bites from snakes that are not poisonous can be harmful—if not properly treated, non-poisonous snake bites can become infected. Anyone bitten by any snake should seek medical attention immediately for evaluation and anti-venom treatment. Tell soldiers not to treat snake bites with the "cut and suck" method.

Warn soldiers that snakes burrow under the sand seeking shade during the day and heat at night. Remind soldiers to avoid sudden motion when placing their hands or feet near an area that could conceal a snake. Soldiers should be especially careful when climbing or lifting objects from the ground.

Arachnids, arthropods, and biting insects. Scorpions, centipedes, assassin bugs,

black widow spiders, mosquitoes, and sand flies can cause illness and infected wounds. Remind soldiers to shake out their clothing before dressing and to check boots before putting them on. When possible, boots should be placed off the ground or inside a waterproof bag or other container. Soldiers also should carefully check their bedding before use. In addition, remind soldiers that food crumbs attract insects that, in turn, attract spiders and scorpions.

Direct soldiers to use insect repellents religiously and to use only those approved for human use. DEET repellent lotion (NSN 6840-01-284-3982) is recommended for skin use. Permethrin clothing repellent (NSN 6840-01-278-1336) is available for use on clothing only. Caution soldiers to follow carefully the instructions for use of these products. Soldiers also should be warned to remain still if they feel an insect or spider crawling on their body—sudden movement could cause a bite or sting.

Animals. Animals can be carriers of rabies. Warn soldiers not to taunt or play with animals. 🐞

Derived from the Southwest Asia Leader's Safety Guide, U.S. Army Safety Center. The complete guide is available on the USASC Web site at <http://safety.army.mil/>.

Water is a precious resource that many of us take for granted. We can turn a knob on a tap and water is readily available to us. Not only is that water easy to get, but it's also safe to drink. Soldiers deploying to a desert environment don't enjoy such luxuries, however. In the desert, water—especially safe drinking water—is invaluable.

Soldiers must stay adequately hydrated to survive in the desert and maximize their warfighting effectiveness. Potable, or drinkable, water is the most basic need in the desert. The human body depends heavily on water: approximately 75 percent of the human body is made up of fluid. A loss of fluid of two quarts, or 2.5 percent of body weight, decreases efficiency by 25 percent. A loss of fluid equal to 15 percent of body weight is usually fatal.

Merely finding a water source is not enough, though. It is vital to ensure that there is no possibility of nonpotable water being mistaken for drinking water. Safe, potable water is essential to the Army. Water that is not properly treated can transmit a multitude of diseases including typhoid fever, dysentery, cholera, and diarrhea. In some areas, contaminated water can also be a means of transmitting hepatitis and other infections. In addition, skin infections can be transmitted by

a planning factor of at least 7 gallons of water per soldier, per 24-hour period. In desert terrain, approximately 9 quarts of water per soldier, per day, is needed. When soldiers are active, leaders must oversee the drinking of two quarts of water per hour, per soldier. Soldiers cannot be trained to adjust permanently to a reduced water intake. An acclimated soldier will require as much, if not more, water because he sweats more readily. In very hot conditions, it is better to drink smaller amounts of water more often than to take large amounts occasionally. Drinking large amounts of water causes waste by excessive sweating and also could cause heat cramps.

Leaders in the field have many responsibilities associated with their duty, and ensuring the water supply is safe is one. Leaders should check their soldiers' water and make sure it is cool and drinkable. Planning is a must on the part of leaders. For example, sufficient water must be carried on a vehicle to last until the next planned resupply, plus a small reserve. Care must be taken to guard against polluting water sources. If water rationing is in effect, water should be issued under the close supervision of officers and NCOs. If the ration is not sufficient for the type of activity being performed, there is no alternative but to reduce physical activity

The Clear Facts

polluted water. Drinking water must be taken only from approved sources to avoid disease and other pollutants.

The following guidelines should be used for safe water treatment:

- Treat the individual water supply with one iodine tablet per quart-size canteen if the water is clear; use two iodine tablets if the water is cloudy.
- Let the canteen stand for 5 minutes with the cap loosened and then shake; let leakage rinse the thread around the neck.
- Tighten the cap and let the canteen stand for another 20 minutes.
- Calcium hypochlorite also can be used: add one ampule in one-half canteen cup of water, let dissolve, and then pour one canteen cap of the solution into the canteen, shake, and let stand for 30 minutes.

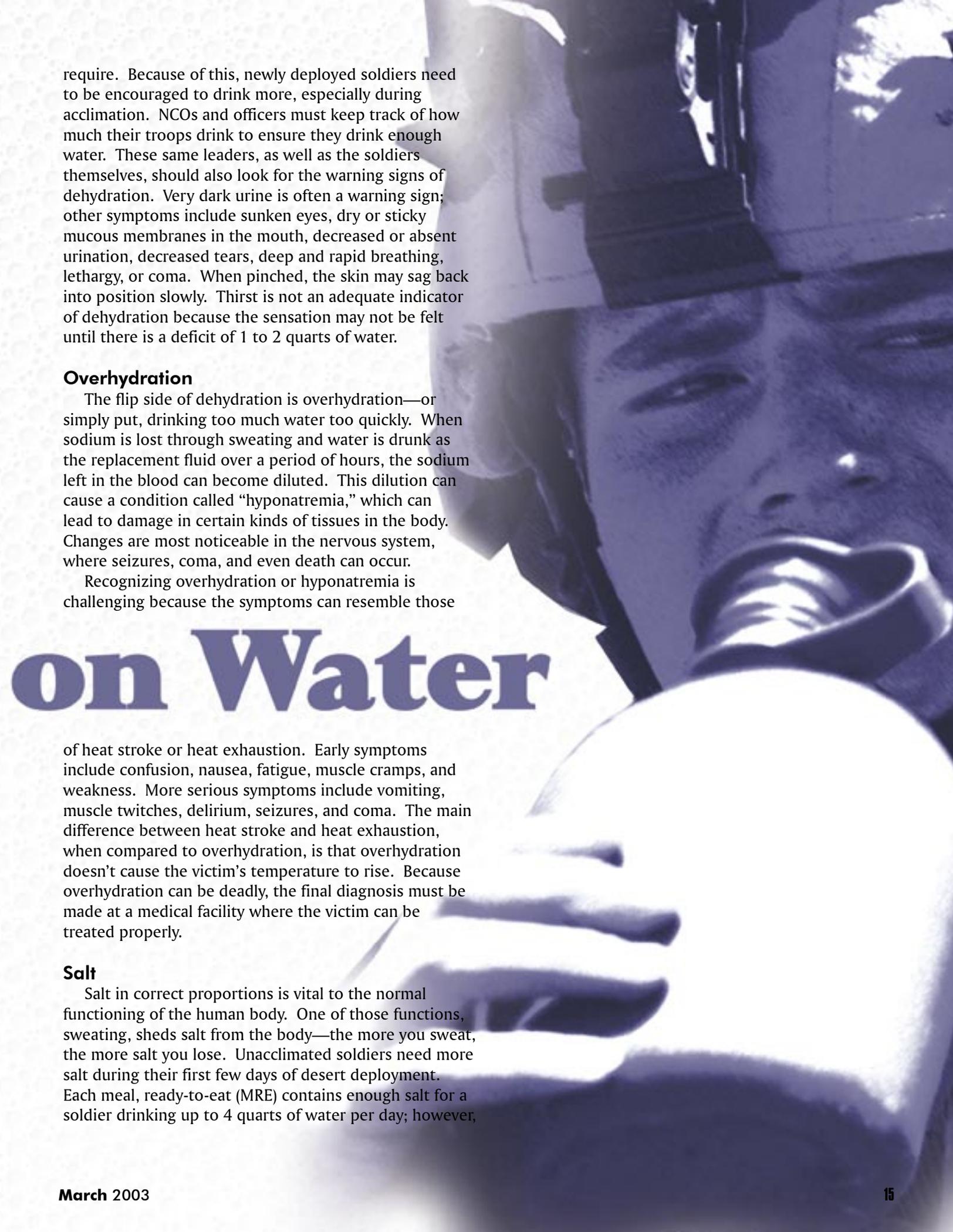
Lessons learned from Operations Desert Shield and Desert Storm showed that units should use

or restrict it to the cooler parts of the day. As physical activity increases, soldiers should drink more water.

Dehydration

Dehydration is deadly and hits fast. During high desert temperatures, a resting soldier can lose as much as a pint of water per hour through sweating! Sweating also can be deceptive in certain conditions. When temperatures are very high and the humidity is low, sweating may go unnoticed because it evaporates so quickly the skin will appear dry. Whenever possible, sweat should be left on the body to improve the cooling process. The only way to accomplish this is to avoid direct sunlight, which is the most important reason why soldiers must remain fully clothed, even in searing temperatures.

At the beginning of their deployment, soldiers may not always drink the amount of water they



require. Because of this, newly deployed soldiers need to be encouraged to drink more, especially during acclimation. NCOs and officers must keep track of how much their troops drink to ensure they drink enough water. These same leaders, as well as the soldiers themselves, should also look for the warning signs of dehydration. Very dark urine is often a warning sign; other symptoms include sunken eyes, dry or sticky mucous membranes in the mouth, decreased or absent urination, decreased tears, deep and rapid breathing, lethargy, or coma. When pinched, the skin may sag back into position slowly. Thirst is not an adequate indicator of dehydration because the sensation may not be felt until there is a deficit of 1 to 2 quarts of water.

Overhydration

The flip side of dehydration is overhydration—or simply put, drinking too much water too quickly. When sodium is lost through sweating and water is drunk as the replacement fluid over a period of hours, the sodium left in the blood can become diluted. This dilution can cause a condition called “hyponatremia,” which can lead to damage in certain kinds of tissues in the body. Changes are most noticeable in the nervous system, where seizures, coma, and even death can occur.

Recognizing overhydration or hyponatremia is challenging because the symptoms can resemble those

on Water

of heat stroke or heat exhaustion. Early symptoms include confusion, nausea, fatigue, muscle cramps, and weakness. More serious symptoms include vomiting, muscle twitches, delirium, seizures, and coma. The main difference between heat stroke and heat exhaustion, when compared to overhydration, is that overhydration doesn't cause the victim's temperature to rise. Because overhydration can be deadly, the final diagnosis must be made at a medical facility where the victim can be treated properly.

Salt

Salt in correct proportions is vital to the normal functioning of the human body. One of those functions, sweating, sheds salt from the body—the more you sweat, the more salt you lose. Unacclimated soldiers need more salt during their first few days of desert deployment. Each meal, ready-to-eat (MRE) contains enough salt for a soldier drinking up to 4 quarts of water per day; however,

all soldiers need additional salt when sweating heavily. Supplemental salt must be taken under medical direction: too much salt can cause thirst and a feeling of sickness, and can be dangerous. Extra salt should be taken only in proportion to water intake. Additional salt intake in any form should be controlled strictly according to medical advice.

Storage

When a potable water source has been secured and water properly treated, how should it be stored? Only issued water containers should be carried for drinking water. The best containers for small quantities of water (5 gallons or less) are plastic water cans. Water in plastic cans will be good for up to 72 hours, while water stored in metal cans stays drinkable for only 24 hours. Water in canteens should be changed at least every 24 hours, however.

Larger quantities of water kept in water trailers will last up to 5 days, if kept in the shade. The ideal drinking water temperature is between 50 and 60 degrees F. Outside temperature is a large factor in water storage: if the temperature outside exceeds 100 degrees F, water temperature must be monitored; water with a temperature in excess of 92 degrees F should be changed because of bacteria buildup. Ice

in containers will keep water cool, but should be used with care in water trailers—the inner protection of the trailer can be destroyed by floating ice. Ice in water trailers must be removed before the trailer is moved to prevent damage to the trailer. It is also a good idea to erect shade for water trailers, because this allows the water to stay much cooler. Lister bags and wet cloths can be used around metal containers to help keep them cool.

Water that is not fit to drink but otherwise not dangerous (e.g., it contains too much salt) can be used to aid in cooling. Such water can be used to wet clothing so the body does not use so much of its own internal cooling system—sweating. Soldiers must be trained not to waste water. Water that has been used for washing socks or other clothing, for example, is perfectly okay for use in a vehicle cooling system. It is important to note that untested water should not be used for washing clothes, although it can be used for vehicle cooling systems or vehicle decontamination. 

POC: Julie Shelley, Countermeasure Managing Editor, DSN 558-2688, (334) 255-2688, e-mail julie.shelley@safetycenter.army.mil. Article compiled from information found on the Center for Army Lessons Learned Web site, <http://www.call.army.mil>.

A soldier, up early to prepare breakfast for his fellow troops, is tired from yesterday's activities. He reaches for the 5-gallon water can to make hot cereal on the M-2A burner. As he pours water into the pot, the burner's flame intensifies, burning the soldier and destroying the mobile kitchen. He had mistakenly grabbed the fuel can instead of the water can.

Another soldier uses a 5-gallon fuel can to refuel his vehicle with diesel fuel. Unbeknownst to him, this fuel can is full of MOGAS and not labeled properly. This error causes serious engine problems and a maintenance nightmare.

Several soldiers are refilling their canteens from a water can. They do not know it yet, but this water can is full of antifreeze. This oversight causes grave health problems.

Mistaking a 5-gallon fuel can for a 5-gallon water can causes serious problems, including burns and fires. These 5-gallon fuel cans also can be used to store a variety of fuels. To avoid potential problems, cans must be labeled correctly. Cans that are either

labeled incorrectly or contain the wrong liquid and consequential mistakes in use will lead to maintenance and safety problems. To reduce the risks associated with water and fuel can "mistaken identity," know the distinctions between the two cans.

Fuel and water cans have the same dimensions, and cans are labeled with an "X" on each side. The "X" has a circle in the middle that surrounds the identity of the liquid in the can: "WATER" for the water can, and "FUEL" for the fuel can. Fuel and water cans may be the same color (tan or black), so it is not possible to identify the liquid in the can by its color. Fuel cans may also be labeled with different colors, according to which fuel they store. To prevent confusion with improperly marked cans in the field, adhere to the following directions:

Mark each container with either the standard or short nomenclature identification on the side ends of the can. The short nomenclatures authorized for field use are MOGAS (for motor gasoline), DF (for diesel fuel), or JP (for turbine fuel/jet propulsion).

When labeling turbine fuel, be sure to mark the appropriate number: JP-4, JP-5, or JP-8. Additional information that may be placed on the can includes the NATO code number, the filling date, the weight or volume of the contents, and safety markings. All markings on 5-gallon cans should be in 3/4-inch letters.

When coloring the cans, paint the upper third of the can the appropriate color. Use an oil-based enamel, such as automotive spray paint, and prepare the surface by first washing it off with isopropyl alcohol (rubbing alcohol) and then roughening it lightly with sandpaper. Cans containing MOGAS should be painted red in the upper third of the can. Cans containing diesel fuel should be painted yellow in the upper third of the can. Do not paint cans containing turbine fuel (JP-4, JP-5, or JP-8), but mark them instead. Remember to get your commanding officer's approval before painting and stenciling your can. 

Countermeasure file story, June 2000

Q. Is the wearing of hearing protection (e.g., ear plug case) authorized on the battle dress uniform (BDU)?

A. Review of Army Regulation (AR) 670-1, *Wear and Appearance of Army Uniforms and Insignia*, provides the following information for your consideration.

Paragraph 1-18, “Wear of Organizational Protective or Reflective Clothing,” states: “When safety considerations apply, commanders may require the wear of organizational protective or reflective items, or other occupational health or safety equipment, with the uniform (such as during physical fitness training). If required, commanders will furnish protective or reflective clothing to soldiers at no cost.”

Hearing protection could be interpreted to meet the definition of “other occupational health or safety equipment.” An organizational mission that exposes personnel to potential significant threshold shifts or hearing loss could provide the commander the latitude to require unit personnel to wear hearing protection on the uniform.

As a back-up, consider looking at the policy contained in paragraph 2-1a of AR 670-1, a portion of which states: “Consistent with controlling law and regulation, the Deputy Chief of Staff, G-1 (DCS, G-1) has the authority

to approve exceptions to this regulation. The DCS, G-1 may delegate this authority in writing to a division chief within the proponent agency who holds the grade of colonel or the civilian equivalent.”

Q. Does the Army have an official policy on the use of ephedra, considering the side effects that have been noted? Is it still legal to take ephedra?

A. The bottom line, up front—ephedra is bad news and should not be taken by soldiers. However, it is not illegal for soldiers to take ephedra.

Here is the scoop on ephedra from the Army Safety Center Surgeon: it is a stimulant used as a dietary supplement and is an ingredient found in many performance enhancement substances (e.g., Rip Fuel). Its use is prohibited for aviation personnel, and there are also additional rules covering flight personnel and supplements. The use of supplements containing ephedra and similar substances (e.g., ma huang) is strongly discouraged, as its use by soldiers could cause harm, especially in strenuous and hot environments. Ephedra is considered a food additive and, as such, is not controlled by the Food and Drug Administration (FDA). Therefore, it is legal to buy and not illegal for use by soldiers. But, as its use can be hazardous, products containing ephedra were

removed from the shelves of AAFES stores recently. As a last word, soldiers should not take ephedra.

Q. Why was the metal 5-gallon (DOT 5L) fuel container replaced with a plastic (United Nations (UN) standard) 5-gallon fuel container?

A. There were safety issues involved with the metal 5-gallon (DOT 5L) fuel container because they often leaked fuel, but the container was replaced due to transportation issues. The U.S. adopted the UN standards on transportation, which are performance standards and require containers for air shipments and public transportation to withstand a drop of several feet when filled and not leak. It was obvious that the metal 5-gallon (DOT 5L) container would not meet the UN performance standard; therefore, the plastic container was selected as a replacement. The plastic container meets or exceeds all UN performance requirements. For additional information on the plastic containers, contact the Logistics Support Activity (LOGSA) Storage and Containerization Center at DSN 795-7070/7147/7682 or (570) 895-7070/7147/7682. 🐼

POC: Mr. Truman Taylor, Policy and Programs Division, U.S. Army Safety Center, DSN 558-2947, (334) 255-2947, e-mail truman.taylor@safetycenter.army.mil

Fire Truck Deadlined

Due to a recent event in which a Department of Defense civilian firefighter was killed and another injured by the “drive-away” of a 2500L fire truck, all 2500L trucks essentially have been deadlined until a modification kit can be installed (referenced in Technical Bulletin (TB) 43-0001-62-8, page 3-3, January 2001). The event referenced above occurred when the vehicle was in structural mode during a training exercise. The truck slipped into gear, causing the fatality. Other incidents at several Army posts have caused minor injuries and property damage.

Commanders must ensure mandatory installation of the modification kit. All 2500L fire trucks that have been retrofitted by Pierce Manufacturing Company should be inspected by trained and certified personnel to ensure the modification was done during the retrofit. If the modification was not completed, a time for installation of the kit must be scheduled.

Once the 2500L fire trucks in your unit are proven to be in compliance with the above guidance, please contact SFC Rick Herrera, Senior Firefighter OC/T, 5th U.S. Army Firefighting Center of Excellence, DSN 357-8217, (253) 966-8217, for further information concerning training with the truck. The vendor point of contact is Mr. Paul Winiesdorffer, American Fire Equipment, (703) 491-2990, (888) 233-3473, FAX (703) 491-1688, or e-mail sales@afe-fire.com.

Televisions Recalled

About 80,000 large-screen, analog Zenith Electronics Corp. televisions are being recalled for repair because they could be a fire hazard, according to U.S. safety regulators and Zenith.



The U.S. Consumer Product Safety Commission (CPSC) said in a statement that a tear in a gasket can cause coolant fluid to leak from the picture tube, possibly causing smoking, charring, and electrical arcing inside the television.

Zenith has received 45 reports of incidents involving the televisions, a few causing minor property damage. The recall of the large-screen projection television sets, which were manufactured between 1995 and 1998, is an expansion of a previous recall. The televisions were sold from April 1995 through April 1999 for between \$1,200 and \$2,800 each.

The televisions recalled in this expansion and the earlier recall have 46- to 60-inch screens and were manufactured in Mexico from April 1995 to July 1997, and August 1998 to November 1998. The date of manufacture can be found on a white label on the back of the set. Televisions manufactured after 1998 are not included in this recall.

Consumers who have one of these televisions should immediately contact Zenith at (800) 777-5195 anytime to arrange for a free inspection and repair. Consumers can also visit the company's dedicated Web site at www.projorecall.com.

For information on this and other recalls, go to the CPSC Web site at www.cpsc.gov.

Adapted from CPSC news release, www.cpsc.gov



Class A

■ A civilian was killed after being struck by an M1A1 tank. The civilian was videotaping a field exercise at the time of the accident.



Class A

■ Soldier was found unresponsive and pronounced dead following a proficiency training parachute jump. SM's death was determined to have been caused by a pre-existing condition.

■ Soldier was killed when he struck a tree while snowboarding. SM sustained multiple trauma to the head and chest during the accident.

■ Soldier died after collapsing during a cool-down exercise after a 1.8-mile PT run. SM was pronounced dead at the local medical center.

Class B

■ Soldier suffered a permanent partial disability when a rocket-propelled grenade detonated during misfire procedures. SM's hand was amputated, and he received cuts and lacerations to his head and chest.

■ Soldier suffered a gunshot wound to his abdomen, resulting in a permanent partial disability, when another SM retrieved his weapon and the weapon fired. The two SMs were in their tent at the time of the accident, and SM2 reportedly believed his weapon was unloaded.

Class C

■ Soldier suffered a gunshot wound to his leg when the MP-5 another SM was cleaning fired. SM2 was uninjured in the accident.

■ Soldier suffered a fracture to his leg after he fell to the ground while running PT during the early morning hours. SM collided with two other soldiers while running sprints, causing the fall.

■ Soldier severed a portion of a tendon in his thumb while attempting to cut a wire tie off an Internet cable. SM used too much force while cutting the tie, causing the knife he was using to contact his thumb.

■ Soldier suffered cuts to his right thumb while slicing a turkey for his unit's holiday party. The electric knife he had been using fell off the counter it had been resting on and SM caught the knife, cutting the tendons in his thumb.

■ Soldier suffered a concussion when he slipped on a wet floor in his barracks. The floor was being stripped at the time of the accident.

■ SM received fractures to his neck and a puncture wound when the 8th-floor hotel balcony railing he was leaning against gave way. SM and one Navy member fell, hitting a canvas awning on the way down.



Class A

■ Soldier was killed when his vehicle ran off the roadway,

struck a telephone pole, overturned, and caught fire. SM was not wearing a seatbelt.

■ Soldier was killed when his vehicle ran off the roadway and struck a tree.

■ Soldier was killed when his vehicle overturned for unknown reasons. SM was on PCS leave status at the time of the accident.

■ Soldier was killed when his vehicle ran off the roadway, went down an embankment, overturned, and struck a tree.

■ Soldier was killed when his vehicle ran off the roadway into a ravine and struck a tree.

Class B

■ Soldier suffered three broken ribs, fractures to his head, cuts and lacerations to his head, contusions, and internal bleeding when the vehicle he was riding in overturned and slid into a tree. The driver of the vehicle, a civilian, was uninjured.

Class C

■ Soldier received abrasions to his arm when a civilian driver collided with his vehicle at an intersection. The civilian driver was attempting to make a left turn while SM had the green light.

■ Soldier suffered fractures to his leg when he lost control of his motorcycle on a recreational track. SM hit a hill at an excessive speed, causing the motorcycle to go vertical.

SPEED KILLS SLOW DOWN



**"Slow down. Every member of the
Army family is important."**

– SMA Jack Tilley
Sergeant Major of the Army



Drive to Arrive

ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 4

<http://safety.army.mil>

APRIL 2003



Fight at Night and Survive

CONTENTS

- 3** DASAF's Corner
- 4** Driving with NVDs-What You Can't See Can Kill You
- 8** The ABCs of NVDs
- 10** NVD Types and Uses
- 11** Investigator's Forum Rollover
- 12** Hot Stuff for Soldiers!
- 15** News & Notes
- 16** Learn and Live
- 19** Accident Briefs
- 20** Do You Have a Good News Story to Share?



on the web
<http://safety.army.mil>

BG James E. Simmons
Commander/Director of
Army Safety

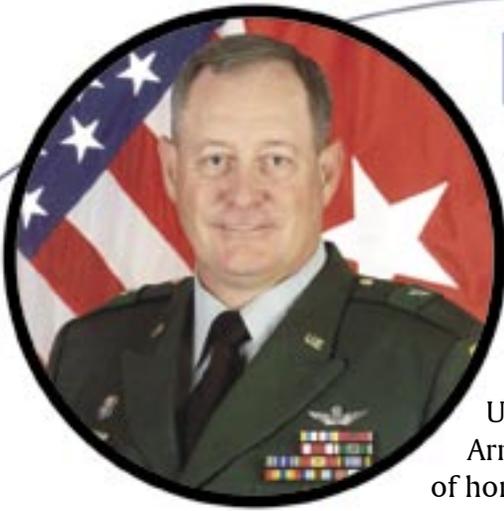
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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



PPE: It Can't Protect You If You Don't Wear It

Today's soldiers are the best-trained, best-equipped, and best-led in our Nation's history. I could not be more honored or more proud to wear this uniform of the United States Army. From having visited soldiers within every Army division during the last few months, I know that feeling of honor and pride is felt by all of our soldiers, whether they are currently at home station, deployed to Afghanistan, or forward deployed for the potential war with Iraq.

The expenditure of millions of dollars in developing and fielding personal protective equipment (PPE) for soldiers is evidence of the Army's commitment to keeping our soldiers as safe as possible. That PPE—Kevlar helmets, flak vests, Nomex gloves, balaclava hoods, seatbelts, hearing and eye protection, Nomex tank and flight suits, etc.—is provided to soldiers for a reason: to reduce the risk of severe injuries.

The Army standard is that, unless you have a waiver, you will wear all required PPE while performing tasks, duties, and operations that may expose you to personal injury hazards. If it's an Army standard to wear PPE, why do we still have soldiers who are injured or killed because they were not wearing it?

In just the last few months, there has been an increase in the number of instances where soldiers have been severely injured or killed while not wearing required PPE during the performance of their duties. We have had soldiers ejected from vehicles when they were not wearing seatbelts. We have had a company commander killed when a piece of shrapnel struck his bare head. Where was his Kevlar? Why was he, as the leader, not setting the example and wearing his PPE when there was no valid waiver permitting the unit to operate without it?

Failure to wear required PPE is clearly and simply a matter of indiscipline—knowing the standard and willfully choosing to violate it. Just because the Spalding vest may dig a bit into even the leanest of waistlines or push up into the chin when sitting inside the tank is not justification for not wearing it. Expended shell casings are hot when they're ejected. Yes, gloves may be a little cumbersome, but they are designed to help keep your hands protected.

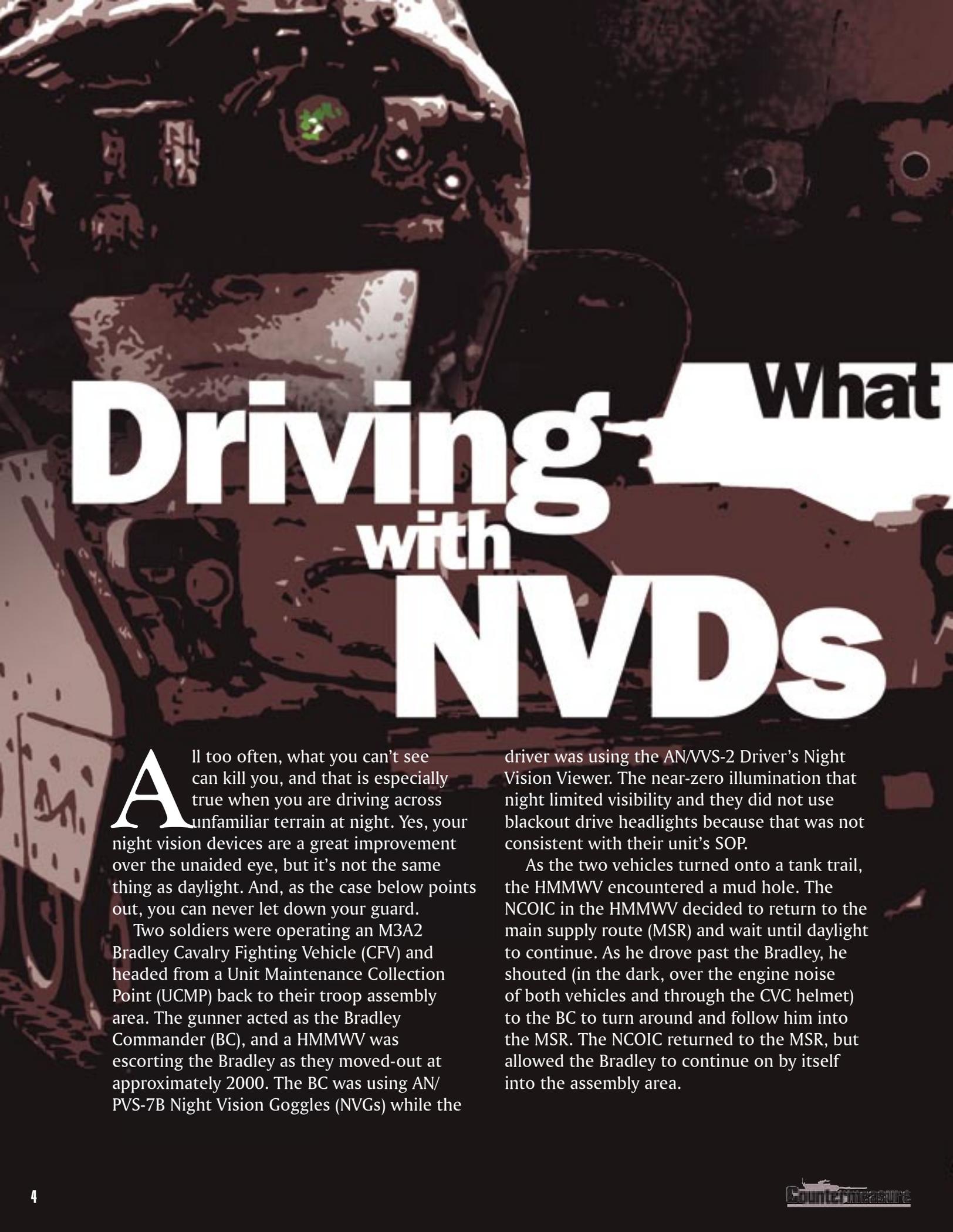
The Army holds us as commanders accountable for the safety of our troops. The troops will emulate their leaders; therefore, we as leaders must demonstrate what "right looks like" all the time. So it's a command responsibility that leaders at every level not only set the example by wearing required PPE, but also diligently enforce the standard of wearing it.

As great warfighters, we have to be confident and aggressive. But at the same time, we cannot allow that confidence to convince us that we are invincible. There is not a single one of us with a big yellow "S" emblazoned on our chest. If the operation we are conducting has a standard for wearing PPE, we owe it to ourselves to wear it so that it can protect us from the hazards it has been designed to mitigate.

If you will not wear the PPE the Army has invested millions in for yourself, wear it for your family. Whether you are conducting routine training or on the battlefield, they want you back—unharmful. In that critical moment, the finest, most technologically advanced PPE that money can buy will not protect you if it is not on your body and being worn as it was designed to be worn. ☘

Train Hard, Be Safe!
BG James E. Simmons

A handwritten signature in black ink, appearing to read "James E. Simmons".



Driving with NVDS

What

All too often, what you can't see can kill you, and that is especially true when you are driving across unfamiliar terrain at night. Yes, your night vision devices are a great improvement over the unaided eye, but it's not the same thing as daylight. And, as the case below points out, you can never let down your guard.

Two soldiers were operating an M3A2 Bradley Cavalry Fighting Vehicle (CFV) and headed from a Unit Maintenance Collection Point (UCMP) back to their troop assembly area. The gunner acted as the Bradley Commander (BC), and a HMMWV was escorting the Bradley as they moved-out at approximately 2000. The BC was using AN/PVS-7B Night Vision Goggles (NVGs) while the

driver was using the AN/VVS-2 Driver's Night Vision Viewer. The near-zero illumination that night limited visibility and they did not use blackout drive headlights because that was not consistent with their unit's SOP.

As the two vehicles turned onto a tank trail, the HMMWV encountered a mud hole. The NCOIC in the HMMWV decided to return to the main supply route (MSR) and wait until daylight to continue. As he drove past the Bradley, he shouted (in the dark, over the engine noise of both vehicles and through the CVC helmet) to the BC to turn around and follow him into the MSR. The NCOIC returned to the MSR, but allowed the Bradley to continue on by itself into the assembly area.



You Can't See Can Kill You

When the Bradley arrived at the assembly area, the Troop was no longer there. The BC called the platoon leader for new instructions. The platoon leader told him to go to the Troop Operations Center (TOC) and warned the BC about an arroyo that was near the TOC. Because the BC did not have a map, he could not be certain of the exact location of the arroyo or where it might be in relation to his path to the TOC. The BC radioed the Officer-In-Charge (OIC) at the TOC and requested grid coordinates. The OIC told him to “go to ground” because of the poor visibility and the danger of the arroyo.

The BC, instead, continued toward the TOC, relying on his NVGs and the driver’s AN/VVS-2 to find their way safely. An hour later, the Bradley plunged over a 14-foot-tall cliff (the side of the arroyo) and landed on its turret, killing the BC.

Some Key Issues

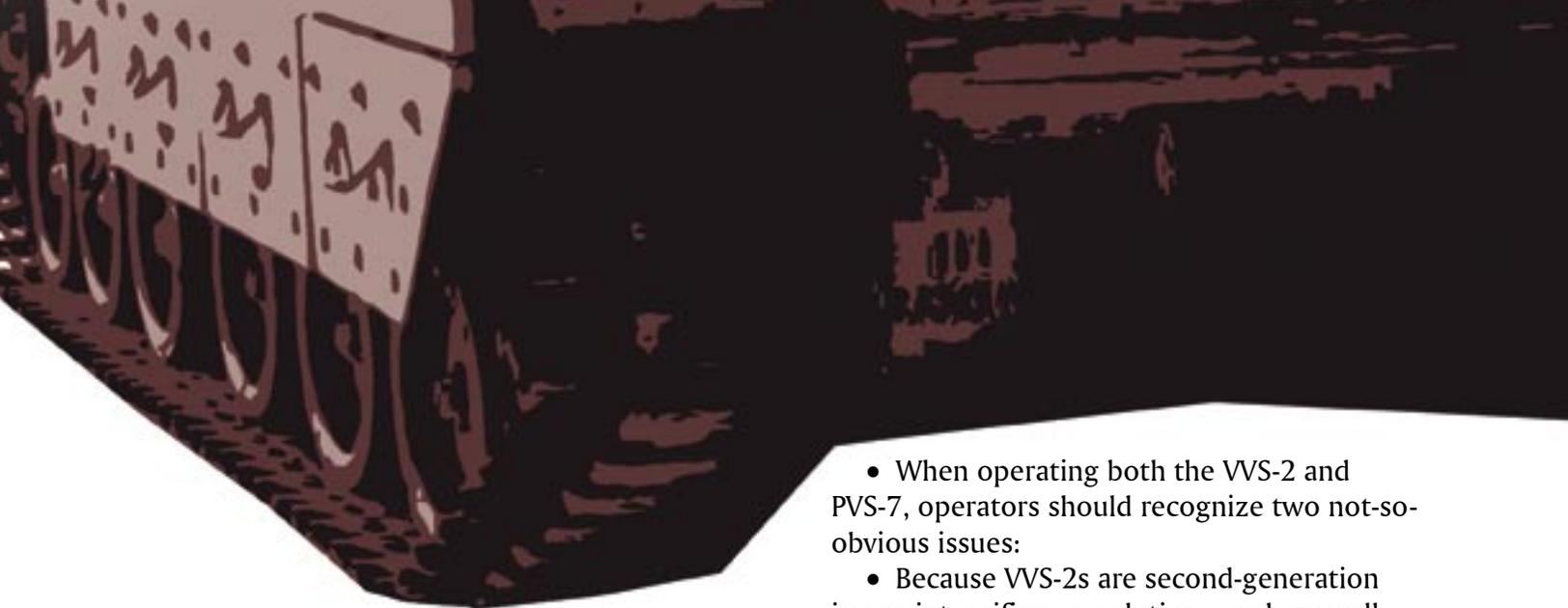
The AN/VVS-2 Driver’s Night Vision Viewer for tracked vehicles is a second generation night device and is not very effective in detailing differences in terrain -- especially as regards depth perception. It is a passive night vision imaging device that uses an image

intensifier tube similar to that used in night vision goggles. Like all Night Observation Devices (NODs), the VVS-2s amplify ambient (available) light and present an image of the viewed scene. These night vision devices are terrific combat multipliers and, when operators are properly trained and the devices’ limitations understood, can make night operations more effective, easy and safe.

Several other incidents involving VVS-2s have revealed some consistent problem areas that leaders, planners and users can quickly and easily resolve. The use of the VVS-2 by the vehicle driver, combined with the vehicle commander’s AN/PVS-7, is an effective combination when both devices are optimized. To get the most out of these devices, operators must ensure all pre-operational checks are completed.

Some Tips

- In the case of the VVS-2, operators must ensure the mirrors or prisms and eyepieces are clean. In addition to preventative maintenance checks and services, operators should pay close attention to the operating procedures listed in paragraph 2-5 of TM 11-5855-249-10, *Driver’s Night Vision Viewer Operator’s Manual*. This paragraph is sometimes overlooked by users, but is vital to effectively using this device.



- When adjusting the brightness of the device, users must consider two very important elements:

- They must ensure the brightness is set using a target that is 50 feet away. If the target cannot be clearly seen at 50 feet, notify unit maintenance so that the VVS-2 can be properly adjusted.

- Use a high-contrast target—the best one is NSN 5855-01-027-1567—which is listed in the AN/VVS-2 technical manual. Too much brightness can wash out details while too little brightness can make the overall scene too dark.

- AN/PVS-7 users should go through the focusing procedure listed in the operator's manual. When focusing the NVGs, users should focus on a high-contrast target. Normally, when using the PVS-7 while on a vehicle, the user should focus the goggle's objective lens at infinity, which is all the way clockwise to the stop. The eyepieces should be focused for individual acuity, but should always be "plused-up." To "plus-up" a PVS-7, users should make the basic focus adjustments then take the individual diopters—or eyepiece rings—and slowly turn them counterclockwise. If the image gets fuzzy, stop and return to the original setting. If the image stays clear, continue turning the eyepieces counterclockwise until the image becomes fuzzy, then re-adjust clockwise until the image is clear. (When operators "over-minus" the eyepiece or diopter ring, the eye muscles accommodate until the scene is seen clearly. However, the muscles can become tired after awhile and cause eyestrain and headaches.)

- When operating both the VVS-2 and PVS-7, operators should recognize two not-so-obvious issues:

- Because VVS-2s are second-generation image intensifiers, resolution – or how well you can see with them—will normally be poorer than with the PVS-7s, regardless of the generation of the tube in the NVG. PVS-7 users will be able to see things more clearly than drivers using VVS-2s. The majority of the PVS-7s have third-generation tubes. Leaders should identify the PVS-7s that have third-generation tubes by using the TS-4338 and then use those tubes on the darker nights. Third-generation tubes can also discern a smaller target.

- When using these systems together, there are different viewing angles for each of these systems. Because the VVS-2 is located lower on the vehicle than the TC's position, the driver has a flatter angle of view. This will hide some of the obstacles the TC can see using PVS-7s. Because the TC can see some things the driver can't, crew coordination is very important when using these devices together.

Many TCs use the PVS-7s as binoculars rather than mounting them on their helmets because of the difficulty of moving up and down in the hatch. When PV-7s are used as binoculars, TCs should know that when they remove their NODs it will take two to three minutes for their eyes to effectively adapt to the dark. During that time, their vision will be reduced and they need to take special care.

There are times when there is not enough light for the devices to work well without supplemental lights. The use of low-intensity lights, such as blackout drive and blackout marker lights, can make big improvements in the device's image resolution. If the tactical situation does not allow the use of blackout

“The problem was not that the hazard wasn’t identified, but that no one used the controls available to prevent the accident.”

drive lights and there is dangerous terrain or obstacles in the area, commanders should consider using ground guides.

An important point for leaders to consider is that operator training is the key to the safe and effective use of NVDs. NVD skills are very perishable and the unit training program should include time to update training on this equipment. Just because drivers used their VVS-2s effectively during their National Training Center rotation does not mean those skills have remained at the same level since.

Commanders must ensure that their driver’s night training program teaches drivers how to check their night vision devices to ensure they are operating properly. Drivers must become familiar with the -10 for the VVS-2s. Also, the devices must be serviced at the proper intervals and that service documented.

Some Parting Thoughts

There were several things that could have been done to either prevent the accident described in this article or to have reduced the severity of the injuries. For example, the BC was standing out of the hatch at waist level. If he had been at nametag defilade, he might have been able to get back into the turret when the vehicle fell. Also, the BC did not have a map to help him identify the terrain features. He relied solely on his “plugger” for navigation.

It’s basic risk management. Identifying hazards and implementing effective controls can, if properly supervised, help save soldiers’ lives. The problem in this accident was not that the hazard wasn’t identified, but that no one used the controls available to prevent the accident. 

Adapted from October 1997 *Countermeasure*. POC for information on night vision is Mr. Bob Brooks, DSN 558-9860.

Proper Scanning Critical to NVG Operations

NVG users who don’t scan or who don’t do so properly can get into trouble very quickly. All too often this lesson has been learned the hard way.

The Army Aeromedical Research Laboratory studied scanning in Army aviation and developed a recommended strategy for aircrews on NVG missions. The good news is that many of those techniques and procedures can also work well during ground operations. For example:

- Formal scan or search patterns

are not necessary. After relatively little training, search performance is better with “free” viewing.

- Users should adjust their vehicle’s speed to fit their location. Typically, NVG users tend to scan more slowly the faster they are traveling because it takes longer to identify fine details. Because of that, vehicle speed should be reduced when driving in congested areas and when traversing rough terrain.

- The first priority when scanning should be to identify hazards. Drivers should identify objects as far away as possible and monitor them until the vehicle is clear. **HOWEVER**, it’s important for drivers not to fixate on an object.

- To avoid becoming fixated,

NVG users should not look at any object for more than a second or two.

- The best resolution is in the center of the NVG tube, so off-center viewing should not be used.
- NVG users should not turn their heads too quickly while scanning because this could lead to disorientation.
- Scanning tends to slow down or even stop during emergency, unfamiliar or stressful situations and also when the person is tired.
- All NVD users in a vehicle need to help the driver identify any hazards – especially those on the right shoulder of the road. 

Adapted from February 1996 *Countermeasure*

The ABCs

WOW! A soldier has just looked through night vision goggles (NVGs) for the first time. He can see—he thinks—and he'd like to put the goggles on and go. What he doesn't know is that while NVGs increase night light to incredible levels, they don't turn night into day and they don't show him everything. Like all Night Vision Devices (NVDs), the goggles have some limitations. Some of those are limitations in the devices themselves while others are in the eye. Sometimes those limitations show up in the accident reports and they're worth being aware of. Let's look at some of the most common concerns.

Reduced Field of View

The view through NVDs can be a lot like looking down a tunnel. Your normal field of view is almost 190 degrees—but that is cut down to 40 degrees with NVDs. That side—or “peripheral”—vision you're accustomed to, and from which you often see dangers, is just not there. To adjust for that you must constantly turn your head to scan for the dangers on either side of you that you can't see in your narrow field of view. (See the article on page 7 in this issue titled, *Proper Scanning Critical to NVG Operations*).

Reduced Visual Acuity (Sharpness)

At their best, NVGs cannot provide the same level of sharpness to what you see as what you're accustomed to in the daytime. While normal vision is 20/20, NVGs can, at best, provide only 20/25 to 20/40, and even this is possible only during optimal illumination and when you have a high-contrast target or scene. As either illumination or contrast decreases, the NVG's visual acuity drops, giving you an even more “fuzzy” image.

Reduced Depth and Distance Perception

Normally you use both eyes (binocular vision) to pick up cues to help estimate the distance and depth of an object. However, with NVDs you are essentially using one eye (monocular) vision, which can pose real problems. For example, when you are wearing NVDs and you view two objects of different sizes that are side-by-side, the larger object appears to be nearer. When you view overlapping objects through an NVD, the one that is in front “appears” to be nearer—maybe much more so than is true. In addition, some objects viewed through NVGs may appear to be farther away than they actually are. The reason for that is that we tend to associate the loss of detail sharpness with distance. On the other hand, a light source that is not part of a terrain feature—for example, a light atop a tower—may look closer than it actually is. It's important to be aware of these potential problems and that NVG users tend to overestimate distance and underestimate depth (how tall an object is).

Dark Adaptation

Your eye needs time to adjust from day to night vision. That's why you can barely see when you first enter a dark movie theater

S of NVGs



during the daytime—your eyes need time to adjust to the darkness. So it is with NVGs. You are basically getting a dim-day view, so when you remove your NVGs, your eyes need time to adapt to the darkness. The amount of time you need depends on how long you have been wearing the NVGs. Most people achieve about a 75 percent dark-adaptation within 30 seconds of removing the goggles. This is especially important to keep in mind if you are using your NVGs as binoculars—basically lifting them to your eyes and then lowering them.

In Summary

Accidents ranging from fender-benders to mission stoppers sometimes happen because people misinterpret what they see through their NVGs. To train safely and win on the battlefield, you need to understand the limitations of your night vision equipment and be skilled in using it. Leaders also need to be aware of the hazards involved in NVG operations and take measures to control the risks. 

Adapted from February 1996 *Countermeasure*.
POC is for information on night vision is
Mr. Bob Brooks, DSN 558-9860.

NVD Types and Uses



For our ground forces to be effective on today's battlefield, it is necessary for us to be able to fight and maneuver at night. Night vision devices (NVDs) make this possible by providing our night fighters with the ability to see, maneuver and shoot at night or during periods of reduced visibility. The Army uses two different types of NVDs—image intensifiers and thermals.

Image-Intensifying Devices are based upon light amplification and must have some light available. These devices can amplify the available light from 2,000 to 5,000 times. Here are some examples:

- **AN/PVS-4 and AN/TVS-5 Weapon Sights.** Both are lightweight second or third-generation scopes. Either can be mounted on a variety of weapons or handheld for surveillance purposes.

- **AN/PVS-5** is one of the original NVDs used by individual soldiers. It uses a second-generation image-intensifier tube for combat, combat support and combat service support operations.

- **AN/PVS-7D** is a lightweight goggle used by individual soldiers. It uses a single third-generation image-intensifier tube. Its performance is significantly better than the AN/PVS-5 and it is also used for combat, combat support and combat service support operations.

- **AN/PVS-10 Sniper Night Sight (SNS)** is an integrated day and night sight for the M24 sniper rifle. It gives the sniper the capability to acquire and engage targets during either low or high ambient light conditions. The system mounts onto the M24 and uses the same mil-dot reticle as the existing Leopold day scope. The magnification for day and night operations is 8.5X, and the system weighs 4.9 pounds.

- **AN/PVS-14 Monocular Night Vision Device (MNVD)** provides leaders of combat infantry units

with a small, lightweight night vision device for use in observation and command and control. It interfaces with the AN/PVS-7D head and helmet mounts and the 3X magnifier. It can also be mounted to a small arms rail by using a rail grabber.

- **AN/VVS-2 Driver's Night Vision Viewer** is a night vision scope that provides closed-hatch night-vision capability in combat vehicles. The image intensifier tube in this piece of equipment is second generation and provides an improvement over unaided night vision, but is inferior to any third-generation intensifier.

Thermal Forward-Looking Infrared (FLIR) detectors—sometimes called “sensors”—work by sensing the temperature difference between an object and its environment. FLIR systems are installed on certain combat vehicles and helicopters.

- **AN/VAS-5 Driver's Vision Enhancer (DVE)** provides drivers of combat and tactical wheeled vehicles the ability to conduct day or night operations despite degraded visual conditions caused by smoke, fog, dust or similar conditions.

- **AN/PAS-13 Thermal Weapon Sight (TWS)** allows soldiers to see deep into the battlefield, increasing surveillance and target acquisition ranges and penetrating obscurants during day or night. The TWS is a second-generation FLIR system that provides a major improvement over the image-intensifier night sights currently in use for small arms.

NOTE: To avoid confusion, when we discuss “NVGs,” we're referring only to image-intensifying devices. When we use the term “NVD,” we're referring to all devices, include those that use thermal imaging. 

Adapted from February 1999 *Countermeasure*

What happened?

While conducting a tracked vehicle administrative movement during daylight hours, the operator of an M113A2 lost control of the vehicle. The vehicle left the roadway, impacted a soft ditch, rolled over, and came to rest on its top. The track commander suffered fatal injuries during the rollover when the vehicle landed on his partially ejected body.

Why did it happen?

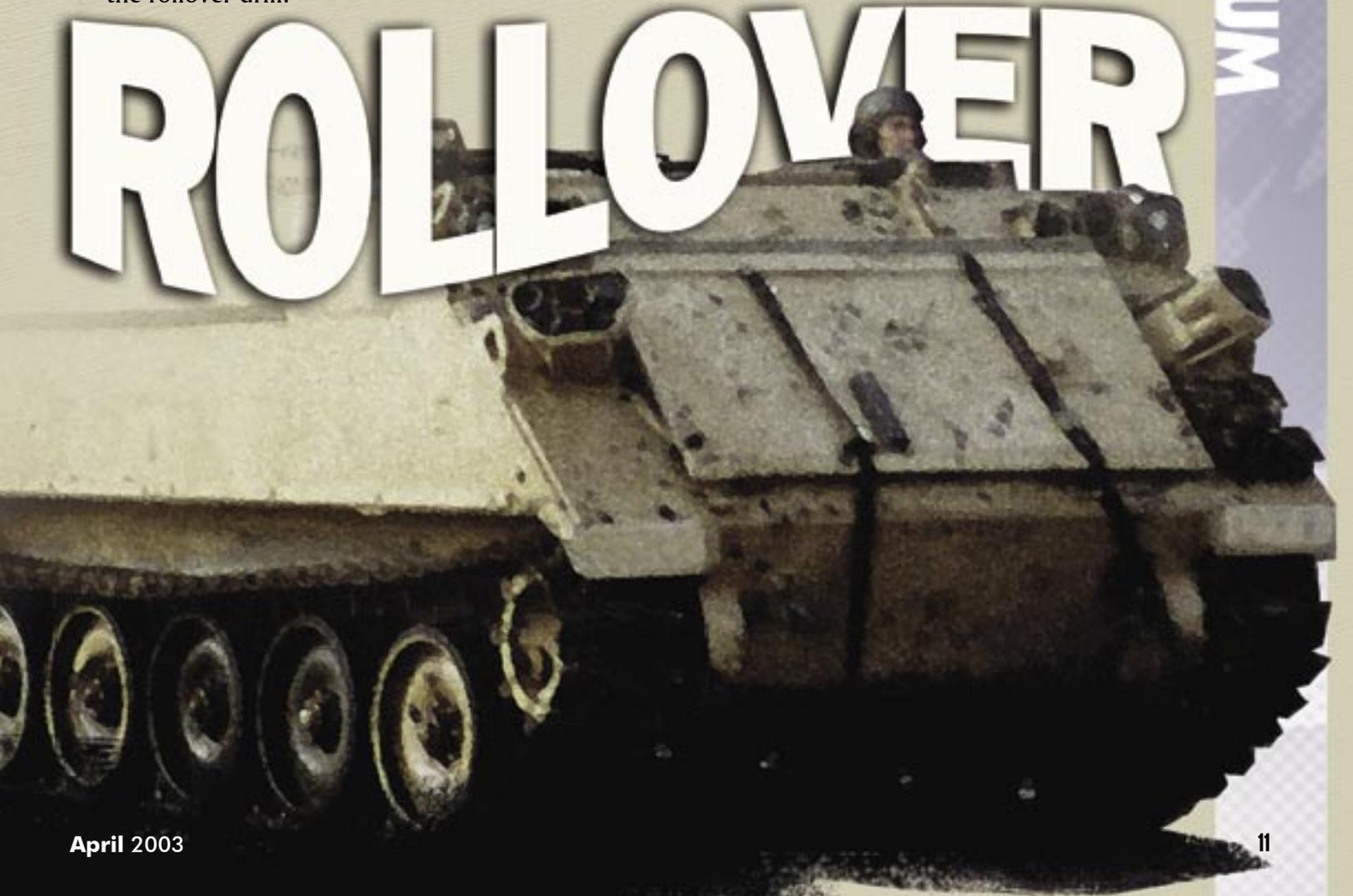
The accident sequence began when the track commander failed to provide adequate supervision, which allowed the vehicle operator to travel at an excessive speed on a downgrade. The driver was not aware of the vehicle's limitations and was overconfident in his own abilities to operate the vehicle. The driver demonstrated inadequate self-discipline by operating the vehicle in excess of known tracked vehicle speed limits. Additionally, the track commander was above nametag defilade and, therefore, unable to react adequately to the rollover drill.

What to do about it?

Do not allow overconfidence in your ability or the ability of others to place you in a dangerous situation with a possible uncontrolled outcome. Vehicle operators and track commanders have responsibilities associated with their respective positions, and foremost is the responsibility to safely transport soldiers. Supervise and comply with posted speed limits because your noncompliance could put your life, as well as the lives of other soldiers, at risk. Additionally, it is extremely critical to maintain a nametag defilade position during tracked vehicle movement in order to be better prepared to react during a vehicle rollover. Remember that your actions—good, bad, right, or wrong—are observed by others and will directly influence their actions. 🚧

POC: Ground Systems and Accident Investigation Division, DSN 558-3562, (334) 255-3562

ROLLOVER



HOT STUFF FOR SOLDIERS!

With summer approaching and much of our forces already deployed to warmer climates in Southwest Asia, it's a good time to talk about heat injuries. Heat injuries can take their toll on even very fit and acclimated units. Therefore, it is little wonder that units facing a sudden change from a mild spring environment to the desert need to be prepared if they are going to maintain their combat effectiveness.

Soldiers and their leaders have individual and collective responsibilities when it comes to reducing risks in a hot environment. While it is beyond the scope of this brief article to describe all the necessary steps, I would like to cover some essential components of an effective heat injury prevention plan.

Plan Ahead

First, it is vital that units plan ahead for hot weather deployments as the mission and situation permit. Units need time to learn about the environment where they are deploying and to take the necessary steps to prepare. It is vital to ensure adequate stocks of appropriate protective headgear, sunscreen, lip balm and foot powder are on hand. You need to coordinate with local medical personnel to ensure there are hot weather classes and that they stress the importance of a safe and plentiful water supply. Get with your local preventive medicine shop to set up these classes and make sure your soldiers and leaders attend.

The First Days Are Crucial

Second, it is important to focus on individual and collective conditioning. Yes, it might be difficult to prepare for a tropical environment during February at Fort Drum, N.Y. However, having an effective personal fitness program will ensure you are ready to deploy to a hotter climate in the shortest possible time. Once your unit arrives at its deployment site, it's important for soldiers to train together to most effectively acclimate themselves to the heat. Heat acclimatization—the process that improves the body's response to heat stress through exposure to high heat and strenuous exercise—usually occurs within a few days. Training for heat acclimatization should take place during the hot part of the day and, initially, for short periods of time. To limit injuries, organized physical activity should be geared to the level of your less-fit soldiers. Water should be readily available—preferably carried by the soldiers—with supervisors making sure their soldiers stay hydrated. Other unit training and mission-essential work should take place during the cooler parts of the day.

Most units will be able to acclimatize within 3-8 days and the physiologic benefits are dramatic. As soldiers become accustomed to the heat, they will sweat more, which will cool them off more rapidly but will also increase their need for fluids. The body conserves sodium more efficiently when acclimated, so salt losses in sweat will decrease. The soldier will be able to do more because his or her body's core temperature will decrease, lessening the likelihood they will become a heat casualty.

Drink Enough Water

Third, it's important that soldiers get plenty of water when they are working. Cool water that is not overly chlorinated

tastes better, which means soldiers are more likely to drink it. Leaders must ensure their soldiers get enough water, which can be as much as 1 ½ quarts per hour in Category 5 conditions when they're working hard. However, it's important not to overdo it. Drinking more than 1 ½ quarts per hour can cause bloating and nausea. Soldiers have even died from drinking too much water.

Food is also important, so make sure your soldiers eat their MREs and other rations. The food will act as a sponge, aiding in water absorption and stimulating thirst while replacing needed sodium in the body. In general, it is best to avoid salt tablets. Military rations are high in sodium content, so the extra salt is usually not needed. You can monitor how well your soldiers are staying hydrated by watching them to ensure they drink enough water and also by keeping track of how often they urinate. A soldier who can't remember the last time he or she visited the latrine is not adequately hydrated! Ask your soldiers around lunchtime when they last went. You'll often find out they haven't used the latrine since they first woke up. If they have been up for six hours and haven't been to the latrine, then it has been TOO LONG.

Plan Work Cycles Carefully

Fourth, manage work and rest cycles to protect your soldiers so that they can work effectively. It is important to check the Wet Bulb Globe Temperature (WBGT) so that work and rest cycles can be modified with the changing temperatures. A non-acclimated soldier is at risk for serious injury while performing hard physical work in a high-heat environment. Leaders are responsible for monitoring the WBGT to ensure training and physical effort are appropriately managed. This is especially important in training environments where

the cadre may be well acclimated but new soldiers from northern states may not be. Some examples include; Basic Training, Airborne and Ranger Schools, NTC and JRTC. Recent civilian examples include the professional baseball player who died of heat stroke at spring training during February 2003, and the Minnesota Vikings lineman who died of a heat injury during summer camp in August 2001.

It is important to consider the heat exposure of the previous three days. Many times it is yesterday's heat episode that causes today's injury. The body needs time to recover from the metabolic changes caused by heat exposure. Soldiers often sleep in hot, humid environments that do not help them recover from the day's heat. When you're planning for the day and thinking about the heat-related risks, keep in mind the heat stresses of the previous couple of days.

Drugs and Supplements Can Be Dangerous

Finally, it is important for soldiers to recognize the risks posed by drugs and supplements. Many otherwise benign prescription and over-the-counter drugs can have a harmful effect on the body's cooling system and have potentially catastrophic results. If a soldier is treated by a non-military healthcare provider, it is important that any medications prescribed are reviewed for their potential side effects on the body's cooling system. Likewise, performance-enhancing products often contain substances which can cause harm in a hot environment. Supplements such as ephedra and Ma Huang have been shown to make otherwise healthy young people more susceptible to heat injuries. These products should not be used by soldiers in any situation—especially NOT in a hot environment.

In summary, it is important to plan

ahead when your soldiers are deploying to a location where heat exposure can pose a problem. Develop an acclimatization program *prior* to deployment and educate your soldiers on the risks of heat exposure. Take actions to reduce those risks by measuring the WBGT, supervising your soldiers' training, and making sure they drink sufficient water and urinate often enough. Modify the training if you have a heat injury—don't just write it off to a soldier not being able to "take it." If one soldier goes down, your other soldiers are at risk as well. When it comes to heat injury prevention, you can't afford to get OBE'd (overcome by exertion!) 

SOME HELPFUL RESOURCES FOR YOU!

The article by Dr. McKeon on heat injury prevention in this issue of *Countermeasure* is part of the U.S. Army Medical Command's Heat Injury Prevention Program (HIPP). Each year soldiers die from heat injuries and those deaths are often preventable. However, they are only "preventable" if you know how to prevent them, put that knowledge into practice, and keep a watchful eye on your fellow soldiers. Here are some places where you

can get helpful information:

- U.S. Army Center for Health Promotion and Preventative Medicine (CHPPM). Go on their Web site on heat injury prevention at: <http://chppm-www.apgea.army.mil/heat>.
- The instructional video, *Heat Injury Risk Management*, was developed at Fort Benning, Ga., one of the Army's warmest and most humid training places. To get a copy, go to <http://safety.army.mil>, click on MEDIA, then on DOD AUDIOVISUAL LIBRARY. Type the video's title in the search bar and order either the video or DVD.
- Want to talk to someone for help? Feel free to contact me at (703) 681-3017, or by e-mail at: Regina.Curtis@otsg.amedd.army.mil. 

COL REGINA CURTIS
Senior Flight Surgeon
Office of the Surgeon General

LTC JOSEPH MC KEON
HQ USASC Command Surgeon

Vehicle Recalls

There is nothing quite like owning a new car. Unfortunately, “new” does not always mean “problem-free,” and some of those problems can directly affect your safety. Here are some of the most recent vehicle safety recalls from the National Highway Traffic Safety Administration.



2003 Subaru Forester.

Number potentially involved—500. Defect: On certain of these vehicles the front seatbelt buckles and latch assemblies were improperly manufactured. In the event of a crash, the front seatbelts could unlatch, resulting in injuries to the seat occupant. **NHTSA Recall No. 03V047000.**

2002 Dodge Caravan, Chrysler Town and Country. Number potentially involved—116,029. Defect: On certain minivans the fuel tank control valve weld could separate, possibly resulting in a fuel leak. If this were to happen in the presence of an ignition source, a fire could result. **NHTSA Recall No. 02V274, DaimlerChrysler Recall No. B25.**

2000-2002 Ford Taurus, Mercury Sable. Number potentially involved—369,614. Defect: On vehicles equipped with adjustable pedals, the brake and accelerator pedals may be positioned so closely together that they could be pushed simultaneously. This could result in the vehicle accelerating unexpectedly or appearing as if it was unable to be stopped. **NHTSA Recall No. 02V266, Ford Recall No. 02S40.**

2003 General Motors Hummer H2, Saturn L Series. Number potentially involved—1,448. Defect: On certain passenger and sport utility vehicles the windshield wiper motor could fail during use because of improper manufacture. If this were to occur during severe weather, the driver’s visibility could be reduced, potentially resulting in a vehicle crash. **NHTSA Recall No. 02V283, GM Recall No. 02051, Saturn Recall No. 03-C-03.**

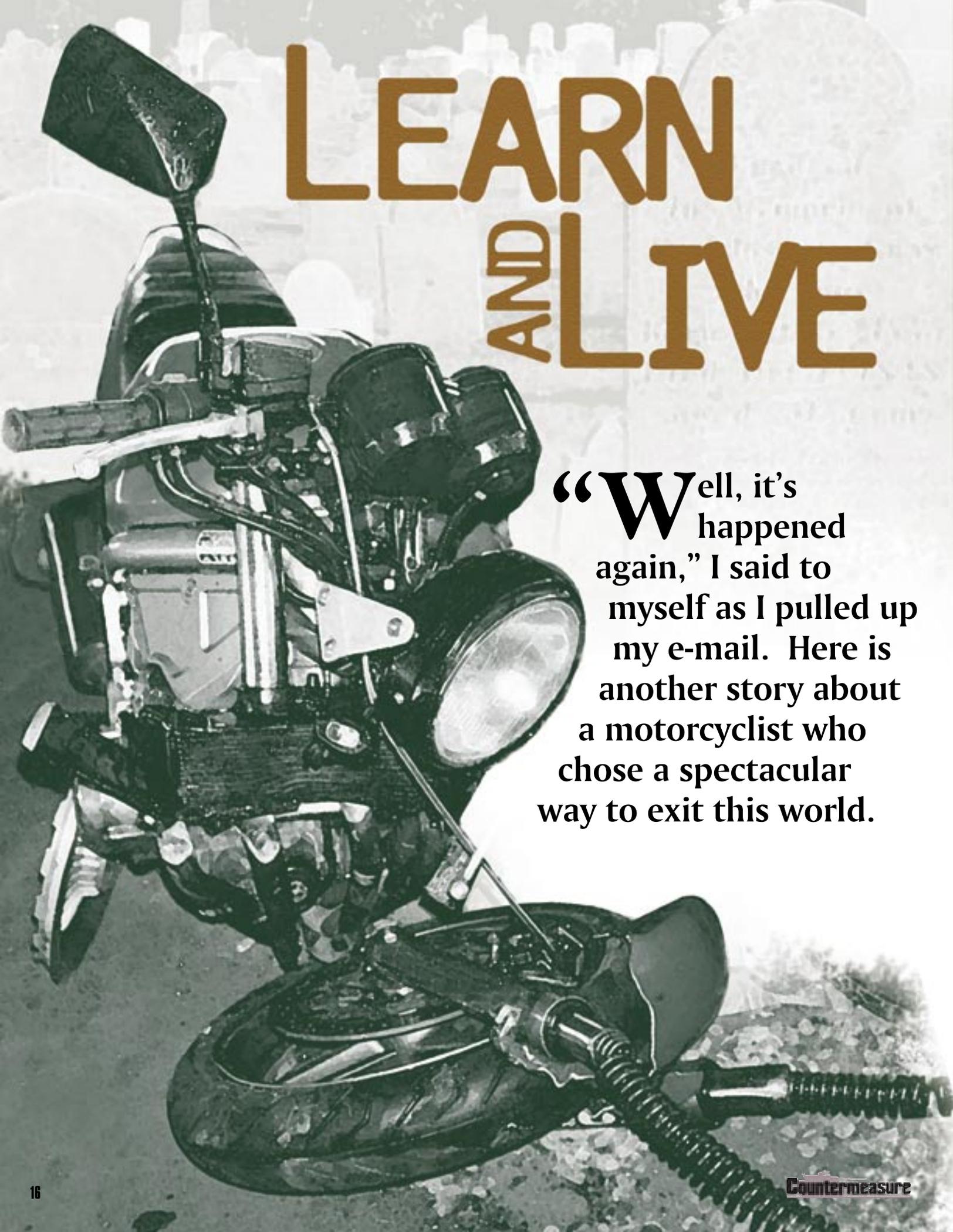
2001-2003 Subaru Legacy, Outback; 2002-2003 Forester, Impreza; 2003 Baja. Number potentially involved—163,243. Defect: Certain passenger

and sport utility vehicles equipped with automatic transmissions were produced with an improperly manufactured transmission parking rod. When the transmission selector is placed in the “P” (Park) position, the transmission park mechanism—which is intended to hold the vehicle—may not engage. The vehicle could then move or roll forward without warning, increasing the risk of a crash. **NHTSA Recall No. 02V282.**

2001-2002 Toyota Echo. Number potentially involved—59,394. Defect: If these vehicles are driven in start and stop fashion during low temperatures and in deep snow, snow may accumulate in large quantities inside the rear wheel and freeze. As the wheel turns, the snow may contact the rear brake line. If this were to occur for long enough, the rear brake line could be damaged and brake fluid could leak, reducing the vehicle’s braking effectiveness. **NHTSA Recall No. 02V268.**

2000 Harley-Davidson FLTRSEI, Screamin’ Eagle. Number potentially involved—782. Defect: On certain motorcycles the braided clutch cable could contact the rear brake line and abrade it over time, causing a loss of brake fluid. This could cause the rear brake to fail, possibly without warning, and cause a crash. **NHTSA Recall No. 02V272, Harley-Davidson Recall No. 0106.**

Owners who do not receive a free remedy for these recall defects within a reasonable time should contact the following numbers: Subaru, 1-800-782-2783; Daimler/Chrysler, 1-800-853-1403; Ford, 1-866-436-7332; Saturn, 1-800-553-6000, prompt 6; Hummer, 1-866-486-6376; Harley-Davidson, 1-414-342-4680; Toyota, 1-800-331-4331. 🚗



LEARN AND LIVE

“Well, it’s happened again,” I said to myself as I pulled up my e-mail. Here is another story about a motorcyclist who chose a spectacular way to exit this world.

It's the same old story. First sunny day in a month, no safety gear and excessive speed—all these came together in a spectacular way. The rider was moving quickly down a congested two-lane road, passing cars and semis with verve and panache, when he pulled into the oncoming lane to find—gasp!—oncoming traffic. According to the reports, the car he was passing moved to the right to allow him back into the lane. However, it seems he froze, hitting an oncoming pickup so hard that he lost his left arm and leg and tore off the pickup's left front wheel. Whether he died on impact or very shortly thereafter isn't known.

As a Motorcycle Safety Foundation (MSF) coach and webmaster of the SouthWestRider.com Web site, I see a lot of this kind of thing. All too often it is our own fault as motorcyclists that we are seen as foolhardy road menaces. Motorcycles don't kill—they are complex machines made of metal and plastic. They are inert and benign without a rider. So what is it that makes motorcycling dangerous?

The answer is two-sided. On one side, it's automobile drivers who pull out in front of us, cut us off in traffic, or turn right in front of us. These drivers make motorcycling a defensive activity, any rider will tell you so. Cars are bigger than us and outnumber us on the road. So, we must be smart, very aware, and use all of our skills to see accidents "coming" and avoid them. When we don't do that, we become the other side of the problem.

Motorcycle safety training will do you no good if you don't practice the skills you've learned so that they're instinctive when you need them. The rider at the start of this story was MSF-trained—but he failed to use his training. He not only rode beyond the limits of the road and his skill, he also became target fixated—never swerving or using his brakes.

When I teach the MSF course I use an example of a rider who, when an oncoming car turns into his path, slams on his brakes and skids almost 30 feet into the car's side. Whose fault is this accident? Legally, it's the driver of the car. However, try telling that to the rider's widow—it'll make her feel so much better. Legal right-of-way means nothing if you're in

a cast or a casket. A rider's body *hurts*, a car's body *dents*.

All in all, I'd rather skip the legalities and remember how to brake effectively.

Motorcycle accident data shows that a rider's inability to stop or swerve often contributes significantly to an accident. Also riders often "see" an accident about to happen but do nothing to avoid it. When this happens, they're a large part of making that accident a reality. The MSF basic rider course stresses a five-step process referred to as "SIPDE" to keep this from happening. We're taught to **SCAN** for hazards, **IDENTIFY** them, **PREDICT** what they may do,

then **DECIDE** and **EXECUTE** a safe plan of action.

I often tell my students that we are much more maneuverable than everything else on the road. We *can* get out of our own way.

The bottom line is that while I can give you the MSF training needed to avoid an accident, you have to remember it,

practice it, and most of all, use it.

Riders:

- Have you been professionally trained in a certified course? If not, your chances of being in an accident resulting in injuries are NINE times that of trained riders.
- Did you take the basic course only? There are advanced courses available in every state and most provinces as well. Reduce your risk as you sharpen your skills. IN the military, the MSF Experienced Rider Course is free and usually held on a monthly basis. What do you have to lose?
- Do you *remember* all the techniques you learned in the rider course you did take? If so,



do you practice them regularly? The MSF and several other motorcycle safety organizations recommend a refresher every two years for all motorcyclists. Everybody develops bad habits over time. Maybe it is time to have those habits trained out of you.

ARE YOU READY FOR THE ROAD?

During the early 1970s I rode a Harley Davidson Sprint, a motorcycle that vibrated like a weight-loss machine and was considered one of the most breakdown-prone motorcycles ever built. I learned about that the hard way shortly after I bought it. I was cruising down a freeway in Los Angeles when the carburetor vibrated completely off the engine. The engine quit and I could smell gas. I looked down and, to my horror, the carburetor was hanging by the fuel line and dumping gas all over the cylinder head. All it would have taken was one spark to have turned me into a two-wheeled “flaming marshmallow.” After that experience, I paid more attention to preventative maintenance. You might want to do the same thing this spring before you crank-up your bike for the first good ride so that you don’t get any nasty surprises. Here are a few suggestions:

- Inspect your tires for dry rot, damage and proper tread depth. If your tires are in good shape, inflate them to the proper pressure. The colder temperatures of winter will cause your tires to lose air pressure, so don’t take it for granted that they are anywhere near as firm as they should be.
- Inspect your brake system, checking your brake fluid level, pads and discs. ALWAYS service your brakes with the approved brake fluid and according to the manufacturer’s instructions.
- Make sure all of your fuses, lights and horns are in good working order. Replace any burnt-out fuses or lights BEFORE you hit the road.
- Check for leaks (the old Sprint marked every parking spot with at least one or two drops of oil). Also, check your drive belt or chain and tighten anything that might be loose.
- Check the charge on your battery and service your battery if needed. A pair of safety glasses is a good idea when working on a battery.
- Check out your PPE to make sure it is serviceable. In an accident it may save your life—or at least a large chunk of your hide.

NOTE: For more information, check out the November 2002 *Countermeasure* for the Motorcycle Safety Inspection Checklist pullout. Some information for this article was derived from April 2001 *Countermeasure*.

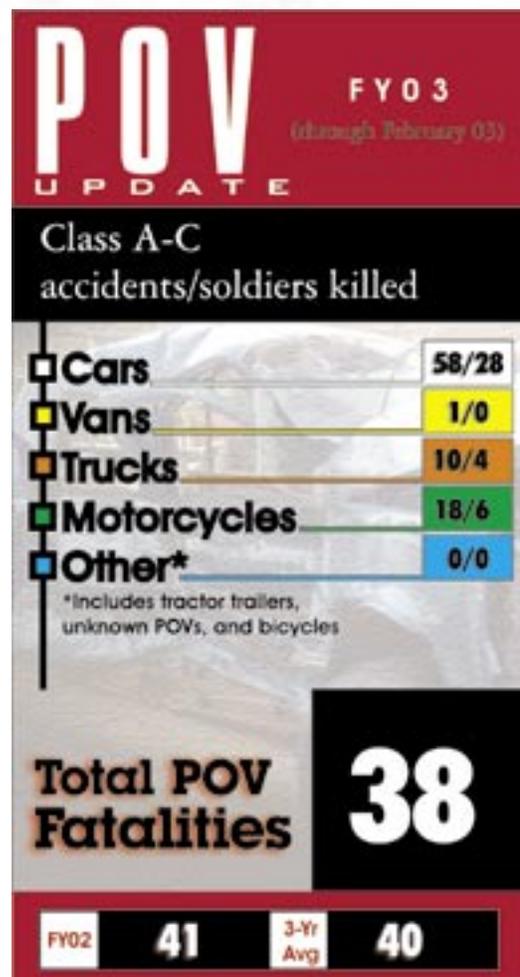
BOB VAN ELSBERG
Managing Editor

It all comes down to whether or not you want to be a motorcycle rider. If you want to be a rider, you owe it to yourself to get all the training available to you and practice it every time you ride. The alternative—not being a rider because you’re severely injured or dead—is no alternative at all.

Note: The author of this article was MSGT Dave Hembroff, 97th Air Mobility Wing MSF Instructor, Altus AFB, Okla.

Editor’s Note: Last September the Army Chief of Staff confirmed his personal commitment to motorcycle safety by stating that commanders must stop allowing soldiers to defer the long-standing DOD and Army requirement for motorcycle safety training. The required course is the Motorcycle Safety Foundation (MSF) or MSF-based, state-approved curriculum taught by certified or licensed instructors. That training is required for all soldiers operating motorcycles on or off post, on or off duty, regardless of whether the motorcycle is registered on post.

Reprinted Courtesy Road & Rec





Personnel Injury

Class A

- A soldier suffered a fatal head injury when a Claymore mine prematurely fired during a unit training exercise. Two other soldiers were also injured.

- A soldier was found dead in his hotel room. He had apparently been choking on some food and struck his head on the sink. He died of asphyxiation.

- A soldier was conducting a night live-fire on a range when he was accidentally shot and killed by another soldier participating in the training.

Class C

- A soldier was sledding down a hill when his sled hit an approximately 2-inch-high ramp-shaped bump. The soldier was thrown off the sled and broke his ankle. The soldier failed to check out the terrain or take proper precautions before he began sledding.

- As a soldier was leaving the dining facility after dinner, she slipped on an icy area of pavement and fell and struck her hip and buttocks. She complained of mild back pain but did not request treatment. She later reported to sick call and was admitted to the hospital for back pain. She was in a hurry at the time of the accident and failed to go around or use proper caution when crossing the icy part of the pavement.

- A soldier was walking out of a land navigation course to get lunch when he slipped on

some ice. As he fell, he hit his ankle on a rock that was sticking out of the ground. The impact broke his ankle. The soldier was overconfident and did not use proper caution while walking in slippery conditions.

- A soldier was returning to his barracks from the shower during the evening. As he got to the intersection of his sidewalk with another sidewalk, he slipped off the edge and fell to the ground. As he fell, he tried to catch himself by putting out his hand, but landed hard enough on his hand that he broke his wrist.



Class B

- A soldier suffered a serious eye injury when he was pinned while ground-guiding an M113 APC and M105 Cargo Trailer. The APC and trailer were being backed into a wash rack and he was behind the vehicles ground-guiding them.

- A gunner in an M2 Bradley Infantry Fighting Vehicle suffered severe eye injuries during a live-fire. A 25mm round failed to fire, then detonated during misfire procedures. The gunner's eyes were struck by fragments from the exploding round.



Class A

- A soldier was killed when his POV was involved in a head-on collision with a tractor-trailer. The driver of the tractor-trailer was not injured.

- A soldier was killed when his car overturned while he was driving to visit his parents.

- A soldier was killed when his car slid off an icy road, struck an embankment and overturned. The soldier was thrown from his vehicle.

- A soldier was killed as he was stopped alongside the road and attempted to change a tire on his vehicle. He was struck by a passing tractor-trailer.

- A soldier who was a passenger in a vehicle was killed when the car was involved in an accident and overturned twice. The soldier was thrown out of the car. The driver was not injured.

- A soldier was killed when he was making a left turn and his car was struck by another vehicle.

- A soldier was killed when his car was struck head-on by a minivan. The driver of the minivan was not injured.



Class A

- A soldier was killed when his HMMWV overturned on an unimproved road. The soldier was thrown from the turret and pinned beneath the vehicle.

...any moment. Such unsafe structures should be
...down and rebuilt properly; otherwise, a position
...igned to protect could well present an
...throughout history, the Army's
...ize key terrain
...antrymen, as
...mbat
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...occupants before they
...Do not be intimidated
...construction standards
...ng. It is not

Do you have a

GOOD NEWS

story to share?



**RISK
MANAGEMENT
AHEAD**



Did you use a helmet, seatbelts, or good Risk Management to save your life, the life of a friend, or prevent an accident? If so, why not share what you did right with your fellow soldiers. Your positive story is not just an example; it can be an incentive to help others make right choices.

We are easy to reach. You can send us your article via e-mail at countermeasure@safetycenter.army.mil. or you can fax it to 334-255-3003 or DSN 558-3003.





ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 5

<http://safety.army.mil>

MAY 2003

Spotlight on Bradley

CONTENTS

- 3** **DASAF's Corner**
Remembering Heroes and Keeping Future Ones Safe
- 4** **Bradley Safety**
Performance Review
- 8** **The Bradley Fighting Vehicle's Commitment to Safety**
- 11** **FAQs**
- 12** **Doc Talk**
Oh My Aching Dogs!
- 15** **Saved by the Belt**
- 16** **I Almost Made It Home!**
- 18** **News & Notes**
- 19** **Accident Briefs**
- 20** **Rollover! Crew Drill**

features



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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Eisberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil>.



Remembering Heroes and Keeping Future Ones Safe

Traditionally, we associate the month of May with the unofficial onset of summer's fast-paced activities. We also designate in May a time to pause and reflect on the enduring legacy of our armed forces: their service and sacrifice. Appropriately on Memorial Day each year, we remember those great Americans who have died in battle to preserve for us a heritage of individual freedom and opportunity.

The courage, patriotism, and personal sacrifice of our fallen heroes have made it possible for freedom to be preserved. And we have each in the course of our own service to this nation seen evidence that freedom can never be taken for granted, nor is it ever easily preserved.

As we reflect with pride and gratitude on those members of our armed services who have made the supreme sacrifice in preserving our liberty, we are also extremely conscious of today's continued uncertain and dangerous world. Preserving that freedom for future generations of Americans requires that each of us who wear the uniform renew our commitment and personal resolve to ensure that we, too, are always ready to heed our Nation's call.

While there is none who could doubt that we are today the greatest Army ever fielded, we must not forget that our readiness can be easily degraded by needless losses that result from accidents. Accidental losses of personnel and equipment can and do take a tremendous toll on our resources and seriously impact our combat readiness.

I urge each of you to be exceptionally vigilant in managing risks on and off duty as we head into the summer months. Traditionally, the summer season is characterized by a surge in accidents and injuries—especially heat, traffic, and water-related injuries. So let's use extra caution and exhibit responsible behavior in all that we do.

Not just on one special day in May, but often, we owe it to our fallen comrades to pause and appreciate their tremendous sacrifices. And we owe it to our families, our units, and our friends to slow down the off-duty activities we may jump into now that the harsh winter months are over. We should carefully identify the hazards and put controls in place that will prevent injuries. The consequences of failing to do so can be tragic.

Our Army needs each of us—America's current and future heroes—healthy and whole to help execute our Nation's mission of preserving freedom for our future generations. 🇺🇸

Train Hard, Be Safe!
BG James E. Simmons

The Bradley Fighting Vehicle (BFV) is an important part of the Army's tracked vehicle fleet. It is used for a variety of missions and is valuable to our combat readiness. Accidents involving the BFV not only result in personnel loss, injury, and equipment damage, they also threaten our ability to accomplish our mission. Because of that, it is important to learn how to *avoid* having these types of accidents. We can learn from our previous accidents and the circumstances surrounding them and use that knowledge in the future to avoid repeating these accidents.

From Fiscal Year 1998 to 10 March 2003,* there have been 64 Class A through C Army Combat Vehicle accidents involving M2 and M3 BFVs. These accidents have resulted in 5 Army military fatalities and 54 non-fatal (at least 1 workday lost) injuries, costing the Army \$5.9 million. As can be seen by Figure 1, most of these were Class C accidents. It's important to examine these accidents, as well as the more severe ones, to learn lessons for the future because even Class C accidents hurt our readiness by injuring personnel and damaging equipment.

Most of these accidents occurred during the day (67 percent).

The remainder occurred at night, and the majority of these involved soldiers using night vision devices (NVDs). Bradley Fighting Vehicle accidents occurred most often in off-road terrain (64 percent); however, 11 percent occurred on improved roads and 17 percent on tank or vehicle trails. Twenty percent occurred at combat training centers as crews participated in tactical training or during rotational exercises. A review of the 64 BFV accidents identified seven major problem areas that accounted for the majority of these accidents. Although some accidents involved more than one of these problems, the discussion of these problems will focus on only one area.

Rough or Uneven Terrain (31 percent)

Rough terrain obviously involves driving over areas with bumps, holes, rises, and drop-offs. Although the BFV is designed to operate in rough terrain, there are certain precautions that must be taken to avoid injuries and property damage. When these precautions are not taken, accidents can result. Most of these accidents fell into the following areas:

BRADLEY

Safety Performance Review

MARY ANN THOMPSON
Operations Research and
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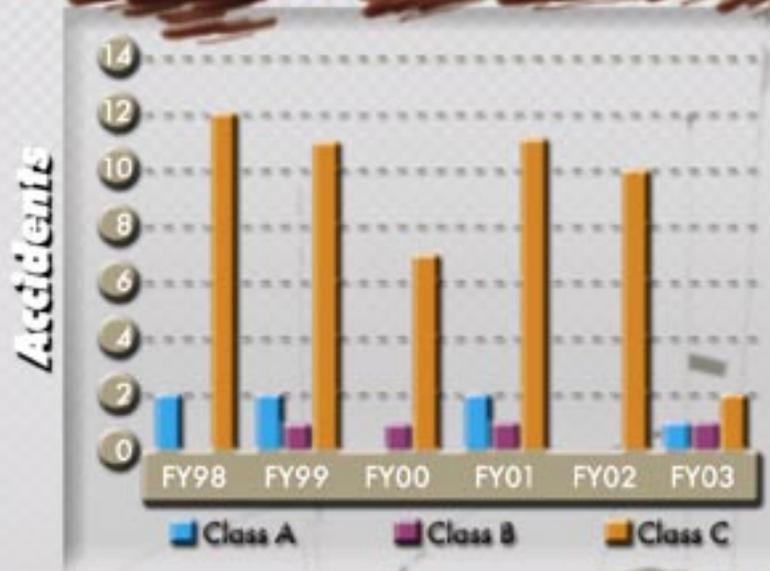
Class A-C Army Combat Vehicle Accidents Involving M2 & M3 Bradley Fighting Vehicles

- Personnel position—personnel not in correct position or not braced for possible terrain hazards. Examples include soldiers in the turret above nametag defilade, not using their seatbelts, or not bracing themselves to avoid striking the vehicle or equipment inside.
- Speed too fast for terrain—operators traveling too fast to detect and safely negotiate uneven terrain.
- Undetectable hazards—hazards that were not visible because of high grass or vegetation. Since vegetation can obscure uneven terrain, it is important that all personnel onboard take precautions and be prepared for the unexpected.

Knowledge of the operating area (map reconnaissance), maintaining safe maneuver speeds, scanning for hazards, proper crew position, and bracing for hazards when operating on uneven terrain are vital to avoiding these types of accidents.

Hatches (14 percent)

Hatch accidents are a problem for all



tracked vehicles, and the BFV is no exception. At times it is necessary to operate the BFV with one or more hatches open. When this happens, it is critical that the hatches are secured properly. If they're not, vehicle movement can, and often does, cause them to spring forward and injure anyone in their path. Eight BFV crew members learned this lesson the hard way. Improperly secured or unsecured hatches resulted in them suffering concussions, fractures, sprains or strains, lacerations, and abrasions. These injuries easily could have been prevented by following proper hatch-securing procedures.

Limited Visibility (14 percent)

Limited visibility increases the risk of accidents for the BFV, just as it does for you when you operate your privately owned vehicle (POV). It is sometimes necessary for the BFV to operate under conditions that limit visibility. Unlike your POV, NVDs are used to help operate the BFV safely in low-light conditions. These devices have limitations and precautions for their safe use and they are aids, not cure-alls. Bradley crews still should avoid using NVDs near exterior light sources, drive more slowly, and constantly use effective crew coordination when operating with NVDs.

Material (14 percent)

Fires were the most frequent material issue involved in these BFV accidents. There were eight BFV fires, with most beginning in the engine compartment. Although the cause is unknown on some of these fires, the most common causes were electrical shorts or sparks, or oil or fuel lines breaking or leaking and causing fluid to come into contact with hot engine components. These fires most often were detected by the crew members, who then successfully evacuated the vehicle.

Clearance-Inside and Outside the Vehicle (9 percent)

The BFV is very large and has a lot of moving parts in very close quarters. This means that it is important to clear the outside around the vehicle before moving. It is also important that you know the location of all

personnel within or near the vehicle before you begin certain vehicle operations:

- **External clearance.** Although the BFV is maneuverable, you need to make sure you have enough room around the vehicle for safe operations. Failing to do that led to two of our BFV accidents.

- **Turret and ramp clearance.** Space is at a premium inside a BFV, and it is not possible for all of the crew members to see each other. Therefore, it is critical that crew members communicate with each other and make sure everyone is clear before conducting certain vehicle operations. For example, turret and ramp operations have resulted in personnel injuries. In one accident, the driver asked for a "clear." When no one answered, the driver raised the back ramp, not realizing there was a passenger sitting on it. In another accident, a soldier was attempting to climb on top of a BFV from the side rather than from in front of the driver's hatch, as directed in the standard operating procedures. He didn't get clearance or communicate with the crew first. The Bradley Commander saw the soldier and directed him to "go to the back." The gunner was not aware of the soldier attempting to mount the vehicle. When he heard the order to "go to the back," the gunner thought the Bradley Commander wanted the turret traversed to the rear. When the gunner traversed the turret, the leg of the soldier who was climbing onto the BFV became wedged behind the driver's hatch.

Weapons Firing (5 percent)

The BFV is not just a troop transport vehicle, it is also equipped with a 25 mm cannon, a 7.62 mm coaxial machine gun; and Tube Launched, Optically Tracked, Wire Guided (TOW) or Stinger missiles. Several accidents occurred during the firing of the BFV's weapons systems. In one accident a round failed to fire and then detonated during misfire procedures. Two accidents resulted from firing at the wrong targets. These accidents were caused by the use of improper fire commands

Risk management success story

(deviating from standard crew fire commands) or firing outside of range limits.

Ground Guiding (5 percent)

Ground guiding is important for safely operating the BFV in confined or congested areas, just as it is for other large vehicles. When ground guiding is not performed to standard (no ground guide while backing, misjudging clearance while backing, or positioning the ground guide between two vehicles) it can lead to accidents and injuries.

Conclusion

Several common threads were evident in these BFV accidents:

- **Crew coordination.** Crewmembers must continually communicate and coordinate their actions. Failing to do that, or doing it poorly, contributed to a number of these BFV accidents. This problem is especially evident in turret operations and when crews operate in limited visibility. Everyone needs to know what the other crew members are doing and, if the vehicle is about to roll over, ensure everyone is warned in time to act appropriately.
- **Leadership.** Leaders must know, set, and enforce the standards. If the Bradley Commander or leader doesn't follow the standard or allows others to deviate from it, they have potentially set up their people and their vehicle for the next accident.
- **Rollovers.** Twelve of the BFV accidents involved vehicle rollovers. The best way to prevent a rollover is to avoid getting into a situation that might cause one. If a vehicle does begin to roll over, all crew members need to know the proper procedures to

The following accident demonstrates that using risk management before and during an operation can save you and your crew from injury.

The Bradley was bounding from one position to another during a night movement. Both the driver and Bradley Commander were wearing NVDs. The vehicle slid into a deep culvert that was not visible due to high grass. The vehicle rolled onto its left side, damaging its TOW launcher. There were no injuries because the vehicle speed was only 5 to 10 kph—which provided warning time, and the platoon had practiced rollover drills.

allow them to avoid or minimize their injuries. Bradley crews that execute proper rollover procedures can *walk* away from an accident instead of being *carried* away.

These accidents demonstrate the importance of integrating risk management into the planning and execution of each mission. They also point out the importance of crew coordination, performance to standard, and leadership during the mission to prevent needless losses of personnel and equipment. Soldiers and leaders are responsible for knowing their vehicle's characteristics, limitations, and safety procedures. They also are responsible for effectively communicating with their crew, especially when hazards are encountered.

Data received at the U.S. Army Safety Center (USASC) as of 10 March 2003. Additional accidents could have occurred during this time frame but were not received by USASC as of the indicated date. 🚛

For more information on this topic, contact the author at DSN 558-3842 (334-255-3842) or by e-mail at maryann.thompson@safetycenter.army.mil

THE

BRADLEY FIGHTING VEHICLE COMMITMENT TO SAFETY

The Bradley Fighting Vehicle (BFV) was designed to provide the safest possible environment during training as well as wartime. The mechanisms that provide this safety, as outlined below, only work if they are used in the way they were intended. So use them and use them correctly. Don't allow yourself or your soldiers to be listed as a statistic in the Army's accident database.

Seatbelts

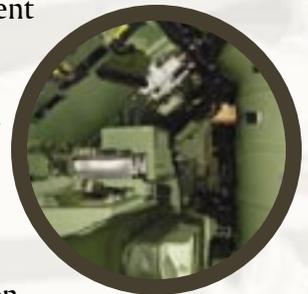
Thomas Flyer used one of the first seatbelts during a 1907 auto race to help keep his mechanic inside the car. It was proven back then that "riding in" is better than being "thrown from." The same is true of the BFV, which is why seatbelts are provided for every seat. Even so, they are one of the most misused safety items. Often, seatbelts will be rolled up and taped to present a neat appearance and keep the web straps off of the floor to minimize clutter. Seatbelts are designed to prevent soldiers from being thrown from the vehicle. In addition, seatbelts also protect soldiers from being thrown around



violently inside the vehicle during unstable or abrupt vehicle movement.

Crew Member Passageway

The interior path adjacent to the turret and roadside walls is referred to as the crew member passageway. Crew members often use this area to stow personal equipment so it will be readily available when needed and dry when training in wet environments. What is sometimes overlooked is that this passageway provides an alternate route for exiting or entering the vehicle during emergencies if the most likely exit door or hatch is obstructed. Rather than blocking that passageway, waterproof your equipment so it can be stowed outside the vehicle. When tailoring your unit's load plan, keep the passageway free and clear of any obstructions.



Interior Lighting

The interior lighting system is designed to automatically turn off when the ramp is lowered or the troop ramp access door is opened. This is important because even small amounts of

VEHICLE'S SAFETY

TERRY SMART
System Safety Program Analyst
Office of the Project Manager



white light can be seen at great distances. The interior dome lights provide blackout lighting as well as normal white light. The dome light activator switch is located on the vehicle's rear wall next to the troop door handle when the ramp is in its closed position.



This rocker-type switch turns off the interior lighting so as not to compromise your location during hours of darkness. This switch is, at times, taped down so the interior lighting will remain on while the troop door or vehicle ramp is opened. This will, however, hurt your ability to maintain light discipline during hours of limited visibility or

darkness. Remove all tape, bands, or other holding devices from this switch and let it work as designed.

Combat Override System

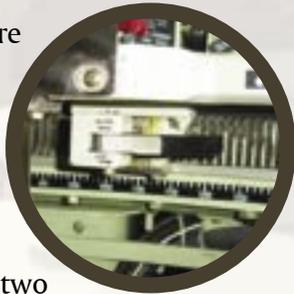
The combat override system defeats the safety interlocks designed to provide safe zones for the crewmembers on the vehicle. When the override is in the OFF position, it prevents the BFV's weapons systems from being fired when the hatches are opened to selected positions. This is accomplished by vehicle electronics that declare predetermined turret locations as "no-fire zones." The turret door also has an interlock switch to



shut down the turret drive system when the door is opened. The combat override defeats this and should be used in combat only if one or more of the safety interlocks malfunction. The override switch cover is also safety wired to prevent any unintentional activation. In addition, there are warning lights mounted on the turret step that can be seen from the crew compartment. These lights will illuminate when the turret drive is in the ON position and will flash when the combat override system has been activated. If these lights are flashing, make sure the vehicle commander and all crewmembers know this system has been activated.

Turret Travel Lock

The turret has a safety feature that allows it to be locked in place during maintenance and vehicle transport, or while soldiers are entering or exiting through the turret doorway. This manually operated mechanism works by two sets of gear teeth interlocking together to serve as a positive stop. If the teeth aren't properly aligned, they will not fully engage in the locked position. If that should occur, slightly moving the turret should allow proper alignment. If you can't get the proper alignment, notify unit maintenance because the travel lock mechanism may need to be adjusted. Also, make sure that the turret travel lock is set to the LOCK position before entering or exiting through the turret doorway.



Vehicle Hatches

There are many documented cases of people being injured because they were hit by an unsecured vehicle hatch. This can lead to temporary or even permanent arm, leg, finger, or head injuries. Do yourself and your crew members a favor and take time to install the quick-release safety pins in the commander's and gunner's hatches. The driver's hatch has a locking latch built into the handle, unless you're operating one of the original, basic BFV versions. If that is the case, you may have to install a separate locking pin.



Fire Suppression Systems

The BFV also has its own fire suppression

system that is designed to detect and extinguish flash fires. The fire suppression system releases Halon to quickly put out fires in the squad area. A two-position toggle switch located on the driver's instrument panel can be selected to either the AUTO or MANUAL mode. In the AUTO mode, sensors located throughout the squad area detect any fires and automatically discharge the fire bottles. In the MANUAL mode, Halon can be discharged by either of two handles. One handle is located outside the vehicle on the right-rear quarter panel. The other handle is located inside the vehicle on the rear-right bulkhead near the ramp. The engine compartment fire bottle is located under the driver's instrument panel. It is actuated manually by a handle located outside and near the driver's hatch or by a knob under the driver's instrument panel.



Many of you have heard that exposure to Halon or FM200 can be detrimental to crew members. Those stories are exaggerated. There may be some temporary irritation or even dizziness, but those effects are nothing compared to being burned by fire. If you have a vehicle fire, follow all procedures when extinguishing the fire and remain calm. Evacuate the vehicle immediately and account for all personnel.

In Conclusion

The safety features discussed in this article are only a few of what are offered on the BFV. All crew members are encouraged to read and understand the warnings and cautions in the operator's manuals and to familiarize themselves with crew drills and emergency procedures. Soldiers should not become complacent during their daily duties and not be aware of the potential dangers. Paying close attention to detail during every task is vital to successful and safe operations. 🐾

For more information on this topic, contact the author at DSN 786-7849 (586-574-7849) or by e-mail at smart@tacom.army.mil

Editor's Note: Mr. Smart has 20 years of experience with the BFV and has served in each crew position from driver to vehicle commander. He retired from the Army in 2000 and currently works for Technology Ventures Incorporated as a contract employee supporting PM Bradley.

Q&A

Q. Is there any Army or DoD guidance on the use of wireless phones (cellular phones) when operating motor vehicles on military installations or operating government owned or leased vehicles off military installations?

A. While the Army has no specific guidance on the use of these devices, DODI 6055.4, paragraph 6.7, recommends that you stop the vehicle before you use a cellular phone. However, at present it does not make it mandatory unless the state or nation in which the installation is located or in which the vehicle is operated prohibits the use of cellular phones (see DODI 6055.4 paragraph E3.5.1). There is, however, General Services Administration (GSA) guidance (see below), and several states and nations are considering legislation to ban the use of wireless phones while driving. The following “GSA to Feds: Don’t Talk and Drive” was published in the June 2002 issue of *Countermeasure*.

“The General Services Administration told federal agencies to urge their employees not to talk on hand held wireless phones while driving vehicles owned or leased by the federal government. While GSA did not ban talking on hand held cellular phones while driving altogether, it recommended

that agencies discourage the use of cellular phones by drivers of federal vehicles. As one solution, GSA recommended that agencies provide a hands-free car kit with government-owned wireless phones and educate employees on how to drive safely while using them.”

In a bulletin published in the *Federal Register*, GSA said, “It is appropriate that the federal government assume a leadership role in promoting the safe use of wireless telephones by its employees when they are engaged in official government business.”

Legislation pending in 27 states would ban hand held wireless phones while driving. New York State already has approved such a ban. In general, federal employees are not exempt from state and local laws dealing with motor vehicles, and agencies should be aware of the potential for increased liability from accidents caused by the use of wireless hand held phones, according to GSA. The National Highway Traffic Safety Administration (NHTSA) has several studies underway of driver distractions such as cellular phone use. GSA plans to keep agencies informed on the findings and any changes in federal policy on cellular phone use, the bulletin said.

Q. Are there any Army directives or policies that prohibit the placement of speed bumps on Army installations? From

an emergency response perspective, wouldn't placing speed bumps in the roadway increase the response times of fire and other emergency vehicles responding to incidents or accidents?

A. Army Regulation 420-72, *Transportation Infrastructure and Dams*, 1 June 2000, paragraph 2-17b, *Safety Hazards*, states: “Hazardous features such as transverse ridges, speed bumps, or dips on pavement surfaces will not be installed or maintained as a means of controlling or reducing the speed of traffic.”

Q. What is the Army safety guidance document on lifting devices such as cranes, etc?

A. Technical Bulletin 43-0142, *Safety Inspection and Testing of Lifting Devices*, 28 February 1997, provides safety information on lifting devices such as cranes, hoists, slings, forklift trucks, jacks and stands. You can download a copy in PDF format from the U.S. Army Safety Center website <http://safety.army.mil>. Click on “Guidance,” then “Safety,” then “U.S. Army Regulations and Guidance,” and then click on “TB 43-0142.”

POC: Truman Taylor, Policy and Programs Division, U.S. Army Safety Center, DSN 558-2947, (334-255-2947) or by e-mail at truman.taylor@safetycenter.army.mil

AGONY DOGS!

LTC JOSEPH MCKEON
Command Surgeon
US Army Safety Center

BOB VAN ELSBERG
Managing Editor
Countermeasure

I took off my boots and my feet felt like they were on fire. As I pulled off my socks, I saw a line of bleeding blisters running from my big toe to my ankle on top of both of my feet. I had been trying to break in a new pair of combat boots during the run from our barracks to our training site at Abernathy Park on Fort Bliss, Texas. As I looked at my feet, it was clear my boots were winning this contest. I was having a hard time even walking because I didn't know how to take care of my feet. (The Editor)

You were born with a pair of feet, so what's the big deal, anyway? Well, if you can't walk, you can't soldier. Foot problems that develop early on during a forced march, field problem, or deployment that are not cared for in the early stages can hurt your ability to perform your mission. If you allow your feet to become injured or infected through blisters, ingrown toenails, or poor personal hygiene, you've become combat ineffective. You see, it doesn't necessarily take the enemy to take you out of the fight.

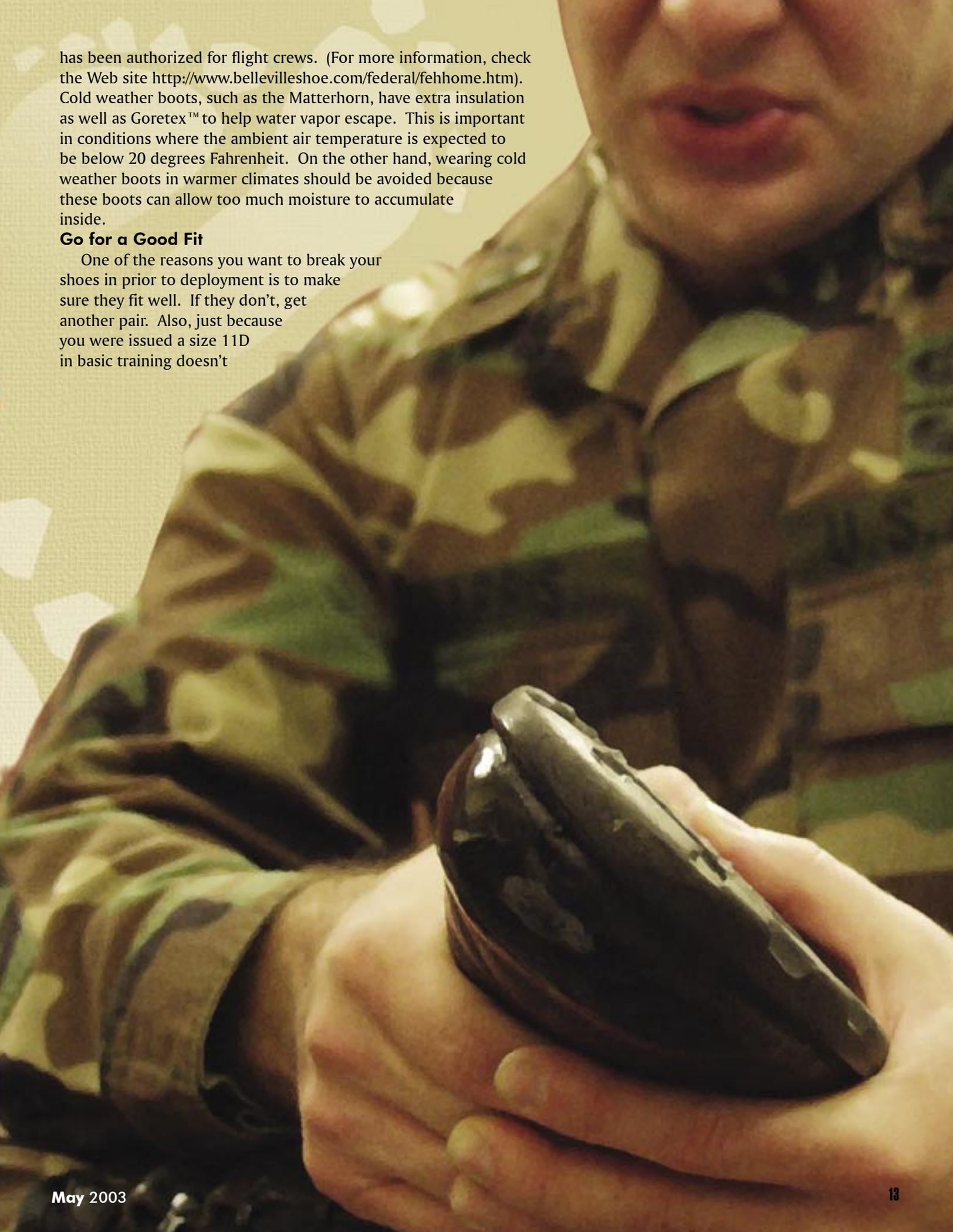
Through the years, I have learned some important tips on foot care from folks wearing "Brand X" (crossed rifles) on their shoulders. Since not all of us will get the experience of a rotation with the "light" infantry at a combat training center, let me share some of those tips with you.

Your Basic Transportation

Two of the most important pieces of equipment

you own are your "leather personnel carriers." It is critical before you go on a deployment that you have a pair of properly broken-in boots. You need to break them in gradually so they don't chafe your feet and cause blisters. Most experienced ground-pounders recommend walking at least 100 miles in a pair of new boots before going on an extended hike.

You also must ensure your boots are the proper ones for the conditions in which you will be operating. The boots you were issued are some of the best available for the money and are suitable for most uses. Nylon-walled jungle boots are good all-purpose footgear—they're excellent in hot climates and wet weather. Desert boots also are available and have special modifications to help keep sand out and enable the soles to provide better insulation against heat. Aviation personnel should remember that they are not authorized to wear the issue desert boots while conducting flight duties. Instead, they should wear the Belleville 790 desert boot, which



has been authorized for flight crews. (For more information, check the Web site <http://www.bellevilleshoe.com/federal/fehhome.htm>). Cold weather boots, such as the Matterhorn, have extra insulation as well as Goretex™ to help water vapor escape. This is important in conditions where the ambient air temperature is expected to be below 20 degrees Fahrenheit. On the other hand, wearing cold weather boots in warmer climates should be avoided because these boots can allow too much moisture to accumulate inside.

Go for a Good Fit

One of the reasons you want to break your shoes in prior to deployment is to make sure they fit well. If they don't, get another pair. Also, just because you were issued a size 11D in basic training doesn't

mean it will always be the right fit. Manufacturers change, as do sources of manufacture. And, believe it or not, your shoe size actually increases as you get older. Your feet tend to spread as the arch flattens and you lose the fatty pads that cushion your soles. Along with that, changes in tendons, bones, and muscles decrease the elasticity and resilience of your feet, and gaining weight adds stress. Don't ignore the issue of your boot size—get it right! Your boots should fit securely around the ankle and instep without pinching, rubbing, or cutting off circulation.

One way to test the fit of your boots is to walk down an incline. Your feet should not slide forward, nor should your toenails rub against the inside of the boot. If your foot slides forward, the boot could be too wide. If the back of your heel moves around, your boots could be the wrong size or might not be laced tightly enough.

Another useful test is to leave the boot unlaced and slide your foot as far forward as possible inside the boot. You should be able to slide a pencil or pen down the back of the boot all the way to the bottom without being able to move it back and forth behind your heel. Wear the same socks you wear in the field when you try on a pair of boots. It's also a good idea to try on the boots later in the day, as gravity can make your feet swell by the afternoon.

“Sock” It to Your Feet

If you're like me, you've probably got socks that don't even vaguely resemble their original color and could have holes in the soles or heels. Believe me; they're not appropriate for field use. Socks are a critical item of clothing because they cushion and insulate your feet, reduce friction between your feet and boots, and move moisture away from your skin. Socks should be made of wool, not cotton, as the latter will absorb and retain water. The 100-percent cotton T-shirt you wear when you're playing basketball will allow your sweat to eventually evaporate as it is exposed to the air. However, cotton socks inside a boot greedily hold the 8 ounces of sweat that can be generated by each foot during a day's march. That's a cup of sweat in each boot! No wonder your legs feel so tired at the end of a forced march. Wool will wick moisture away from your feet and help keep them dry. While wearing an extra pair of woolen socks can squeeze the feet and decrease airflow and circulation, a thin inner sock made from polypropylene also can help wick water away from your feet. However, anyone exposed to fire hazards—such as aviation personnel and fuel handlers—should avoid wearing polypropylene next to their skin as a flash fire could melt the synthetic material and cause serious injuries.

It's not enough just to have the right kind of socks—

you need to have plenty of them, too. You should change your socks at least twice a day in the field, more frequently if they get wet. This holds true in the winter as well. Cold injuries affecting the feet invariably are related to poor foot hygiene and dirty socks. Leaders must ensure that soldiers change their socks during cold weather.

A Little Basic Foot Care

Calluses and blisters are protective mechanisms and warn us that we're not wearing properly fitted footwear. Daily foot washing is the goal, but that's not always possible. When you can't wash your feet, rub them daily to remove dead skin and as much bacteria and debris as possible. Take special care to clean and dry between the toes. Trim your toenails to avoid pressure and bruising from constantly being pushed against the front of the boot or shoe. Cut the nails off bluntly with clippers or scissors. Avoid the urge to pick your toenails, as this often leads to an ingrown toenail. Blisters can be prevented by covering vulnerable areas with an adhesive bandage or “mole skin.” Foot powder also works well to lessen friction. Apply foot powder liberally when doing those twice-per-day sock changes. Avoid cornstarch because it feeds fungus. Some authors even have recommended using duct tape as a field expedient measure. Massaging with petroleum jelly also can lessen friction.

Don't Break That Blister!

If blisters appear, DON'T break them—they are the one remaining barrier to protect the vulnerable underlying tissue from the environment. If a blister does break, try to keep the skin attached by using a Band-Aid™ or tape to secure it. Check the wound frequently for increased redness, swelling, or temperature, and seek medical care if it seems to be getting worse.

In Summary

Caring for your feet is one of the most important “operator-level” health checks you can perform. Take care of your feet and they will take care of you. Invest in your health and take care of your body. After all, where else are you going to live? 

Do you have a medical question that you'd like to pose to Dr. McKeon and see the answer in the pages of this magazine? If so, send an e-mail to countermeasure@safetycenter.army.mil and put the words “Doc Talk” in the subject line. The answer to your question could not only help you, it could also help a lot of your fellow soldiers, so don't be afraid to ask. If you'd like to have your question published anonymously, just let us know when you send your e-mail.

Saved by the Belt

BOB VAN ELSBERG

Managing Editor



It was a winter exercise and Headquarters 8th Infantry Division had deployed to the little town of Kusel, Germany. I was assigned to do a story for the *Credentials* newspaper on the highway accidents occurring during the exercise. I'd seen a map dotted with little colored pins marking the vehicle accidents that had occurred. Several densely packed clusters suggested where the trouble spots were. I was sure I could find someone with firsthand experience at one of those locations.

After a long day visiting the likely accident spots, I headed back empty-handed to Kusel. Concerned about not having gotten my story, I wondered how I would complete my assignment. Little did I know the answer would come more quickly than I expected.

To get back to Kusel I had to drive through the village of Bad Kusel. There was a tricky intersection at one end of the town where a large building blocked the view of drivers approaching on the cross street. I wasn't worried—I had right-of-way. If anyone was behind the building, I was sure they'd check for traffic before venturing into the intersection.

I was WRONG! A green blur flashed into the intersection in front of me from behind the building. Before I could hit the brakes, I felt a sharp jolt and heard the sound of metal thudding against metal as my rented Volkswagen van slammed into the right side of a jeep. Someone inside the jeep screamed. Locked together like a "T," my Volkswagen shoved the jeep sideways across the intersection and tipped it onto the driver's side wheels. I thought it was about to roll over when it broke loose and coasted to a

stop a few feet to my right.

After I calmed down, I got out and checked the soldiers in the jeep. Although they were shaken, no one was injured. They'd all worn their seatbelts—a decision that kept them from being thrown out of the jeep or tossed around inside of it.

After the military police responded to the accident I got back into the van, which was still drivable. I realized how close my face was to the windshield and that my seatbelt and shoulder strap had probably saved me from a serious head injury.

I drove back to Kusel and thought about what had happened. I'd gotten my story after all—the hard way. What really mattered, however, was that everyone walked away safe and alive from this accident. Whether it was me in my Volkswagen or the soldiers in their tactical vehicle, seatbelts had made the difference. 

Editor's Note: Although this accident occurred 20 years ago and the jeep is no longer in the Army inventory, the value of seatbelts continues in today's tactical vehicles, such as the HMMWV. What about you? Do you have a personal experience story where a seatbelt saved your life or protected you from serious injuries? If so, why not share that story with your fellow soldiers through this magazine? There are three ways you can do that. You can e-mail your story to countermeasure@safetycenter.army.mil, or fax it to us at (334) 255-3003. You can also send a letter to: U.S. Army Safety Center, Attn: Countermeasure, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363.

I Almost Made It Home!

JOSEPH NOVACK
CP-12 Intern
U.S. Army Safety Center

I was attending a military professional development course at Fort Bliss, Texas, and my wife, son, and daughter were more than 700 miles away. I missed them so much. Every time I called home my little boy and girl would ask me, “When are you coming home, Daddy?”

After several months, the course was drawing to an end. I called home the evening before graduation and my children asked me again, “When are you coming home, Daddy?” When I assured them that I was coming home soon I could hear them singing in the background, “Daddy’s coming home ... daddy’s coming home!”

I didn’t get much sleep that night. I spent a few hours socializing with my classmates, then spent an hour or so packing my car. I wanted to be ready to depart right after graduation. I had a restless

night because I was thinking about seeing my family again.

I got out of bed at the crack of dawn; however, graduation was not scheduled until the afternoon. That morning was one of the longest I had ever experienced.

Finally, after what seemed like a lifetime, my classmates and I received our graduation certificates. It was a very professional ceremony and we were all proud of our accomplishments. But now that it was over, all I wanted to do was see Fort Bliss in my rearview mirror.

I was already tired and there were only a few hours of daylight left, so I planned to drive until dark and then check into a motel. Even so, every time I passed an exit I convinced myself that I could make it to the next town. After I had passed several

towns, I finally realized that it was 2 a.m. My eyelids felt like they had little weights attached to them, and I knew that I would have to stop soon. Despite my obvious fatigue, I convinced myself that checking into a motel to sleep for only a few hours would be a waste of money. Besides, I had driven 700 miles before without stopping, so it was no big deal. With my state of mind, I probably could have talked myself into anything.

I opened the window a little more, turned up the radio, took another caffeine pill, and kept going. This seemed to be working quite well, at least for a while. When I caught myself nodding off a few times, I pulled into a roadside rest stop. After spending a half-hour or so trying to get comfortable in the backseat, I gave up. At least my eyes had been closed for 30 minutes—I figured that had to count for something.

As I started driving, I again could hear the voices of my children saying, “Daddy’s coming home!” I was only a few hours away now, and the sky was getting brighter. The closer I got to home, the more alert I felt. I guess my adrenaline was flowing. I kept thinking about kissing my wife and hugging my little munchkins.

I finally saw the exit sign to my hometown. I was so proud of myself for driving the whole way without stopping. My wife and kids wouldn’t be expecting me until late that day, and I couldn’t wait to get home and surprise them. My neck was sore from straining to keep my head up and I could feel a burning sensation in my eyes. My eyelids felt so heavy, but I only had a few more miles to go....

The next few seconds were very confusing. When my eyes closed and I opened them again, I saw that I was no longer on the road. My car had veered to the right, climbed a curb and ripped through a row of hedges. I was in the middle of someone’s lawn, flying forward at a high rate of speed. There was a car parked in the driveway in front of me. I didn’t have time to steer and my foot was glued to the accelerator. The last thing I remember was my hood crumpling like aluminum foil and coming directly toward the windshield—and me!

I don’t know how I survived my accident that night. Weeks later, I trembled when I saw the crumpled ball of metal that had been my car. I thanked God that I was still alive. You see, a little boy and girl had been waiting for their daddy to come home.

I learned a valuable lesson in life that day. Although my intentions were good, I lacked good judgement. I should have considered the risks and the consequences. Did I really take time to think about the hazards facing me that night? Did I think about how serious they were? What if I had been killed or crippled? What would that have done to my wife and children? What if I had killed someone else that evening? What would that have done to someone else’s family?

I had a plan to control those hazards—getting some sleep in a hotel. But did I follow through with my plan? No. The fifth step of risk management is to evaluate your actions to see if you made the right choices. Looking back, it’s pretty clear that I didn’t. I have since promised God, my family and myself to always think through the consequences of my actions. You see, you only have to be wrong once to change the lives of a lot of people. 🚗

If you would like to contact the author of this article, he may be reached via e-mail at joseph.novack@us.army.mil.



Corrections 0.5 Versus 5-Percent Bleach

In the March 2003 issue of *Countermeasure*, “Staying Healthy in the Desert,” an error in one article was detected by medical personnel throughout the Army. In the story “Chemical Agents: Battlefield Foe, Lethal Enemy,” treatment procedures for exposure to the nerve agents tabun, sarin, soman, mustard, VX, and blister agent cite washing the skin and clothing with a 5-percent liquid household bleach solution. The correct percentage is 0.5 percent, as bleach at a 5-percent concentration (liquid bleach straight from the bottle) is toxic and could cause serious harm to the skin. Updated doctrine recommends the following three options for treatment of skin exposed to nerve and chemical agents, beginning with the most preferred method: (1) washing the affected area with copious amounts of soap and water; (2) use of the M291 skin decontamination kit (for small areas of skin only); and (3) the 0.5-percent liquid household bleach solution.

For more information on the treatment of nerve and chemical agent exposure, see Field Manual (FM) 8-285, *Treatment of Chemical Casualties*, FM 8-10-7, *Health Service Support in an NBC Environment*, and FM 3-5, *NBC Contamination*. 🐾

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Lined and Unlined M2 Barrel Numbers

In the March 2003 issue of *Countermeasure*, “Is Your M2 Machine Gun Ready for Battle?” we had an error that indicated two part numbers for the lined barrel—6528269 and 7266131. In fact, the part number for the lined barrel is 7266131 and 6528269 for the unlined barrel. 🐾

PLGR Problems Discovered

Currently, there are problems with Army units purchasing commercial off-the-shelf (COTS) items and then “mixing and matching” these items with other Army-issue and COTS equipment. The latest problem

was discovered when the Army and Navy tested some COTS items and found that commercial position locating global reporting systems (PLGR IIs or V-PLGRs), when interfaced with the Viper/Vector Laser Range Finder (LRF), have the potential for fratricide due to software issues.

The potential for an accident occurs when the commercial PLGR II or V-PLGR is used with the Viper/Vector LRF in the “hasty” or “deliberate” mode. In the “hasty” LRF mode, it is possible for an invalid range (i.e., “O” range—the operator’s location) to be stored as the target location without notifying the operator. This invalid range and target data will be stored even when the lens cap is on. Also, if the target is closer than the range gate that the Viper/Vector LRF is set to, then a “O” range will be returned and the operator’s present position will be set as the target data. This problem also will occur if the target is beyond the range of the system. Using these commercial PLGRs in the “deliberate” LRF mode also will allow operators to save a zero range position and, as a result, call in munitions on themselves.

The fundamental problem is that neither the commercial PLGR II nor V-PLGR checks the validity flag sent by the Viper/Vector LRF. Despite the Viper/Vector LRF sending the validity flag, the commercial PLGR II and V-PLGR check the result only when they are in the “targeting” LRF mode. In any other LRF mode, the commercial PLGR II and V-PLGR assume the range is valid and saves the operator’s location as the target location.

While the PLGR II and V-PLGR are not currently being issued by the Army, units could have purchased them commercially and be using them with the Viper/Vector LRF. Only when the commercial PLGR II or V-PLGR is used with the Viper/Vector LRF does this danger exist.

The U.S. Army Communications Electronics Command (CECOM) recently issued a Safety of Use Message (SOU) 2003-002, subject: *Viper Laser Target Locator System*. This message provides guidance for those units that have obtained commercial Viper/Vector LRF systems. The complete message is available on the Army Electronic Product Support Bulletin Board via their Internet Web site at <http://aeps.ria.army.mil>. 🐾

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POV

Class A

■ A soldier was driving a friend's Toyota RAV4 northbound in the left lane of an interstate when the vehicle veered off the roadway into the center median and skidded sideways. The RAV4 then entered the left-hand northbound lane, rolled over onto its top, skidded, and then rolled over onto its left side, where it is believed that the driver was ejected from the vehicle. The vehicle then re-entered the center median, struck the driver, and slid on its right side until finally coming to rest facing east. The driver had been traveling at a high rate of speed and had three passengers in the vehicle. They received minor injuries, but were able to free themselves from the vehicle after it stopped rolling. All three passengers attempted to perform lifesaving measures on the driver, but were unsuccessful.

■ A soldier was killed when his vehicle was struck head-on as he attempted to pass other traffic. Two passengers in the vehicle were injured and had to be hospitalized.

■ A soldier was fatally injured when her vehicle ran off the road and struck a tree. Another soldier riding with her received minor injuries. The passenger was wearing her seatbelt, but the driver wasn't.

■ A soldier was killed when he lost control of his vehicle

while attempting to pass several tractor trailers and struck an oncoming vehicle head-on.

■ A soldier lost control of his vehicle while negotiating a traffic circle and struck a steel beam. The vehicle exploded, fatally injuring the soldier.

Class C

■ A soldier was driving when he came across icy road conditions. He slowed to approximately 45 mph, but farther down the road the vehicle began an uncontrolled slide to the left. The driver unsuccessfully attempted to correct for the slide, but his vehicle struck an embankment and overturned.



Personnel Injury

Class A

■ A member of the Honor Guard was riding his horse as part of morning exercise when he was thrown, resulting in fatal head injuries.

Class B

■ A training instructor fell from a boat as it was turning and contacted the propeller, resulting in a permanent partial disability injury to his leg.

Class C

■ A soldier was attempting to store a utility belt in his gun cabinet when his 9mm Glock pistol slid from the top shelf. As the pistol was falling the soldier attempted to catch it with both hands, but he

touched the Glock's trigger and caused it to fire, sending a bullet through his left hand. The soldier's mistake was leaving a loaded weapon stored in his gun cabinet.

■ A soldier was playing basketball when he tore his anterior cruciate ligament (ACL). He was running on the basketball court and had not made contact with any other players.



AMV

Class A

■ Two passengers were thrown from their vehicle when it overturned while traveling in a convoy. One soldier later died from his injuries, while the other was seriously injured and had to be hospitalized for 17 days.

■ One soldier was killed and another injured when their vehicle departed the road in dust conditions and struck another vehicle.

Class B

■ A soldier was dismounting a HMMWV when he caught his right-hand middle finger on the sling (load) ring, resulting in the finger being amputated at the knuckle.

■ A soldier was attempting to drive an AMV off a trailer when the vehicle moved forward and pinned another soldier against the trailer's gooseneck. The pinned soldier had one leg amputated and could lose the other leg. 

ROLLOVER!

CREW DRILL

WARNING

Extreme caution shall be taken when transporting personnel. Rollover protection and seatbelts are available for the crew area only and are not provided in the troop/cargo area. Failure to use basic safe driving techniques and skills may result in injury or death to personnel and damage to equipment. Vehicle speed must be reduced consistent with weather and road or terrain conditions. Obstacles such as stumps and boulders must be avoided.

TASK STEPS & PERFORMANCE MEASURES

Rollover procedures

The driver—

- Releases the accelerator.
- Keeps his hands on the wheel and braces for an impact.
- Yells, "Rollover."

NOTE: The driver and the vehicle commander should be wearing seatbelts.

- If time permits, shuts down the engine.

The gunner—

- Drops down from the hatch into the vehicle.
- Holds onto a stationary object.
- Yells, "Rollover."

NOTE: If possible, the vehicle commander grabs the gunner's legs to assist him into the vehicle.

After the rollover has been completed

The driver—

- Shuts down the engine.
- Activates the fixed fire extinguisher, if available.
- Disconnects the microphone plug, if available.
- Checks for injuries and seeks medical attention, as needed.
- Exits the vehicle.
- Checks for fuel spills and attempts to contain them, if possible.

The vehicle commander—

- Checks the crew for injuries and seeks medical attention, as needed.
- Disconnects the microphone plug, if available.
- Exits the vehicle with the crew.

- Accounts for personnel and sensitive items.
- Checks for fuel spills and attempts to contain them, if possible.
- Reports to higher headquarters.
- Seeks recovery of assets.

The gunner—

- Clears the weapons.
- Checks the weapons' serviceability.
- Disconnects the microphone plug, if available.
- Exits the vehicle and assists the driver.

Procedure taken from ARTEP-19-100-10-DRILL



U.S. ARMY SAFETY CENTER

ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 6

<http://safety.army.mil>

JUNE 2003



Mid-Year Review

CONTENTS

- 3** **DASAF's Corner**
Keeping Our Guard Up...
- 4** **First-Half FY03 Army**
Ground Accident Review
- 6** **Risk Management:**
A Life-Changing Experience
- 7** **"Bullseye" Program Hits**
the Mark
- 8** **Investigators' Forum**
Just Having a Little Fun
- 10** **Tips for Driving**
in the Desert
- 12** **Run the Clock Forward**
- 14** **Saved by the Belt**
- 15** **A "Sometimes Humbling"**
Experience
- 16** **My Daddy's No**
Rocket Scientist
- 18** **News & Notes**
- 19** **Accident Briefs**
- 20** **Are You Packing**
Enough Water?

features



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



Keeping Our Guard Up...

The majority of the enemy's guns in Iraq are now silent. The scenes from the fall of Saddam Hussein's statue in the center of Baghdad and particularly the dramatic rescues of our brave young men and women once held captive now have been added to the collection of our proudest moments in the history of the United States of America.

Equally as important, the rescues themselves will serve as a comfort to all present and future generations of soldiers and their families. Let no one doubt that for your selfless service and the many sacrifices you make for this great country, this Army, and this Nation, we will not forget you—no one will be left behind—and those who would willfully inflict harm on you will not go unpunished. This is yet another lesson that any present or future enemies of our great Nation should heed.

Staying intensely focused was easy when the mission before us was to liberate the Iraqi people, protect each other, and recover our comrades. Maintaining situational awareness isn't an option when the enemy is firing back or when our fellow soldiers' lives are in peril. A momentary lapse in vigilance could be deadly. But now that the major pockets of resistance have been overcome, the Iraqi people are getting a daily taste of that precious thing called freedom that we, as Americans, have long been willing to defend and even to die for. Sadly, some of our American and coalition soldiers have paid the ultimate price in helping them secure that freedom.

The loss of any life is a tragic event, whether it occurs while engaging the enemy or whether it happens as the result of a moment of carelessness. History shows that we repeatedly lose more soldiers to accidents than to enemy action. We survived the early stages of the war with minimal accidental losses, and I believe that this is a testament to the training of each soldier and commanders' emphasis on properly integrating risk management into mission planning, preparation, and execution.

Historical data also tells us that often the most dangerous portion of any mission is when it is almost over and we are starting to feel the symptoms of get-home-itis. Time and again, the majority of our losses have occurred once the battlefield guns have fallen silent and the flight crews are headed home. That's when the adrenaline slows, our guards drop, hazards are overlooked, and accidents happen.

Your determination, skill, discipline, and execution of each task to the standard you have been trained to have helped us be overwhelmingly victorious in the early main battles—but the dangers have not yet fully passed. I urge you to maintain vigilance, being ever alert for new hazards as situations and conditions change.

It has been said many times before that "He is safe who is **always** on guard." 🇺🇸

Keep your guard up!
BG James E. Simmons



First-Half FY03 Army Ground

Accident Review

The Army has been extremely busy this fiscal year. Troops were mobilized and deployed in a buildup that led to Operation Iraqi Freedom, which began on 19 March 2003. Although the war has been won and the Army is now transitioning to post-hostility activities, information on the in-theater accidents experienced during this time are still filtering in to the U.S. Army Safety Center (USASC). Therefore, this article will concentrate on a review of Class A accidents excluding those in theater. A separate article (in a later issue) will discuss accidents that occurred during Operation Iraqi Freedom and associated lessons learned.

During the first half of FY03 the Army experienced 65 Class A ground accidents, resulting in 59 Army military fatalities and a cost of \$12.8 million. The majority of these accidents (74 percent) and fatalities (81 percent) occurred during off-duty time.

Privately Owned Vehicle (POV) Accidents

POV accidents continue to be the most common cause of accidental death in the Army, with 44 Class A accidents and 44 Army military fatalities during the first half of FY03. The vehicles most frequently involved in these serious accidents were automobiles and sedans (66 percent), trucks (16 percent), and motorcycles (14 percent). The most common reported causes of fatal POV accidents continue to be excessive speed and driving while fatigued. Failure to use required safety equipment, such as seatbelts, also continues to be involved in fatal POV accidents.

Accident Example: Two soldiers went to a nightclub for the evening and consumed alcohol. When they left the club and got in their vehicle, the driver was under the influence of alcohol. Neither soldier wore his seatbelt. Both of them had been awake for about 20 hours. Their vehicle veered off the road and rolled. Both soldiers were ejected from the vehicle. The driver was paralyzed from the waist down, and the passenger received multiple fractures and spent over a month out of work.

Personnel Injury (PI)

PI accidents accounted for 15 percent (10 total) of the ground Class A accidents and 17 percent (10 total) of Army military fatalities during the first half of FY03. Of these 10 accidents and fatalities, half were on duty and half were off duty. Three of the fatalities involved physical training (PT) activities. Two soldiers collapsed while performing PT, and one collapsed during cool-down exercises after a PT run. Two fatalities were the result of drowning, and both of these involved alcohol—one SM fell into a river after leaving a club, and the other SM drowned in a hotel Jacuzzi. Two fatalities involved sports activities: one on duty (SM riding a horse) and one off duty (snowboarding). The snowboarding accident involved an SM that struck a tree, resulting in fatal injuries. The SM riding a horse was a member of the Honor Guard and was thrown from the horse during morning exercise. Two fatalities involved weapons handling (one off duty and one on duty). The off-duty SM was at a friend's residence when he accidentally shot himself. The on-duty SM was participating in training on an M16 rifle range at night. The last PI fatality was the result of choking on food.

Army Motor Vehicle (AMV)

There were five AMV accidents, accounting for 8 percent of the ground Class A accidents but only one fatality (2 percent) during the first half of FY03. Three of these accidents involved commercial vehicles (a rental vehicle, a firefighting truck, and a tractor-trailer). Two accidents involved tactical vehicles—an M35A3 truck and a light medium tactical vehicle (LMTV).

Army Combat Vehicle (ACV)

There were three ACV accidents during the first half of FY03, accounting for 5 percent of the ground Class A accidents and three Army military fatalities (5 percent of total fatalities). Two accidents involved M1A1 tanks, and one involved an M3A2 fighting vehicle.

Explosives and Fire Accidents

There were two explosives accidents and one fire during the first half of FY03, resulting in one Army military fatality. The two explosives accidents involved anti-personnel land mines (one occurred during Operation Enduring Freedom). One involved a Claymore mine during unit training, and the Operation Enduring Freedom accident occurred during a reconnaissance for planned mine clearing. The fire occurred in a warehouse, damaging training equipment.

Conclusion

This year the Army has again lost soldiers and equipment to accidents—accidents that did not need to happen, losses that did not need to occur. Fifty-nine families have lost a loved one, and each of us must do everything in our power to ensure that no other family suffers such a loss. How do we do that? Each leader and soldier must know the standard and perform to that standard. They must take responsibility for their own actions, both on and off duty. 

Editor's note: These statistics are current from the USASC database as of 28 April 2003. Delayed reports and follow-up details on preliminary reports could change the statistics, figures, and findings somewhat in the coming months.

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Risk Management:

A Life-Changing Experience **SMA JACK L. TILLEY**
Sergeant Major of the Army

When Army Chief of Staff General Eric K. Shinseki directed the U.S. Army Safety Center (USASC) to field a Mobile Training Team to take risk management to the NCOs in the field, I knew it would have a positive impact—and it has!

The premise was simple. Take senior NCOs from combat arms and combat support military occupational specialties, provide them with resident safety training, and then send them to the field to do what NCOs do best—coach, mentor, and train the force. And, oh, by the way, provide them 3 hours of upper-level college credit or 3 hours of graduate-level college credit at the same time.

Not only have the NCOs of the USASC provided quality training to the targeted E-5s and E-6s, but as the reputation of the course grew so did the audience. Colonels, first lieutenants, warrant officers of all grades, sergeants major, corporals, and Department of the Army civilians—not to mention U.S. Air Force and U.S. Marine Corps personnel—have attended the course and provided me with

resounding positive feedback. The course provides the knowledge and skills necessary to integrate risk management and safety into our combat mission and our garrison operations. Many of these NCOs are now forward deployed and are using this training to protect the force, accomplishing their mission *safely*. If you haven't attended the course, you are missing out on some outstanding training—training that is constantly updated with lessons learned from USASC teams that deploy to Afghanistan, Turkey, Kuwait, and other locations around the globe where our soldiers train and fight. And it's training that won't cost you a dime—just 45 hours of training and education in a 5-day course. That's right, General Shinseki and USASC foot the bill!

My guidance to you is that if this course hasn't been to your installation recently, contact your G3 and get it on the training calendar. Sign up and attend. Hooah! 🚀



“Bullseye” Program

Hits the Mark

Julie Shelley
Editor

Every commander, from the largest corps to the smallest company, is well aware of the issues their soldiers are faced with on a daily basis. If those concerns were only tactical, perhaps they would be easier to solve; however, soldiers are just as affected by personal problems as their civilian counterparts. Often, these problems affect readiness and have a lasting impact not only on the soldier, but on the unit as well.

How can commanders combat some of these issues? The Soldier Risk Reduction Program (SRRP), already implemented at Fort Riley, KS, could be the answer.

Originally a collaborative product of the Army Center for Substance Abuse and the U.S. Army Safety Center, the SRRP was formally applied at Fort Riley in 1996 with the formation of an “Installation Prevention Team” made up of chaplains, social workers, preventive medicine personnel, community mental health workers, the provost marshal, the installation safety officer, and many others. Since the SRRP’s inception at Fort Riley, significant improvements in safety have been seen in several key areas, including POV safety.

The SRRP, which focuses on the active-duty soldier, is a program that tracks several risk factors, both tactical and non-tactical, on a quarterly basis for each command, with the battalion commander being the primary customer. Instead of a grading program, the SRRP is a training program. At the end of each quarter, the battalion commander receives a report detailing statistics for:

- Deaths
- Accidents
- Injuries
- Sexually transmitted diseases (STDs)
- Suicide gestures and attempts
- Absences without leave (AWOLs)
- Drug offenses
- Alcohol offenses
- Traffic violations
- Crimes against persons and property
- Spouse and child abuse
- Financial problems

Once commanders have the data, they can focus their attention on those factors that most

impact soldier and unit readiness. Although any risk factor will see an increase or decrease each quarter, the data gives the commander a “snapshot in time” of their unit. The data also allows commanders to pinpoint trends in their unit, with a trend being defined as a two-quarter increase or decrease in any particular risk factor. From this and other historical data, commanders can then look two to three quarters ahead and plan strategies to reduce problem incidents.

An increase in a risk factor does not necessarily signal an increase in that particular area at all—it simply could be a matter of increased awareness. For instance, a commander that is aggressive in drug testing will have a higher incidence of drug offenses. At Fort Riley, commanders have been receptive to the program and even taken time to contact subject matter experts in their problem areas. In fact, since the program was formally introduced, downward trends have been established in injuries, traffic violations, spouse and child abuse, and financial and alcohol problems.

The SRRP has been a success especially in reducing POV fatalities and accidents at Fort Riley. Since 1996, Fort Riley has logged nearly 600 POV accident-free days, and up to Valentine’s Day of this year had recorded almost a complete year of no POV fatalities. With so many soldiers dying in POV accidents throughout the Army, the Fort Riley statistics are definitely a good-news story, showing that this forward-thinking approach really can work.

For more information on the Fort Riley SRRP, go to their Web site at <http://www.riley.army.mil/services/fort/asap/srrp.asp>.

Contact the writer at (334) 255-1218, DSN 558-1218, e-mail shelleyj@safetycenter.army.mil

Just Having a Little Fun

The mission was to conduct a mounted patrol to provide security for a logistics camp in the desert. To provide mobility, the light infantry company responsible for the mission received a section from the anti-armor company that included six soldiers and two M966 HMMWV TOW vehicles. The HMMWVs had M249 Squad Automatic Weapons mounted in their turrets.

The two units had never worked together before being attached. The company commander assigned each of his three line platoons an 8-hour shift to provide 24-hour coverage. A driver and HMMWV from the attached section accompanied each platoon on shift. On the day of the accident, the second-shift platoon responsible for camp security reported to the Force Protection Operations Center to receive a briefing from the outgoing platoon and prepare for their patrol. The crew assigned mounted duties assembled, conducted pre-combat checks, and did a joint preventive maintenance checks and services (PMCS) of their vehicle. The crew consisted of the driver, NCOIC, gunner, and two observers in the rear seats.

The crew moved out to begin their patrol as scheduled. They accomplished one full security check of the guard towers, the camp entry control point, and the perimeter. While

checking the perimeter, the crew noted a Bedouin camp that was too close to the berm and returned to camp to report. Nothing out of the ordinary happened during the first few hours of the mission.

Upon returning to check the perimeter again, the gunner noticed some tire tracks in the sand and said, "Someone's been doing doughnuts out here." Although the exact conversation that followed is not known, some of the crew discussed performing the same type of maneuver. The driver told the gunner he was going to do a quick turn and proceeded to accelerate. He then turned the vehicle hard to the right—while still accelerating—and attempted to perform a quick 180-degree turn. The HMMWV was riding on 3 to 4 inches of loose sand with hard-packed sand below. The vehicle, traveling at approximately 40 mph, began to slide and the driver's side tires dug into the sand. Eventually the tires gripped, and the vehicle began to roll. The gunner was ejected as the vehicle rolled and was crushed beneath it.

The bottom line is that this is not a case of a young soldier just doing something stupid. There were a series of failures that allowed this soldier to perform that maneuver. The senior occupant was an NCO. He knew from the conversation that the driver was going

Mission: Force Protection Mounted Roving Patrol

Hazards

- Gunner exposed in turret
- Excessive speed
- Horseplay
- Untrained crew
- Unlicensed driver
- No seatbelts worn

Controls

- Rollover Battle Drill, ARTEP 19-100-10 Drill
- Senior occupant enforces standards for safe vehicle operation – leaders spot check
- Published speed limits for surface conditions
- Enforce dispatch procedures IAW AR 600-55

to perform a dangerous stunt, yet he failed to exercise his authority to do something to stop him. All too often a soldier dies because an NCO failed to enforce a known standard. Also, not one of the vehicle occupants was wearing a seatbelt. Although the injuries to the soldiers in the vehicle were moderate, they could have been reduced had the soldiers been buckled up. Once again, the NCO failed to enforce the standard.

The unit conducting the mounted patrol was a light infantry company, and most of the soldiers had never operated from a HMMWV. Knowing the soldiers were unfamiliar with vehicle operations, the commander should have assessed the mission and identified potential hazards. Unfortunately, since the mission was in the rear area and did not involve contact with the enemy, he didn't consider there to be any additional hazards present. The commander never applied the principles of risk management after receiving the mission from the battalion. By removing himself from the process, he failed to ensure his soldiers were properly trained and disciplined to execute the task.

The M966 "gun truck" is being used more and more as a force protection platform, with an M240B or M249 mounted instead of the TOW weapon system. Even though the gunner was in the proper position at nametag defilade, he still was ejected. Had the crew been trained in rollover drills, the outcome of this accident could have been different. There is no published rollover standard designed specifically for the M966 vehicle. However, the Military Police have developed a battle drill for the up-armored HMMWV that will work just as well for the M966 when a gunner is in the turret. ARTEP 19-100-10 MTP is available in the Reimer Digital Library.

Every unit with gunners exposed in HMMWV turrets should begin training this drill now. It takes only a few minutes to practice and could make all the difference during a rollover.

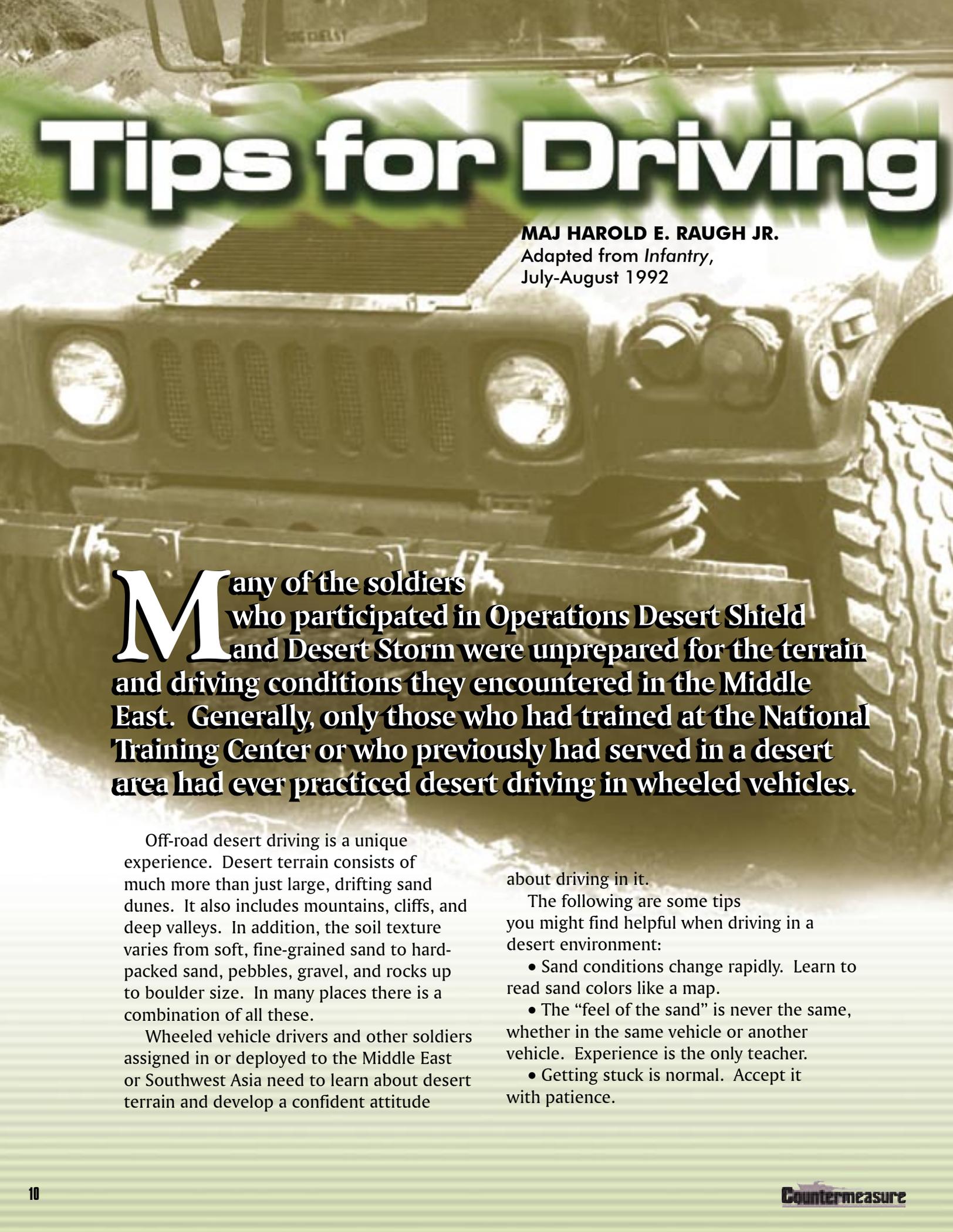
What can be done to prevent young soldiers from doing stupid things? We've all done things that we occasionally look back on and say, "What was I thinking?" Everyone makes mistakes, but for most of us they don't result in someone losing their life. The key to preventing these kinds of accidents is leader involvement, discipline, and strict enforcement of standards. Had the NCO involved in this accident made a simple correction, a soldier would still be with us to continue the fight. It never crossed the driver's mind that his actions could cause such a tragic accident. He was just trying to have a little fun during an otherwise mundane mission.

Commanders must recognize the small deviations, such as not wearing seatbelts, that result in new and looser standards being set. Check the small things and hold your junior leaders accountable. It's rarely as simple as one soldier knowingly violating the rules. Someone's life could hinge on your commitment to standards. 

POC: Ground Systems and Accident Investigation Division, (334) 255-3562, DSN 558-3562



**RESULT
1 Fatality**



Tips for Driving

MAJ HAROLD E. RAUGH JR.

Adapted from *Infantry*,
July-August 1992

Many of the soldiers who participated in Operations Desert Shield and Desert Storm were unprepared for the terrain and driving conditions they encountered in the Middle East. Generally, only those who had trained at the National Training Center or who previously had served in a desert area had ever practiced desert driving in wheeled vehicles.

Off-road desert driving is a unique experience. Desert terrain consists of much more than just large, drifting sand dunes. It also includes mountains, cliffs, and deep valleys. In addition, the soil texture varies from soft, fine-grained sand to hard-packed sand, pebbles, gravel, and rocks up to boulder size. In many places there is a combination of all these.

Wheeled vehicle drivers and other soldiers assigned in or deployed to the Middle East or Southwest Asia need to learn about desert terrain and develop a confident attitude

about driving in it.

The following are some tips you might find helpful when driving in a desert environment:

- Sand conditions change rapidly. Learn to read sand colors like a map.
- The “feel of the sand” is never the same, whether in the same vehicle or another vehicle. Experience is the only teacher.
- Getting stuck is normal. Accept it with patience.

in the Desert

- Cross a rippled sand area (if you cannot avoid it) parallel to the ripples and very slowly.
- Low fourth gear is the best gear to drive in when driving four-wheel-drive vehicles.
- In soft sand, start the vehicle, accelerate, and (once moving) speed shift to second gear.
- Once you are committed to driving in sand do not hesitate, slow down, or stop—continue driving.
- Plan all your stops and make them gradually. Never stop on an uphill grade.
- Never back into a position from which you cannot move forward.
- Plan your route from one terrain feature to the next.
- Know your exact location at all times.
- Accept backtracking; sometimes it is necessary.
- Never drive to the top of a dune or get to a point where you are committed to do so without first checking to see what is on the other side.
- Before cresting a dune, clear the sand from the vehicle's undercarriage. After cresting, use low gear to go down the dune and avoid using the brakes.
- Never drive into a depression between dunes where the sides are too steep to climb out.
- Communicate from high ground, if possible.
- When patrolling in pairs, support each other.

- Vehicle recovery in a dune area is dangerous. If possible, it is better to repair the vehicle on site.
 - Avoid mined areas, destroyed war equipment, and dunes that end at an oasis.
 - Take a 15-minute “eye break” when you experience sand blindness.
 - Reduce eyestrain and fatigue by changing drivers and taking rest or meal breaks often.
 - Never leave your vehicle unattended.
 - Never attempt to walk out of the desert.
- NOTE: Operators need to check their vehicle's technical manual for any additional instructions on how to drive on sand and in desert environments. 🚙

Editor's Note: This article was authored by MAJ Raugh on behalf of soldiers patrolling the Sinai Peninsula after the conclusion of Operations Desert Shield and Desert Storm. In view of the current military operations supporting Operation Iraqi Freedom, these driving tips might again prove useful.

**“Know
your
exact
location
at all
times.”**

Run the Clock Forward



Bob Van Elsberg
Managing Editor

I was the second vehicle in a line of four driving down a country road that offered only one lane in each direction. I had just passed an area with some mobile homes when the road turned sharply to the right, followed by a long, sweeping curve to the left. A stand of trees bordering the left side of the road effectively concealed any vehicles in the oncoming lane. I knew that, so I made it a point to be patient if I was stuck behind a slow driver. I could always pass a little farther down the road where a long, straight section allowed me to see any approaching traffic.

As I started around the right-hand curve, something in my rearview mirror caught my eye. My jaw just about dropped into my lap. The last car in the line behind me suddenly pulled into the oncoming lane. The impatient driver was attempting to pass all three of us on a blind curve!

I started weighing my options. There wasn't much of a shoulder to my right, nor was there much of a shoulder on the left-hand side of the road. If anyone was in the oncoming lane, it would be almost impossible for them to avoid hitting our impatient passer

head-on. All I could do was slow down so that I could better maneuver if something bad did happen. I was also trying to leave a space for our impatient passer to pull into if she suddenly needed it.

Fortunately, there were no cars in the oncoming lane and everyone escaped what could have been an ugly crash. I breathed a sigh of relief.

As the impatient passer drove out of sight, I asked myself a simple question: "Why didn't that driver 'run the clock forward'—think a few seconds ahead in time before she



“Safety is thinking about what you’re doing”

attempted that dangerous pass?” If she had envisioned a vehicle in the oncoming lane, she would have realized that she had nowhere to go and almost no time to react. But she didn’t think about the possible consequences of her actions.

You see this all the time. When someone tailgates, are they really thinking about what might happen in the next couple of seconds? What about on the job? Last year, I read about a bizarre on-duty accident that happened in the Air Force. A maintainer was trying to pry an access panel off an aircraft using a screwdriver instead of the proper tool. He *had* the proper tool in his toolbox, but getting it would have involved climbing down his maintenance stand and then back up again. That would take time, more than he wanted to invest at the moment. As he pried the edge of the panel with his screwdriver, it slipped and flew back. The blade hit him in the eye, causing an injury that cost him his sight in that eye. The screwdriver, not being the proper tool, must have been awkward to use. If he had paused long enough to envision what could happen, he might have recognized the dangers to himself.

Thinking ahead—even if it is just a few

seconds from where you are right now—doesn’t take a Ph.D. It’s simply the first couple of steps of risk management. Do you remember what those steps are? The first is to identify the hazards. The second is to assess the risks. Neither the driver in this story nor the maintainer did either of these. If they had, the driver wouldn’t have put herself and others in danger and the maintainer would still have both eyes.

Safety—if you’ll pardon the pun—is not an accident, nor is it the result of being lucky. Safety is thinking about what you’re doing and envisioning the consequences. The fact is, if you don’t do the first couple of steps of risk management you’ll never get to the fifth step: evaluating how your plan worked. When the program “The A Team” was on TV, actor George Peppard’s favorite phrase was, “I love it when a plan comes together.” When it comes to being safe, wouldn’t you like to be able to say the same thing? A big part of that is “running the clock forward”—just thinking ahead. 🚗

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SAVED by the BELT



It was 1400 on a rainy Sunday afternoon and I was on my way to the golf course. According to the weather forecast, the rain was going to clear. Just as I was leaving out the door, the telephone rang. A policeman was on the other end. I could hear fear or excitement in his voice—at that instant, I didn't know which. "Your wife has been involved in a serious accident," he said.

Diann, my wife, was on the way to the shopping mall. The trip took her along a two-lane highway that winds through a mountainous area called Chapman Mountain. This stretch of road is about a mile from our house in Huntsville, AL. As she came over and down the mountain road, a truck was stalled just ahead of her. She checked the rearview mirror far in advance of reaching the truck to make sure she could move over safely. She switched on the right turn signal, indicating her intent of moving into the right lane. The next thing that happened was a terrifying and helpless experience.

Diann turned the steering wheel to move over, but the car did not respond. She tried moving the car into the next lane several more times—still with no response—all the while getting closer and closer to the stalled truck. Seconds before the impact, she slammed on the brakes. Then the car hydroplaned! In less than a second, a 5,000-pound car traveling at 50 miles per hour came to a complete stop, slamming into the truck in its path.

The image of her flying through the windshield at a speed greater than 50 miles per hour was burned into my brain. I knew

Dale Larry
CP-12 Intern
U.S. Army Safety Center

she didn't like wearing seatbelts. In fact, we'd had a heated argument about that very subject the day before. I refused to start the car until after she had fastened her seatbelt. She called me a few choice words, but put it on anyway. I believe my persistence was the reason she had her seatbelt on the following afternoon.

The car was totaled, but Diann walked away from the accident with only a friction burn from the seatbelt. That scar is a "beauty mark" that reminds her to always buckle up!

For more information on seatbelts and safety, visit the National Highway Transportation Safety Administration's Web site at <http://www.nhtsa.gov>. 

Mr. Larry currently is assigned to Anniston Army Depot, Anniston, AL. He may be contacted via e-mail dale.larry@us.army.mil.

Do you have a personal experience story where a seatbelt saved your life or protected you from serious injuries? If so, why not share your story with your fellow soldiers through this magazine? There are three ways you can do that. You can e-mail your story to countermeasure@safetycenter.army.mil or fax it to us at (334) 255-3003, DSN 558-3003. You can also send a letter to: U.S. Army Safety Center, Attn: *Countermeasure*, Bldg. 4905, 5th Avenue, Fort Rucker, AL 36362-5363.

A "Sometimes Humbling" Experience

Julie Shelley
Editor

During April 2003, Ms. Julie Shelley and Ms. Paula Allman, both writer-editors for the U.S. Army Safety Center's publications *Flightfax* and *Countermeasure*, traveled with the CP-12 Safety Professional intern class to the National Training Center (NTC) in Fort Irwin, CA. Below is an excerpt from their briefing to BG James E. Simmons, Director of Army Safety and USASC Commanding General. Look for more NTC stories coming soon in both publications!

The NTC is a place designed to push our soldiers to the limit, both physically and mentally. After spending 5 days there, I now know on a very limited scale that a rotation to the NTC isn't a fun-filled TDY trip for our soldiers. To say the very least, the USASC editors' trip to the NTC with the CP-12 intern class was an eye-opening and sometimes humbling experience.

When you sit in an office all day and see accident reports listing nothing but rank, MOS, unit name, and cause of injury or death, it is easy to become desensitized to the reality of what our soldiers face every day—no name, no face goes along with those reports. At the NTC we were able to see, in flesh and blood, just why we are here. Our jobs are about more than checking for correct punctuation, grammar, and spelling—we, too, are committed to keeping our soldiers as safe as possible.

On this trip we had the privilege and honor to meet dedicated green-suiters, including COL Joseph E. Martz and CW3 Mike Burnside; NTC Safety Director Mike Williams, a.k.a "Safety Mike," who is easily one of the most devoted civilians I've ever met; and also enthusiastic contractors with a passion for their work. But an equal honor was meeting some of the junior enlisted officers of the Stryker Brigade, who had just come in from a rotation and were tired, hungry, and dirty, but answered all our questions with both pride and a smile. Those are the guys we are here for—the

ones who will fight our Nation's wars.

We learned about obvious hazards, but we also gained insight into the subtle hazards desert warfare presents to our soldiers. Who would have thought that a small washout on a sandy road could flip a HMMWV or other tactical vehicle? Someone even had to point out an unexploded simulator round to me because I didn't see its fins sticking up out of the ground—not a hazard I generally encounter in Room 246, U.S. Army Safety Center. I had never flown in a helicopter before, and I've worked with aviation-related documents for the Army for more than 2 years. We slept in barracks and ate MREs. How can you effectively write about something if you've never experienced it? Needless to say, this trip offered me these and many other experiences I will never forget.

It is stories like these that give us the insight we need to convey to our readers the real dangers that are out there, not only at the NTC, but at any military installation and certainly any battlefield in the world. We have now seen firsthand what the "war stories" are all about, but there are so many more, and we are here to tell them.

On this trip we made invaluable contacts. We've all heard the saying, "It's not what you know, it's who you know." From experience, I can tell you that it's much easier to get information for a story when your POC can put your face with your name. Since we got back, we've even had calls come into our office from NTC personnel, asking us safety related questions! And we cannot leave out the contacts we made in this class itself—these are the people who will be in the field with their soldiers in places we'll probably never see. We are the mouthpiece for Army safety professionals, and these students know they can call us anytime and that we WILL be calling them! Never before have the USASC editors been given the opportunity to see so much or get to know so many of the people we are here to support. We send many thanks to Dr. Brenda Miller, the CP-12 class, and the NTC staff for allowing us this chance. —

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My Daddy's No Rocket Scientist!

A few summers ago, I scanned the Web for the biggest skyrocket I could get. I located a fireworks importer who had this monstrous skyrocket—the “Sky Dragon.” It was perfect! Standing 4 feet tall and mounted on a half-inch wooden dowel, it was pure aerospace engineering.

I plopped down a bunch of money and had the dealer send me two cases. Each case contained 80 rockets and had a “Class 4 Explosives” sticker on its side—a real bonus! Hmm ... something to save for the scrapbook. The night the rockets arrived, the kids and I had a genuine rocket-launching ceremony.

I placed one of the Sky Dragons in a liter-size glass bottle, but the bottle fell over. Obviously, the rocket was way too big to be launched this way, so I needed a better platform. I pried up one of the driveway drain grates with a crowbar. It looked sort of like a hardened missile silo—the perfect launching pad. Of course, I did all this covertly, as “projectile-type” fireworks are totally illegal in my county.

I began the countdown and asked my kids which one wanted to light the fuse. They all took a few steps back and politely declined (they must take after their mother). So, I did the honors.

The fireworks importer promised me the rockets wouldn't make any noise. I needed them to be relatively quiet so I could shoot them off in my neighborhood without causing undue alarm and being visited by the local police.

I launched the rocket. It soared to about 1,000 feet and then disintegrated into a huge shower of silent red sparks. “Pretty cool,” I thought, until the shower of sparks burned out and suddenly turned into a cloud of extremely bright and loud explosions.

The kids scrambled into the back door Three Stooges-style and left me standing in the smoking haze waiting for the cops to arrive. Luckily, they never did.

The next day my oldest son, Doug, and I decided we would “neuter” one of the rockets so it wouldn't make any noise. The rocket was pretty simple, so we took it apart. It had a large booster engine topped with a warhead that contained red sparkly things that exploded.

After removing the payload, we tested one of the rockets. Our modifications added nearly 50 percent to the altitude.

Encouraged by our seeming success, we customized four more rockets. When we were done Doug had a jar full of stuff that came out of the warheads, including 12 fuses, some paper, four plastic nose cones, and a big handful of little black balls (the poppers) about the size of buckshot.

I didn't want to see the popper thingies go to waste, so I told Doug we were going to put them in a hole in the ground and set them off. He gave me a big smile. It's amazing how kids think alike—even when separated by 30 years.

As I was digging a shallow hole with my hand, Doug asked if it would be OK to put a toy Army man next to the explosives. Darn—exactly what I was thinking! So, we added an action figure to the pile of black balls and fuses.

I figured that 3 inches of fuse would take 2 seconds to burn. I squatted next to the soldier and gave a short eulogy. Doug laughed. I took my trusty lighter and placed it next to the fuse. One flick got the lighter going, and then an image appeared that I'll remember for a long time—my hand holding a lighter next to a pile of explosives.

I had badly miscalculated the fuse burn time. It was in the thousandth-of-a-second range. The pile of little poppers immediately ignited into a tremendously brilliant ball of fire. Unfortunately, when viewed at ground level, those tiny popper thingies became really BIG popper thingies that exploded for 15 feet in all directions. I was instantaneously engulfed in a ball of fire

that sounded a lot like being in a half-done bag of popcorn.

About as fast as I could snap my fingers, it was all over.

After the smoke cleared, Doug started laughing hysterically. That meant I was still in one piece. I checked all my clothes for burn marks and, amazingly enough, found none. Doug checked my back to make sure it wasn't on fire. No combustion there either.

The driveway was peppered with black holes where the concrete had been scarred from the explosives. The toy soldier wasn't as lucky as me—he looked like he'd been nuked. Doug quietly examined him, then looked at me and probably wondered the same thing I did: How was I not burned beyond recognition?

I hope this vivid image tempers his interest in fireworks. After all, if your dad isn't going to teach you fireworks safety, who is?

Some tips on fireworks safety:

- Always read and follow the manufacturer's safety directions.
- Don't allow children to light fireworks.
- Don't dismantle fireworks or try to make your own.
- Don't light fireworks and hold them in your hand.
- Don't throw fireworks. Place them on the ground or in whatever platform you will launch them from, then light the fuse and get away as fast as you can.
- Don't light fireworks inside a can or bottle. The explosion could be more than you bargained for.
- Fireworks should only be lit outdoors and away from any structures or flammable materials.
- Don't assume Class C fireworks are harmless. The heat from a sparkler (1,800 degrees Fahrenheit) can melt gold, so imagine the harm it could do to a child's skin. Children under the age of 5 are the ones most often injured by sparklers.
- Keep a bucket of water or a hose nearby for emergencies.
- Pick up duds with a shovel, not your bare hands.
- Don't try to light a firework that has misfired. Instead, soak it in water and throw it away.
- Securely store fireworks in a cool, dry place where children can't get to them.
- Don't use illegal fireworks. 

Reprinted courtesy *Torch*, November 1999.
Fireworks safety tips courtesy *Safety Times*.



Be Careful with M9 Paper

Soldiers should be careful when using M9 Chemical Detector Paper, the paper used to detect liquid chemical agent aerosols. This paper contains a small amount of dye that might cause dermatitis in sensitive individuals. One of the dyes also is considered mutagenic, meaning it can cause changes in the DNA molecule. In addition, the paper might contain a chemical that has been determined to be carcinogenic. Because M9 paper contains small amounts of these dyes, the health risk is considered small. However, soldiers need to take care to avoid contact with the paper. When handling M9 paper, always wear chemical protective gloves and never allow the paper to touch your bare skin. **Also, before using any chemical, always consult the material safety data sheet (MSDS).** If you need any further information, consult your safety officer or industrial hygienist. 🐾

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Get "Belted" in that HMMWV!

If you are driving an older HMMWV and wearing load-bearing equipment (LBE), a protective vest, chemical gear, or other equipment, getting the original seatbelt all the way around you might be a bit of a challenge. Now there is good news on that front. The Program Manager, Light Tactical Vehicles, has developed a longer seatbelt that is available as a kit (NSN 2540-01-495-0817). The kit will add an extra 18 inches to the length of the original belt, meaning you can buckle up and breathe again.

In addition to the kit, there also is available an improved seatbelt assembly (Part Number (P/N) 12480530, CAGE Code 19207). This seatbelt assembly has a longer strap made of a slicker material that provides smoother retraction. The improved seatbelt assembly replaces both P/N 12342377-1 (NSN 2540-01-315-3358) and P/N 12342377-2 (NSN 2540-315-3143) in all applications. Technical Manuals (TMs) 9-2320-280-24P and 9-2320-387-24P are affected by this change. 🐾

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Vehicle Recalls

The National Highway Traffic Safety Administration (NHTSA) recently released the following recall information for the vehicles listed below. More information can be found on the NHTSA Web site at www.nhtsa.gov.

2003 Buick Rendezvous, Pontiac Aztek. Defect: In some of these sport utility vehicles, the diameter of the steering column intermediate shaft is too small. This condition could allow the intermediate shaft to spin inside the steering column coupling, resulting in the driver losing control of the vehicle's steering. If this were to happen while the vehicle is moving, a crash could result. *NHTSA Recall No. 03V052, GM Recall No.03009*

2003 Dodge Ram 2500/3500. Defect: Pickup trucks equipped with Cummins diesel engines and manual transmissions might experience an elevated idle speed after extended use of the cruise control. This could result in unintended acceleration and a reduction in braking effectiveness. *NHTSA Recall No. 03V033, DaimlerChrysler Recall No.C02*

1998-2001 Chrysler LHS; 1998-2002 Chrysler Concord 300M; and 1998-2002 Dodge Intrepid. Defect: The seat back recliner bolt can break, resulting in the seat back reclining unexpectedly. If this should happen while the vehicle is being driven, the driver could lose control of the vehicle. *NHTSA Recall No. 03V035, DaimlerChrysler Recall No.C04*

2002 Nissan Altima and Xterra. Defect: The clock spring electrical connector might not be fully secured to the driver's air bag module squib pin connector. If the connector comes loose, the driver's air bag will not deploy during a crash, increasing the risk of injury. *NHTSA Recall No.03V061* 🐾

Owners who do not receive a free remedy for these recall defects within a reasonable time should contact the following numbers: Buick, (800) 521-7300; Pontiac, (800) 762-2737; DaimlerChrysler, (800) 853-1403; and Nissan, (800) 647-7261.



POV

Class A

- SM was killed when he was struck by an oncoming vehicle while stopped to render assistance at an accident site.
- SM was killed when the vehicle he was riding in was involved in an accident. The driver of the vehicle, also an SM, received minor injuries. Details of the accident were not reported.
- SM suffered fatal injuries when he was ejected from his vehicle after it left the roadway and overturned. SM died 9 days after the accident.
- SM was killed when the vehicle he was riding in ran off the roadway and overturned. The civilian driver of the vehicle was not injured.
- SM suffered fatal injuries when the vehicle he was operating ran off the roadway, struck a guardrail, and overturned.



AMV

Class A

- A Department of the Army civilian was killed when the GSA vehicle he was driving collided with the rear of a semi tractor-trailer. The civilian driver of the semi was not injured.
- Two SMs were killed when an AVLB impacted the rear of an LMTV. Five other SMs suffered injuries in the accident. The

driver of the AVLB, also an SM, was not injured.



Personnel Injury

Class A

- SM was killed when he apparently fell from a 100-foot cliff. SM had been participating in a night land navigation course at the time of the accident.
- SM was killed when he was mistaken for an enemy and fired upon by a vehicle from an adjacent unit. SM had dismounted his vehicle to investigate a destroyed tank at the time of the accident.
- SM collapsed during a PT run. SM was taken to a local hospital and put on life support until time of death.
- SM was pronounced dead after he was found collapsed after apparently performing PT.
- SM was discovered unresponsive after apparently having completed personal PT and pronounced dead.

- SM suffered a permanent total disability after he received a severe electrical shock from overhead train power lines. SM was conducting a security check of a Bradley during transport by rail at the time of the accident. Another SM suffered burns in the accident while attempting to help the injured soldier.

Class C

- SM was running in formation when he collided with another SM and fell, striking his

head. SM's injuries were listed as critical.

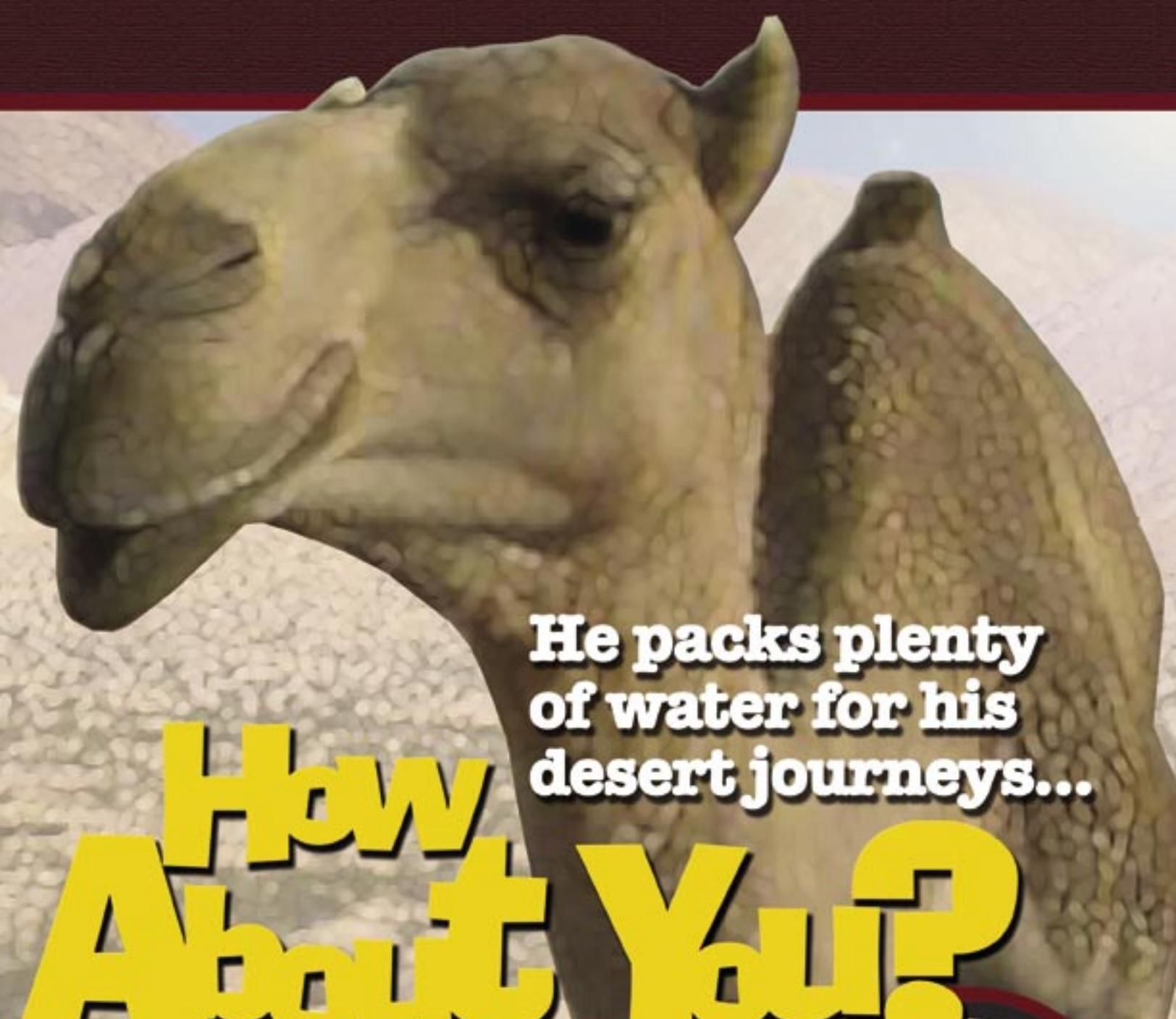
- SM received burns to his face and hands after he ignited powder from a simulator round. SM was part of a detail to clear a squad live-fire range by picking up expended ammunition.
- SM received injuries to his knee after striking the ground during a night military free-fall jump. SM had flared his canopy for landing at too high an altitude, causing the hard landing.
- SM had an allergic reaction to fire ant bites after he was bitten on the hand during PT. SM had failed to observe that he was placing his hand on an ant hill while doing push-ups.
- SM dislocated his shoulder after conducting an improper parachute landing fall during military free-fall training. SM had thrown his arms out to break his fall, causing the injury.



Other

Class A

- SM drowned when the boat he was fishing in capsized on a lake. SM's son, son-in-law, and friend also were killed in the accident.
- SM was killed when he was hit by a boat while riding a jet ski.
- SM was killed when he lost his balance and fell four stories from a window sill in his barracks.



**He packs plenty
of water for his
desert journeys...**

How About You?

**If it's 80 °F or hotter, you'll need
up to 12 quarts of water a day
for your desert journey.**

**Are you packing
enough water?**



U.S. ARMY SAFETY CENTER

ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL. 24, NO. 7

<http://safety.army.mil>

JULY 2003



Heat Is the Hunter

ARMY GROUND RISK-MANAGEMENT INFORMATION

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CONTENTS

- 3** **DASAF's Corner**
I'm Excited to Join Your Team as the Director of Army Safety!
- 4** **Heat Is the Hunter**
- 9** **SMA Tilley Sends**
- 10** **Get 'On-Target' With Your Weapons Training**
- 12** **Seven Years' Bad Luck**
- 14** **I Am Still Here**
- 16** **Saved by the Belt**
- 18** **News & Notes**
- 19** **Accident Briefs**
- 20** **Need a Hand? You Might...**

team features



4



9



14



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



I'm Excited to Join Your Team as the Director of Army Safety!

BG Jim Simmons has done a truly remarkable job over the past two years as the Director of Army Safety. He has helped chart the right strategic course for Army safety and has already transformed the multifunctional Safety Center into an organization that now addresses risk management and safety issues from platoon level to Department of the Army on a daily basis. BG Simmons' forward thinking has set a new standard in managing safety throughout the Army.

As your new Director of Army Safety, I will do my very best to continue to steer the course outlined in the Army Safety Strategic Plan and ensure that Army safety and risk management are fully embedded into our interim and objective forces. More importantly, I am committed to helping each of you as we protect the force today and preserve our combat power for tomorrow.

The Army holds us, as commanders, responsible and accountable for the safety of our soldiers. This is an awesome responsibility—one that often prevents sleep in the early morning hours and triggers a mental review of the mission risk assessment just prior to a training event, major exercise, or imminent enemy contact. It is a responsibility that no commander can, or does, take lightly.

Statistics clearly prove that commanders who use all the tools available to identify hazards and mitigate risks have the biggest impact on their units. The chain of command who ruthlessly enforces standards and discipline while using unit safety personnel and those that are resident within the Army safety community will continue to make the difference. The Safety Center stands ready to assist. Give us a call!

Having just returned from deployments in both Afghanistan and Iraq, I personally saw commanders aggressively applying risk management with tremendous results; however, there is still work to be done. Thanks to the quick dissemination of information from our accident investigations, many of the safety lessons learned from both ground and aviation operations are already available and we're currently taking a hard look at them. For example, we have had a number of negligent discharges of weapons. This is clearly an indication that we need to better address this issue in our ground accident prevention programs. We'll look at ways to address this problem with, potentially, more training with magazines in weapons to ensure soldiers know proper clearing procedures.

I am truly appreciative of the opportunity to serve in the United States Army. I am particularly excited to be joining the team of dedicated professionals who every day diligently seek ways to make the Army a safer place for our soldiers to live and work.

This month as we celebrate our Nation's independence, let us not forget to reflect on the service and sacrifices of those who secured our freedom. Let us be especially grateful to all those who today willingly serve to maintain our free way of life. Have a safe and happy Independence Day! 🇺🇸

COL(P) Joseph A. Smith

Heat Is the Hunter

In the 1964 movie “Fate Is the Hunter” actor Glenn Ford investigated the cause of a fatal airliner crash by recreating the events in a step-by-step fashion. He was ultimately successful—almost too successful as he nearly killed himself and another crew in the process. He learned there was a chain of events that led to the crash and it was a chain that could be broken once it was understood. So it was in the deaths of two soldiers last year. For these two men—both in excellent physical condition—heat, not fate, was the hunter. And just as Glenn Ford did in the movie, we are going to take a step-by-step look at how both of these soldiers died and offer some suggestions that could have broken the links in these tragedies.

A Fatal FTX

The Pre-Ranger Course (PRC) is designed to prepare soldiers for Ranger School and is modeled after the Army’s “crawl-walk-run” paradigm. The course culminates in an 8-day field training exercise (FTX), which is divided into 4 days of training and 4 days of continuous patrolling operations. During the continuous patrolling operations, students conduct three main missions: raid, reconnaissance, and ambush. Following the final day of patrolling, the students take part in a land navigation course conducted at a different range. It was during that course that one soldier died and several others suffered heat injuries.

During one of the training days one of the students, we’ll call him “Student 1,” became infected with poison ivy. A Ranger cadre medic looked at Student 1 and decided to take him to the hospital, where he was seen by an emergency room physician. Student 1 was diagnosed with cellulitis (a skin infection) and poison ivy. After being discharged from the emergency room, Student 1 was taken back to the barracks, where he showered and changed into clean clothes. He then returned to the training site and completed the rest of the training scheduled for that day.

The next morning a field medic conducting foot checks saw Student 1 and noted that his cellulitis was improving and that he had been prescribed an antihistamine. The medic warned Student 1 that the antihistamine would make him drowsy and that he shouldn’t take it.

The rest of the day was devoted to planning and executing an ambush mission. After the last mission was complete, the PRC students returned to the range and had MREs for dinner. They had approximately 12 hours of administrative downtime and rest afterward.

The PRC students arrived at the land navigation course at approximately 0730 the next morning. While they waited for chow, the





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MAJ DONALD E. GRAHAM
Chief, Combat Service Support
U.S. Army Safety Center

medic performed the morning foot check and provided follow-up for all students requiring care. The medic noted that there seemed to be some improvement in Student 1's symptoms and that he had no major complaints. At 0845, the land navigation course non-commissioned officer in charge (NCOIC) began the safety briefing and handed out maps and protractors for use on the course. The PRC students were divided into four groups and allowed 4 hours to complete the course by successfully finding five of seven points. Student 1 was placed in the second group.

At 0915 the cadre began calling the groups forward to begin the course. At 0930, the first group departed on the course, followed by the second group at 0939. The two other groups left the start point in approximate 10- to 15-minute intervals. According to the Range Control log, the heat reached Category 5 (the highest heat risk category) at 1059. At approximately 1330, one PRC student encountered Student 1 about 700 meters northwest of the finish point. Another PRC student on the course reported seeing Student 1 lying down, plotting his return route. This was the last time Student 1 was seen alive.

Student 1's projected finish time was 1339. About a half hour later, two cadre members left the start point to verify the grid coordinates of two points being disputed by a PRC student. As they traveled to verify the points, the cadre looked for students who were beyond their time limit. At approximately 1440 after verifying the challenged points, the cadre left the start point in vehicles to search for three missing students.

The range NCOIC had notified the cadre of the missing students and called in additional cadre members and regimental staff to assist with the search. Cadre members drove the trails around the course, blowing their horns to attract the attention of the missing students. Around 1530, Range Control was notified of the missing students. About a half hour later one PRC student was found walking on the road en route to the start point. At approximately 1620, Range Control contacted the military police and informed them there were still two students missing. The desk sergeant immediately dispatched a unit to assist with the search and within 10 minutes the unit found the second missing PRC student on the side of the road.

Student 1 was still missing, so around 1715 the cadre began forming the PRC students into groups to assist with the search. At approximately 1800, additional cadre began arriving and assisting with the search. Student 1's body was found about two hours later, and he was pronounced dead shortly after the EMS crew arrived.

It is important to note that Student 1 wasn't the only PRC student to suffer a heat-related injury that day. The other heat injuries are listed below:

- One PRC student said that he had a severe headache and trouble concentrating as he navigated the course. He had several disputed points and the cadre asked him to replot his points on the map. He found that he was unable to plot the points.
- Another PRC student stated that he completely undressed and entered a pond when he realized he was becoming a heat casualty. He said he would not have been able to complete the course otherwise. This student successfully completed the course and graduated the PRC.
- Another PRC student said that as he navigated the course, he had a severe headache and two episodes of vomiting. He said he was given water after completing the course and told to sit in front of a fan to cool down.
- Cadre driving the roads looking for lost PRC students found another student walking by the road. This student said he recalled checking

his watch at 1355 and realizing that he had 5 minutes to make it to the start point. The next thing he remembered was being awakened by the sound of a vehicle horn 2 hours later. He was transported to the start point, given water and oral rehydration salts, and placed under a fan.

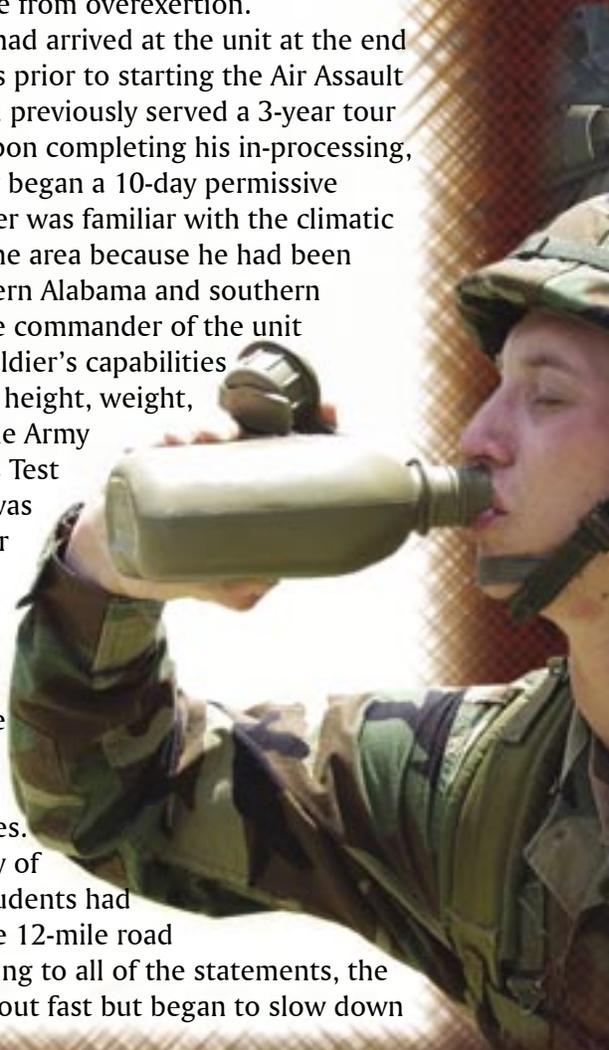
Heat was the "hunter" in Student 1's death and in the injuries suffered by the other PRC students. Heat was also the hunter in another fatality, this time during a 12-mile road march. We'll take a step-by-step look at this incident and end by discussing some measures to help prevent heat-related injuries.

He Could See the End

A soldier was participating in a 12-mile road march as part of the Sabalauski Air Assault School, Fort Campbell, Ky., on the last day of training before graduation when he suffered a fatal heat stroke from overexertion.

The soldier had arrived at the unit at the end of June, 50 days prior to starting the Air Assault course. He had previously served a 3-year tour in Germany. Upon completing his in-processing, he immediately began a 10-day permissive TDY. The soldier was familiar with the climatic conditions of the area because he had been raised in northern Alabama and southern Tennessee. The commander of the unit assessed the soldier's capabilities based upon his height, weight, and score on the Army Physical Fitness Test (APFT), which was conducted prior to his selection for Air Assault training.

The soldier got through the 10-day course without any noted difficulties. On the final day of training, the students had to complete the 12-mile road march. According to all of the statements, the soldier started out fast but began to slow down



as he progressed through the road march. Between the 7- and 11-mile points he walked with two other students. They noted that he was complaining of cramps in his legs, but had been sipping water from his canteen. At approximately the 11-mile point, the soldier fell behind the two other students. As he approached the final 150 meters of the foot march, the soldier fell to his knees. Several of the cadre shouted to him to encourage him to finish. The first sergeant went out to the soldier. He responded to the first sergeant's questions, stating that he didn't want any help

and that he was going to successfully complete the road march. The soldier attempted to stand, but couldn't get back onto his feet. Within minutes, the allotted time for the road march expired.

The first sergeant told the soldier to sit back, and cadre members removed his equipment. Medics on the scene started an intravenous line and prepared to move the soldier to the troop medical clinic (TMC). The senior TMC medic evaluated the soldier and found his core body temperature was 108 degrees. The medic immediately began cooling the soldier and requested an ambulance

Fluid Replacement Guidelines for Warm-Weather Training

(Applies to Average Acclimated Soldier Wearing BDU, Hot-Weather)

Heat Category	WBGT Index °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour	Work/Rest*	Water Per Hour
1	78-81.9	No limit	½ qt	No limit	¾ qt	40/20 min	¾ qt
2 (Green)	82-84.9	No limit	½ qt	50/10 min	¾ qt	30/30 min	1 qt
3 (Yellow)	85-87.9	No limit	¾ qt	40/20 min	¾ qt	30/30 min	1 qt
4 (Red)	88-89.9	No limit	¾ qt	30/30 min	¾ qt	20/40 min	1 qt
5 (Black)	>90	50/10 min	1 qt	20/40 min	1 qt	10/50 min	1 qt

*Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade, if possible.

Note 1: 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. Individual water needs will vary \pm ¼ quart per hour.

Note 2: CAUTION: Hourly fluid intake should not exceed 1½ quarts. Daily fluid intake should not exceed 12 quarts.

Note 3: Wearing MOPP gear or body armor adds 10°F to WBGT Index.

Examples:

Easy Work	Moderate Work	Hard Work
<ul style="list-style-type: none"> • Walking on a hard surface at 2.5 mph, <30-pound load • Weapons maintenance • Manual of arms • Marksmanship training • Drill and ceremony 	<ul style="list-style-type: none"> • Walking on a hard surface at 3.5 mph, <40-pound load • Walking on loose sand at 2.5 mph, no load • Calisthenics • Patrolling • Individual movement techniques; i.e., low crawl, high crawl • Defensive position construction • Field assaults 	<ul style="list-style-type: none"> • Walking on a hard surface at 3.5 mph, >40-pound load • Walking on loose sand at 2.5 mph with load

Note: Soldiers who are overweight, dieting, or past heat casualties are more prone to heat injuries. As a result, their activities must be closely monitored.

from the emergency room to transport him to the hospital. Upon arriving at the emergency room, the soldier was immediately treated for advanced stages of heat stroke. He did not respond to the treatment and went into cardiopulmonary arrest and died.

Why Did These Soldiers Die?

Both soldiers' heat-related injuries were caused by prolonged exposure to hot temperatures, limited fluid intake, and the failure of temperature regulation mechanisms in the brain. Heat injuries can affect anyone, regardless of age or physical condition. We are learning that soldiers don't become heat casualties just because of the current day's activities and factors—it also includes the heat stress issues from the preceding days. The cumulative effects of heat on the body are what cause a soldier to become a heat casualty.

How Can We Prevent These?

It is vital for leaders at all levels to be involved in training, and that means being with the soldiers and observing them while they are conducting rigorous training. Leaders and their troops also must be aware of the most frequent symptoms of heat-related injuries and know how to treat them. That information is provided below:

Symptoms of Heat Exhaustion:

- Dizziness, fatigue, weakness, and headache
- Pale and clammy skin
- Rapid and weak pulse
- Fast and shallow breathing
- Muscle cramps
- Nausea, vomiting

Symptoms of Heat Stroke:

- Often preceded by heat exhaustion and its symptoms
- Hot, dry, and flushed skin
- High body temperature
- Rapid heartbeat
- Confusion
- Loss of consciousness

There are two major steps you can take to avoid heat stress: acclimatize yourself and adopt special habits. Acclimatizing simply means that you allow your body to adjust to the heat naturally and gradually. This can be accomplished by gradually increasing the time you spend in the heat until you reach the total amount of time desired. Remember that if you've been away from a hot environment for a week or longer, you'll have to acclimatize yourself again when you return.

You'll also need to adopt some special habits during physical activity in hot weather to help you avoid heat-related injuries. Those habits are not new ideas, but are all-too-often forgotten. They're listed below:

- **Drink plenty of water during hot weather**—The body can lose up to 2 liters of water per hour for short periods in high temperatures. Drink cool water every 15 to 20 minutes, even if you're not thirsty. Remember that thirst is not a reliable guide to the body's need for water in extreme heat. Use caution not to over-hydrate as a condition known as hyponatremia can develop.
- **Avoid alcohol**—Alcohol causes dehydration (an added stressor for your body in hot environments).
- **Use salt**—Add salt as you normally would to your food, but avoid salt tablets, which could cause you to have too much salt in your system. (CAUTION: Check with your physician about salt intake, especially if you have any heart or circulatory ailments.)
- **Eat your rations**—Food aids in water absorption. Eat your issued MREs, using the salt packages provided, during periods of strenuous physical work in the heat.
- **Rest often**—Rest in the shade. Short, frequent breaks are more effective than long, infrequent ones.
- **Plan ahead**—Do the most strenuous exercise or work during the cooler periods of the day and pace yourself. 

Contact the author at (334) 255-9525, DSN 558-9525, or e-mail grahamd@safetycenter.army.mil.

SMA Tilley Sends

SMA JACK L. TILLEY
Sergeant Major of the Army

I just returned from an incredible trip to Iraq, Kuwait, Afghanistan, Qatar, and Uzbekistan and wanted to tell you how impressed I was with the performance of our soldiers.

I spent two days in Iraq meeting with soldiers from 3rd Infantry Division, V Corps, 101st Airborne Infantry Division (Air Assault), and 3rd Army. Everywhere I went I met heroes—soldiers who put their lives on the line to save their buddies, medics who braved gunfire to patch up the wounded, and sergeants who live the Noncommissioned Officer's (NCO) Creed.

These soldiers told me they were successful because of their training. They lived the motto, "Train How You Will Fight." They forced their troops to wear heavy body armor that, on countless occasions, stopped rounds from killing them.

They corrected deficiencies, led tough physical training programs, and made safety a priority. They did what NCOs are supposed to do—enforce the standards. This dedication led to our victory and helped ensure we will bring America's sons and daughters home alive.

Things are not over. The war on terrorism is still going on and is not going to get easier. Iraq is far from being a safe place. We still have challenges ahead and cannot allow complacency to settle in.

One area that I want NCOs to take very seriously is negligent discharge. We have had too many incidents involving soldiers failing to properly clear their weapons.

Every week during Sergeant's Time or other training, leaders should have their soldiers practice putting a magazine into their weapon and clearing it. This is a simple task that cannot be taken for granted.

As soldiers begin redeploying, I will need your

support in getting them into Noncommissioned Officer Education System training. Deployments during the past months have created a backlog in our schools, and we need to ensure our soldiers get in and complete these essential courses.

At the same time, we must continue to take care of our family members back home. It's easy to get caught up in the mission and forget to keep families informed. Although the media on the battlefield have done an incredible job of keeping our families updated, they need and want to hear directly from unit leaders.

Taking care of our families also applies to our retiring NCOs. The Army Career and Alumni Program is there to help ease your transition to civilian life. I encourage you to take full advantage of that resource because it is vital when you retire. You have given so much to our Army. Take the necessary time to prepare for your second life.

Finally, SoldiersRadio.com has been providing a great resource for military news and information. This site is linked directly off the Army homepage and needs your support.

SoldiersRadio.com is now almost exclusively limited to the Internet and will soon be available only online. Installation public affairs officers and automation officials need to support this effort by allowing access to the streaming audio and video that is provided.

Thank you again for all your hard work and continued support. 🇺🇸

HOOAH!

Recent Army accidents have revealed a disturbing trend: our soldiers are being killed and injured by improper weapons handling. These accidents occur for a variety of reasons, insufficient training, ineffective supervision, negligence, inattentiveness, or outright indiscipline. This must come to an end—now. One hurt soldier is one too many.

All soldiers, regardless of their MOS, must be proficient with their assigned weapon. Operation Iraqi Freedom clearly demonstrated that *any* unit might have to engage the enemy. Weapons proficiency is a cumulative and degradable skill that must be instilled into each soldier and constantly maintained.

second nature. The selector switch stays on SAFE and the soldier's finger stays off the trigger unless engaging targets or when enemy contact is imminent. A well-trained soldier can follow these safety procedures and still rapidly and accurately engage the enemy. Whenever you see a safety violation, correct it. A moment's inattention can lead to disaster.

Annual range qualification doesn't necessarily indicate weapons proficiency. Soldiers not only must effectively engage targets, they must also perform other associated tasks including:

GET On-Target WITH

We train as we fight and we fight as we train. Soldiers in combat areas wear body armor, why not have them wear it when qualifying and training with their weapons? Training must reflect battlefield conditions as closely as can be safely done. Hard, realistic training is critical to success in future operations. Anything less is a disservice to our soldiers.

Muzzle control, selector switch operation and fire discipline are critical to weapons safety and can't be taught solely in the classroom environment. They must be incorporated into your regular training, and you must always enforce the standard. Soldiers should become so comfortable with their weapon that its safe and proper use is

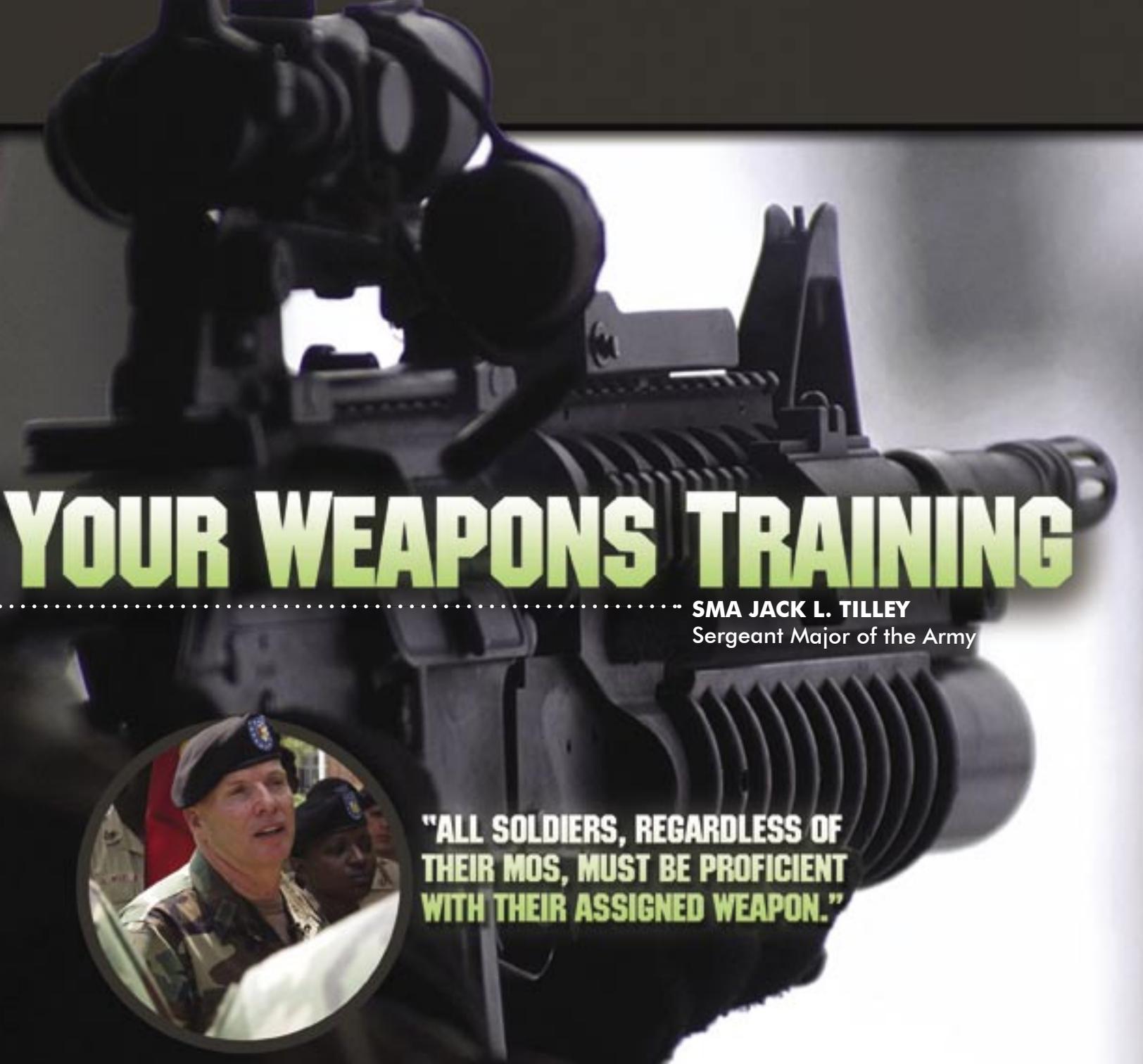
- Clearing procedures
- Loading and unloading procedures
- Immediate action
- Remedial action
- Disassembly and reassembly
- Weapons maintenance
- Functions check
- Preventive maintenance checks and services

Can your soldiers perform these tasks to time and standard? If they can't, they're not properly prepared.

While the basic operating principles remain the same for many small arms, there can be significant differences that can put the untrained soldier at risk. Does your M249 Squad Automatic Weapon gunner understand how an open-bolt weapon operates? How about the rest of your soldiers? Soldiers unfamiliar with open-bolt weapons have had accidental discharges while attempting to chamber a round. When cross-training your soldiers, make sure they become proficient with all of your unit's weapons. Circumstances might require a rifleman to become a machine gunner in a hurry. Would that rifleman be ready? Would you be ready?

A COUPLE OF Examples

- After cleaning his weapon, the soldier performed a function check with the butt of the rifle on the floor and the muzzle pointed at himself. A round discharged, fatally injuring the soldier.
- The soldier believed his weapon was unloaded. The weapon fired and severely injured another soldier.



YOUR WEAPONS TRAINING

SMA JACK L. TILLEY
Sergeant Major of the Army



**"ALL SOLDIERS, REGARDLESS OF
THEIR MOS, MUST BE PROFICIENT
WITH THEIR ASSIGNED WEAPON."**

Weapons proficiency is the province of the NCO. From the youngest corporal to the Sergeant Major of the Army, we are the primary trainers and guardians of the standard, and competence is our watchword. We must take ownership and make it happen. If we don't, then who will? Our young soldiers depend on us for our experience and our expertise. The soldiers we train today will become the Army leadership

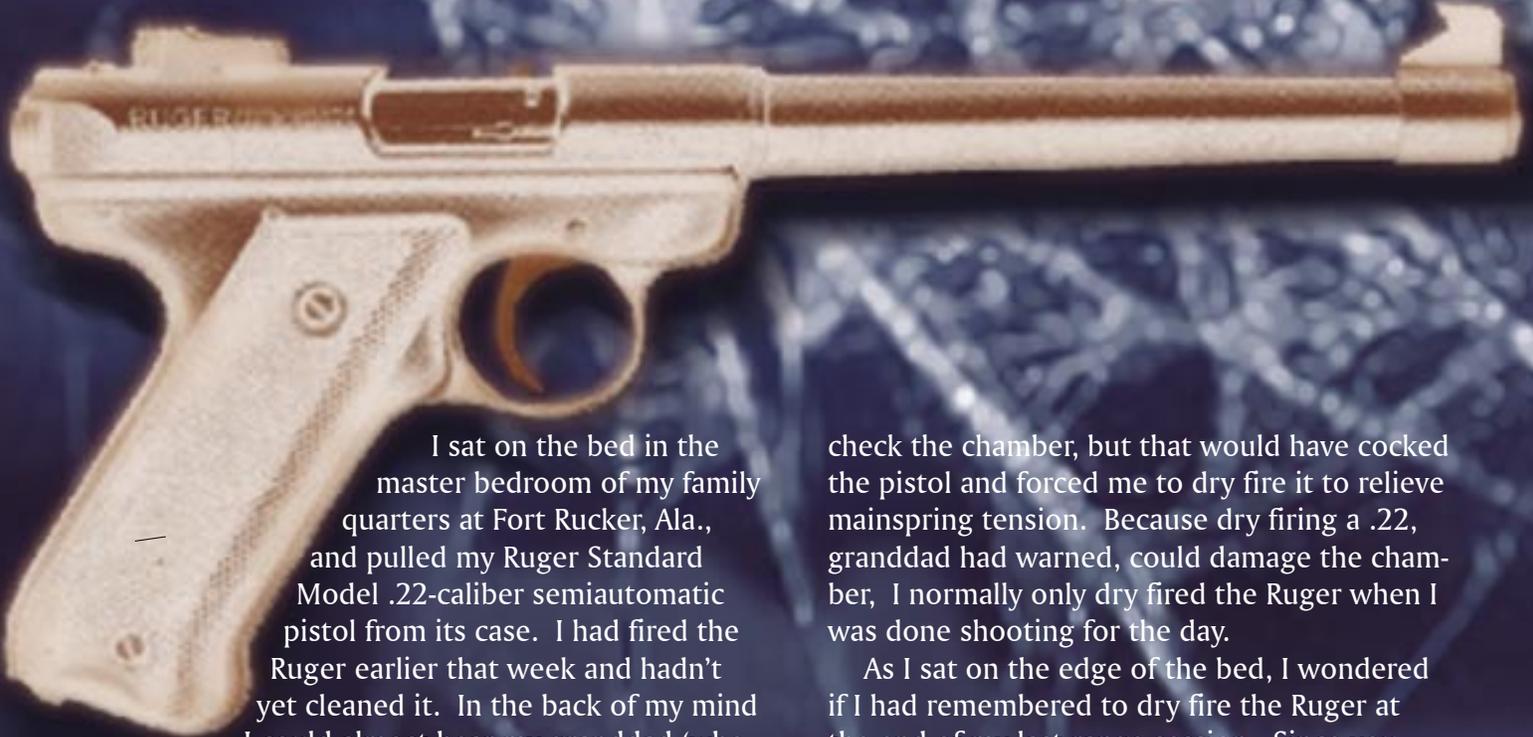
of tomorrow. We must arm them with the tools, techniques and procedures to prepare them for that task.

You have proven yourselves as the most professional NCO Corps in the world, a force that stands ready to fight and win on the modern battlefield. Now I challenge you to continue that tradition of excellence. Train our soldiers well, train them to standard, and keep them safe. 

Seven Years' Bad

Bob Van Elsberg
Managing Editor

Ever heard the old superstition that breaking a mirror will get you seven years' bad luck? Well, superstitions are only in the mind; however, a .22 slug zipping through a bedroom mirror is a reality. And for a mistake like that, seven years' bad luck could be a "light" sentence.



I sat on the bed in the master bedroom of my family quarters at Fort Rucker, Ala., and pulled my Ruger Standard Model .22-caliber semiautomatic pistol from its case. I had fired the Ruger earlier that week and hadn't yet cleaned it. In the back of my mind I could almost hear my granddad (who taught me to shoot) saying, "Clean it the day you shoot it!"

I dropped the magazine out of the grip and checked to see if there were any rounds in it. It was empty, so I *assumed* that the Ruger was unloaded. I could have pulled the slide back to

check the chamber, but that would have cocked the pistol and forced me to dry fire it to relieve mainspring tension. Because dry firing a .22, granddad had warned, could damage the chamber, I normally only dry fired the Ruger when I was done shooting for the day.

As I sat on the edge of the bed, I wondered if I had remembered to dry fire the Ruger at the end of my last range session. Since you couldn't tell if the Ruger was cocked by simply looking at it, the easiest way to tell was to gently pull the trigger back and see if it moved freely or stiffened suddenly. If the trigger moved freely, the pistol was uncocked. If the trigger stiffened suddenly, that was a sure sign

D LUCK

I'd inadvertently left the pistol cocked.

I pulled back on the Ruger's trigger about a quarter of an inch when it stiffened. Because I had already checked the magazine and found it empty, I *assumed* the chamber was also empty. Since I couldn't take the pistol apart for cleaning with it still cocked, I pulled the trigger all the way back.

"Blam!" The Ruger went off, sending a round through the bedroom mirror. My wife ran into the bedroom to see what had happened. As I sat there shaking, I imagined with horror what would have happened had she been in the bullet's path.

chamber more than once on some firearms. I've owned lever action rifles where a cartridge would occasionally jam in the tubular magazine, only to jar loose later and slide into position for chambering.

There is a simple moral to this story—never handle a firearm without checking its chamber to make sure it is empty. I was lucky that I didn't hit anything more precious to me than the bedroom mirror—and even that didn't cost me seven years' bad luck. However, don't count on good luck to keep you safe around a weapon. Don't assume your privately owned weapon is unloaded and don't take the word of a friend who hands you a firearm. Accidents can happen. Don't let seven years of bad luck—or worse—happen to you!

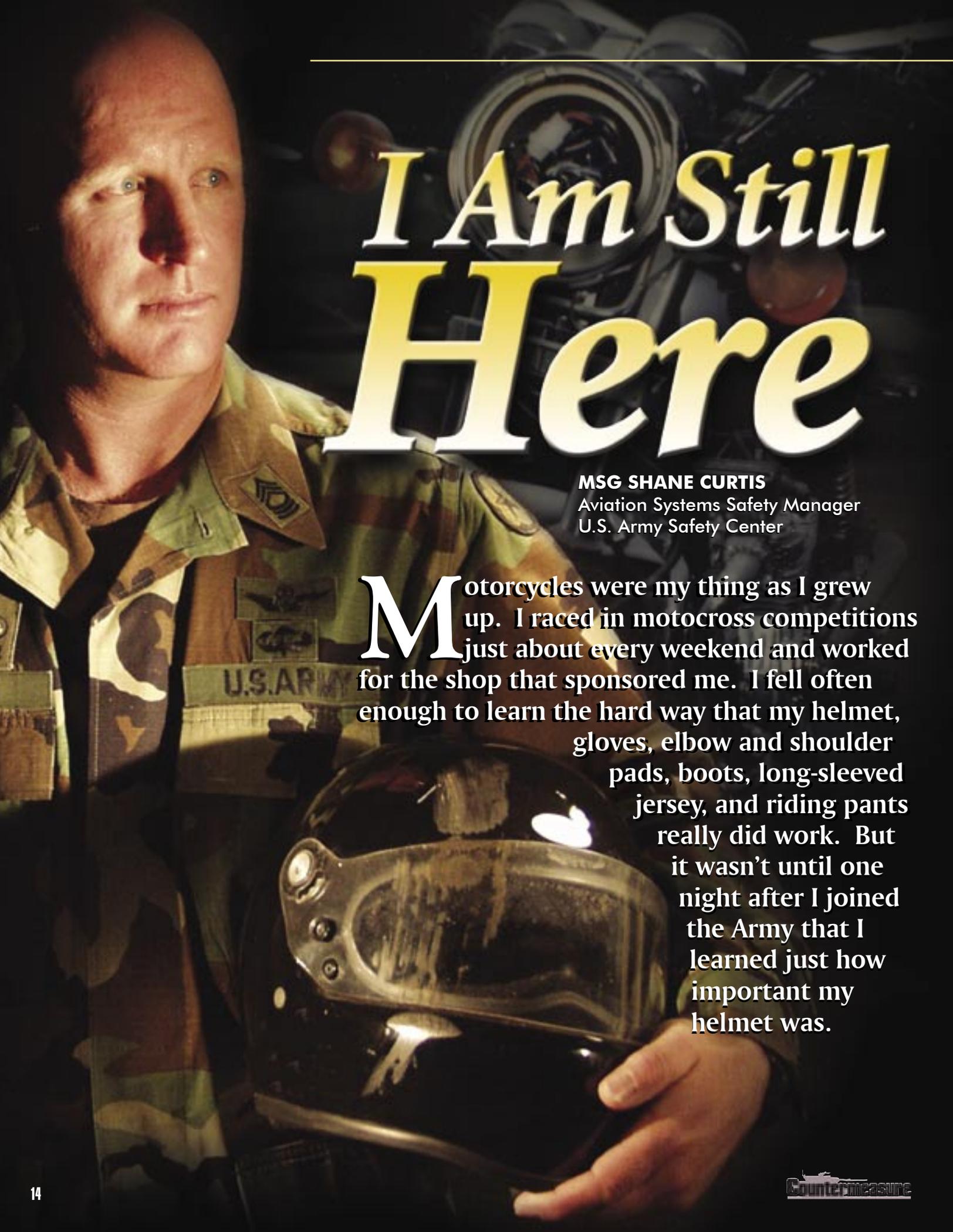
"There is no such thing as an unloaded gun."

When I thought about it later, I couldn't believe that I made such a potentially deadly mistake. After all, I had been raised around guns. Granddad taught me to shoot a handgun with his High-Standard "Sport King"—a .22 pistol very similar to the Ruger. He also taught me to treat every gun as if it was loaded. And it wasn't just his voice I was hearing in the back of my head. I was an Army sergeant. How many times had I qualified with my M-16 and made sure the chamber was empty before leaving the firing line? Unfortunately, this time I thought I knew better while handling my own weapon. I found out the hard way that I didn't.

Now I live and breathe that well-founded axiom, "There is no such thing as an unloaded gun." Whether the firearm is a single shot, pump, bolt action, lever action, semiautomatic or revolver, I ALWAYS check the chamber. And although it might sound odd, I check the

Your Story Is Important!

Have you ever had an experience with a privately owned weapon that taught you a valuable lesson in safety? Chances are your lessons learned could help protect some other soldier. Why not share what you've learned through the pages of this magazine? You don't have to be a polished writer, just jot down in sequence what happened and what you learned. Also, such accidents can be embarrassing (the editor knows first-hand), so we'll be glad to protect your privacy by printing your story anonymously. You can e-mail your story to countermeasure@safetycenter.army.mil, or fax it to us at (334) 255-3003, DSN 558-3003. You can also use old-fashioned "snail mail" and send a letter to: U.S. Army Safety Center, Attn: *Countermeasure*, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. 

A man in a U.S. Army camouflage uniform is shown from the chest up, holding a black motorcycle helmet. He is looking slightly to the left of the camera. The background is dark and out of focus, showing mechanical parts of a motorcycle. The text "I Am Still Here" is overlaid on the right side of the image in a large, stylized font.

I Am Still Here

MSG SHANE CURTIS

Aviation Systems Safety Manager
U.S. Army Safety Center

Motorcycles were my thing as I grew up. I raced in motocross competitions just about every weekend and worked for the shop that sponsored me. I fell often enough to learn the hard way that my helmet, gloves, elbow and shoulder pads, boots, long-sleeved jersey, and riding pants really did work. But it wasn't until one night after I joined the Army that I learned just how important my helmet was.

I bought a new Yamaha 650 and ordered a full-face helmet that looked cool and worked. That cost me some money. I always needed more money, which meant I needed to get my sergeant stripes. To get that promotion, I needed to go to night school to further my education and gain an airframe and powerplant (A&P) license. Riding my motorcycle was part of that process. When I got off duty, I rode home, grabbed my books, and then headed off to school on my new bike.

But all that would change one night. As I was going down the four-lane road heading towards our house, a teenage girl who'd had her license less than a week came toward me from the opposite direction. She saw me coming her way, but thought the car behind her was going to rear-end her, so she turned in front of me thinking she could make it. She didn't—instead, she hit me head-on.

I flew over the handlebars and into her windshield. The back of my head bounced off her steering wheel, and then I was thrown face-first into a telephone pole on the side of the road. The doctor said that if I hadn't been wearing my full-face helmet, parts of my head would have been smashed into the windshield and the left side of my face would have been left on the pole.

I was in and out of consciousness for the first four days after the accident. I woke up long enough to say that I wasn't unconscious the whole time, but I was in a semi-unconscious state for the next two weeks. By the time I realized what was going on; close to a month had passed. Although my parents had come to see me, I didn't even know they were there. Some of my co-workers were there every day to help my wife, who basically lived in my hospital room with me—but I don't remember that either.

I spent more than two months in the hospital receiving physical and occupational therapy. I had suffered a double brain concussion, and my brain swelled so badly the doctors thought they would have to drill holes in my skull to relieve the pressure. Fortunately for me, the day I was supposed to have the drilling done the swelling went down on its own.

I lost most of my memory and even had to

learn how to walk again. The doctor would give me a razor and tell me to shave, but it wasn't until after I was released that I found out the razor didn't have a blade in it. The doctors just wanted to see how good my coordination was—they didn't trust me with a blade.

I also had a problem with my memory; I knew names and people, but that was about it. Part of my therapy was going back out to the airfield to learn stuff that I once knew. It was only after I was told what an item was that it rang a bell and would come back to me. I'd say, "Oh yeah, that's what that is, now tell me again what it does." Once they'd do that I'd say, "Oh yeah that's right, I remember now!" After a little more than two months passed the doctor gave me a quick "test." He told me to remember three things: the number 7, ice cream, and blue sky. After he talked to me for what seemed like an hour, he asked what the three items were. Once I told him, he said I was ready to go home.

The things I couldn't do that were listed on my profile made me feel like there was little that I could do! No driving for a year, no climbing on top of aircraft, no going inside an aircraft unless the ramp was down and I could walk up it. I couldn't stand for more than 10 minutes, walk more than a mile, run, do physical training, and—for the fear of black-outs—go anywhere alone. My flying and crewing days were over for the next couple of years.

It took years of hard work before I got back to normal—well, about as normal as I will ever be. I still have some minor problems with my memory, but I did make it back on flying status after several years. For me, life is good. I am living a life that would have ended if I hadn't been wearing my helmet the night that girl turned in front of me.

You hear people argue that wearing a helmet gets in the way of their "personal freedom" or keeps them from hearing or seeing dangers around them. Well, I can tell you from experience that helmets work because I AM STILL HERE. 

Contact the author at (334) 255-9859, DSN 558-9859, e-mail curtiss@safetycenter.army.mil.

SAVED by the BELT

Think putting on your seatbelt is a hassle? Maybe you're in too much of a hurry to bother. Maybe you think it's uncomfortable and restricts you too much in your car. The author was a state trooper before coming to work full-time for the Army Reserve. Both as a reservist and a state trooper, he's seen the difference seatbelts make. Check out his three short "slice-of-life" experiences below.

CW5 R. KEITH LANE
HQ, 244th Aviation Brigade
Brigade Safety Officer
Fort Sheridan, Ill.

Incident 1

We had a Troop Program Unit Reserve major that I served with who was also a farmer and lived about four hours away from the post. He usually worked late on the Fridays before his duty weekends and left even later to drive to drill, typically getting there around 0200. He would then park in the Reserve Center parking lot and sleep until it was time for formation.

One Friday night, he left home even later than usual and was still on the road at 0300. About that time he hit a driveway culvert in a ditch beside the highway where it went from a long straight section to an "S" turn to the left. He'd driven that road many times and thought he could drive it in his sleep. The culvert proved him wrong. At 60 mph, his car flipped end-over-end twice before it came to rest upside-down. He was still strapped into his seat, hanging by his seatbelt, but he was now unconscious instead of just asleep. He was less than 30 miles from the Reserve Center.

I got the call about 0800 and, after informing the command group, went to the hospital to gather information for the accident report. Our major was pretty well beat-up, but he was mostly just "bruised and contused," except for the severe laceration to his wallet for the cost of a new car. The thing that stuck out in my mind was the doctor telling him if

he hadn't been wearing his seatbelt, he would have been a dead man.

Incident 2

A young state trooper was traveling south on a two-lane highway at the posted speed limit of 55 mph in his patrol car. He was wearing his seatbelt properly, as all state troopers are required to do.

Driving northbound on the same roadway was a man on his way home from work who had stopped at a local pub and downed a few too many. The man was driving a full-sized van and following another vehicle traveling just under the speed limit. The drunk driver was not only impatient; he also hadn't bothered to fasten his seatbelt.

The drunk driver decided to pass the slower vehicle and suddenly pulled into the oncoming lane, going straight at the trooper. There was nothing the trooper could do to avoid the head-on collision. The impact killed the van driver, who was pronounced dead at the scene, and the trooper was unconscious. Because the medics didn't know how badly the trooper was injured, they ordered a medical evacuation helicopter. They assumed because the other driver was dead and both vehicles were obviously totaled, the trooper's injuries must be serious. In fact, the only injuries they found

were a small bruise on the side of his head, where he must have hit the side window frame, and bruises on his palms where he'd tightened his grip on the steering wheel. It was a firm grip, too, because the wheel was bent on both sides. The trooper woke up in the hospital, where he was kept overnight for observation. He was released the next day sore, but otherwise unhurt.

Incident 3

A state trooper safety sergeant was towing a trailer eastbound on a two-lane highway at the posted speed limit of 55 mph. On the trailer was a "Seatbelt Convincer" that the sergeant used when instructing civic groups and private companies on traffic safety. The Convincer had a set of twin rails with a seat at the top that locked in place. The seat allowed one or two people to be firmly buckled in by standard automobile seatbelts and shoulder harnesses. Depending on how steeply the sergeant angled the rails, the passengers came down the rails at 2 to 5 mph until they suddenly stopped at the end.

A woman and her friend were traveling in the westbound lane and following another driver who apparently was traveling too slowly for them. As the woman pulled to the left and began to pass the slower vehicle, she noticed the safety sergeant coming at her and tried to quickly swerve back into her lane. The sergeant hit the brakes, but the trailer limited him from doing any evasive maneuvers. Her car skidded sideways in the eastbound lane and was struck on the left-rear fender by the sergeant's car and violently spun counterclockwise.

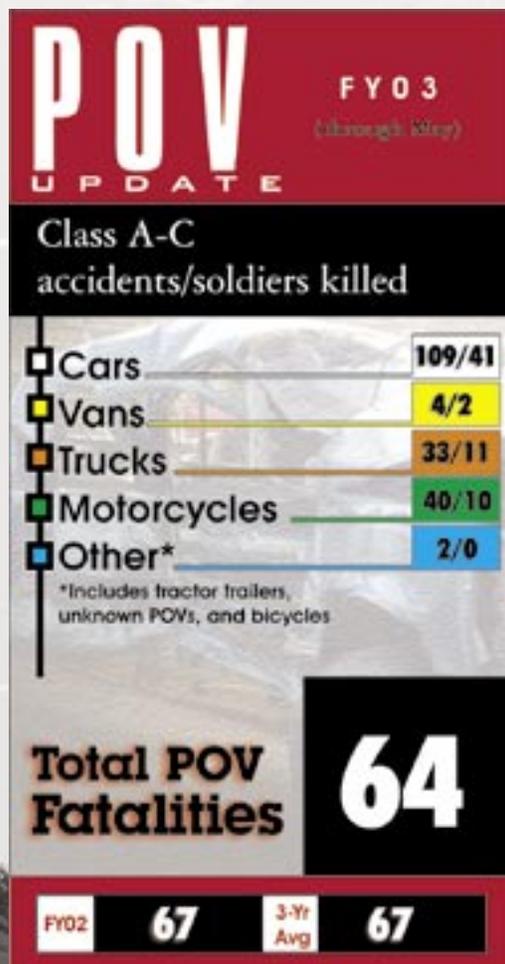
The sergeant, who was uninjured, climbed out of his demolished car and went to see if he could help the two women in their car. The passenger, who was wearing her seatbelt and shoulder harness, was uninjured. The driver, however, was dead. She had her lap belt in place, but had tucked her shoulder harness under her left arm. When her car spun, her body rotated around the improperly worn shoulder harness and she broke her neck.

Six people were involved in three accidents.

The four who survived wore their seatbelts and shoulder harnesses properly. Those who didn't survive either weren't wearing their seatbelts and shoulder harnesses or weren't wearing them properly. The best vehicle safety restraint systems in the world are of no use if people don't use them or use them improperly. As a safety officer in the Army Reserve and a former state trooper, I have seen the results, and they're not pretty. 🚗

Contact the author at (847) 266-4423, e-mail laner@usarc-emh2.army.mil

Editor's Note: Do you have a personal experience story where a seatbelt saved your life or the life of someone you know? Why not share it with your fellow soldiers through this magazine? There are three ways you can do that. You can e-mail your story to countermeasure@safetycenter.army.mil, fax it to us at (334) 255-3003, or mail it to us at: U.S. Army Safety Center, Attn: *Countermeasure*, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363.



Vehicle Recalls

The National Highway Traffic Safety Administration has recently announced the following recalls:

1999-2000 Lincoln Continental. Number potentially involved—43,459. **Defect:** The driver and passenger side air bags could deploy as a result of underbody impacts near the sensors. Such impacts could be caused by pieces of gravel or debris being thrown up from the wheels while the vehicle is being operated at moderate to high speeds or while accelerating. NHTSA Recall No. 03V144, Ford Recall No. 03G01.

2003 Chevrolet Trailblazer, GMC Envoy, Oldsmobile Bravada. Number potentially involved—44,653. **Defect:** Certain sport utility vehicles were built with a circumferential score on the left front brake line. If the brake line were to partially or completely break, front brake performance would be reduced and a crash could occur. NHTSA Recall No. 03V151, GM Recall No. 03025.

1995-1997 Chevrolet Astro, 1996-1997 Chevrolet S10, 1996 Chevrolet Blazer, 1994 Chevrolet Pickup (2WD), 1997 Chevrolet Pickup (2WD), 1994 Chevrolet Pickup (4WD), 1995-1996 Chevrolet Pickup (regular and extended cab), 1995-1997 Chevrolet Pickup (crew cab), 1994-1997 Chevrolet Suburban, 1994-1996 Chevrolet Tahoe, 1996 Oldsmobile Bravada, 1995-1997 GMC Safari, 1996 GMC Sierra, 1996 GMC Jimmy, 1994 GMC Pickup (2WD), 1997 GMC Pickup (2WD), 1995-1996 GMC Pickup (regular and extended cab), 1995-1997 GMC Pickup (crew cab), 1994-1997 GMC Suburban, and 1994-1996 GMC Yukon. Number potentially involved—1,755,876. **Defect:** On certain minivans, pickup trucks, and sport utility vehicles with certain model-engine combinations, the windshield wiper motor could fail due to cracked solder joints on the controller circuit board. If this were to happen, it could cause the windshield wipers to work intermittently or not at all. If this were to occur during bad weather driver visibility would be reduced, which could result in a crash. NHTSA Recall No. 03V159, GM Recall No. 03023.

2003 Kia Sedona. Number potentially involved—3,434. **Defect:** On certain passenger vehicles there was a programming error in the anti-lock braking



system (ABS) electronic control module. The program error could reduce braking force at speeds below 25 mph, which could result in increased stopping distances. Such increased stopping distances could result in a crash. NHTSA Recall No. 03V158.

1994-1995 Nissan Altima. Number potentially involved—190,000. **Defect:** Nissan is recalling these vehicles following reports that passenger air bag deployments have caused a number of moderate to severe eye injuries. Nissan has developed a new passenger air bag that is less powerful when it inflates to reduce the risk of air bag inflation-related injuries. NHTSA Recall No. 03V150.

2000-2003 Subaru Legacy, Outback. Number potentially involved—not provided. **Defect:** Certain rear suspension subframe components were produced with poor paint quality. After continued exposure to corrosive road salts over a period of years, these components could rust-out, resulting in the subframe breaking. If this were to happen while the vehicle was being driven, it could affect vehicle control and increase the risk of a crash. This recall applies to vehicles sold or registered in the following states: Connecticut, Delaware, Illinois, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, Wisconsin, and the District of Columbia. NHTSA recall No. 03V153, Subaru Recall No. WWM-96.

Owners who do not receive a free remedy for these recall defects within a reasonable time should contact the following numbers: Ford, 1-800-392-3673; Chevrolet, 1-800-222-1020; GMC, 1-800-462-8782; Oldsmobile, 1-800-442-6537; Kia, 1-800-222-5500; Nissan, 1-800-647-7261; Subaru, 1-800-782-2783. 



POV

Class A

- SM was killed when the vehicle he was riding in ran off the roadway and overturned, ejecting him. The driver of the vehicle, also an SM, was not injured.

- SM was killed when the vehicle he was riding in struck a barrier in the center of the road and overturned, ejecting both him and the driver. The driver of the vehicle, also an SM, suffered injuries to his head and was hospitalized for 17 days.

- SM was killed in a fatal accident on his way to weekend drill. No other details of the accident were reported.

- SM was killed when he lost control of his motorcycle on a country road.

- SM was killed when the vehicle he was driving ran off the roadway, struck a curb, and crashed into a tree.

- SM suffered a permanent total disability when the driver of the vehicle he was riding in lost control, causing the vehicle to spin and strike a guardrail. SM was paralyzed from the waist down as a result of his injuries. The civilian driver of the vehicle was not injured.

- SM was killed when he lost control of his vehicle after failing to negotiate an exit ramp. SM was ejected as the vehicle went down an embankment, causing the fatal injuries.

- SM was killed when his vehicle collided with a tractor-

trailer, pinning his vehicle under the truck. A fire started after the accident, and SM was fatally injured. The civilian driver of the tractor-trailer was not injured.

Class C

- SM was returning from picking up a parking pass for driving a detail in a 15-passenger van when she was hit by a civilian at an intersection. The civilian driver ran a stop sign at the intersection. SM received minor injuries to her knee in the accident.



AMV

Class A

- SM operating a 5-ton AMV suffered fatal injuries when he swerved the AMV after another vehicle, driven by a foreign national, cut him off. The AMV, which was towing another vehicle in a convoy, struck a median and overturned, killing the driver. The driver of the other vehicle was not injured.

- Three civilian occupants of a POV were killed when their vehicle struck the seventh vehicle in an eight-vehicle convoy.



Personnel Injury

Class A

- SM collapsed during physical training and was taken to the local hospital, where he later died.

- SM, an instructor, was found dead in the drop zone after conducting a routine

training High Altitude Low Opening (HALO) jump with students. SM suffered fractures to his spinal column in the accident.

- SM complained of back pain after completing the Army Physical Fitness Test and was taken to the troop medical clinic (TMC). At the TMC, SM was put on bed rest, but later lost consciousness and died after being evacuated to the local hospital.

Class C

- SM twisted his ankle while running to catch a ball during a basketball game.

- SM suffered fractures to his leg while participating in a company-organized sporting event. SM lost his balance after coming off a soccer ball and, while attempting to prevent the fall, broke his leg. The placement of SM's leg on the ground and the continued movement of his body while his leg stayed stationary caused the injury.



Other

Class C

- An explosion occurred in a nitrocellulose boiling tub house, resulting in damage to the building.

Editor's Note: Because the information published in this section is based upon preliminary accident reports submitted by units, the information is subject to change. For more information on selected accident briefs, call DSN 558-3410, (334-255-3410).

Need a Hand?

You might...

It's not a
keepsake or souvenir.

Think Responsibly, Think Safety



EOD#

Amnesty Location

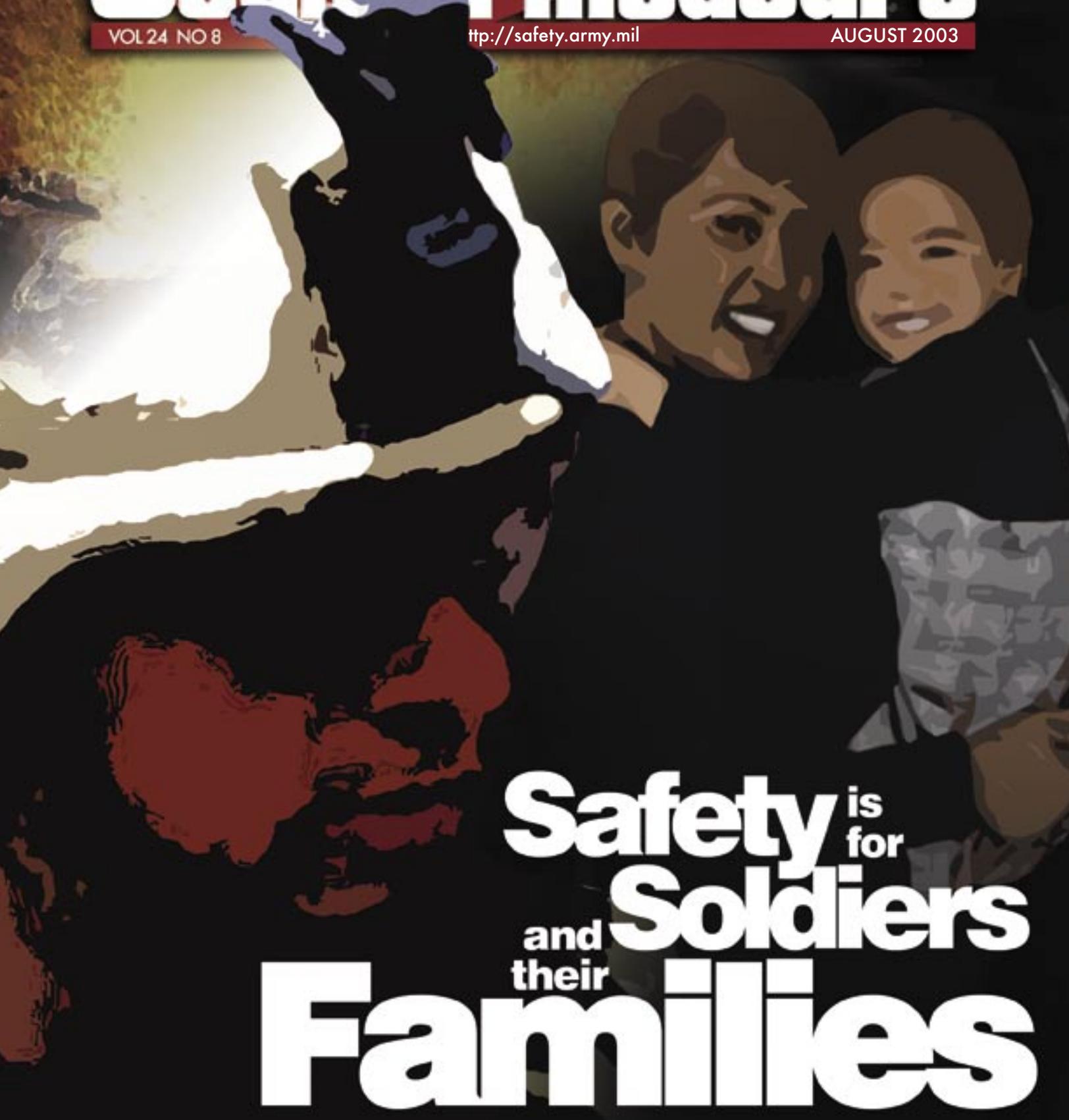
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 8

<http://safety.army.mil>

AUGUST 2003



Safety is for
Soldiers
and their
Families

CONTENTS

- 3** **DASAF's Corner**
Keep Your
"Leader Lights" On...
- 4** **Barbecuing 101**
Or How I Almost Burned
Down the Forest
- 6** **Ship of Fools**
- 8** **This Kid Don't Float!**
- 10** **Child Safety Goes With You**
- 12** **Flameout at the 19th Hole**
- 13** **Sliding Into Disaster!**
- 14** **Safely Riding the 'Gator'**
- 16** **The ABCs of Suicide
Prevention**
Part One
- 19** **Accident Briefs**
- 20** **What's Wrong With
This Picture?**

features



4



13



16



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



Keep Your “Leader Lights” On...

We're an Army of 228 years of standards-based experience. Today's leaders understand how to manage risks to protect their soldiers, enforce standards, and demand soldier discipline. These are the foundations of our Army Safety Program.

Although our leaders have made great progress in their safety programs, there is much work to be done. When we look at the accident statistics over the last 10 years, we see that the Army's rate of accidents and fatalities during recent years mirrors those of a decade ago. The hazards are clear and generally remain the same: 40.6 percent of accidents involve POVs, with military vehicle accidents accounting for just under an additional 20 percent. Sports and off-duty recreational activities caused 17 percent of recent Army fatalities. Tragically, in our current combat theater of operations, we have lost 11 soldiers simply to the negligent discharge of weapons. The statistics tell us that we continue to be our own worst enemy.

Our goal over the next 2 years and the Secretary of Defense's mandate is that we reduce accidents and fatalities by 50 percent—a tall order, but one within the ability of the world's greatest Army. Success will require more than standard risk assessments and casual weekend safety briefs—it will require innovative tools to help commanders in the field refine control measures for known hazards. It will require an effective link between the Safety Center's databases and the Army's first-line supervisors, giving them information in lieu of experience to properly risk-mitigate. Most importantly, it will require Army leaders to take an open-eyed, proactive approach toward their safety programs. Simply stated, it means that we must all turn our leader lights “on.”

Currently we have large numbers of soldiers preparing to come home and unite with their family and friends after months of successful and stressful operations. Let's be mindful that these soldiers have not been behind the wheels of their POVs for some time. Take a proactive approach to ensuring they're not fatigued when they take that first road trip. Visit our Post-Deployment POV Special Update and the updated “Leader's Guide to POV Accident Prevention” posted on our Web site at <http://safety.army.mil>. These are excellent tools to use when talking to your soldiers regarding the common, and not so common, hazards associated with POVs and re-deployment.

Clearly, this is a challenging time for our Army. The Army Safety Center, your team member, is working hard to develop additional tools and initiatives to assist in protecting your soldiers' lives and your unit's readiness. In the meantime, I ask you to keep your leader lights “on” and be the leader who prevents the next accident. ☘

BG Joseph A. Smith

Barbecue 101



It was getting toward late afternoon and the shadows were lengthening as we car-camped alongside a logging road near Lichtenstein, Germany. I was the chef for dinner and could almost taste the spare ribs we had planned for that evening. I had a brand-new fold-up barbecue that I had bought for our camping trips and was ready to get started.

I had the barbecue. I had the matches. I had the briquettes. But I forgot to bring the lighter fluid! No problem. Being a resourceful Army troop, I could “improvise.” So I asked myself, “How can I get these briquettes going? What other flammable liquid do I have available?”

My eyes fell on the gas cap of our German-made Taunus station wagon and the answer came like a bolt out of the blue—“Hmm...there’s plenty of flammable liquid in the gas tank!” And lucky me, I just happened to have a section of

rubber hose in the car.

Not one to waste time, I unscrewed the gas cap and slipped the siphon tube into the tank. This would require skill and delicate timing, as the taste of gasoline tends to ruin the palate before dinner. However, in no time flat, I had filled a small glass bottle my wife had given me. I walked triumphantly to the barbecue, proud that my resourcefulness had once again saved the day.

I liberally dribbled the gas onto the pile of briquettes. Did I say “liberally?” I was now late getting started with my cooking and the logic of it all seemed simple enough. If more gas makes the car run faster, maybe more gas will make the briquettes burn faster. Still, being somewhat cautious, I waited a couple of minutes before striking a wooden match and tossing it onto the barbecue.

“VA-WOOMPF!” Cowabunga, dude!—the

ng Or How I Almost Burned Down the Forest

BOB VAN ELSBERG
Managing Editor

explosion and fireball were breathtaking! The column of fire erupting from my grill reminded me of an F-15 taking off in full afterburner! I looked up and saw the flames dancing dangerously close to some tree limbs above. When the blaze subsided enough for me to get near my barbecue, I saw the red paint was bubbling and peeling off. I guess I'd exceeded the manufacturer's specifications for cooking temperatures.

Needless to say, that was the last time I used gasoline to start a barbecue. Fortunately, I didn't burn down the forest, but I did learn that gasoline is not a suitable substitute for charcoal lighter fluid. However, I'm neither the first nor the last person to try this. A friend of mine (a full-bird colonel, so it's not just us "grunts") once tried using gasoline to get his smoker started. When he tossed a match onto the gas-soaked coals, the resulting explosion almost sent the lid into orbit!

The good news is that you don't have to make the same mistakes we did. Here are some tips to help you keep from barbecuing more than your dinner.

Traditional Briquette Grills

- Read and follow the manufacturer's instructions for your grill.

- Place the grill in an open area out of doors. Keep it away from buildings, shrubbery, and dry vegetation—10 feet is a good measure. Also, make sure it's not in the way of pedestrian traffic.

- Do not use a grill on top of or underneath any surface that will burn, such as a porch or carport. The wooden deck attached to your house is NOT a good place to barbecue.

- Never move a lighted grill indoors, regardless of the weather or your appetite for thick, juicy hamburgers. Opening a window or garage door or using a fan might not reduce carbon monoxide to safe levels.

- Do not build a charcoal fire in an indoor fireplace. The briquettes do not produce a fire hot enough to draw the combustion products up the chimney. As a result, poisonous carbon monoxide can remain in the room.

- Use starter fluids designed for your grill. Place the can and matches away from the grill. NEVER use gasoline to light a grill.

- Never leave a lighted grill unattended.

- Keep children and pets away from a hot grill.

- If the coals start to wane or are slow to catch, fan them or use dry kindling or rolled-up newspaper to give them a boost. Adding liquid fuel could result in a flash fire.

Gas Grills

- Have your igniter ready when you turn on the grill so the gas doesn't build up and possibly cause a flash burn or explosion.

- If the burner doesn't ignite quickly, shut off the valves, leave the lid open and allow the grill to air out for several minutes before you try to light it again. This will avoid a buildup of explosive gases.

- Store the gas cylinder outside and be sure the gas is turned off at the tank to prevent accidental ignitions. Check the connections frequently for leaks using a soap-and-water mixture. Escaping gas will appear as bubbles. If you see any; tighten the connections or call a professional to repair the grill.

- Clean the metal venturi tubes annually.

- Have the tank filled by a qualified dealer—over-filling can be dangerous. 

Ever get the feeling in the pit of your stomach that you're getting into a bad situation? You look around and get clue after clue that things just aren't "quite right." As I learned the hard way, it's often a good idea to pay attention to those clues.

My friend and I had been planning all week to take his 16-foot catamaran sailing on Santa Rosa Sound, FL. After I made the 3-hour trip to his house, he greeted me in his driveway and suggested we get going soon because bad weather was forecast. That should have been my first clue.

As we packed my trunk, my friend frantically searched for his life jackets, which he hadn't seen since last year. He finally decided that they must be with the boat, so we hit the road. When we got to Santa Rosa, where the boat was being kept on another friend's property, I got my first sight of the "vessel." It was sitting on the beach amongst some weeds. This should have been my second clue. It hadn't been on the water in months and my friend probably spent upwards of \$3 a year on maintenance. Even so, the boat looked to be in good shape until I opened one of the watertight compartments and was greeted by an army of carpenter ants. My friend said, "Oh, they do that every year!" I wondered, "Shouldn't a watertight compartment be 'ant-tight' as well?"

We rigged the mast, attached the sails, loaded the cooler, and started to push the catamaran into the water. I asked my friend, "Shouldn't we put something in this drain hole?" He replied, "Oh yeah, I almost forgot!" Then I asked him about the still-missing life jackets. He rummaged through his friend's garage and returned 10 minutes later with a couple of life jackets that looked like something

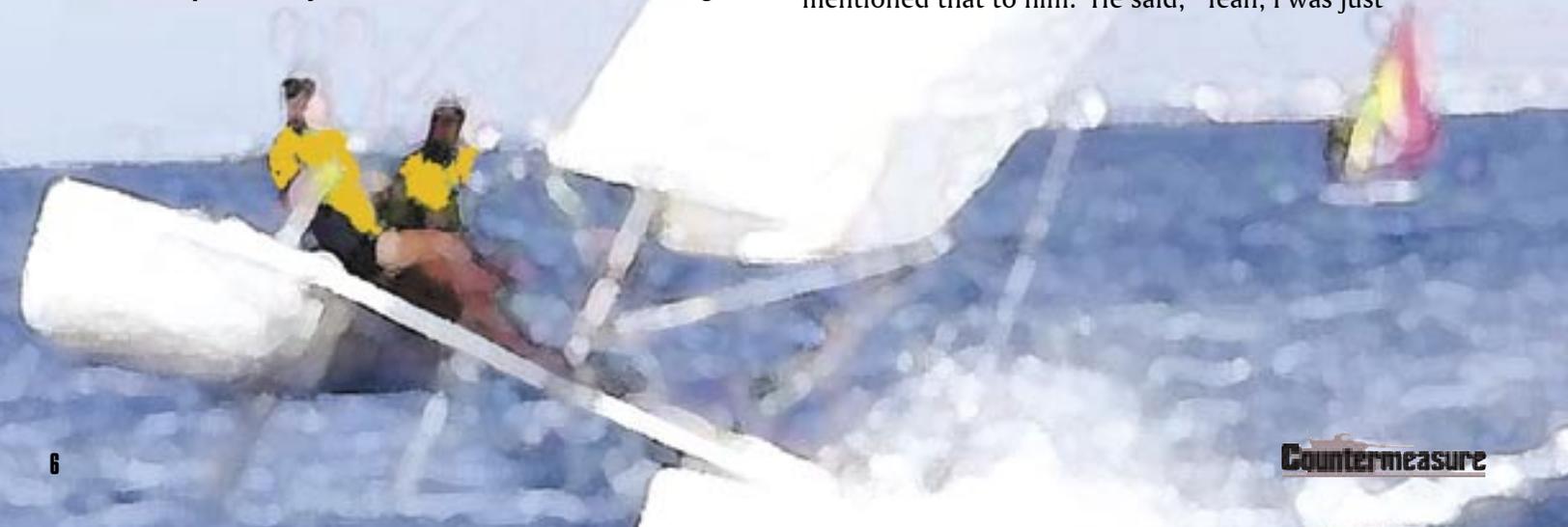
SHIP OF FOOLS

CW3 BILL BARFKNECHT
Flight Concepts Division
Fort Eustis, VA

from a 1960s beach party movie. "These will do," he said as we donned the skimpy life jackets and set out on the water. That should have been my third clue.

At first, things went pretty well. We had the wind in our faces, the sun was overhead, and it was turning out to be a great day. When we got to the middle of the sound where the shipping channel cut through, I saw my friend looking around on his "sporty" life jacket. I asked, "What's up?" He said, "I usually bring a whistle so I can get the attention of other vessels if need be. But no big deal, they'll see us." That should have been my fourth clue.

As we sailed, he told me about the time the wind was so calm he just drifted with the current, unable to control where he was going. He'd been stuck for hours a short distance from shore, but couldn't get in because he didn't have a paddle. I looked around and noticed WE didn't have any paddles and mentioned that to him. He said, "Yeah, I was just



thinking that myself. But the wind is blowing today and we're close to shore. We'll be OK." That should have been my fifth clue.

As we tacked (zigzagged) across the water, he told me about the time the wind blew so hard one of the wires supporting the mast broke and the mast fell into the water. He drifted in rough seas until a passing boater saw him and towed him to shore. "Not to worry," he said. He assured me the wires were all new, so that wouldn't happen again.

We'd just cleared the shipping channel and started to tack to get back on course. As we came about, I heard a grinding noise and watched the mast lean over and fall into the water. My friend sat there in disbelief as the sails took on water and started to sink.

This was NOT good. We were drifting near the shipping lane without paddles or signaling devices. I also noticed that we seemed to be settling deeper in the water. Apparently the water had found the same hole the ants used to get into the watertight compartment. At least we had life jackets.

We tried to clean up the mess of ropes and sails as we drifted towards the shore. We finally drifted into waist-deep water and dragged the boat onto the beach. I removed the drain plug and water began pouring out. I was right—we'd been sinking!

What did I learn from this? First, we should have checked the boat over closely before setting sail. The mast fell because a piece of hardware failed. Because of the carpenter ants, the boat nearly sank out from under us. Also, we lacked signaling devices and a paddle, which could have been disastrous if one of us had gotten hurt or the weather turned nasty.

Take a clue from me; use a little risk management when you go boating. Enroll in a boater's safety course through your Morale, Welfare and Recreation (MWR) office or local Coast Guard Auxiliary. Here are some useful safety tips:

- Have your craft inspected annually, and routinely

check the boat yourself. You also can call the U.S. Coast Guard Auxiliary for a free safety inspection.

- Before setting out, get the latest weather forecast for your area. The National Oceanic and Atmospheric Administration broadcasts reports regularly to keep you updated. Take your radio with you and monitor the forecast.

- Know your boat's handling characteristics and don't go beyond your skills.

- Develop a "float plan" before sailing and tell someone where you will be going.

- Don't drink and boat. The lack of lanes and traffic signals on the water can make boating even more difficult than driving a car.

- In small boats, everyone should remain seated while the boat is in motion. Keep loads spread evenly and as low in the boat as possible.

- Wear your personal flotation device (life jacket) at all times—you may not have time to put it on during a sudden emergency.

- Take a portable communication device for emergencies.

- Carry additional safety equipment such as a paddle or oars, first-aid kit, bailer bucket or scoop, anchor and line, reserve fuel, and tools and spare parts.

- When boating at night, make sure you have a light that can be seen for 2 miles.

- Maintain a clear, unobstructed view ahead at all times. Scan the area ahead on either side for any dangers. 🚤

For more information on boating safety check out the following Web sites:

www.boatsafe.com

www.uscgboating.org

www.boatus.org/onlinecourse

Contact the author at (757) 820-1086, or e-mail b.barfknecht@us.army.mil.

"We were drifting near the shipping lane without paddles or signaling devices."

This Kid Don't Float!

BOB VAN ELSBERG
Managing Editor

When I was a kid, my cat and I shared one thing in common—we both hated the water. I didn't want to shower in it, bathe in it, or—worst of all—get into water above my head. I just knew I'd float like a brick, so it wasn't good news when my dad told me I WAS taking swimming lessons. However, dad was twice my size and could flick a fly off the wall with his belt, so my options were, well ... "limited."

The appointed and much-dreaded day came. I found myself at the local pool with a lot of other youngsters also slated to take the swimming class. The instructors assured us there wouldn't be any real danger and that this would be fun. At that moment I would have gladly swapped his idea of fun for getting a filling without Novocain.

With some coaxing, I finally eased into the shallow end of the pool. After much instruction, I tried the butterfly and back floats. While I wasn't exactly graceful, at least I didn't go to the bottom. "Buoyed" by my new-found confidence, I thought, "Maybe I can learn to swim after all!"

Once the entire class had proven they could float, the instructor introduced us to the belly board. "Cool," I thought, "This will keep me on top of the water. If I can kick just right, maybe I'll actually go somewhere."

All of this seemed very reasonable until he took us to the deep end of the pool. I was no mathematical genius, but even I knew that the 6-foot-deep water was well over my head. Deciding I needed lots of time to observe others mastering this task, I made sure I was LAST in line. When my time finally came, I just stood there frozen in place like a statue. The instructor, noticing I was in a cold sweat, told me to take my time and do it when I was ready.

He then turned his attention to the other kids.

Realizing I had to finish this class or go home to dad and explain "why," I hugged the board and jumped into the pool. I might have made it had I not been such an uncoordinated child. Somewhere during my brief flight, I snap rolled 90 degrees to the left and landed sideways in the water.

This was not what I'd had in mind! I'd imagined myself crossing the pool atop the board but instead, the *evil beast* turned on me. Being a better floater than I, the belly board broke the surface first, leaving me hanging beneath like the centerboard of a sailboat. I was embarrassed, but confident an instructor would soon rescue me. I was also glad I had proven to myself that I could hold my breath for almost a minute.

So I hung there and waited ... and waited ... and waited. As my lungs reached the bursting point, I realized that I wasn't going to be rescued. Finally, I couldn't hold my breath any longer. I gasped and felt the water rushing into my throat. Suddenly, nothing mattered anymore. I wasn't in any pain and I was no longer scared. I just relaxed and let go of the board. My last thought was of a cartoon I'd seen earlier that day. Then everything just went black.

I don't know how long I was unconscious. When I woke up I was lying on the concrete next to the pool, spitting up water like a geyser. I could see the instructor kneeling over me with a worried look on his face.

Needless to say, my swimming lessons were over for the day. Fortunately, I survived—which means I have a few lessons I'd like to pass along.

First, if you have a child in the pool that can't swim, you can't afford to be distracted for even a moment. In the time it takes to answer



the phone or go to the refrigerator for a soda, a child can get into serious trouble.

Second, belly boards, inflatable toys, and plastic tubes are no substitute for being able to swim. Just because they float doesn't mean they'll keep your child safe.

Having experienced what it is like to drown, I can tell you that it is a helpless and terrifying feeling. It's something you never want to happen to someone you love. To help protect you, your family, and your friends, here are some useful suggestions:

- Keep a cordless telephone at poolside so it will be there if you have an emergency. Also, you won't have to leave the pool to answer a call.
- Keep the deck clean and free of debris.
- Don't allow electrical appliances that aren't protected by a ground fault circuit interrupter (GFCI) anywhere in the pool area.
- The water's depth should be marked clearly on the pool deck and, if possible, on the side of the pool above water level.
- Install a fence around the pool that meets local code and will keep small children from squeezing through and getting into the pool area.
- To help prevent cuts, avoid using plates or cups made from breakable materials such as glass, ceramic or plastic.
- Cut out the horseplay. Pools are for swimming, not wrestling and tumbling.
- Use a float line to indicate the break between the shallow and deep areas of the pool.
- Don't swim if you're tired, on medication, or intoxicated.
- Before getting into the water, completely remove all pool covers so that swimmers can't accidentally get trapped beneath them.
- Dive only from the diving board, not the side of the pool. Diving from the side increases the risk of hitting the bottom of the pool or the opposite wall.
- Never swim alone or allow others to.
- Learn CPR! 🚑

This article was adapted from one the author originally wrote for the spring 2000 issue of *Road & Rec* magazine. Contact the author at (334) 255-2688, DSN 558-2688, or e-mail robert.vanelsberg@safetycenter.army.mil.

Child Safe

Goes With

JANET DOROTHY and **JULIE SHELLEY**
 CP-12 Intern and Editor

It was a dreary, rainy day in March 1978, and I had spent most of the day at a laundromat 9 miles from home. My 2-year-old daughter was not on her best behavior. She did not understand that we were about to leave our home to live in a foreign country.

We had been at the laundromat that day to help prepare for our permanent change of station move to Belgium. When we returned home nearly 4 hours later, I discovered I'd left several

loads of laundry at the laundromat. I put my daughter back into the car and we got on the highway again. The rain was coming down hard, but I was in a hurry

and ignored safety.

As we were driving, a flash flood suddenly rushed down the side of a hill, bringing with it a branch that caught my car just behind my left front tire. I lost control and realized I was going to crash. Instinctively, I grabbed my daughter, who was not in a child safety seat, and pulled her from the backseat onto the front seat. Then I covered her body with mine in the hopes that she would survive.

The car crashed into a grove of sugar maple saplings. We flipped and bounced for what seemed like a half an hour. The car finally came to a stop on the side of road, sitting on four flat tires. Thankfully, we survived with only some bumps and bruises.

In 1978, the law didn't require the use of child safety seats and I didn't use one. As a result, I endangered my child's life, something of which I am ashamed to this day. I now have two granddaughters and make every effort



ety You

to ensure they are strapped into their safety seats properly. People with small children must take the time to ensure their children are buckled up safely and correctly. I know—from experience.

Note: Ms. Dorothy, a CP-12 intern currently assigned to the Joint Readiness Training Center (JRTC) in Fort Polk, LA, learned her lesson in child safety seat awareness the hard way. Fortunately, both she and her daughter lived to tell this story, but many children do not. An estimated 1,471 kids died in vehicle accidents in 2000. Of those fatalities, 52 percent were unrestrained, 18 percent were incorrectly restrained, and 35 percent were in the front seat of the vehicle

when it crashed. A child safety seat works only if it is used properly and installed correctly. The following information is derived from the “One Minute Safety Seat Checklist” found on the National Highway Traffic Safety Administration’s (NHTSA) Web site (www.nhtsa.gov). The site also provides other excellent information on child safety seats, including a recently released safety standards grading card for infant, convertible and booster seats, as well as safety seat recall information. 🚗

Ms. Dorothy can be reached at DSN 863-7527, or e-mail janet.dorothy@us.army.mil; Ms. Shelley can be reached at (334) 255-1218, DSN 558-1218, or e-mail shelleyj@safetycenter.army.mil.

Child Safety Facts on the Go

Always check to be sure:

- All children age 12 and under are properly restrained in the backseat.
- A child is not placed in a rear-facing child safety seat in the front seat where a dash-mounted passenger air bag is present.
- You’ve read the child safety seat use and installation instruction manual.
- You’ve read the section in your vehicle owner’s manual on seatbelts and child safety seat installation.

Are you using the proper child safety seat?

- Infants from birth to age 1 who weigh at least 20 pounds should ride in the backseat in a rear-facing safety seat.
 - Harness straps should be at or below the infant’s shoulders.
 - Harness straps should fit snugly and lie in a relatively straight line.

– The harness chest clip should be placed at the infant’s armpit level to keep the harness straps positioned properly on the child’s shoulders.

- Infants less than 1 year old who weigh 20 pounds or more should ride in a rear-facing convertible child safety seat rated for heavier infants (some convertible seats are rated up to 30 to 35 pounds when used rear-facing).

- Children older than 1 year who weigh at least 20 pounds may ride on the backseat in a forward-facing child safety seat. Children should ride in a safety seat with a full harness until they weigh about 40 pounds.

- Harness straps should be at or above the child’s shoulders.
- In most cases the harness straps should be threaded through the top slots.
- The harness straps should fit snugly and lie in a relatively straight line.

– The harness chest clip should be at the child’s armpit level to help keep the harness straps positioned properly on the child’s shoulders.

- Children less than 4’9” tall who have outgrown child safety seats should be restrained properly in booster seats until they are at least 8 years old.

– When using belt-position booster seats, make sure the shoulder and lap belts go across the child. The shoulder belt should be snug against the child’s chest, resting across the collarbone. The lap belt should lay low across the child’s upper thigh area.

– Booster seats should be used as “interim” safety devices for children weighing over 40 pounds that have outgrown a forward-facing child safety seat.

– Booster seats should be used until children can sit with their backs against the vehicle’s backseat back cushion, their knees bent over the seat cushion edge and their feet on the floor. This normally requires the child to be approximately 4’9” tall.

– State child safety seat laws may vary. Be sure you understand and follow your state’s requirements.

“**C**all 911! Get an ambulance over here now!” I yelled as I saw my buddy sitting in his chair unconscious and vomiting all over himself. What a way to end 18 holes of golf.

Although it had been a beautiful Saturday morning when we'd teed up, thunderstorms were predicted for the afternoon and it was going to be 90° F and humid.

We took practice swings while waiting for our fourth player, Jim, to show up. Ten minutes before our 0740 tee time, he arrived. “Hey Jim,” I said, “I hope you brought plenty of water with you today. It's going to be a scorcher.”

“No, I didn't,” he replied, as he began hitting a few practice balls.

I ran back to the clubhouse to get a score card and buy Jim a 16-ounce bottle of water. That way he would have something to drink and a container to fill with more water as we walked the course and carried our heavy bags.

Throughout the 18 holes, we kept warning Jim that he needed to drink lots of water. During all of the times I had golfed with Jim, he never seemed to drink enough. He always took small sips, and on this day I never once saw him fill his container. Near the end of the round—with the temperature and humidity really high—I asked him if he wanted a cold drink from one of the machines. He said “No,” that he had his water.

We finished the round at noon and, as always, went straight to the 19th Hole for refreshments. We were

arrived, they checked Jim's vital signs and asked us what had happened. They then asked Jim what he'd had to eat and drink that day. That's when we found out that he hadn't had any breakfast—only a cup of coffee. He also hadn't finished the water in the bottle I'd given him when we started the round.

Jim didn't have a clue what had happened to him. He was still pale and weak, so the paramedics put him on oxygen. That seemed to do the trick. Within minutes, Jim was acting like his old self again. I drove him home, and called later to make sure he was OK.

Jim was like a lot of us. We think that if we are in good shape, we should be able to do almost anything. After all, what is so tough about walking around a golf course for 18 holes with a golf bag on your back—regardless of the heat?

Jim was fortunate to have gotten through those 18 holes and made it to the 19th Hole before he passed out. What would have happened if he had collapsed on the golf course—away from cold compresses, water, or a phone to call for help? If we hadn't been able to get his core temperature down rapidly, he might have suffered brain damage or even died.

Drinking plenty of water during hot weather is a must whether you are exercising, working in your yard or doing military training. Just because you are young and in good shape doesn't mean you can ignore the need to keep properly hydrated. And don't wait until you are thirsty because, by then, it may be too late. They don't call water the “elixir of life” for nothing. 🍷

Flameout at the 19th Hole

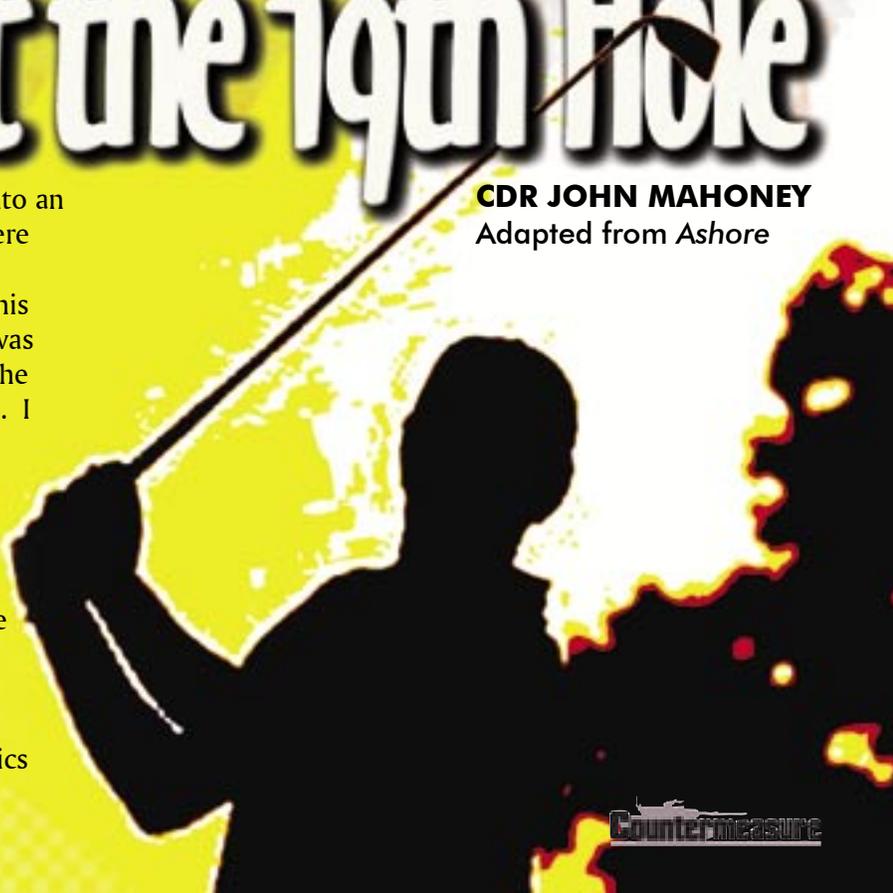
all hot. It was a relief to get out of the sun and into an air-conditioned room. A few minutes later, we were seated around a table enjoying a cold one.

By that time, Jim wasn't looking or acting like his usual self. I asked him if he was OK. He said he was just hot and tired. I told him that he looked as if he needed some water, and I went to get him a glass. I also got a cold, wet rag to put on his neck.

When I returned to the table, Jim was unconscious and vomiting. According to one of the other golfers, while I was gone Jim's eyes rolled to the back of his head and he passed out. While we tried to revive him, I yelled for someone to call 911. After a few moments, Jim came to.

As we waited for the paramedics to arrive, we put cold compresses on the back of Jim's neck and gave him water to drink. When the paramedics

CDR JOHN MAHONEY
Adapted from *Ashore*





The Accident Sequence

The soldier was being given driver's orientation training on the newly installed anti-lock braking system (ABS) in an M925A1 5-ton truck. He was accompanied by a civilian contractor driving instructor as he drove down a straight section of roadway at an estimated 55 mph (5 mph over the speed limit). As he drove down the road, the soldier pushed hard on the brakes to slow the truck. However, the ABS was not operating and the truck reverted to normal braking, which caused the vehicle to go into a skid. As the truck skidded it rotated counterclockwise, went off the side of the road, and slid sideways down a shallow embankment. As the truck slid, the tires dug into the gravel and hard-packed dirt, causing the truck to roll 1¼ times until it came to rest on the passenger's side. Although the driver and instructor were

Sliding Into Disaster!

MAJ DONALD GRAHAM
Chief, Combat Service
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wearing their seatbelts, both were fatally injured.

There were several factors that contributed to this accident. Those factors included the driver being unlicensed (therefore, inexperienced with the equipment), excessive speed, unit leadership, and failure to properly use personal protective equipment (PPE). In addition, the investigators noted that the ABS BYPASS (failure) light was in a location where it was hard to see on the vehicle's dash. We will now look more closely at each of these issues:

Why the Accident Happened

- The driver had not been trained or licensed by his unit to drive the M925A1 truck. As a result, he didn't know how to handle the emergency situation created when the ABS failed and the vehicle reverted to the old braking system.
- The unit made an improper choice by sending a soldier who was not licensed to drive the M925A1 to attend this training.
- The driver did not follow posted speed limits. While the section of roadway where the accident occurred was posted for 50 mph, prior to that point the speed limit was 30 mph. Because the vehicle skid marks began only 1½ feet into the 50-mph zone, the driver had accelerated to approximately 55 mph while still driving in the 30-mph zone.
- Neither the soldier nor the instructor properly used the PPE available. Although the driver's two-point retractable seatbelt worked as designed, he

was not wearing his Kevlar helmet, a requirement his unit had for soldiers driving tactical vehicles. The civilian passenger did not properly adjust his two-point seatbelt, leaving it loose around his waist. As a result, the seatbelt didn't properly restrain him during the accident.

- Because the ABS BYPASS light is difficult to see, neither the driver nor the instructor may have noticed that it was illuminated.

Recommendations

- Unit driver's training programs must ensure soldiers are trained and licensed before sending them to receive advanced training on a vehicle. Unit leaders must thoroughly know their soldiers' capabilities to avoid sending them to training for which they are not qualified.
- Speed limits are designed with safety in mind. Soldiers must follow the posted speed limits to protect themselves, their passengers, and other vehicles on the road.
- PPE, when properly used, is designed to protect wearers from injury. Not wearing PPE, or using it improperly, limits or negates its ability to protect wearers. That can often mean the difference between life and death. 

For more information contact Ground Systems and Accident Investigation Division, DSN 558-9525, (334) 255-9525.

CATOPDCA

Safely Riding the 'Gator'

SFC RAYMOND HAMILTON
U.S. Army Safety Center

Soldiers deployed in Southwest Asia probably have grown accustomed to seeing something a little unusual in the desert, something that might even remind them a little of home: an all-terrain vehicle (ATV) made by John Deere called the M-Gator.

The six-wheeled M-Gator is the military version of the commercial Gator family of utility vehicles, generally used for landscaping and other heavy projects. However, unlike the commercial Gators, the M-Gator was designed exclusively for and is available only to military organizations, with the Army being a primary customer. M-Gators can be found scattered throughout Army units and have been used extensively in Operations Enduring Freedom and Iraqi Freedom for several basic missions, including transporting supplies. The M-Gator has supported airborne operations and drop zone recovery with the 82nd Airborne Division at Fort Bragg, N.C., and served on the front lines supporting the XVIII Airborne Corps' artillery. And, apparently, this piece of equipment is here to stay: the House Armed Services Committee recently appropriated \$2.5 million to buy more M-Gators for the military.

Besides its rugged durability, the M-Gator has many useful functions. Just ask any soldier who has had to move bulky equipment over a long distance without a HMMWV or the sergeant tasked with the command sergeant major's or first sergeant's police detail. The M-Gator is certified for airdrop and is transportable in most fixed- and rotary-wing utility aircraft. It also can be carried as an external sling load on some helicopters. The M-Gator's 3-cylinder, liquid-cooled 18-horsepower diesel engine can use either diesel or JP-8 fuel and has a continuously variable transmission that eliminates shifting. The M-Gator seats two, has a payload capacity of 1,400 pounds—including

a 200-pound driver and a 200-pound passenger—and comes equipped with a multi-position, heavy-duty cargo box with fold-down sides and tailgate and a power lift. The vehicle can reach speeds up to 18 mph and its low-pressure tires help soldiers get where they need to go.

With all of its good points, the M-Gator can still be dangerous if not used correctly. M-Gators have been purchased through the General Services Administration (GSA) catalog and the Army has yet to publish guidance on restrictions regarding occupants, speed, load, and towing limits. The U.S. Army Tank-Automotive and Armaments Command (TACOM) recently released Safety of Use Message (SOUM) 03-006. This SOUM warns of the danger of serious injury or severe vehicle damage if drivers ignore the warnings in the commercial off-the-shelf John Deere technical manual(s). In accordance with the SOUM, M-Gator users should adhere to the following limitations:

- The M-Gator shouldn't be used to evacuate litters or carry casualties. In the event of a rollover, soldiers in litters are likely to be crushed.
- At no time should more than two riders (the driver and one passenger) be on the M-Gator. The cargo load limit of 1,000 pounds must be followed, and the driver and passenger must wear helmets and eye protection while the vehicle is in motion.
- All loads over 50 pounds must be strapped





securely to the rear cargo tie-downs or to the cargo shelf in the front of the vehicle.

- The M-Gator is not towable—doing so will damage the chain drive, transaxle, and tires. In addition, the M-Gator has not been evaluated for its towing ability, so operators should not attempt to tow trailers behind the M-Gator.

- To ensure the vehicle is safe to operate after an airdrop, drivers should inspect the M-Gator for damaged or loose components and for fluid leaks prior to operating.

- Ammunition must be placed on a pallet and strapped securely in the rear cargo area.

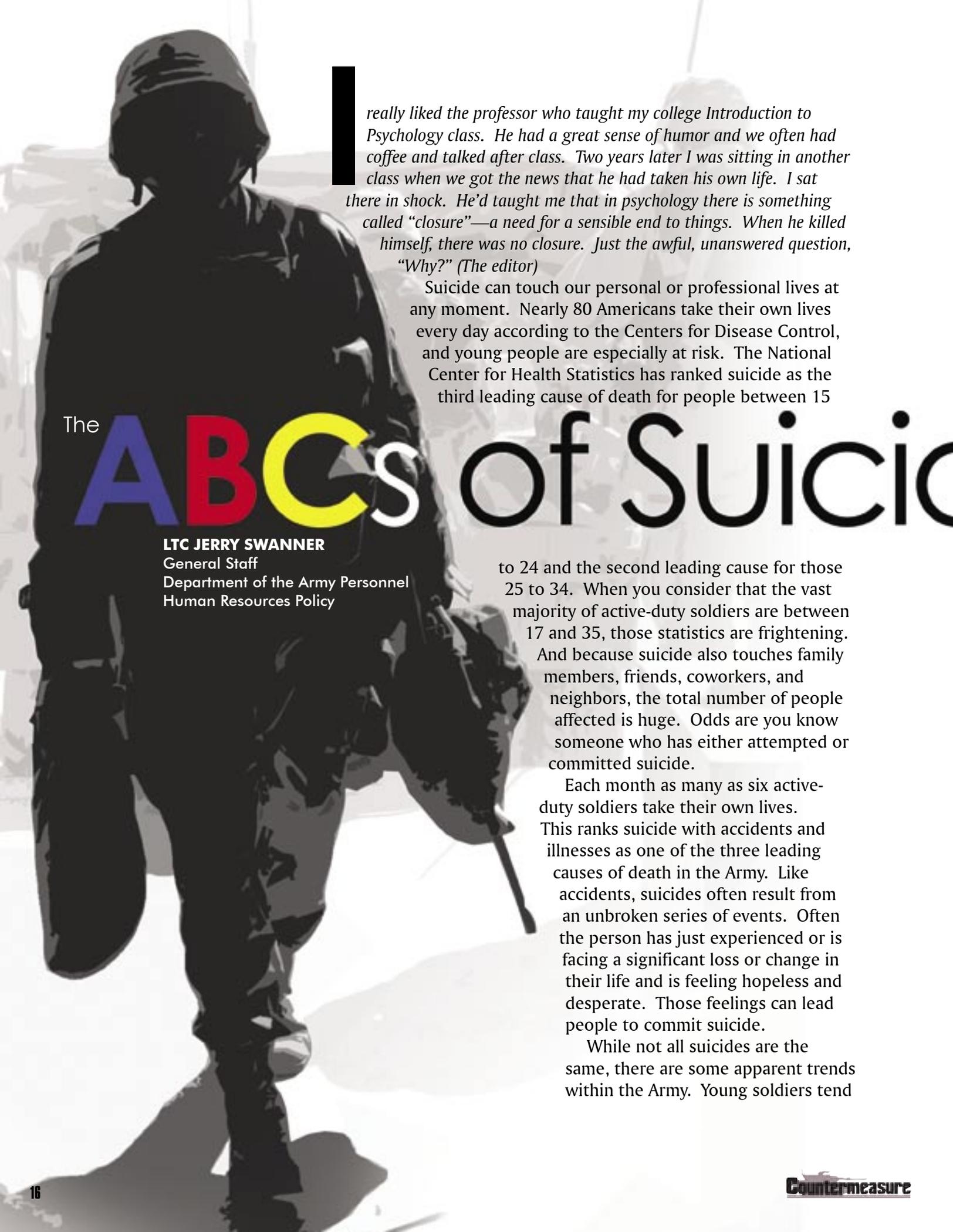
- The M-Gator meets neither DoD nor Army Regulation 385-55 safety standards for use on public roads. M-Gators should not be operated on public roadways—except when crossing over them—and then only at designated crossing

points or with road guards.

Some Army organizations have conducted their own risk assessments and set risk reduction measures in place for the M-Gator. An example of this is the XVIII Airborne Corps and Fort Bragg Memo 25-50, Master Policy No. 73, *Fort Bragg Safety Policy on Utilization of the Utility Vehicle M-Gator*. This policy states that passengers may not ride in or on the vehicle's cargo areas, and that drivers must be licensed and have their qualifications to drive the M-Gator annotated on an OF 348. There are many other good directives listed in Policy No. 73.

The next time your first sergeant asks you if you have seen the unit's M-Gator, you will now know which piece of equipment he or she is talking about. 🐊

Contact the author at (334) 255-2933, DSN 558-2933, or e-mail hamiltor@safetycenter.army.mil.



Lreally liked the professor who taught my college Introduction to Psychology class. He had a great sense of humor and we often had coffee and talked after class. Two years later I was sitting in another class when we got the news that he had taken his own life. I sat there in shock. He'd taught me that in psychology there is something called "closure"—a need for a sensible end to things. When he killed himself, there was no closure. Just the awful, unanswered question, "Why?" (The editor)

Suicide can touch our personal or professional lives at any moment. Nearly 80 Americans take their own lives every day according to the Centers for Disease Control, and young people are especially at risk. The National Center for Health Statistics has ranked suicide as the third leading cause of death for people between 15

The

ABCs

LTC JERRY SWANNER

General Staff

Department of the Army Personnel
Human Resources Policy

of Suicide

to 24 and the second leading cause for those 25 to 34. When you consider that the vast majority of active-duty soldiers are between 17 and 35, those statistics are frightening. And because suicide also touches family members, friends, coworkers, and neighbors, the total number of people affected is huge. Odds are you know someone who has either attempted or committed suicide.

Each month as many as six active-duty soldiers take their own lives. This ranks suicide with accidents and illnesses as one of the three leading causes of death in the Army. Like accidents, suicides often result from an unbroken series of events. Often the person has just experienced or is facing a significant loss or change in their life and is feeling hopeless and desperate. Those feelings can lead people to commit suicide.

While not all suicides are the same, there are some apparent trends within the Army. Young soldiers tend

to act very impulsively, often committing suicide within minutes of facing a crisis. Soldiers with impulsive personalities and easy access to lethal means (such as a firearm) are at much greater risk. Older soldiers tend to plan their deaths; making arrangements and placing their personal affairs in order.

Complicating the matter, soldiers who commit suicide rarely seek help through their chain of command, chaplain, or available helping agencies. In fact, only 20 percent previously sought help at an Army Behavioral Health facility. Adding to the challenge, few soldiers display the classic suicide warning

signs while they're with their fellow soldiers. Instead, they typically act when they are alone and choose a very lethal means, effectively preventing any chance of rescue, according to Dr. David Orman, psychiatry consultant to the Army Surgeon General.

Many units and installations have taken action to successfully lower the suicide risk for their soldiers. The common denominator in these programs has been the personal involvement of leaders, from the installation commander and command sergeants major down to squad and team leaders. Effective installation suicide prevention committees and task forces emphasize leadership and training and follow the ABCs of successful intervention. Those ABCs are:

- **Awareness**
- **Becoming Involved**
- **Compassion**

Awareness

Suicide prevention begins with peers, "battle buddies," first-line supervisors, and leaders knowing what's happening in the lives of their soldiers, family members, and civilian employees. In most cases, suicides are triggered by the loss of an intimate relationship such as a divorce, separation, break-up of a romantic relationship, the death of a loved one, or a child custody battle. In addition, financial difficulties, facing charges under the Uniform Code of Military Justice, or a pending separation from the service can trigger a suicide. In some cases, the loss may

be internal, making the cause of the suicide less apparent. Such things include the loss of one's self-esteem (humiliation), or the loss of social acceptance (being ostracized). Also, an unwanted permanent change of station or deployment can trigger a suicide.

Becoming Involved

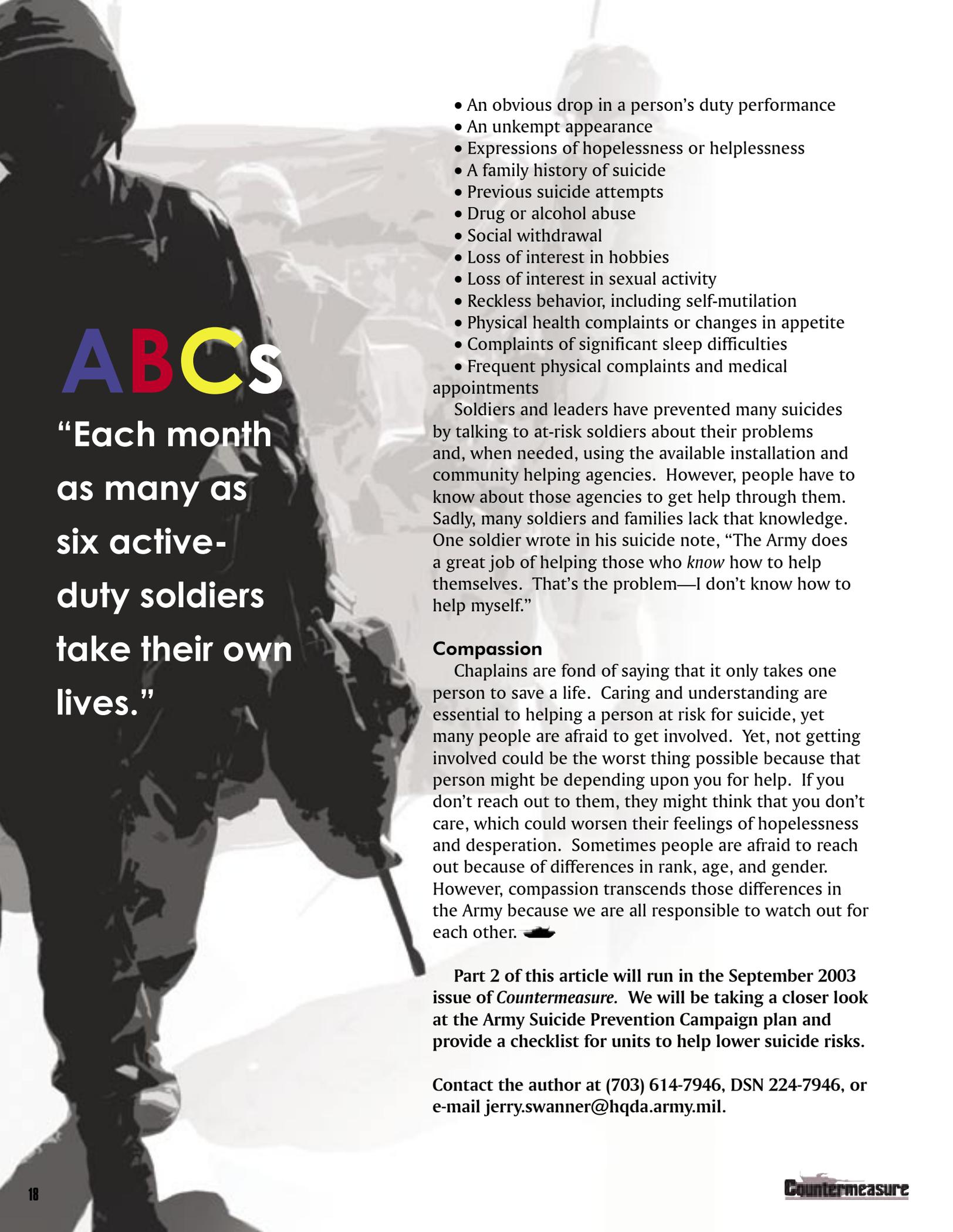
If you know someone is facing a particular crisis, you need to act before the problem becomes so bad the person considers suicide. It's important for you to recognize the danger signs and reach out to that person, because they might be close to acting. Be concerned when you see a person who:

- Talks or hints about suicide
- Makes a plan and acquires the means to commit suicide
- Has a desire to die
- Is obsessed with death, including sad music, poetry or art
- Writes about death in letters or notes
- Finalizes their personal affairs
- Gives away their personal possessions

Other warning signs include:

de Prevention

part 1



ABCs

“Each month as many as six active-duty soldiers take their own lives.”

- An obvious drop in a person’s duty performance
- An unkempt appearance
- Expressions of hopelessness or helplessness
- A family history of suicide
- Previous suicide attempts
- Drug or alcohol abuse
- Social withdrawal
- Loss of interest in hobbies
- Loss of interest in sexual activity
- Reckless behavior, including self-mutilation
- Physical health complaints or changes in appetite
- Complaints of significant sleep difficulties
- Frequent physical complaints and medical appointments

Soldiers and leaders have prevented many suicides by talking to at-risk soldiers about their problems and, when needed, using the available installation and community helping agencies. However, people have to know about those agencies to get help through them. Sadly, many soldiers and families lack that knowledge. One soldier wrote in his suicide note, “The Army does a great job of helping those who *know* how to help themselves. That’s the problem—I don’t know how to help myself.”

Compassion

Chaplains are fond of saying that it only takes one person to save a life. Caring and understanding are essential to helping a person at risk for suicide, yet many people are afraid to get involved. Yet, not getting involved could be the worst thing possible because that person might be depending upon you for help. If you don’t reach out to them, they might think that you don’t care, which could worsen their feelings of hopelessness and desperation. Sometimes people are afraid to reach out because of differences in rank, age, and gender. However, compassion transcends those differences in the Army because we are all responsible to watch out for each other. 🐾

Part 2 of this article will run in the September 2003 issue of *Countermeasure*. We will be taking a closer look at the Army Suicide Prevention Campaign plan and provide a checklist for units to help lower suicide risks.

Contact the author at (703) 614-7946, DSN 224-7946, or e-mail jerry.swanner@hqda.army.mil.



AMV

Class A

■ A soldier was killed when the HMMWV he was operating as part of an escort mission struck a curb and overturned.

■ Three soldiers were killed when the LMTV they were riding in as part of a convoy overturned. The driver of the LMTV reportedly lost control of the vehicle, resulting in fatal injuries to himself and two passengers.

■ A soldier and a civilian contractor suffered fatal injuries when their 5-ton truck rolled over. The civilian contractor was conducting driver's training for the soldier on the vehicle's recently installed anti-lock brake system MWO. The soldier was operating the truck at the time of the accident.



ACV

Class A

■ A soldier was operating an M113 when she was steering and apparently lost control of the vehicle, causing it to roll over. The soldier's upper body was pinned underneath the vehicle and she suffered fatal injuries.



Personnel Injury

Class A

■ Two soldiers were killed while mountain climbing. The ice bridge they were crossing collapsed, causing them to fall 250 to 300 meters and resulting in fatal injuries to both.

■ A soldier drowned after he jumped into a 7-foot-deep aqueduct. The soldier was pronounced dead by medical

personnel en route to the hospital.

■ A soldier was killed when his main chute became entangled with another soldier's chute during a parachute landing fall (PLF). The deceased soldier's main chute reportedly collapsed and his reserve chute did not deploy, causing fatal injuries upon landing.

■ A soldier was pronounced dead at a local hospital after he was found unresponsive in a swimming pool.

■ A soldier and his son were found dead 2 days after they disappeared while kayaking on a private body of water.

Class B

■ Two soldiers who had stopped to render assistance at an automobile accident were struck by an oncoming vehicle. One soldier received injuries to his leg, back, and skull and suffered internal bleeding. The other soldier suffered chest injuries and fractured ribs. The accident occurred during a sandstorm.

■ A soldier suffered a permanent partial disability when his left-hand fingers made contact with the shears of a cardboard bailer he was operating, resulting in amputation.

■ A soldier suffered a permanent partial disability when he fell off the back of an LMTV, hitting his head on the pavement. The soldier had been conducting routine maintenance on the LMTV at the time of the accident.



POV

Class A

■ A soldier was killed when he

lost control of his POV, ran off the roadway and struck a telephone pole.

■ A soldier was killed when the POV he was driving ran off the roadway and overturned.

■ A soldier was killed when her POV was struck by another vehicle. The soldier, her daughter and sister were traveling west when an eastbound vehicle jumped the median and struck them. The soldier's sister also was killed in the accident.

■ A soldier suffered fatal injuries after his POV was involved in a head-on collision with another vehicle. The civilian driver of the other vehicle was not injured.

■ A soldier was killed when he lost control of his POV and his vehicle ran off the roadway and struck several trees. The soldier was not wearing his seatbelt and was ejected from the vehicle.

■ A soldier was found dead on an interstate access road after he apparently was struck by a POV.

■ A soldier suffered fatal injuries when his POV was involved in a multiple-car pileup.

Class C

■ A soldier suffered fractures to his neck after he was hit by a truck at an intersection. The soldier was riding a bicycle and crossing the intersection at night when the truck hit him. The soldier had purchased the bicycle from a retailer and did not realize the manufacturer had not installed reflectors on it. In addition to the missing reflectors, the soldier also was not wearing a helmet and reflective vest.

Chock → → → → Shock! ← ← ← ←



**What's wrong with
this picture?**

NOPE, WE DIDN'T GET THIS FROM THE 'FAR SIDE', IT REALLY HAPPENED! HINT-IF YOU WERE PARKING UPHILL, WHERE WOULD YOU PUT THE WHEEL CHOCK?



ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 9

<http://safety.army.mil>

SEPTEMBER 2003



Cold Weather

Issue

CONTENTS

- 3** **DASAF's Corner**
Bridging the Gap Between
Lack of Experience and
Safety Excellence
- 6** **A Warm Tent and a Cup
of Soup**
- 9** **Cold Hurts!**
- 12** **A Long Winter's Night**
- 14** **The ABCs of Suicide
Prevention**
Part Two
- 17** **Accident Briefs**
- 18** **Mail Call**
- 20** **When Using Cold Weather
Clothing, Remember
C-O-L-D**

features



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.

Bridging the Gap Between Lack of Experience and Safety Excellence



As we approach the end of this fiscal year, the potential exists for the Army to experience its highest number of accident fatalities since 1994. The Secretary of Defense has laid out a clear challenge for us: **reduce the number of mishaps and accident rates by at least 50 percent in the next two years.** The key to achieving this goal lies in bridging the gap between lack of experience and safety excellence.

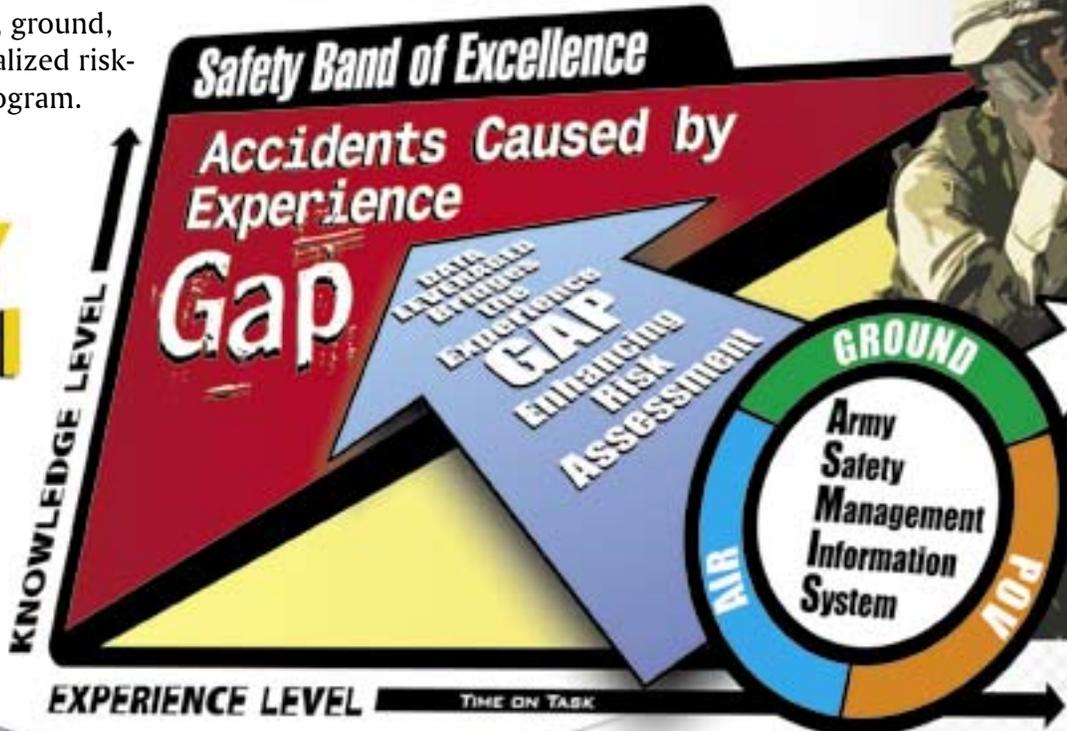
Recent deployments to Afghanistan and Iraq have taught me that accident fatalities are not normally the result of an inability to identify hazards. Risk is inherent in combat and realistic training, and our leadership generally identifies the appropriate hazards. However, we do not do as well identifying and implementing the right control measures to mitigate the risk of those hazards.

The cause stems not from negligence or a lack of effort, but rather from a lack of experience and knowledge. LTG Dick Cody, our Deputy Chief of Staff, G-3, asserts that our small-unit leaders and first-line supervisors simply lack the experience necessary to match the mission risks with the identification and implementation of the right control measures. We must bridge the gap between the experience level of our first-line leadership and the knowledge they need to properly mitigate risk. This void can be effectively filled by (1) multi-level leader involvement and dialogue and through (2) knowledge and information-sharing using the Army Safety Management Information System (ASMIS): a soon-to-be fielded web-based aviation, ground, and POV centralized risk-assessment program.



The Way Ahead Ahead

CODY Model



Risk Management "3 Deep" Leadership:

For every mission, on or off duty, there needs to be three levels of leader involvement. Using his knowledge of the individual soldier and guidance from higher levels, the first-line leader interacts face-to-face with each subordinate. The second-line leader supervises and spot checks, providing an independent set of eyes and the higher level of experience. The top-line leader uses his wealth of experience to provide guidance and supervises the risk-mitigation process to ensure the right control measures have been highlighted and implemented. This

process of dialogue between leader levels gives less-experienced leaders knowledge in place of experience to protect their soldiers and move toward a safety band of excellence.

Risk Management



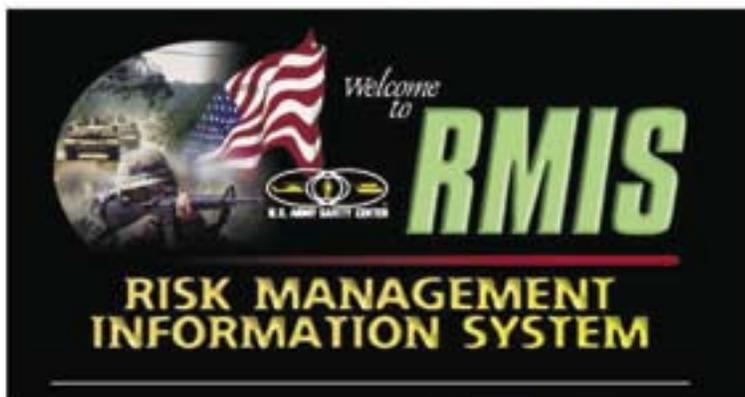
Information-Sharing Through Technology:

A second means of bridging the experience gap for first-time leaders is through information sharing that leverages technology. RMIS is our current web-based hazards, risks, and controls database that provides near real-time accident data. As we are transitioning to the next level, the Army Safety Center is developing an automated risk assessment program

that incorporates the data found in the RMIS database as well as other "stovepipe" systems to further assist leaders in identifying and implementing effective control measures. ASMIS will be an on-line, centralized risk-assessment program for air, ground, and POVs that will prompt mission leaders to input their demographics, mission type, and experience level. ASMIS will use the Army Safety Center databases to give our soldiers the degree of risk associated with the mission, the hazards, effective control measures, and examples of recent accidents that fit the mission profile.

The capabilities of the POV centralized risk assessment program module of ASMIS will allow a first-line leader—SGT, SFC, PLT LDR, 1SG, etc.—the ability to evaluate a soldier's personal risk profile and subsequently place control measures to mitigate those risks. How does this work? ASMIS will prompt the first-line supervisor to input the soldier's travel plans, recent duty, and demographics into the POV module. ASMIS will respond by highlighting the highest risk factors that are being historically recorded for the soldier's profile. Potential controls to mitigate the soldier's risk level will also be identified: adequate rest needed prior to departure, use of a "buddy" travel system, authorized delayed report-back-to-unit time, etc. Lastly, it

RMIS RMIS



will provide details from recent accidents that fit his or her exact profile. Technology of the ASMIS POV module will facilitate a dialogue between that soldier and his leadership using historical analysis. That dialogue will help to ensure the soldier understands the risk and also help develop responsibility, accountability, and maturation of the soldier. We must move into a proactive stance to preserve our combat power.

New Tool for the Future POV Centralized Risk Assessment Program

Leader Lights ON

ID Risk

Controls to Mitigate Risk

1st Line Supervisor

1. Know the individual's travel plans
2. Input into ASMIS
 - Travel plans
 - Recent duty
 - Soldier's demographics
3. ASMIS provides
 - Highest historical risk factors
 - Potential Controls
 - Needed rest time before departure
 - Buddy Travel System
 - Authorized delay in report back to unit
 - Gives examples of past accidents that fits soldier's travel profile

Bottom Line

Soldiers understand risks, responsibilities, are accountable and mature in their decisions

ASMIS will also provide senior leaders with the ability to identify and mitigate risks for upcoming deployments and combined arms exercises. This knowledge will allow them to develop the most effective home-station and environmental training to mitigate their unit's risk before departure. In the long-term, ASMIS can be integrated into all Army Mission Planning Systems. Wireless technology will allow leaders to obtain real-time information even on long deployments and field exercises. Eventually information on the failure rate of individual pieces of aviation and ground equipment and sub-components will be incorporated into the aviation and ground centralized risk assessment modules' databases.

Using the hazards, risks, and controls information provided by the ground, aviation, or POV modules of ASMIS and supported by 3-deep dialogue between soldiers and their experienced leadership, our less experienced leaders will have the knowledge to properly manage risk. ☘

Keep your leader lights "on!"

Joe Smith

BG Joseph A. Smith

A Warm Tent and a

As I write this article, it's July and I'm in southeastern Alabama where it's hot, hot, hot! But given the literary flash-to-bang time between writing an article and getting it into the bathroom stall where it can be read by soldiers, it's already time to think about winter. It's also the 50th anniversary of the declared cease-fire in Korea, which was a welcome relief to all those dog-faced Joe's who suffered through brutal Korean winters.

A Major Cause of Injuries

Looking back at World War II and Korea, the number of soldiers incapacitated due to cold weather injuries was staggering. LTC (Dr.) Kenneth Orr reported in 1954 that the number of hospitalization days due to cold injuries in those two conflicts was more than 3 million! Imagine our entire Army being hospitalized for more than a week. This stands as a stark reminder of how poorly trained and equipped soldiers can rapidly become compromised, especially in the absence of meticulous supervision by caring leaders.

As a soldier today, you are neither poorly trained nor poorly equipped, nor are you lacking caring leaders. So why bother writing about cold injuries?—because they continue to happen, even though they are preventable. The equipment issued to you, when used and maintained properly, will allow you to fight and win in even the most austere environments.

Personal Experience

I know this because when I was building my little shelter in the snow near Fairbanks, AK, it was 20° F below zero and my gear protected me. And then there was the time I spent the night unexpectedly on a hilltop at the National Training Center (NTC) at Fort Irwin, CA. I was with a light infantry battalion and had nothing but the BDU's I was wearing and my TA-50. Even though the temperature was “only” in the 40's, I endured the coldest night of my life. But this article isn't about “war stories,” it's about protecting yourself and the soldiers you work with.

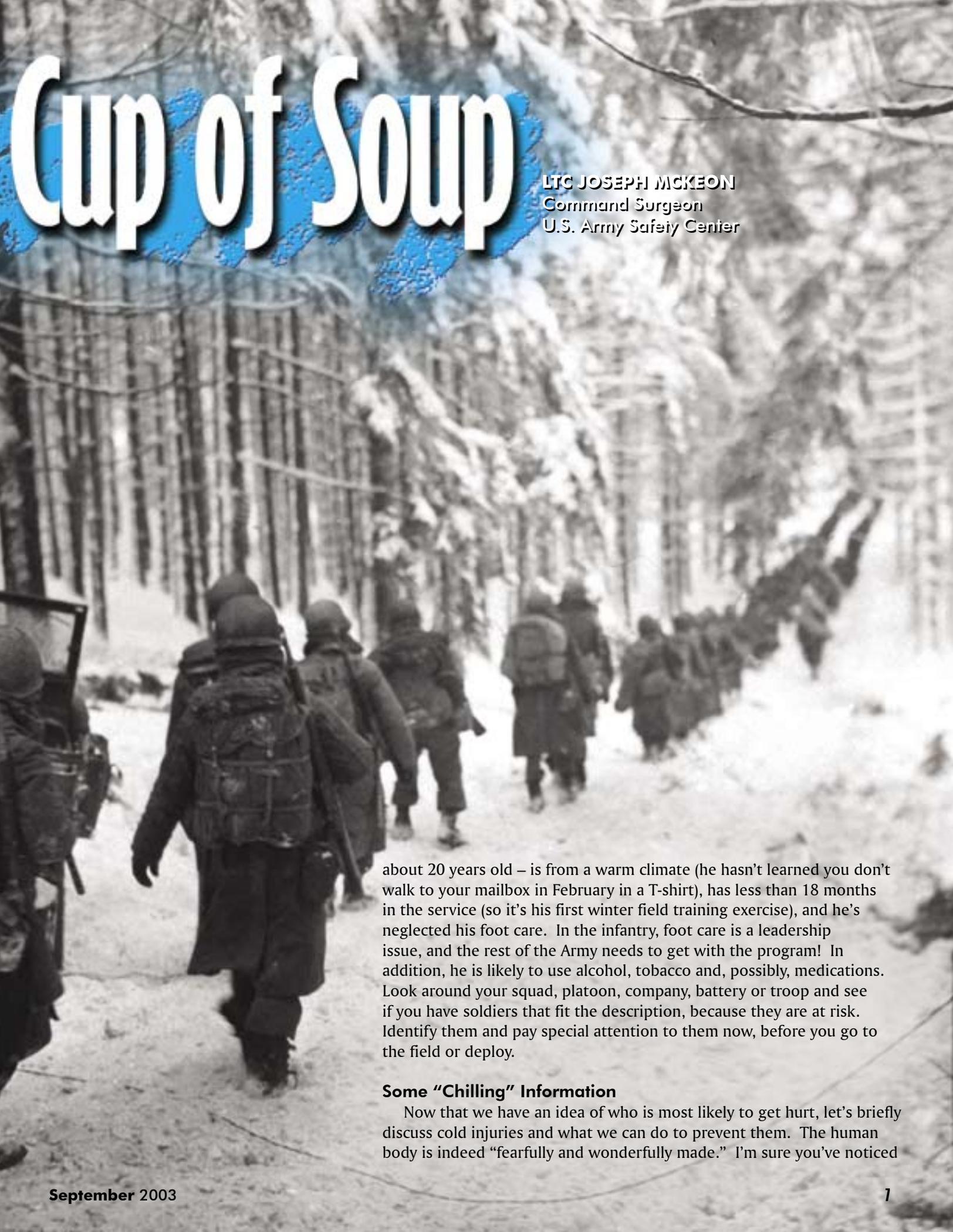
As individuals and leaders, it is your responsibility to ensure your soldiers are properly trained and equipped. That means anticipating being colder and staying longer than originally planned. Those who grew up in cold environments have learned how to respect the weather and dress for it. Few residents of Fairbanks, AK, or Watertown, N.Y., would walk out to the mailbox in a T-shirt and shorts in February, or drive to the store without a coat and gloves in the car. If the door accidentally locked behind you or the car broke down, you could freeze to death. So what was I thinking, ending up with my “hooah” medical team stuck on a hilltop at NTC with no “snivel gear?” The fact is, I WASN'T thinking, and I set us up for cold injuries. Life is too short to make all the mistakes yourself, so learn from others!

The “Typical” Victim

When considering injury prevention, it often pays to target your efforts at the highest risk group. So what does the “typical” cold injury patient look like? He (I'm not using your usual sexist male pronoun; it's just that the typical cold injury victim is male) is young – usually

Cup of Soup

LTC JOSEPH MCKEON
Command Surgeon
U.S. Army Safety Center



about 20 years old – is from a warm climate (he hasn't learned you don't walk to your mailbox in February in a T-shirt), has less than 18 months in the service (so it's his first winter field training exercise), and he's neglected his foot care. In the infantry, foot care is a leadership issue, and the rest of the Army needs to get with the program! In addition, he is likely to use alcohol, tobacco and, possibly, medications. Look around your squad, platoon, company, battery or troop and see if you have soldiers that fit the description, because they are at risk. Identify them and pay special attention to them now, before you go to the field or deploy.

Some "Chilling" Information

Now that we have an idea of who is most likely to get hurt, let's briefly discuss cold injuries and what we can do to prevent them. The human body is indeed "fearfully and wonderfully made." I'm sure you've noticed

how some folks get very “red in the face” when they exercise. That’s the body’s cooling mechanism shunting blood to your skin so the blood can be readily cooled. But did you know the shunting process also works the opposite way? In cold environments, as much as 99 percent of the surface blood flow can be shifted back inside you to keep your vital organs warm. Amazing isn’t it?

However, this protective mechanism that has been “engineered” into our bodies can be defeated by what we do. For instance, dehydration decreases the amount of blood that is circulating, thus hindering the body’s heating mechanisms. That’s why it’s so important to ensure we stay hydrated. Pushing fluids can be forgotten in a cold environment. This is especially true if you have to get out of a warm tent when it’s below zero, trudge through the snow, and “drop trou” to go to the latrine.

In cold weather, you may be tempted to drink less to reduce your need to leave your nice warm tent. However, this can set you up for dehydration and even a heat injury. That’s right, a heat injury! When you are performing hard physical work in a cold environment and wearing all of your protective equipment, it’s easy for you to start sweating and become overheated. You can end up exhausted and sweaty, and then rapidly cool off in the cold. It’s no wonder the typical cold injury victim is a young, first-term, male soldier. Who usually gets detailed to put up the GP Mediums?!

In addition to the demographics listed above (young, first-term males), there are other significant risk factors. If you have a previous history of cold injuries, you are obviously at risk, because you’ve already shown that you are susceptible. In addition, if you are not physically fit, you are more likely to be injured; thus the Army’s emphasis on physical fitness.

Poor or inadequate nutrition also can quickly take its toll. When you’re in a cold environment your body has a greater metabolic demand because you’re burning more calories trying to stay warm. If you need 3,000 calories per day in a controlled environment, you may need up to 4,500 calories in a cold environment just to maintain your body weight. Eating meals will also increase water consumption, which will be a hedge against dehydration.

Too little activity also can be a risk factor. While overheating is a risk when you are working hard, lack of activity can cause you to have cold injuries because of poor circulation in the extremities. Using those large muscle groups will ensure good circulation and heating,

so get up and do 20 side-straddle hops (when not in contact with the enemy!)

Alcohol and tobacco, as well as caffeine, can also make it harder for you to stay warm. These substances all affect your body’s ability to dilate (widen) and constrict the blood vessels, which can defeat your body’s built-in heating and cooling mechanisms. Prescription and over-the-counter medications can also adversely affect your body’s heating and cooling, so it is important to let your doctor know if you will be exposed to cold weather. If you are a leader, you need to create a healthy work environment where soldiers are steered away from unwholesome behaviors such as tobacco use and excessive alcohol consumption.

Guidelines for Preventing Injuries

OK, let’s “wrap this up,” so to speak, with some tips on prevention.

- Dress in layers and avoid tight-fitting clothing. This will improve your circulation and provide layers of air between layers of clothing to help insulate you.
- Change your socks frequently to ensure your feet stay dry. This is going to require that you actually take off your boots and socks and change the latter, maybe even the former. If you are a squad leader, you may have to closely observe your soldiers to ensure compliance.
- Beware of the wind. Wind chill can cause skin to freeze at temperatures that would be much less dangerous were there no wind. This is especially important when you are working around helicopters, or in open areas where trees or man-made features are not available for wind protection.
- Protect your face and ears; these areas often suffer frostbite because of exposure and decreased blood flow. Wear the appropriate gloves, especially when you’re handling petroleum, oil, and lubricant products, and avoid touching cold metal or fuel.
- Eat often and drink warm, non-caffeinated beverages. Soup is super!
- Use the buddy system. Seek medical attention for yourself and your buddy before symptoms become severe. As cold skin gets numb, subtle damage can progress and become a severe injury. Don’t be like those thousands of soldiers that spent weeks convalescing during World War II and Korea.

This Army needs every soldier, every day, so take care of your body. After all, where else are you going to live? 

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Cold Hurts

COLD HURTS

JULIE SHELLEY
Staff Editor

A popular motivational anecdote goes something like this: “That which does not kill you makes you stronger.” How many times have you heard that one? While this oft-quoted line might have some fundamental truth, it forgets to mention that those things that don’t kill you often hurt a lot.

Cold-weather operations present many hazards that, if not approached correctly, can lead to disaster: severe cold injuries, carbon-monoxide poisoning, and tent fires, just to name a few. But, the winter environment also introduces other, not-so-serious risks that can increase pain and decrease productivity. These minor aches and pains are not only a nuisance; they are also costly in terms of lost man-hours and dollars.

Fortunately, most cold injuries are completely preventable if appropriate precautionary measures are taken. But sometimes even the best-prepared soldier can fall prey to one of the “minor” injuries listed below. Be on the lookout for these symptoms and seek the proper medical treatment if you or one of your soldiers exhibits any of the following.

Frostnip

This type of injury, along with more serious ailments such as frostbite, can occur anytime the air temperature is below freezing (32 °F or 0 °C). Frostnip is caused by freezing of the skin’s upper layers. In exposed skin, the risk of a freezing injury increases with higher wind speeds.

Frostnipped skin will appear red and possibly swollen. Although painful, frostnip generally is limited to the skin's surface—the face, ears and extremities being particularly vulnerable—and causes no further damage after the affected area is re-warmed. However, repeated frostnip in the same spot can dry and crack the skin, making it very sensitive. It also is important to note that distinguishing between frostnip and frostbite can be very difficult. Frostnip must be taken

very seriously and all frostnip injuries should be reported immediately.

Sunburn

You don't have to be in the desert or at the beach to get sunburned—the threat of sunburn depends on the intensity of sunlight, not air temperature. Add in snow, ice, and lightly colored objects, all of which reflect the sun's rays, and the scene is set for a major sunburn injury if you're not careful. Sunburned skin will be painful and hot to the touch, appear red, and possibly could be swollen and blistered. With the potential to last for hours or even days, sunburn also can cause temporary incapacitation and increases heat loss during cold exposure.

To prevent sunburn anytime of year and in all environments, use sunscreen with a sun protection factor (SPF) of at least 15 and cover all exposed skin. In cold weather, sunscreen should be alcohol-free. (The Army has available an alcohol-free sunscreen that can be purchased under NSN 6505-01-121-2336). If you or another soldier should become sunburned, prevent further exposure and apply a moisturizing lotion; aspirin or acetaminophen may be given for pain. Soldiers with large areas of injured or blistered skin should be evacuated for medical treatment.

Snow Blindness

Snow blindness, like sunburn, is a threat posed by the intensity of the sun's rays, not the temperature outside. Solar radiation can "sunburn" unprotected eyes, leading to snow blindness. Symptoms of snow blindness include painful, gritty eyes with profuse tearing, blurred vision, and possibly, a headache. Soldiers suffering from snow blindness should be removed from direct sunlight and allowed to rest in a dark area with their eyes covered by cool, wet bandages until they can be evacuated. Bacitracin or erythromycin ophthalmic ointment also should be applied.

Protective eyewear or goggles that block at least 90 percent of ultraviolet radiation can help prevent snow blindness, and sunglasses with visible light transmittance in the 5- to 10-percent range are needed to reduce the sun's reflection off snow. In addition to protective eyewear,

Frostnip vs. Frostbite Can You Tell the Difference?

Frostbite is tissue damage resulting from ice crystals forming within or between cells in the body. It is more common at higher altitudes, especially if core body temperature is low (i.e., hypothermia). The affected area (usually an extremity or the ears, nose, or face) becomes cold, hard, white, and numb. When warmed, the skin becomes blotchy red, swollen, and painful.

Blisters often will form in 4 to 6 hours, helping to distinguish frostnip from frostbite. (Frostnipped skin often will peel like a sunburn, but takes 24 to 72 hours to do so.) If the blisters from frostbite are filled with clear fluid and are near the tips of the digits, they usually will heal without significant residual damage. However, if the blisters are filled with blood or pus, significant tissue damage or gangrene is likely. Get any soldier with these symptoms to medical care ASAP!

Much of the tissue damage resulting from frostbite occurs during re-warming, so it is critical that re-warming take place after the soldier is stable. If a soldier has to walk after suffering a frostbite injury to the feet, do NOT re-warm the affected area until after he gets where he needs to be—further tissue damage in this situation is inevitable due to the trauma of walking.

Immediate warming can be accomplished in the field by placing the frostbitten extremity in warm water (not to exceed 105 °F—this temperature is tolerably warm to the soldier providing care). Keep in mind that the injured soldier's extremity is numb. Bandage the injury in a sterile dressing from a first-aid kit and minimize trauma to the affected area during evacuation. And remember to push fluids, as the soldier probably is dehydrated.

sideshields or deeply wrapped lens designs should be used to reduce the chances of eye injury. It should be noted that not all commercially available sunglasses block enough solar radiation to protect against snow blindness. Polarized sunglasses purchased under NSN 8465-00-161-9415 will provide the proper sun protection needed in a winter environment.

Dry and Chapped Skin

The combination of sun, wind, snow, rain, and low humidity can wreak havoc on your skin, lips, nose, mouth, and throat. Nosebleeds, sore throat, minor respiratory difficulties, and chapped skin are all common ailments seen in the winter environment. To prevent nose and mouth irritation, cover the bottom part of your face with a balaclava or scarf. Chapped lips and skin can be prevented by using lip balm (NSN 6508-01-277-2903) and limiting skin exposure to the elements. To help the skin retain water, use a skin moisturizing lotion. Petroleum jelly on the lips and nostrils can help prevent dryness and chapping.

Slips and Falls

Operations in cold weather generally see an increase in slips and falls, as well as vehicle accidents. Paths, walkways, and roads are frequently muddy or frozen. Also, heat escaping from the entrances of tents and buildings causes cycles of thawing and freezing of the ground surface, making those areas particularly hazardous. Add to the mix fatigue, bulky clothing, and vision-restricting hoods and hats, and the danger becomes very real.

To reduce the risks posed by slippery, frozen surfaces, snow should be removed from the ground *before* tents are set up. Slippery paths and walkways should be marked with warning signs. Finally, sand, salt, ashes, or straw should be spread on known and potentially hazardous areas to increase traction.

Tent Eye

Tent eye is an inflammation and irritation of the eyes resulting from exposure to fuel flames—most commonly in poorly ventilated shelters where stoves and heaters are being used. Rubbing itchy

eyes caused by these fumes subsequently can lead to an infection. Anyone suspected of having tent eye should be moved to fresh air and taken to a medical facility for evaluation and treatment.

Burns

Stove and heater use sets the perfect environment for burns if soldiers are not trained properly in their use. Contact with hot surfaces and fires or the explosion of stoves and fuel sources can cause a multitude of burn injuries. In addition, improper fueling and lighting techniques or inadequate ventilation can result in the accumulation of flammable fumes. If these fumes are ignited accidentally, potentially fatal fires can occur.

Anyone who has been burned should be taken from the heat source. Burning or smoldering clothing should be removed unless it sticks to the wound. The wound itself should be covered with a dry, sterile dressing tied at the edge of the burn, not over it. DO NOT apply ointments, ice, or snow to the burn, and never break blisters.

Injuries stemming from the use of stoves and heaters are preventable if the correct safety measures are taken. Only properly trained soldiers should be permitted to set up, light, refuel, and maintain stoves. A fireguard should be posted anytime a stove or heater is being used, and horseplay should be prohibited inside the shelter. Air intake to the stove or heater should not be blocked, and the stovepipe should be tall enough to draft properly and be kept clean of soot and debris. Shelters and tents should not be sealed so tightly that ventilation is blocked completely. Lastly, tent and shelter doorways must be kept clear at all times to allow for easy escape should a fire break out.

Remember that it's up to you when it comes to cold weather safety. The environment can't be controlled, but the risks associated with it can. Be prepared and think ahead about the small stuff! 🐾

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A Long Winter's Night

CW2 KEVIN MITCHELL
1/6 Cavalry
Camp Eagle
Republic of Korea

As the winter months approach, the days get shorter, the nights get longer, and they both get much colder. However, this does not keep the Army from training—and field training exercises (FTXs) are a reality for every unit, no matter how cold it is. Just as surely as the temperature drops, soldiers look for ways to stay warm. I'd like to tell you a story about what happened to my troop and an M1941 "potbelly" stove one February night during a 2-week FTX.

According to our local standard operating procedure (SOP), a fireguard is required anytime a stove is being used. This is a good idea and a great safety measure. However, it's hard to do when you are part of an air cavalry troop that generally consists of only 30 to 35 soldiers, most of which have Army-regulated crew rest issues. On this particular night the maintainers, which made up approximately half the troop's personnel, were in their own GP Medium tent while the rest of us—the pilots—were in a separate tent.

At the beginning of the FTX our safety officer reinforced the necessity of a fireguard at night while everyone was sleeping. The pilots dismissed him because none of us (including myself) wanted to stay awake all night, or even for just a few hours, working the fireguard shifts. The commander also erred against safety and established policy by not

enforcing the fireguard issue. He wanted every pilot available for whatever missions came down the following day.

We'd been set up in our area of operations (AO) for about 4 days and everything was going well. But, on that fourth day, it got exceptionally cold. Using the M1941s wasn't even in question—the only question was how high, or hot, were we going to have the stove? Keep in mind this was before I knew the concepts of "risk assessment" and "risk management matrix." Nevertheless, we applied part of the risk management process and implemented some controls by deciding to maintain the stove at its lowest setting. We then attempted to keep the heat from the stove inside the tent by sealing it up, including the doors and one of the two top vents. Soon after, we all went to sleep.

Around 0100 a couple of us woke up because it was freezing inside the tent. We noticed that the stove didn't appear to be giving off as much heat as it was earlier in the evening. We didn't know why, and since it was cold and in the middle of the night, we didn't stop to think about it. Instead, we did three things. First, we closed the other vent on the top of the tent, leaving us with no ventilation except for the stovepipe. Second, we turned the stove up to the halfway point. Lastly, we went back to sleep without a care in the world. No problem, right?

Well, about an hour later the same thing happened with the stove. It just wasn't putting out any heat. So, without thinking about what could be causing the problem, we turned the stove up to the max and went back to sleep. Still no problem, right?

Around 0400 one of the officers in the tent woke up and sensed that something just wasn't right. He grabbed his flashlight and shone it around. To his surprise, all he saw was about 5 to 6 feet of smoke engulfing the whole tent. He immediately woke everyone else, and we took the appropriate actions to eliminate the problem. We immediately turned off the stove and opened the doors and vents to allow the tent to air out. Fortunately, we averted having a disaster.

Three separate and distinct things led to this situation. To begin with, the stove wasn't on a flat surface. This fact was known during the initial setup, but when the squadron commander tells you to set up at a certain place, you set up at that place. Plus, who wants to move a GP Medium after it is set up? To alleviate the problem, a wooden stake was wedged under the stove to level it and keep it from wobbling. However, sometime during the previous 3 days, the stake was accidentally moved from its position, allowing the stove to sit at an angle. This caused some of the fuel to pool on one side

of the stove, resulting in incomplete combustion. The incomplete combustion caused the smoke that eventually filled the tent. It also was determined that our only source of ventilation, the stovepipe, was clogged and didn't allow the exhaust to escape properly. Add that to the closed doors and vents, and the problem was compounded.

The commander, as well as the warrant officers, failed to see the potential risk in leaving the stove burning without supervision. I was taught in the Aviation Safety Officer Course that for every incident with a serious result, there are 59 minor injuries and 600 near-misses. The actions of those involved in my troop could be considered to have resulted in a near-miss—a major one! That FTX could have ended tragically, but thankfully it didn't.

The moral of the story is that there are no valid reasons in the training environment to overlook or ignore any safety control. In this situation, the commander should have been willing to accept the loss of a pilot or two each day for the length of the FTX to pull fireguard duty. The other option was for the commander to accept the risk of the elements and tell us to bundle up and prepare for a long, cold night.

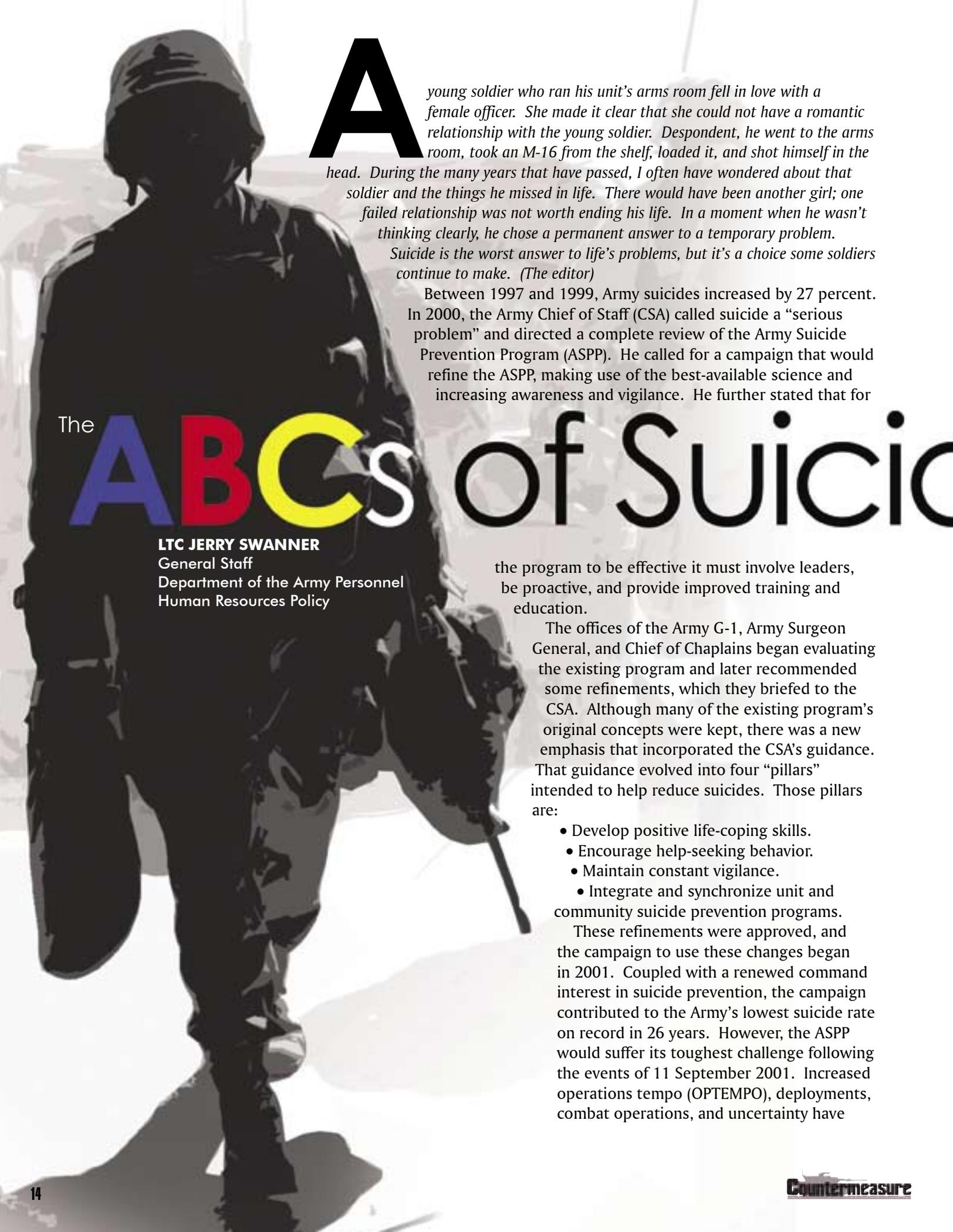
I tell this story to bring some awareness to the hazards of not adhering to the proper controls. Safety measures provide a means to protect the military's most treasured asset—the soldier. Enforce the standard! 

Contact the author at kevin.dewayne.mitchell@us.army.mil.



Seven Tent Stove Safety Tips

- 1. Always do your preventive maintenance checks and services before using a tent stove.*
- 2. Listen to the tips you get from your safety personnel and those you hear during your classes and lectures.*
- 3. Always have a fireguard on duty, even if it means doing 1 hour shifts.*
- 4. Make sure that someone has read the technical, field, or operator's manual(s) for the tent stove you are using.*
- 5. Make sure the tent is always vented.*
- 6. Always make sure the stove is level.*
- 7. Only use approved fuels.*



A young soldier who ran his unit's arms room fell in love with a female officer. She made it clear that she could not have a romantic relationship with the young soldier. Despondent, he went to the arms room, took an M-16 from the shelf, loaded it, and shot himself in the head. During the many years that have passed, I often have wondered about that soldier and the things he missed in life. There would have been another girl; one failed relationship was not worth ending his life. In a moment when he wasn't thinking clearly, he chose a permanent answer to a temporary problem. Suicide is the worst answer to life's problems, but it's a choice some soldiers continue to make. (The editor)

Between 1997 and 1999, Army suicides increased by 27 percent. In 2000, the Army Chief of Staff (CSA) called suicide a "serious problem" and directed a complete review of the Army Suicide Prevention Program (ASPP). He called for a campaign that would refine the ASPP, making use of the best-available science and increasing awareness and vigilance. He further stated that for

The

ABCs

of Suicide

LTC JERRY SWANNER

General Staff

Department of the Army Personnel
Human Resources Policy

the program to be effective it must involve leaders, be proactive, and provide improved training and education.

The offices of the Army G-1, Army Surgeon General, and Chief of Chaplains began evaluating the existing program and later recommended some refinements, which they briefed to the CSA. Although many of the existing program's original concepts were kept, there was a new emphasis that incorporated the CSA's guidance. That guidance evolved into four "pillars" intended to help reduce suicides. Those pillars are:

- Develop positive life-coping skills.
- Encourage help-seeking behavior.
- Maintain constant vigilance.
- Integrate and synchronize unit and community suicide prevention programs.

These refinements were approved, and the campaign to use these changes began in 2001. Coupled with a renewed command interest in suicide prevention, the campaign contributed to the Army's lowest suicide rate on record in 26 years. However, the ASPP would suffer its toughest challenge following the events of 11 September 2001. Increased operations tempo (OPTEMPO), deployments, combat operations, and uncertainty have

increased stress for soldiers and their families. Army suicide rates now are climbing closer to the rates seen in the late 1990s. However, despite the increased stress, those units that have remained focused on their suicide prevention programs have been able to reduce suicides.

When it comes to saving lives there are many key roles, all of which are vital. These roles are founded upon the basic suicide prevention principles of:

- Recognizing anyone can be at risk for suicide.
- Involving various installation and local community support agencies.
- Believing that most suicides can be prevented.
- Trusting that leadership and training can make a difference and save lives.

Now we'll take a closer look at those roles and

facing a life stressor. Recognize when their behavior or performance has changed.

- Assess each of your soldier's life-coping skills and seek opportunities to positively influence their behavior.
- Ensure your soldiers are trained properly in suicide prevention and awareness.
- Create an atmosphere of inclusion for all—never ostracize anyone.
- Know the potential triggers for suicide.
- Know the potential warning signs of mental illness.
- Promote the use of available support services.
- Reduce the perceived stigma regarding behavioral health.

de Prevention

part 2

give you some checklists to help reduce the suicide risk within your organization.

All soldiers:

- If you are having a tough time with a personal relationship, financial hardships, think that you are drinking too much, or feeling depressed, talk to someone. Talking to friends, family, "battle buddies," or a trusted agent such as a chaplain or counselor about your problem(s) is a sign of maturity.
- If you ever reach a point in your life when you are thinking about hurting yourself—STOP! Save yourself by seeking help immediately! Do not allow a temporary problem or situation to ruin (or possibly end) your life.

"Buddies":

- Know the warning signs of suicide, including the leading "triggers" or losses that can lead soldiers to consider or commit suicide.
- Take immediate action when you suspect someone is suicidal or when a person admits they are contemplating suicide.
- Become aware of local support services and how they can provide help.

First-line supervisors and leaders:

- Know when your soldiers and employees are

Commanders:

- Ensure your unit ministry teams (UMTs) are aware when a soldier is facing marital or relationship problems, the loss of a loved one, pending Uniform Code of Military Justice (UCMJ) actions or separation, or financial hardships.
- Ensure all newly assigned soldiers are aware of the location of installation support agencies and know how to get help through them.
- Conduct officer and noncommissioned officer professional development (OPD and NCOPD) training that focuses on aspects of mental health.
- Ensure that your UMTs have received formal suicide prevention training. This training can be conducted in conjunction with the new Army Suicide Prevention Training Program.
- Ensure that all UMT members have been through the Living Works Applied Suicide Intervention Skills Training (ASIST) 2-day workshop. Ensure that all leaders understand how to use ASIST-trained individuals to determine the risk of suicide for their soldiers.
- Promote help-seeking behavior as a sign of strength.
- Develop well-defined procedures for registering and storing privately owned weapons.
- Know if your soldiers have access to personal firearms at their place of residence.

- Ensure any guardsmen or reservists attached to your unit for deployment have received suicide prevention training before deployment.

- Limit the use of the “command interest profile” (formerly known as the “suicide watch”). Only use under the advice of a behavioral health professional or when local emergency services are not available.

UMTs:

- Become ASIST T-2 trained.
- Attend formal suicide prevention and awareness training offered through the Office of the Chief of Chaplains.
- Download the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) *Resource Manual for Suicide Prevention*.
- Keep your commander informed on current suicide statistics and demographics. Explain the high-risk categories to commanders.

Behavioral health professionals:

- Ensure your 91X’s (mental health specialists) are ASIST T-2 trained.
- Work closely with chaplains when addressing the overall welfare of soldiers under your care.
- Offer OPD and NCOPD classes on basic mental health.
- Pursue opportunities to make services and

counselors more available and accessible.

Installation suicide prevention standing committees

- Establish a suicide prevention program specifically tailored for your installation.
- Help the installation and local commanders implement their suicide prevention programs.
- Track the percentage of all assigned chaplains who have received formal suicide prevention training.
- Ensure that commanders and senior NCOs are aware of local support agencies and how to refer soldiers who need help.
- Ensure there are enough behavioral health personnel to meet the needs of the installation and that someone is always available for crisis intervention or assessment.
- Ensure that commanders are provided timely feedback from support agencies concerning the effectiveness of their soldiers’ treatment.
- Encourage stress management programs for soldiers and family members, especially during times of increased OPTEMPO or deployments.
- Track the number of ASIST T-4 and T-2 level crisis intervention-trained personnel on post.
- Review and publicize emergency procedures available to all soldiers and family members, such as crisis hotlines and suicide awareness cards.
- Ensure newly assigned soldiers are briefed on installation support agencies during in-processing.
- Ensure dependent school personnel are trained to identify and refer for help individuals at risk for suicide.
- Establish procedures for creating and using an installation suicide response team or other critical event debriefing team.

To help you implement the Army’s new Suicide Prevention Campaign, the Army G-1 has formed a team of chaplains and behavioral health professionals that are available for staff assistance visits. These visits range from conducting formal suicide prevention training to junior leaders, major subordinate command commanders, and command sergeants major, to consultation visits with installation suicide prevention committees. To arrange a staff assistance visit contact the ASPP manager, LTC Jerry Swanner, at jerry.swanner@hqda.army.mil or call him at (703) 614-7946, DSN 224-7946. 🖱️



ACV

Class A

- A soldier was killed when the M113 he was driving threw a track and overturned. The M113 had crossed over a drop-off on the opposite side of the road just prior to the accident.

- A soldier was killed while performing gunner duties on a Light Medium Tactical Vehicle (LMTV). The LMTV had been participating in a four-vehicle combat patrol when it veered off the roadway and overturned in a gully, resulting in fatal injuries to the gunner. The soldier driving the LMTV was injured in the accident.

initially revived, but later died at a local hospital.

- A soldier died after suffering a heart attack during the walking portion of the APFT.

- A soldier suffered a permanent total disability after suffering heat stroke during a 4-mile squad PT run. The soldier was placed on a respirator due to his injuries.

Class B

- A soldier's hand was amputated when a grenade detonated during a unilateral team training exercise at an established range. Another soldier suffered very serious injuries in the accident.

Class C

- A soldier suffered severe sunburn after a day at the beach. The soldier had participated in extensive water activities, including jet skiing, and failed to reapply sunblock after leaving the water.

oncoming car. The civilian driver of the oncoming vehicle was not injured.

- A soldier was killed in a multi-vehicle accident while driving his privately owned vehicle POV.

- Two soldiers were killed when their POV left the roadway and entered a slough. The driver of the vehicle apparently lost control just prior to the accident, resulting in fatal injuries to himself and his passenger.

- A soldier was killed when his motorcycle was struck by another vehicle at an intersection. The civilian driver of the vehicle, who was not injured, had run a red light and hit the soldier.

- A soldier was killed when his motorcycle hit a concrete barrier at a high rate of speed. The soldier, who was on leave at the time of the accident, apparently lost control of the motorcycle prior to hitting the barrier.

Class C

- A soldier suffered fractures to his leg when he was thrown from his motorcycle. The soldier was riding with a group of other riders at dusk on unfamiliar roads when he lost control of his motorcycle while going around a corner.



AMV

Class A

- One soldier was killed and three others were injured when the driver of the government-owned vehicle they were riding in lost control and struck a ditch. The driver reportedly swerved to avoid a civilian vehicle.



Personnel Injury

Class A

- A soldier drowned in a lake while wading. The soldier's unit began searching for him after he was reported missing and found his body in the lake the next day.

- A soldier was participating in the Army Physical Fitness Test (APFT) when he collapsed at the end of the 2-mile run. He was pronounced dead at a local hospital.

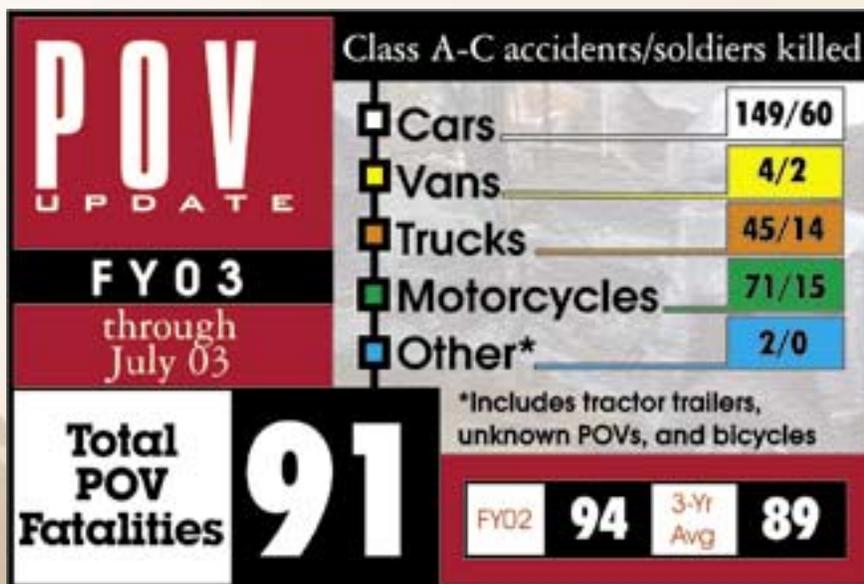
- A soldier collapsed during a monthly physical training (PT) formation run and lost consciousness. The soldier was



POV

Class A

- A soldier was killed when he attempted to pass a vehicle on his motorcycle and collided with an



Seven Years' Bad Luck Countermeasure, July 2003

There is no such thing as an "unloaded" gun, and memories last a lifetime—not just 7 years. This article created some sad flashbacks that reminded me of a violent death in the barracks. A military policeman had been cleaning his weapon when it went off and killed him.

I knew this soldier personally. He came to the clinic regularly to visit one of our military sanitarians. His partner dated our babysitter, who lived next door, when they were both in high school. When I saw that MP lying there, he wasn't just a statistic—he was someone I knew.

Commanders, NCOs, and civilians in this Army all care about soldiers. We have risk assessments and health hazard risk assessments, but the bottom line is, "What's best for the soldier's safety?" That doesn't include a soldier getting killed with his issued weapon.

There is no such thing as an "unloaded" gun. Check and re-check weapons because the disaster (of an accidental discharge) doesn't just affect the victim. When a soldier takes a risk and is injured or killed, there is a ripple effect. Commanders, fellow soldiers, family members, and civilians are impacted—forever.

Ron Reiland
Fort Lee, VA

I have a story to pass along regarding "unloaded" weapons. I had nearly the exact mishap the editor related in his story, "Seven Years' Bad Luck." I have the same pistol and was about to clean it, just as in the story. The difference was that I did pull the slide back to clear the chamber before pulling the trigger to release the firing pin.

My mistake was that I neglected to look into the chamber to ensure the weapon was empty. The extractor had

not pulled the last (unfired) round from the chamber and when I pulled the trigger, the bullet went through a sliding glass door. I was 18 years old at the time and considered myself fortunate that the damage was limited to the door. I had to pay my father for the door after the accident, but I have always thought the cost of the door was a cheap way to learn a valuable lesson. I hope that sending this story to you can help someone else avoid making the same mistake.

SFC Mark Heidemann
Wisconsin Army National Guard

SFC Heidemann,

Thanks for sending in your comments. You brought out a very good point. If you pull back the slide or bolt and don't see a casing or cartridge come out of the ejection port, it's easy to assume the chamber is empty. However, that can be a very dangerous assumption. Extractors can weaken or break and fail to remove an unfired cartridge. I had that experience with a military surplus Ballester Molina .45 ACP pistol. When fired, there normally was enough pressure to cause the case to back out of the chamber, hit the extractor, and come out the ejection port. However, when the action was manually cycled, the broken extractor would just slip off the rim of the unfired cartridge and leave it in the chamber. If I hadn't visually inspected the chamber, I could have had an accidental discharge with a .45—and those slugs make BIG holes! The bottom line is that a weapon is not safe until you have personally inspected the chamber to ensure it is empty. (The editor).

I Am Still Here

Countermeasure, July 2003

Editor's Note: The author of this article, MSG Shane Curtis, received these e-mails in response to his story, "I Am Still Here."

First, I want to commend you on your resilience and tenacity to overcome such a tragic event. For many, it would surely have been more than they could surmount.

My primary reason for writing, however, is to thank you for sharing such an "eye-opening" story. I am still a fairly novice (3 years' experience) motorcycle rider and though I regularly use a helmet, on occasion I am tempted to "just run up to the store" without it. Your story helped remind me that, in AN INSTANT, your life can be forever changed.

I constantly reinforce the use of bicycle helmets to my two young children. You have reinforced to me that not only is (my) using a helmet a good example for them, but also the right thing to do!

Capt. Ferdinand Garcia
Ohio Army National Guard

I just finished reading your story about the motorcycle accident you had, and all I can say is, God bless you! You know you had someone looking out for you that day! I am very glad to read that everything is fine with you; and a little memory problem seems to be a small price to pay for having your life.

It's just common sense, I think, to wear a helmet when you're riding a vehicle where your entire body is at the mercy of whatever accident you might get into. Your head, especially, is nothing to take chances with. I am sure your article will save many lives. Good luck and God bless.

Ms. Barbara Goode
Aberdeen Proving Grounds

Our Oops!

We recently received an e-mail from LTC William Duddleston of Fort Leonard Wood, MO., regarding the "Fluid Replacement Guidelines for Warm Weather Training" chart on page 7 of our July issue. LTC Duddleston accurately pointed out that "Field Assaults" should be listed under "Hard Work" rather than "Moderate Work." The contradiction was between what was published in Government Training Aid (GTA) 05-08-012, dated 2 December 2002, (cited by LTC Duddleston); and Technical Bulletin Medical (TB Med) 507, dated 7 March 2003, which we cited in our chart. We were unaware of that contradiction and are working to correct that discrepancy.

In the meantime, soldiers and their leaders can check out the U.S. Army Center for Health Promotion and Preventive Medicine's Web site at: <http://usachppm.apgea.army.mil/doem//pgm34/HIPP/WorkRestTable.pdf> for work/rest information.

We appreciate the fact that LTC Duddleston cared enough about the proper hydration of his soldiers to bring this to our attention. In the "DASAF's Corner" published in the August Countermeasure, BG Joseph Smith closed his article by saying, "I ask you to keep your leader lights 'on' and be the leader who prevents the next accident." This is a good example of having your leader lights "on."

Your responses to the stories in this magazine let us know that we are reaching people with our safety message. If you read an article in Countermeasure and want to share your thoughts or personal experiences, please e-mail me at robert.vanelsberg@safetycenter.army.mil



When using cold-weather clothing, remember

C O L D :

Keep it... **C**lean

Avoid.... **O**verheating

Wear it... **L**oose in layers

Keep it... **D**ry

ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 10

<http://safety.army.mil>

OCTOBER 2003

NCO

Issue



COMING NEXT MONTH,

JOEY



CONTENTS

- 3** **DASAF's Corner**
A Formula for Safety...
- 6** **As We See It**
Safety From an NCO's Perspective
- 10** **How to Be a Safety NCO**
- 12** **SMA Tilley Sends**
- 13** **A Meeting of the Mirrors**
- 14** **Family of Space Heaters**
Emphasis on Safety
- 16** **On Thin Ice**
- 18** **POV Corner**
Saved by the Belt—Twice!
- 19** **Accident Briefs**
- 20** **Recipe for a Rollover**

features



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



A Formula for Safety...

As the final reports arrive at the Army Safety Center for 2003, the Army has lost 246 soldiers to accidents this fiscal year. These are 246 notifications, 246 funerals, and 246 families who have lost a father, mother, son, or daughter. These soldiers were in our formations and a critical part of our combat readiness. Now, they're gone. We have two enemies in this Global War on Terrorism: the "bad guys" who carry weapons, and preventable accidents that are not stopped by the "good guys."

In World War II, accidents accounted for 50 percent of our deaths; in Vietnam 54 percent; in Operations Desert Shield and Storm 75 percent; in Operation Enduring Freedom 51 percent; and in Operation Iraqi Freedom 28 percent. I love this quote by Dr. Scott Geller: "If you keep doing things the same way, you will get the same results." This statement is as true for your unit as it is for the entire Army.

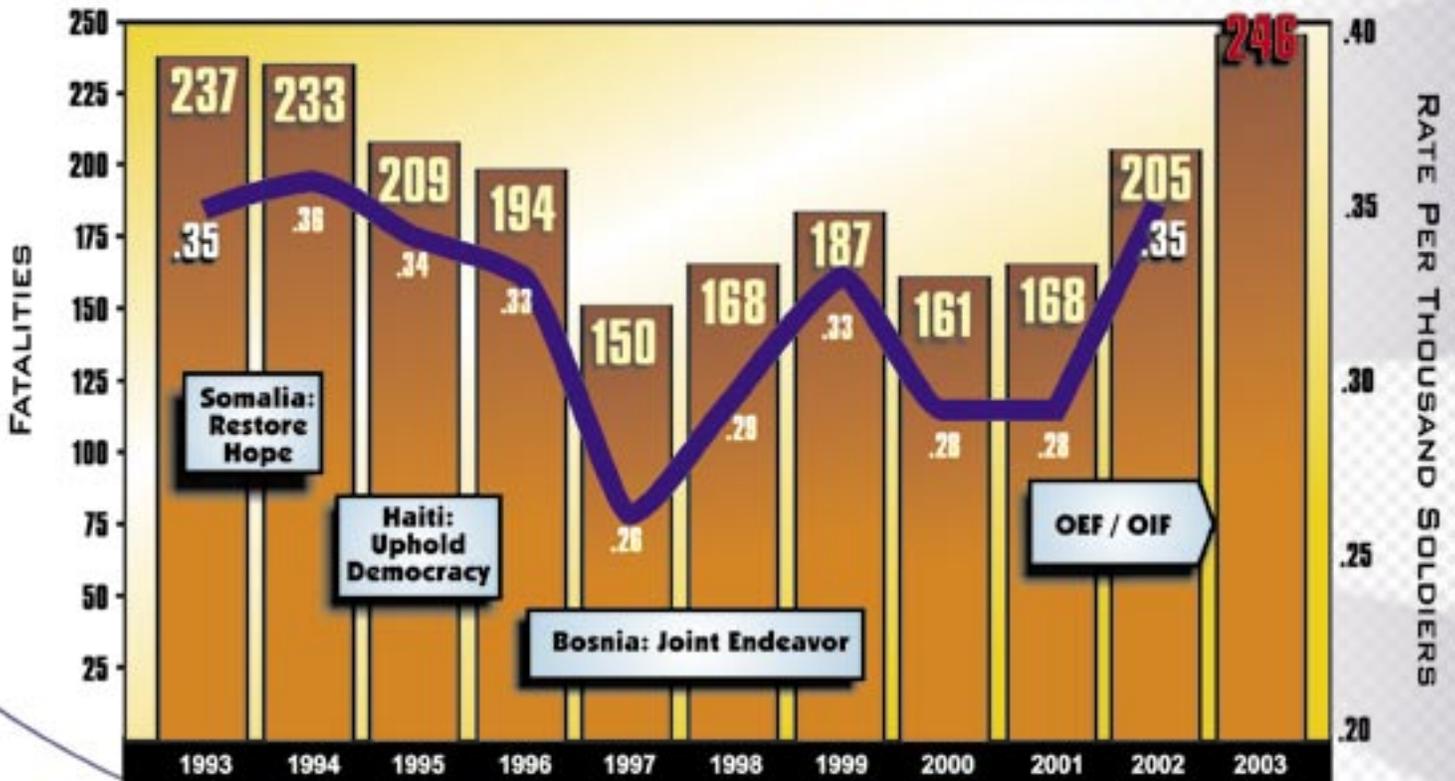
Let's look at accidental deaths over the last 10 years. In 1993 we were losing .35 per thousand soldiers. Last year we were at .35. For 2003, we are at .39...and climbing.

The Secretary of Defense (SECDEF) has mandated a 50-percent reduction in accidents over the next 2 years. This is on our watch, and we are going in the wrong direction.

"Out of the box" thinking is critical as our Army transforms to meet the Nation's security requirements. It is important that we shift our safety strategy from "art" to "science." General Peter Schoomaker, Chief of Staff, Army, coaches leaders to use the following formula to attack tough challenges (if you're not into math...hang in there, this ain't hard):

f(degree of operational success)=(Doctrine + Organizations+Materiel) x (Soldiers' Skill) x (Leaders' Influence) ^ (training x knowledge x experience)

Fatalities



Or, simplified in a safety context:
f(degree of organizational safety success)=(D+O+M) x S x L^(t x k x e)

The Safety Center is developing a series of tools that will allow our Army organizations to increase the value of each of their formula's coefficients. If we work this as a team, it will result in a dramatic decrease in accident fatalities.

(D)=Doctrine. It is the foundation that guides us to execute missions safely and effectively. Several manuals, including those focused on drivers' training, are out of date. We owe our leaders updated field and training manuals that reflect the changes in our Army's equipment and operational environment. The goal is for doctrine to push us to use our full capability while accepting reasonable risks. Get the job done, but don't kill yourself doing it.

(O)=Organizations. Soldiers, leaders, and equipment need to be brought together as a combat-ready team. We must protect our combat formations by enhancing combat readiness through solid risk management. Good organizations protect soldiers on and off duty to preserve combat power through instituting proper safety programs. A death is a death, regardless of where it happens. Accidents in privately owned vehicles (POVs) and Army combat vehicles (ACVs) accounted for over 60 percent of our total fatalities this year. To attack POV accidents, the Army's biggest killer, we are now conducting centralized accident investigations

the same way we do aviation and on-duty ground accidents. These teams are investigating POV fatalities to ensure organizational programs are actively reducing off-duty risks.

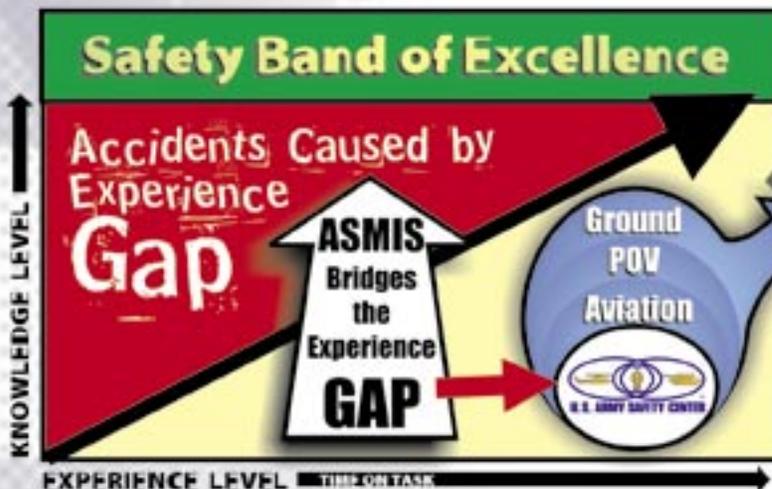
Additionally, the Safety Center has just fielded the first ground Directorate of Evaluation and Standardization (DES) team in an effort to help commanders evaluate their drivers' training and operation programs. Instead of being post-accident focused, we are aggressively working to identify and flag the warning signs to prevent accidents BEFORE they occur. As part of that vision, the Safety Center remains poised to conduct voluntary assessments for commanders who have specific safety concerns within their organizations.

(M)=Materiel. The goal is to "engineer out" hazards in the equipment our soldiers use to train and fight, so leaders don't have to "train them out." The Safety Center has a responsibility to assist the acquisition process, and is placing renewed emphasis toward this common goal. I recently visited an installation regarding some safety concerns with the Stryker. Drivers and TCs were comfortable with the idea that "mobility= survivability," or rapidly moving on the battlefield as a form of protection. From their perspective, adding 8,000 pounds of reactive armor made the Stryker top-heavy and more difficult to maneuver. However, the reactive armor is needed for urban operations, so in this case we must "train out" the hazard. The acquisition process is very effective at engineering out hazards, but in the interest of tactical operations some risk is mitigated rather than eliminated.

While doctrine, organization, and materiel all have a role in the safety equation, it is the actions of our soldiers and their leaders that reduce risks where the rubber meets the road.

Hence, the Safety Center has focused its key initiatives at influencing soldier actions, empowering leaders, and improving communication between the two.

Cody Model



Our safety success is influenced by the degree of training, knowledge, and experience of soldiers and leaders. As you can see in the Cody Model, we cannot influence experience levels—experience equals time at the tasks. We can, however, fill in the “experience gap” by providing soldiers and leaders the knowledge they need to reduce risk. We will field the beta version of the Army Safety Management Information System (ASMIS) this month to provide a user-friendly, automated way to assess risks for aviation, ground, and POV missions. Furthermore, ASMIS will suggest control measures to reduce risk and educate soldiers by providing them examples of past accidents during similar missions. The knowledge provided by ASMIS educates the leader on his soldiers’ risks and inspires dialogue between each level of leadership. The goal is to ensure effective control measures are used.

In addition to the variables in the Army Chief of Staff’s formula, we find the Degree of Dialogue (d) between senior leaders, first-line leaders, and soldiers to be a key ingredient in the safety formula. This dialogue should be “3 levels deep” and can be done through a combination of guidance, coaching, and supervision early in the risk mitigation process. We suggest that dialogue be added as an exponential factor in the effectiveness of Leader Influence (L):

$$F = (D + O + M) \times S \times L^{(t \times k \times e \times d)}$$

For those who hate math, stay with me for a moment. If there is no dialogue between senior leaders and their soldiers (d=0), then the value of leader influence, regardless of the leader’s training and experience, equals one (L=1). Because of the geometric relationship between leader influence and safety success, the formula demonstrates that leaders have **NO** effect on safety unless they talk to their soldiers during the mission planning process. Historically, this has proven to be true in all facets of soldiers’ lives, both on and off duty. “YA GOT TO COMMUNICATE!”

(T)=Training. Safety and operational training are extremely important to the effectiveness of the organization’s safety success. Simply avoiding risks is not safe. Challenging training with tactically and technically proficient leaders present increases the value of T, exponentially increasing the long-term safety success of the organization. In the long term, risk aversion is not effective risk mitigation.

At the Safety Center, we refuse to be stagnant. We are aggressively making use of proven processes, industry’s best practices, and technological advances to help you succeed in reducing fatalities. But, as the formula emphasizes, **YOU are the key element in reducing accidents.** Achieving the SECDEF’s mandate of reducing accidents by 50 percent over the next 2 years is not only possible, it’s necessary to winning the Global War on Terrorism. ☛

Keep your leader lights on!

Joe Smith
BG Joseph A. Smith





AS WE SEE IT

Safety From an NCO's Perspective

BOB VAN ELSBERG
Managing Editor

and

SFC TIMOTHY J. JEWELL
MSG GARY J. SCHNIER
MSG TERRY L. COSTLOW
SFC RAYMOND R. HAMILTON
SFC JOHN D. TEMPLE

No one knows soldiers better than the NCOs who lead them. That knowledge also places those NCOs in the best position to help their soldiers make wise, safe decisions. And that's important because in an Army of shrinking dimensions but growing responsibilities, every soldier is vital.

This interview with five senior NCOs assigned to the Army Safety Center discusses some of the challenges NCOs face when it comes to effectively promoting safety. SFC Jewell has more than 19 years in the Army and has served the last 18 months at the Safety Center. As a Mobile Training Team instructor, he travels throughout the Army teaching junior NCOs the principles of the Army Safety Program, to include risk management. MSG Schnier has 20 years in the Army and has served at the Safety Center for the past 12 months. As the operations sergeant, he often is the one who answers the phone when a ground or flight accident

is reported. He also helps deploy the Safety Center's investigation teams to accident locations in the field. MSG Costlow is a 20-year Army veteran who has been assigned to the Safety Center for the past 9 months. He serves as a Risk Management instructor. SFC Hamilton has served 17 years in the Army, with the last 12 months being at the Safety Center. He is the Airborne and Artillery Liaison NCO and is rated as an artillery master gunner, master jumpmaster, and served 2 years as chief of a firing battery. SFC Temple has 17 years of Army service and has served the past 14 months at the Safety Center as the Infantry Liaison NCO and as an accident investigator. He has 10 years' experience as a Bradley Fighting Vehicle master gunner, and 3 years as a platoon sergeant.

This interview will be presented in a simple "question and answer" format. When sergeants talk, it needs to be straight-up with the "bark" on.

Q. What do you believe is the proper role of all NCOs in promoting safety for their soldiers?

A. SFC Jewell: NCOs must, first and always, set a proper example. NCOs must adhere to established standards, which implies they know the standards. Next, NCOs must instill in their soldiers the desire to consciously use the Five-Step Risk Management Process for everything they do.

A. MSG Schnier: The two primary duties of NCOs are accomplishment of the mission and troop welfare. We cannot accomplish either if safety is not emphasized.

A. SFC Hamilton: NCOs must make sure their soldiers consider safety in every situation.

A. SFC Temple: NCOs must educate soldiers on the hazards related to their duty positions.

Q. Why is that important?

A. SFC Jewell: Unless soldiers are aware of their hazards, they will needlessly jeopardize themselves.

A. MSG Schnier: Taking care of unit equipment and soldiers enables us to accomplish our mission. A loss of either soldiers or equipment can be detrimental to that.

A. MSG Costlow: Younger soldiers look up to NCOs for guidance. If NCOs don't have

a clue what the standards are, then they aren't following them and can't make their soldiers follow them.

A. SFC Hamilton: NCOs who are aware of safety educate others and use safety in planning.

A. SFC Temple: Young soldiers are focused on their impressions of things rather than correct procedures.

Q. How does an NCO go about promoting safety to young soldiers and what are some of the challenges?

A. SFC Jewell: This is the ultimate leadership challenge for NCOs. Young soldiers do not really have the experience to foresee the possible outcomes of certain situations; therefore, young soldiers suffer from a sense of "invincibility." NCOs must open the eyes of their young soldiers to the dangers inherent to military life.

The most prevalent obstacle in mentoring young soldiers to be safe is their lack of experience. Without life experience, young adults are unaware of their hazards—and lack of experience often leads to a lack of fear.

A. MSG Schnier: The major influence NCOs have on young soldiers today is the act of leading by example. Many times it requires extra time and energy to take the necessary extra safety precautions. However, when soldiers see NCOs taking the extra time and energy to be

safe, they realize they have no excuse for not being safe.

Young soldiers are still under the presumption that they are invincible. That, combined with the fact that we instill a "train as we fight" mentality, makes it especially important to make safety a part of our training. Soldiers feel that during combat all concerns for safety go out the window. In fact, however, combat is the time to make sure safety is a part of operations.

A. MSG Costlow: NCOs need to ensure their soldiers are trained to standard and that no shortcuts are taken.

A. SFC Hamilton: NCOs should bring young soldiers into the planning phase of a mission as well as the operational phase.

As far as challenges, there is a sometimes overwhelming operational push to complete the mission in a limited time without proper resources.

A. SFC Temple: By ensuring the mission is accomplished safely and that safety isn't limited to just weekend safety briefings.

Q. NCOs have an obvious leadership role in the safety of their soldiers when they're on duty. What about when they are off duty? Do NCOs also have a role to play there?

A. SFC Jewell: NCOs must be involved in every aspect of their soldiers' lives. Off-duty activities are when soldiers are most susceptible to fits of stupidity.

A. MSG Schnier: Absolutely! A soldier is an asset 24 hours a day, not to mention the human factors (costs) involved. As NCOs we are trained to know about our soldiers and, as a result, we build a bond with them.

A. SFC Hamilton: Yes, NCOs need to instill a sense of awareness about safety in every facet of their (soldiers') lives, highlighting the major killers.

we set the proper example both on duty and off. Discussing off-duty accidents with our soldiers also drives home the point and, hopefully, makes a dent in their armor of invincibility.

A. MSG Costlow: First, NCOs need to know their soldiers and what they do with their off-duty time. Then, NCOs need to sit down with their soldiers and let them know they are there for them and that they care about them.

leadership stops at the end of the work day.

A. MSG Schnier: I believe aviation units emphasize safety to a greater degree than ground units. I think one reason behind that is the fact aviation units have full-time safety officers, whereas ground units have part-time safety NCOs.

A. MSG Costlow: For the most part, NCOs want to do the right thing but have not been taught the safety part of their job. The usual attitude is, "This is the way it has always been done."

A. SFC Hamilton: An overwhelming attitude that safety is not a combat or an operational issue.

Q. What would you say to an NCO who doesn't have the best attitude toward safety?

A. SFC Jewell: Attend one of our classes. We will open your eyes to the harsh realities of being disinterested in safety.

A. MSG Schnier: I would pull that NCO aside and discuss my experiences as the one who receives the phone calls when major accidents are reported to the Safety Center. I would try to relate some of those accidents to the type of unit the NCO is assigned to.

A. MSG Costlow: Think about when you were coming up through the ranks and you were told to do unsafe things. Also, ask yourself how you would feel if your children had to work in

"If you are not focused on safety for the benefit of your soldiers, your military career will always be one accident away from ending."

A. SFC Temple: Set the proper safety culture on duty so that their soldiers will have a positive habit transfer to their off-duty activities.

Q. What can NCOs do to affect their soldiers when it comes to off-duty safety?

A. SFC Jewell: Know what interests and hobbies their soldiers have and discuss the hazards associated with those areas.

A. MSG Schnier: Again, leading by example is the biggest factor. As NCOs we are on a pedestal, and soldiers will look for every opportunity to use our actions as an excuse for their own. So it's important that

A. SFC Temple: NCOs should share with soldiers and junior leaders experiences related to safety and judgment from their own careers.

Q. What about attitudes? As you visit different Army units, do you see attitudes in NCOs that need to change in regards to safety? If so, can you describe some of those attitudes?

A. SFC Jewell: Most NCOs are professionals who really care about what they are doing. However, there are some who are leaders in name only. They are no more experienced than the soldiers they are supposedly leading. They also believe that

unsafe conditions. If you can fix the things within your reach, then start there and, before long, others around you will catch on.

A. SFC Hamilton: If you are not focused on safety for the benefit of your soldiers, your military career will always be one accident away from ending.

A. SFC Temple: I would tell that NCO to go to the safety office and look at the stats on dead soldiers.

Q. Is the problem sometimes higher up in the chain of command?

A. SFC Jewell: Unfortunately, safety is sometimes embattled with mission accomplishment in a battle of competing priorities. Commanders feel overwhelmed by the operations tempo and, subsequently, do not take the few extra moments needed to consider safety. Other commanders only pay lip service to safety, and their subordinates are well aware of that fact.

A. MSG Schnier: Time management is a key factor—basically getting the command to provide the time needed to really talk safety to soldiers. Knee-jerk reactions caused by short suspense operations often hinder proper risk management.

A. SFC Hamilton: Yes, leaders set unit trends. A lack of focus on safety is passed from the command down to the troops.

Q. What help is available both for designated safety NCOs and NCOs in general to help

them effectively promote safety within their organizations?

A. SFC Jewell: The Army Safety Center Web site at <http://safetycenter.army.mil/home.html> is a valuable resource that is not well known to the majority of the Army. Safety is a product of deliberate thought combined with experience in identifying hazards. Our Web site assists in both of those areas.

A. MSG Schnier: The Safety Center Web site has many resources available, but to take advantage of those resources requires time that is rarely provided.

A. MSG Costlow: NCOs need to check with their installation safety office and check out the Safety Center Web site.

A. SFC Hamilton: Appropriate army regulations (ARs) and technical manuals combined with unit standard operating procedures.

A. SFC Temple: Field Manual 100-14, AR 385-10, and the Army Safety Center Web site. Safety is a commander's program, so the commander's support is necessary for success.

Q. What kind of an impact do you believe NCOs can have on helping keep their soldiers safe?

A. SFC Jewell: An NCO will never know how many lives he has saved, but he will always remember the one he didn't. Young soldiers look to their NCOs as either an image of who they want to be, or as a bad

example of what not to do.

A. MSG Schnier: As NCOs, our actions affect soldiers every day. As I have mentioned, our actions speak louder than our words. To really make an impact we must practice what we preach.

A. MSG Costlow: NCOs can have a very large impact on their soldiers' safety if they get involved with them.

Q. What is the single most important piece of advice you would pass on to NCOs who are concerned about promoting safety?

A. SFC Jewell: Get involved, never take shortcuts, and enforce the standards.

A. MSG Schnier: Use the tools available to become an informed safety professional, and then lead by example.

A. MSG Costlow: NCOs need to keep knocking on doors up the chain of command until they get their point across and make some changes for the better.

A. SFC Hamilton: As an NCO, you will never know everything required to be a leader. However, as long as you're dedicated to your job and taking care of your soldiers, you'll always seek to educate yourself and them and make things better. 

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How to Be a Safety NCO

CW5 RANDALL MILLER
CP-12 Safety Intern

Outlets overloaded-EH

EXIT lights not working-EH

Fire extinguishers-EH

Washing machines overloading-M

Congratulations, you're the new safety NCO! The commander hands you some books and handouts, then you salute him as you turn around and walk out the door. The title of "safety NCO" has an interesting ring, but you're not sure what it means. This is definitely a job for which none of your NCO training has prepared you. So, what is the first step? You look through all the literature the commander has given you and nowhere does it say what you have to do to become a company safety NCO.

This is a story that plays out too many times in units that have no formally trained safety officer or NCO. Where do you begin? Having watched this scenario play out during the last 23 years, I understand much of the frustration that comes to our junior leaders as they try to figure out what to do. Yes, you can download pamphlets, regulations, and training circulars, but not one tells you what to do or how to get started! Maybe this article can help those who find themselves in this situation.

First, let's face the obvious—you don't know where to start. OK, safety NCO, pick up a pad of paper and a pen and let's proceed. You're going to do something called a survey. That means you're going to walk around your company area and list those things you feel have the potential to harm someone. Start in the office and look around. Is there an electrical cable that someone could trip over? Do you have the ever-present multi-plug in the wall that has another multi-plug attached to it? You can get upwards of seven objects plugged into one wall socket! How about the other electrical outlet that has seven extension cords plugged end-to-



end to reach the computer that everyone in the office uses? Write these things down. Chances are that if something doesn't look right, it isn't right.

Next, proceed to the unit's billets and repeat the same inspection. Take notice if the EXIT lights are working and if the fire extinguishers are charged and current on their inspections. Are emergency thoroughfares clear of obstructions, and do outside firelights work? Are the community washing machines overflowing with water on certain cycles? Check the electrical outlets for overloading. Have the room occupant tell you what is broken in the room that never seems to get fixed. Repeat this procedure in your training areas, motor pools, and the physical training areas where you find yourself every morning.

Once you have this list, assign each risk an assessment code of 1 to 4 or a letter code ("L"—Low, "M"—Moderate, "H"—High, or "EH"—Extremely High) that tells you which hazards are the worst. Don't be surprised if you have several items that have the same number or letter rating. Then write the date next to each specific hazard. This will document when you actually discovered the fault. Fix the things you can, and start calling in work orders to the repair facility that supports you. Write down the dates you made those calls. This will show you are taking action on getting things repaired, but don't forget to close out the work orders once those things are fixed.

I would hope that by this time your commander or first sergeant has planned a TDY for you to Fort Rucker, AL, to take one of the many safety courses offered by the Army Safety Center. Perhaps your higher headquarters is thinking about funding a training team from the Safety Center as well. If you have an aviation unit close by, ask if there is an assigned aviation safety officer and if you can contact him or her. Also consider calling the Safety Center and asking for guidance from the safety professionals there. And don't miss taking advantage of the information on the Safety Center's Web site at <http://safety.army.mil>. Among other valuable tools you can find there is Department of the Army Pamphlet 385-1, *Small Unit Safety Officer*, an essential reference for safety NCOs. Just open the Web site, click on "Guidance" then click on "U.S. Army Regulations and Guidance." Once you're there, scroll down to "DA Pam 385-1." If you have a higher headquarters collocated with you on your post, you can also contact their safety professional(s) for help.

Although being a safety NCO is challenging, you're not alone and there are many resources available to help you. Yes, the work can be tough, but you don't have to walk down this path blindly. The Army has plenty of people and written information to help guide you. 🐻

Good luck!

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SMA Tilley Sends

SMA JACK L. TILLEY
Sergeant Major of the Army

The pace of the Army continues to race along at top speed. As I send this message out to you, we have nearly 352,000 soldiers forward-deployed in 120 locations. Unfortunately, things are not going to slow down anytime soon.

I just returned from Kuwait and Iraq and am so impressed with the progress there since my visit in April. No matter what you read in the newspapers, our soldiers remain motivated and committed to their mission there. I met soldiers in every division and they are facing extreme obstacles, but are performing incredibly well. You should be as proud as I am of their achievements. They not only won the war, but (also) are winning the peace.

The situation in Iraq remains tense and dangerous. It can be physically and mentally draining when you face a constant threat of attack. I cannot stress enough the importance of NCOs talking to soldiers and ensuring everyone remains focused on the mission at hand.

We cannot allow a small group of individuals to ruin the chance for Iraqi citizens to achieve a lasting peace and stable government. Frustration and fear are difficult enemies to fight, but communication and rest are vital.

For many units, the extended stay in Iraq has been disappointing and difficult on soldiers and their families. The Army is working hard to set up a workable rotation policy and will put it into place once imminent security concerns are addressed. NCOs and leaders are stressing to soldiers that they should expect a 1-year tour in Iraq. We will get units out of Iraq as soon as we can, but soldiers must remain focused on the mission at hand until the day they leave country.

The Training and Doctrine Command (TRADOC) and the Army Staff are working hard to put together a solid Non-Commissioned Officer Education

System (NCOES) solution for soldiers when they do return home. We are facing a tremendous potential backlog if we do not address it quickly. I ask commanders and command sergeants major to ensure we get soldiers to NCOES as soon as possible.

The successes of our NCOs in Iraq and Afghanistan were accomplished thanks to our continued emphasis on education and training. We grow our own leaders, and NCOES is key in that process. If we shortchange our soldiers today, we will pay a price in the future.

I am very concerned about safety. The Army Safety Center has some tremendous tools to assist leaders in conducting risk assessments and identifying safety concerns. I encourage you to check out their Web site at <http://safety.army.mil/home.html>.

We have already begun to get dynamic comments and issues back from Operation Iraqi Freedom. The Center for Army Lessons Learned (CALL) has posted the 3rd Infantry Division's After Action Report (AAR) and other documents for leaders to use. This feedback is so important to helping future units prepare for similar situations. Take the time to ensure your unit submits an AAR to CALL and to your proponent. In addition, visit the CALL Web site at <http://call.army.mil>. It is a tremendous resource.

As the stress of long deployments wears on our families, please take that extra time to keep spouses and loved ones informed. I have heard some installations have cut service hours at places like childcare centers and gymnasiums. I urge you to work closely with those left behind to ensure you are taking care of their needs.

We are one family and need everyone working together to be successful. Keep up the hard work. I am so proud of all our Army family is doing. 

HOOAH!

A Meeting of the Mirrors

SUE ELLEN POLLARD
Systems Safety Engineer
U.S. Army Safety Center



"Pull over to the right," the HMMWV truck commander (TC) told the driver as they both saw another HMMWV approaching on the narrow road. The driver eased to the right, eyeballing the almost non-existent shoulder. But this wasn't America and the roads weren't engineered to allow two wide-track vehicles to pass each other. The driver of the approaching HMMWV eased as far as he could to his side of the road, but it was going to be a "squeaker." Just as the vehicles were about to pass, the driver yelled, "We're too close!"

Suddenly there was a "thud," followed by the sound of shattering glass. The TC looked over at the driver and saw blood running down his face. There had just been a nasty meeting of the mirrors.

While this example is fictional, the truth is that the real thing is happening to HMMWV drivers.

"I have personally treated several soldiers injured by HMMWV mirrors, and I've heard of many more," said Army physician LTC David Vetter. He explained that when soldiers drive HMMWVs down the narrow roads they often encounter on deployments, mirror-to-mirror collisions represent a real danger. And when they happen, he explained, the mirror shatters and often sends fragments into the driver's face and eyes.

LTC Vetter continued, "This is a recurring problem. I have seen it happen on all of my deployments to Bosnia, Kosovo, and Iraq, where streets are narrow and mirror impacts with oncoming vehicles are common. Drivers are generally issued goggles, but don't wear them because of the heat or the reduced

visibility through the scratched or dirty lenses."

While investigating this hazard, Don Wren, a systems safety engineer in the Army Safety Center's Ground Systems and Accident Investigation Division, didn't have to look very far. In the parking lot behind the Safety Center he saw HMMWVs with improperly mounted mirrors. The mirrors were mounted forward of the U-shaped bracket instead of aft. When so mounted, the support bracket does not absorb the impact and fold backwards toward the HMMWV's cab; instead, the mirror takes the hit and shatters.

Fortunately, this is an easy problem to fix. Simply remove the mirror from the C-clamps, rotate the C-clamps 180 degrees, and reattach the mirror. This will protect the mirror by placing it behind the U-shaped support bracket. More importantly, it will protect the driver from painful and possibly serious injuries. 

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Family of Space Heaters Emphasis on Safety

Another winter is fast approaching. Military units that use tents must once again prepare for the challenge of heating them—a difficult and often dangerous undertaking. However, the Product Manager, Force Sustainment Systems, has introduced a new Family of Space Heaters (FOSH) that will make it much easier to heat tents safely, effectively, and efficiently.

These newly developed heaters use the latest advances in combustion, power generation, and microprocessor technology to replace the World War II-vintage M-1941 potbelly and M-1950 Yukon heaters. Some of the key operational capabilities of these new heaters include:

- Self-powering
- Multi-fuel compatible (diesel, JP-8, JP-5, kerosene, wood, and coal)
- Efficient, clean-burning combustion that reduces maintenance
- Operational capability in temperatures as low as -60 °F
- Self-contained, lightweight, portable, rugged, and simple to operate
- Ventilates exhaust fumes outside the tent

• Meets the heating requirements of all standard military tents

The new FOSH consists of four heaters: Space Heater Small (SHS), Space Heater Medium (SHM) or H45, Space Heater Arctic (SHA), and Space Heater Convective (SHC). The first three are non-powered, radiant-type heaters designed to be used inside the tent. The SHC is a self-powered, convective-type heater designed to be used outside the tent. There also is a Thermoelectric Fan (TEF) that can be used with the SHM and SHA to circulate heated air inside the tent.

The SHS is the smallest member of the FOSH and is intended for the Soldier Crew Tent. It has an output capacity of 12,000 BTU and self-stores all its accessories.

The SHA is designed to heat Arctic tents and other shelters with a floor area between 100 and 200 square feet. It has an output of 25,000 BTU and, like the SHS, is completely self-storing. The SHM has an output of 45,000 BTU and is intended for larger tents such as the General Purpose (GP), Modular General Purpose Tent System (MGPTS), Modular Command Post System (MCPS), and Tent Extendable Modular Personnel (TEMPER). A higher-output version (80,000 BTU) of this heater should be available to the field in about 2 years.

New Family of Space Heaters (FOSH)



SHS



SHM

JOSEPH MACKOUL

Product Manager, Force Sustainment Systems
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The SHC is a 35,000 BTU self-powered, thermoelectric heater that provides forced hot air circulation. It is unique among the new heaters in that it generates its own electrical power through the use of thermoelectric modules located in the combustion chamber that convert waste heat into electricity. The internal generation of electrical power gives the SHC the added capabilities of single-switch operation, automatic safety and temperature controls, and greater combustion efficiency. As an added bonus, it can be operated without a fireguard and also comes equipped with a remote intelligent control box that tells the operator when there's a problem and how to fix it. Like the SHM, a higher-capacity output version of the SHC should be available to the field in about 2 years. The higher-capacity SHC will produce 60,000 BTU and be close to the weight and dimensions of the current SHC.

The TEF is a self-powered fan that is placed on top of the SHM or SHA to circulate heated air inside the tent. The TEF has a built-in thermoelectric module that converts heat from the upper surface of the heater into electricity to power a 450-cubic feet per minute (CFM) fan. The fan blows air downward to the bottom and corners of the tent, providing a more even distribution of heat throughout the entire shelter. This improved heat distribution results in more comfortable living and working conditions, as well as significant fuel savings.

In the old M-1941 and M-1950 heaters, fuel would pool in the bottom of the burner, where it was vaporized and burned. If more fuel entered the bottom than could be vaporized, the burner would flood and result in a "runaway" heater. The SHM, SHA, and SHS heaters use a new burner design that vaporizes the fuel inside a tube so raw fuel can't

pool and possibly flood the pot. These heaters have a multi-fuel control valve that allows them to burn fuel of different viscosities while maintaining a consistent flow rate, regardless of temperature. The addition of a sight glass allows the operator to view the flame and assess heater operation without opening the lid.

The development of the FOSH addresses a very important point. While many seemingly attractive commercial space heaters are available today, their use for military field applications presents problems from a safety, performance, and economic perspective. Commercial unvented kerosene or propane heaters release exhaust fumes directly into the living space, presenting a serious risk of injury or death to the soldiers inside the shelter. All military units that have these heaters must replace them with standard vented military heaters. Some of the warnings against commercial heater use include:

- Army Regulation (AR) 420-96 prohibits using unvented space heaters in living quarters or enclosed locations where soldiers sleep.
- The Army Safety Center advises commanders not to allow the use of these unvented space heaters where soldiers work or sleep.

• The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) has determined that kerosene heaters "are intrinsically dangerous and should not be used in field environments."

All currently fielded FOSH units are available through the Defense Supply Center Philadelphia (www.dscp.dla.mil). Use the tools available to you and your soldiers—they have been designed with your safety and comfort in mind. The chill of winter won't last forever, but your impact on this Army will! 🇺🇸

Points of contact regarding the FOSH are:

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On Thin Ice

JULIE SHELLEY
Staff Editor

It can be said that soldiers live extreme lives in their on-duty time. Where else but in the military would people get to throw grenades, shoot guns, and drive multi-million dollar pieces of war-fighting equipment and still get paid? Many soldiers take “extreme” to their off-duty lives as well. Fast cars and even faster motorcycles sadly have ended many careers and lives. But, what about less well-known recreational activities that are just as risky, if not more so?

With the brisk chill of winter comes cold-weather activities, and some of these prove more dangerous than others. The Army recently lost three soldiers to falls suffered while mountain climbing on icy slopes. In one accident, an ice bridge two soldiers were crossing during a climb collapsed, causing them to fall 250 to 300 meters to their deaths. Another soldier died in a separate climbing accident, also from injuries suffered in a fall.

Climbing of any kind, but especially ice climbing, requires a tremendous amount of skill, dexterity, and courage. That skill and dexterity is difficult to master. Novices to ice climbing should begin by taking courses at an indoor climbing gym to learn basic mountaineering skills. Once you’ve gained some experience and feel comfortable moving to the outdoors, you should purchase the appropriate specialized climbing gear and become familiar with the hazards inherent to ice climbing.

The following equipment is required, at a minimum, to ensure your personal safety while climbing:

- Safety harness: select a safety harness that also can be used to carry tools for easy accessibility.
- Reinforced climbing rope with safety clips or “wiregates.”
- A fitted helmet.
- Specialized climbing boots with crampons

(spikes that attach to your boots for maximum grip on the ice). However, be careful not to cut your rope in half with your crampons, and consider using the two-rope technique.

- Various tools, including an ice axe or pick, ice screws, an ice clipper to rack and access your screws easily, and a toolbox or backpack to store extra gear. In addition, ice beaks make for quick placements when you’re in a tight spot or the ice is too thin for a screw.

- Warm clothing is essential and should include three layers, including a wicking layer of thermal undergarments, an insulating layer (preferably lightweight polar fleece), and a waterproof, lightweight, and unrestrictive outer layer.

- Sun protection items, including sunglasses to protect the eyes from glare, lip balm to prevent chapped lips, and sunblock to avoid sunburn.

Being conscious of the weather conditions before, during, and after your climb is just as important to safety as is proper training. Always be aware of ice and snow conditions. In extremely cold temperatures, ice tends to shatter off in large “dinner plates” that could pose a striking hazard to climbers. If the temperature is too warm, refrigerator-size chunks of ice can come crashing down from the cliffs high above you. Snow, on the other hand, has a tendency to slide and can be a serious danger to climbers. You can keep up-to-date on avalanche conditions by visiting www.avalanche.org.

Some other climbing safety tips:

- Don’t place your pitons or tubular screws too closely together in brittle ice. If you blow one plate, there’s nothing left but your toe points to momentarily hold you up!
- Always place enough screws to keep you from decking (falling to your previous level)—you never know when you’ll need that additional screw.

- Place your screws flush with the ice. The vast majority of screw failures happen near the exterior end of the screw, increasing the chance of bending.

- Place your screws at a slightly upward angle into the ice. This technique reduces the chance of shattering off the outside edge of the ice, subsequently decreasing the likelihood of bending and breaking a screw during a fall.

- Once you have a tool placed, do not move it from side to side—instead, move it up and down to remove it. Moving the tool from side to side can weaken and break the tip, or work the tool free from its purchase.

- Always remember to check your gear BEFORE heading out on a climb for tightness and general condition.

Finally, never climb alone. It always is recommended that climbers be organized into groups so no one is ever alone on the ice, should anything go wrong. Don't take anything for granted on the ice. Be safe and prepared at all times! 🚣

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SAVED by the BELT Twice!

KENNETH HOOD
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I was in the second of three vehicles traveling north from Fort Huachuca, AZ, on a two-lane road when I noticed a car in the oncoming lane drifting across the center line. I thought the driver had fallen asleep and was going to run off the road and have a bad accident.

I soon realized he wasn't drifting—he was aiming straight at us! Because I was in a van, I could look over the car in front of me and see the rapidly approaching vehicle.

The car in front of me swerved at the last instant, but the oncoming vehicle still hit it on the driver's side. I tried to steer toward the right shoulder, but couldn't get out of the way in time. The oncoming car hit my van on the left front fender, ripping a gash down the side to just past the gas tank door. He also hit the car behind me and badly damaged it. The wrong-way driver's car also was damaged badly, so he got out and fled. Other drivers stopped at the scene and chased him into the desert. They caught up with him, but he had a bag of money and a gun and threatened to shoot anyone who tried to follow or stop him. He then fled into the desert. The ambulance arrived and took me to the hospital.

A couple of days later I picked up a copy of the accident report and spoke with the investigating officer. He told me the driver had been captured and that he'd intentionally caused the accident because he thought he was being followed by police vehicles. He'd hoped the multiple-vehicle collision would give him an opportunity to escape.

Although I suffered only minor injuries, such as sprains and bruises, the officer told me I'd likely have been thrown through the windshield and killed if I hadn't been wearing my seatbelt.

A Second Brush With Death

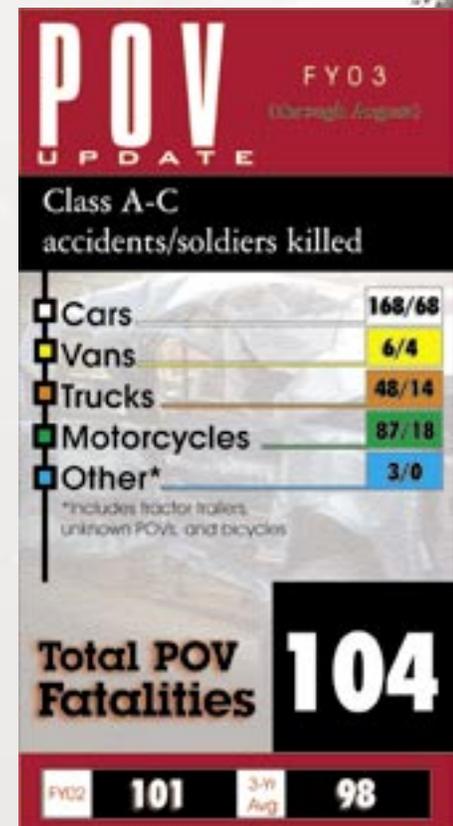
I was riding in the front passenger seat with a bandaged right eye while my wife drove us home from one of my post-operative doctor's visits. We were wearing our seatbelts and traveling in heavy traffic in the middle lane of a three-lane interstate.

I noticed movement to my right and looked over just in time to see an 18-wheeler moving into our lane. There was traffic in the lane to our left, so we had no route of escape. The truck's drive wheels hit our Nissan Stanza on the right front fender and forced us into an uncontrollable spin. We spun across the inside lane of the interstate, went into the median and struck a guardrail. We then spun back across the highway and came to rest on a bridge, blocking the outside and middle lanes. I'll never know how we avoided being hit by another vehicle.

The investigating officer told us that without our seatbelts, we could have been thrown from the car and probably would have been killed. That was the second time for me!

Sometimes you hear people say, "I don't need a seatbelt because I am a safe driver." But what about the other people on the road? Seatbelts don't just save us from our own mistakes—they can save us from the mistakes or dangerous actions of others. 🚗

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Class A (Damage)

- A Bradley Fighting Vehicle (BFV) received Class A damage when it collided with the rear of another BFV. Both drivers suffered cuts and lacerations during the accident.

Class B (Damage)

- A Light Armored Vehicle (LAV) suffered major damage when it overturned on a gravel road. The LAV was the third trail vehicle in a convoy recovery mission at the time of the accident. The soldier driving the LAV was not injured.



Class A

- A soldier was killed when his High Mobility Multipurpose Wheeled Vehicle (HMMWV) was struck by a civilian truck at a traffic point. Two other soldiers were injured. The three soldiers had been manning the traffic point prior to the accident.

- A soldier died when the HMMWV he was riding in overturned. Two other soldiers, including the driver, were injured. The driver was attempting to negotiate a concrete road barrier at the time of the accident.

Class B

- A soldier driving a HMMWV suffered a permanent partial disability and two other soldiers were injured when their vehicle overturned. The driver turned the vehicle too

sharply while on patrol and overcompensated for the turn, causing the accident.



Class A

- A soldier died from gunshot injuries to the abdomen. No other details were provided.

- A Department of the Army Contractor died when the inflatable boat he was riding in was struck by a motorboat. The contractor and two other crewmembers were returning to a tugboat at the time of the accident.

- A soldier suffered a fatal head injury when he reportedly was struck by a split-ring tire. The soldier had been changing a tire on a Heavy Expanded Mobility Tactical Truck (HEMTT) when the accident occurred.



Class A

- A soldier was killed when he lost control of his privately owned vehicle (POV) and it ran off the roadway, striking a tree.

- A soldier was killed when a tow truck slid from a 30-foot embankment on an interstate highway and fell on top of her vehicle.

- A soldier died from injuries suffered when he was hit by a car. The soldier apparently had walked over to a grassy area near a parking lot to lie down

just before the accident. The accident occurred during the early morning hours.

- A soldier was killed instantly when he lost control of his motorcycle and hit a roadside curb. Excessive speed appears to be a factor in the accident.

- A soldier suffered fatal injuries when his POV ran off the roadway, through a ditch, and across an open yard, eventually hitting a brick house and overturning in the final stages of the accident.

- A soldier was killed when his motorcycle collided with a minivan that cut in front of him.

- A soldier died when his vehicle ran off the roadway and hit a signpost. The soldier was towing a trailer behind his vehicle at the time of the accident.

- A soldier suffered fatal injuries when his vehicle crossed the centerline and struck another vehicle head-on. The soldier was on PCS leave at the time of the accident.

- A soldier was killed after he lost control of his vehicle and struck a chain-link fence. A section of the fence loosened and struck the soldier, causing the fatal injuries.

- A soldier died when his vehicle crossed the centerline, slipped off an embankment, and struck a tree. 

**Recipe
for a**

ROLL-OVER

OVER



- **A dark night**
- **Minimal illumination (blackout drive)**
- **No night vision devices**
- **Unfamiliar terrain**

Mix in a couple of soldiers more interested in spotting aggressors than watching the ground around them and allow a few minutes for the mixture to come together. Result: one HMMWV "parked" in an

anatomically incorrect position. The good news is that the soldiers, like a good James Bond martini, were only "shaken, not stirred." Both were wearing their seatbelts and helmets and walked away unhurt.

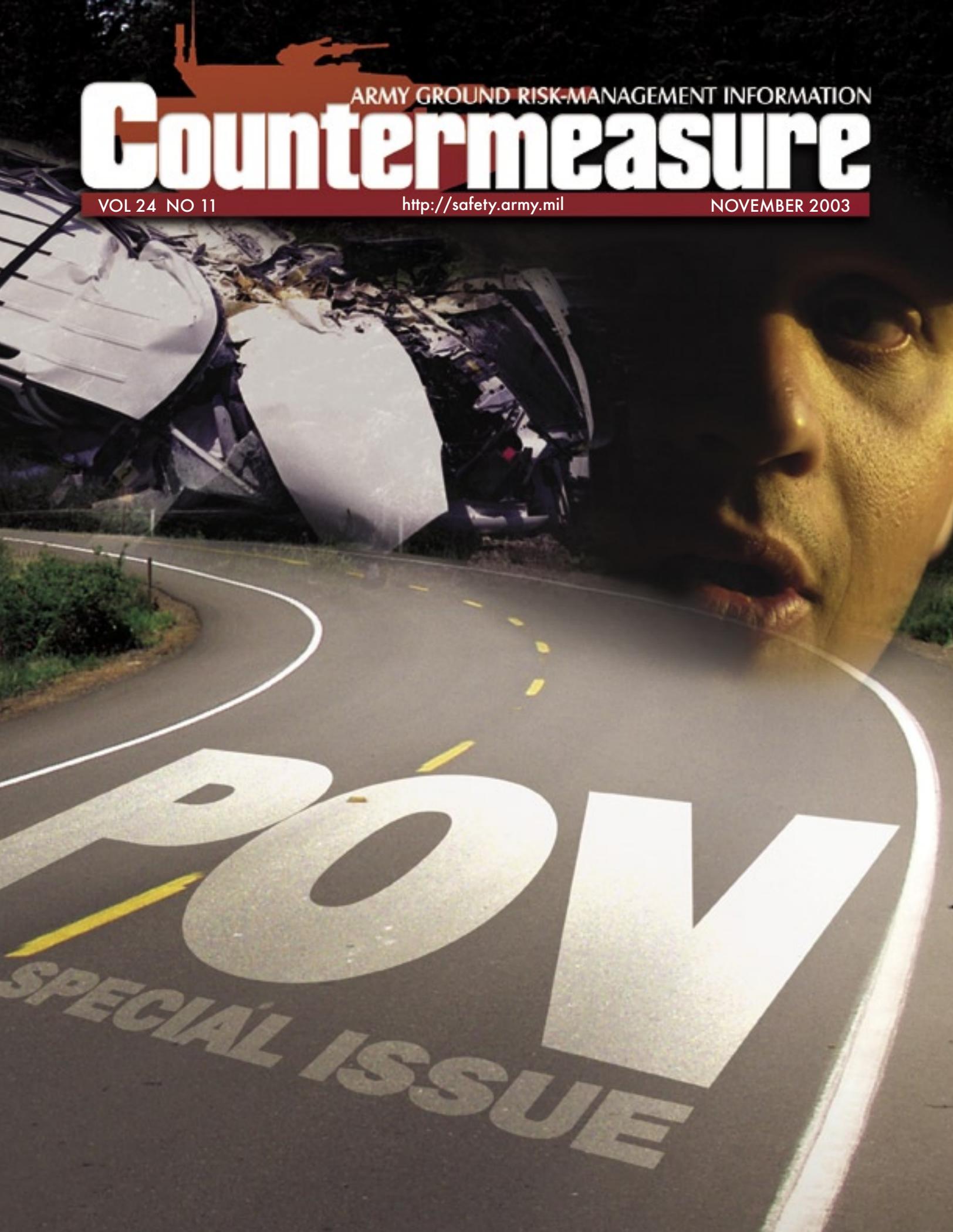
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 11

<http://safety.army.mil>

NOVEMBER 2003



PROV
SPECIAL ISSUE

CONTENTS

- 3** **DASAF's Corner**
Driver's Training...It's a Team Sport!
- 6** **Mayhem on the Motorway**
- 9** **150 Pounds of Knucklehead**
- 10** **2003 Roll Call**
- 15** **What Does it Take?**
- 16** **Crush to Death**
- 18** **Wanted: Safety Successes**
- 19** **Accident Briefs**
- 20** **Introducing Joey**

features



6 **10** **16**



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



Driver's Training...It's a Team Sport!

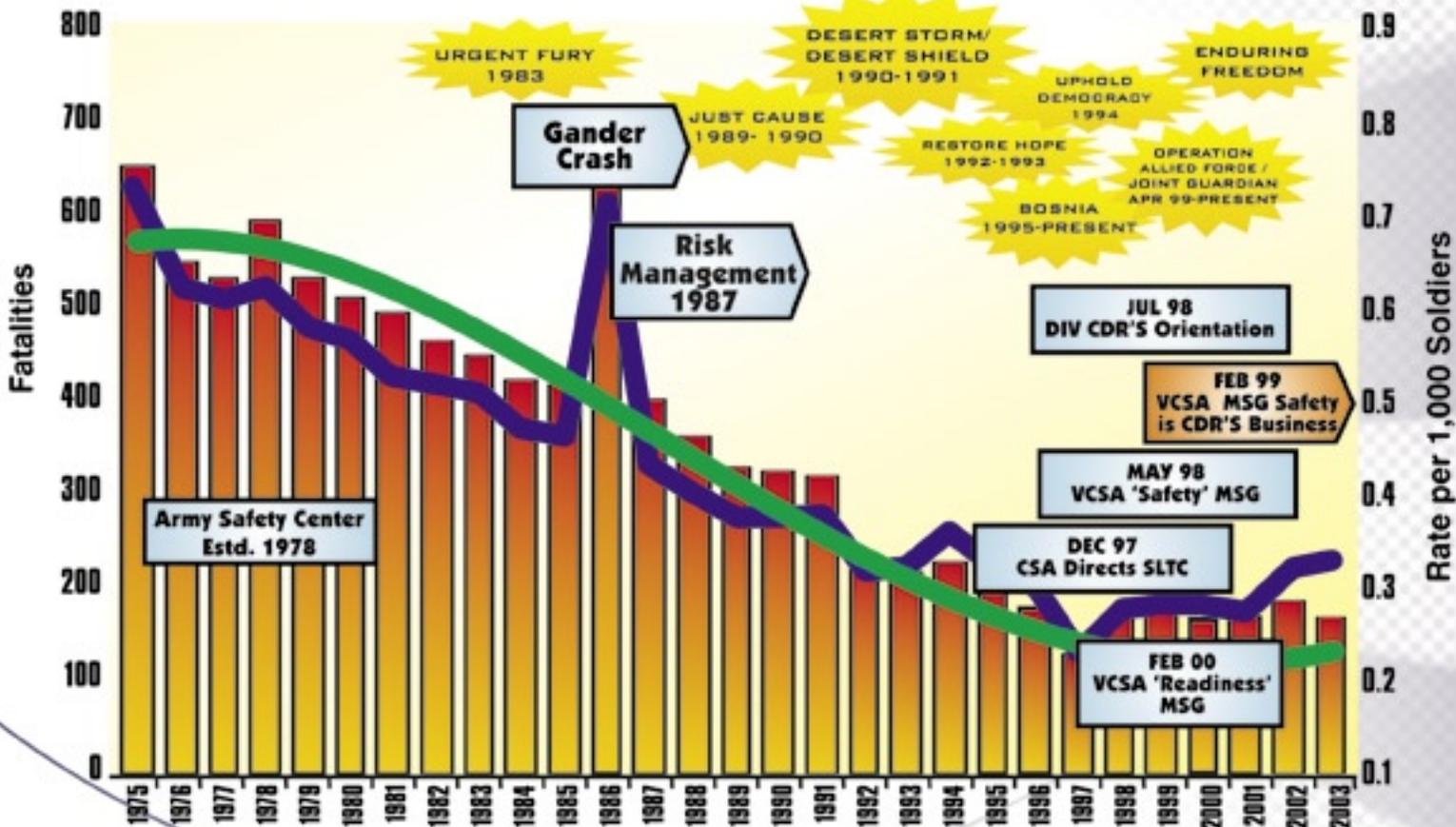
Over the past 30 years, the Army has made great strides in reducing ground accidents. The green line on the Historical Ground Trends chart clearly shows a downward trend. Initiatives such as risk management, safety training, accident investigations, and Army command emphasis have collectively made a difference.

However, over the last 5 years, our fatality rates have remained constant.

In FY03, almost 20 percent of our accidental fatalities occurred when soldiers were driving Army vehicles. Attacking these ground accidents successfully will greatly reduce our number of fatalities and preserve our combat readiness.

Considering the high operations tempo of the Global War on Terrorism, ground safety performance has been a huge success story. However, the hazards have not changed. We know that speeding, driving fatigued, and failure to wear seatbelts are present in over half of Army accident fatalities. Over the last 2 years, almost 50 percent of Army motor vehicle accidents were rollovers. Rollovers are mainly a result of speeding and are clearly preventable. We know the hazards, and if we know the hazards, we should be able to

Historical Ground Trends



DASAF'S CORNER

From the Director of Army Safety

mitigate risk and reduce those fatalities. Where are we falling short?

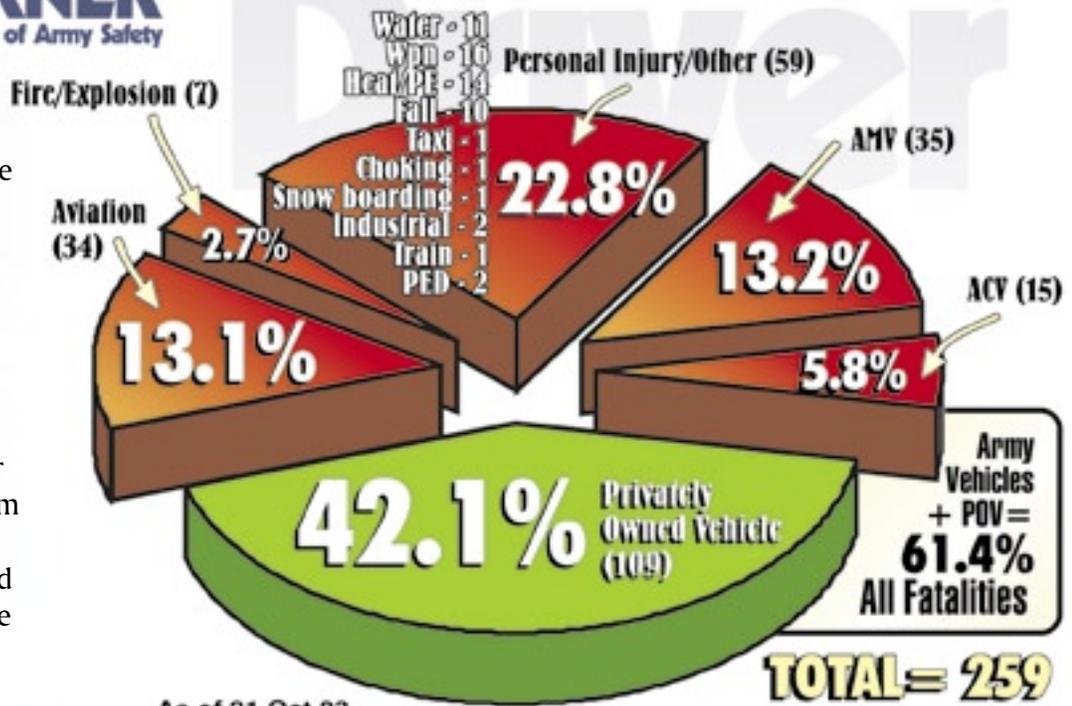
As my safety teams travel around the Army, one shortcoming repeatedly presents itself: poor driver's training programs. Our ground assessment team recently returned from an Army installation and concluded that a degree of accountability lies at all levels. At the Army level, we have not shaped the unit for success.

We have made the battalion master driver

an additional duty rather than an MTOE position. We send young soldiers with vehicle-driving MOSs from TRADOC schools with minimal experience on the vehicles they are expected to operate. We have not updated AR 600-55: *The Army Driver and Operator Standardization Program* (Selection, Training, Testing, and Licensing), which governs driver's training, and until recently, we lacked an Army assessment team to help installations identify their units' weaknesses. We owe our leaders better products, and the Safety Center is working to those ends.

At the installation level, there are initiatives that can be taken to help units better train their drivers. Setting aside a designated area for driver's training provides the resource for continuous training for all units. Radar check and "Click-it-or-Ticket" programs hold soldiers

accountable for the safe operation of their vehicles. Most importantly, an active command evaluation program encourages units to put the proper emphasis on driver's training standards. Currently, the relative lack of emphasis on driver's training at the installation level has resulted in subordinate units putting their precious time and resources toward programs that are emphasized.



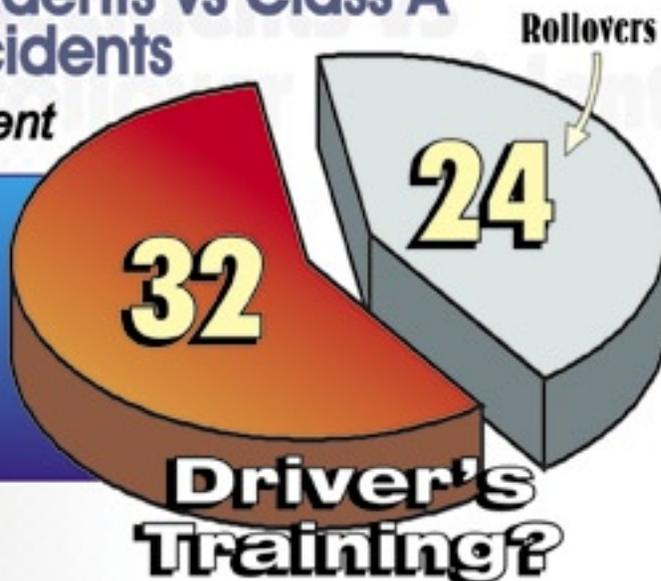
As of 21 Oct 03

FY03 Army Military Fatalities

Total Army Motor Vehicle Class A Accidents vs Class A Rollover Accidents

FY02-Present

42.9% of all AMV Class A Accidents were Rollovers



Driver's Training?

Training

Across our Army, there is a lack of knowledge on the regulations regarding driver's training at the company and battalion level. Our ground assessment and accident investigation teams find that unit leadership and master drivers fail to follow the training procedures outlined in AR 600-55. This regulation provides guidance on the required training tasks, annual check rides, and remedial training required for a successful program. First-line supervisors should reference the TC 25-305 series to learn the specific tasks, from PMCS to NVG qualification, they are required to teach their soldiers. However, since commanders are not familiar with the standards in these regulations, they fail to emphasize, resource, or enforce them.

Master drivers either are unfamiliar with AR 600-55, or know that they lack the time and resources to meet its requirements. In some units, master drivers are licensing soldiers on equipment they themselves are not authorized to operate!

As a team, we need to come together at all levels, because it is our soldiers who are dying and our families who suffer the loss. Leaders at all levels must pay special attention to movements of four or less vehicles. The

hazards of speeding, fatigue, and failure to wear seatbelts seem to manifest themselves in small serials where leadership is "1-Deep" rather than "3-Deep." Add the challenge of overseas environments and these missions quickly become high risk for an accident. Let's resource, plan, and execute small vehicle movements in accordance with FM 55-30, *Army Motor Transport Units and Operation*, just as we do when executing large convoy operations.

In aviation, we have found that the emphasis we place on safe flying and maintenance practices translates into safer driving on and off duty. I submit that if we attack our units' driver's training and standardization programs, we will see an overarching reduction in Army fatalities and a resulting increase in combat readiness. ✪

Army Motor Vehicle Accident Trends

Most accidents occurred in convoys in forward areas

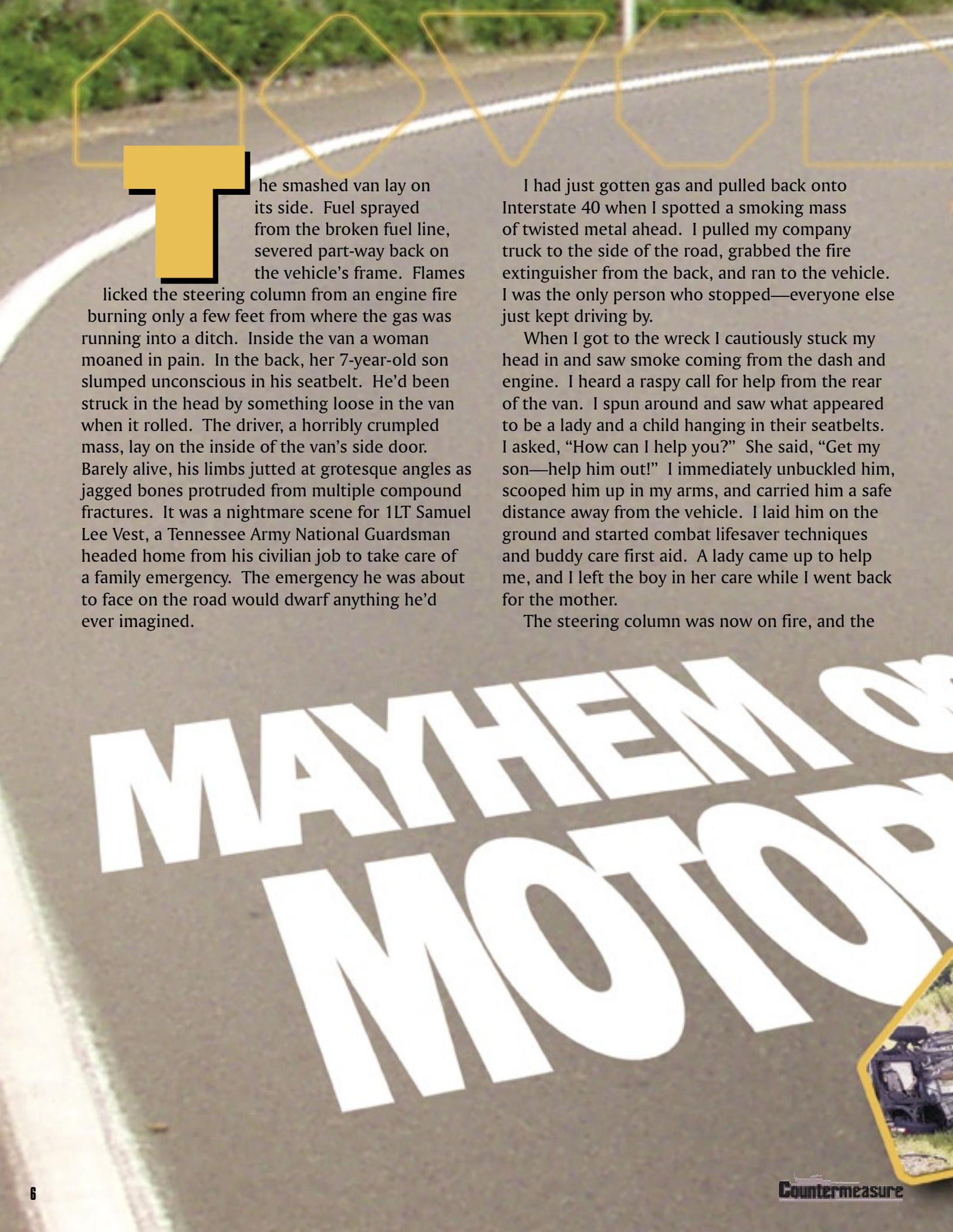
- Speed was a factor in over 50% of the accidents studied
- Environment played a role in almost 50% of the accidents
 - Dust
 - Civilian vehicles
 - Obstacles
- Failure to use seatbelts contributed to severity of injuries in almost 50% of HMMWV accidents

Army Totals
- 173 injuries
- 31 deaths

OIF Totals
- 42 injuries
- 26 deaths

As of 14 Sept 03

Joe Smith
BG Joseph A. Smith



The smashed van lay on its side. Fuel sprayed from the broken fuel line, severed part-way back on the vehicle's frame. Flames

licked the steering column from an engine fire burning only a few feet from where the gas was running into a ditch. Inside the van a woman moaned in pain. In the back, her 7-year-old son slumped unconscious in his seatbelt. He'd been struck in the head by something loose in the van when it rolled. The driver, a horribly crumpled mass, lay on the inside of the van's side door. Barely alive, his limbs jutted at grotesque angles as jagged bones protruded from multiple compound fractures. It was a nightmare scene for 1LT Samuel Lee Vest, a Tennessee Army National Guardsman headed home from his civilian job to take care of a family emergency. The emergency he was about to face on the road would dwarf anything he'd ever imagined.

I had just gotten gas and pulled back onto Interstate 40 when I spotted a smoking mass of twisted metal ahead. I pulled my company truck to the side of the road, grabbed the fire extinguisher from the back, and ran to the vehicle. I was the only person who stopped—everyone else just kept driving by.

When I got to the wreck I cautiously stuck my head in and saw smoke coming from the dash and engine. I heard a raspy call for help from the rear of the van. I spun around and saw what appeared to be a lady and a child hanging in their seatbelts. I asked, "How can I help you?" She said, "Get my son—help him out!" I immediately unbuckled him, scooped him up in my arms, and carried him a safe distance away from the vehicle. I laid him on the ground and started combat lifesaver techniques and buddy care first aid. A lady came up to help me, and I left the boy in her care while I went back for the mother.

The steering column was now on fire, and the

**MAYHEM ON
MOTOR**



flames were spreading into the driver's compartment. I climbed into the back of the van, unbuckled the woman, and helped her out the broken rear passenger side window. She was in shock and either her ankle or leg was broken. She could hardly move, and it took a lot to get her out of the van and away from the fire.

I placed her on a nearby incline and checked her injuries. As she lay there she asked, "Where's my husband?" I said, "I don't know, I don't see him. Where is he?" She answered, "Look in the van—I can't leave him!"

I had a sinking feeling. I went back to the van and looked inside. The man was lying on the inside of the window in the van's side door. He hadn't been wearing his seatbelt and had been thrown around inside the vehicle as it rolled over. A state trooper came up and broke the window. The man fell out and landed in the ditch. I grabbed a door panel that had been ripped off the van's passenger side to use as a makeshift stretcher. A truck driver helped me pull the man away from the wreck. We got him far enough away so we could safely do some immediate first aid. He was bleeding from his eyes, ears, nose, and mouth, and was having trouble breathing. The truck driver performed cardiovascular pulmonary resuscitation on the man, but he couldn't be saved. I watched him die right in front of me.

His wife and son were now my priority. I checked the boy's vital signs and tried to encourage him. I prayed for him as we waited for help to arrive. I also went back to the van and tried to put out the fire. I pulled the pin and squeezed the handle on my extinguisher, but it didn't work. I found out later it had been damaged when my company truck had been in an accident. No one had tested or replaced it, and I had no way of knowing it had been damaged.

The police, fire department, and an ambulance arrived within about 20 to 30 minutes. A medical evacuation helicopter landed and picked up the boy. I anxiously watched as the helicopter flew away, headed for the hospital. Soon after, an ambulance came and took the mother to the hospital.

I finally had a moment to survey the scene. It was utter

1LT SAMUEL LEE VEST

Tennessee Army National Guard

Photos Courtesy SGT Barry Waldrop

Tennessee State Patrol



“Seatbelts make a difference”

chaos. I hadn't paid attention to the people in the other crashed vehicle except to glance in and ask them if they were OK. I gave my statements to the police and highway patrol. I then called my civilian employer's safety officer, who is an Army National Guard lieutenant colonel, and reported the accident. After that I cleaned up, hit the road once again, and called my wife. She told me that just when I stopped to help at the accident my kids seemed, almost miraculously, to get better.

I went to the hospital to check on the mother and her son. I was allowed to go into the emergency room after I explained that I'd pulled them both to safety. Once inside, I comforted the mother. She had lost her husband, and her son was in a coma. Sadly, her son never recovered and died a few days later.

I found out later the accident had been caused by a careless driver who left a ladder sitting unsecured in the back of his pickup. The ladder slid off and fell into the left lane of the highway. Another vehicle swerved to miss the ladder, went out of control, crossed the median and hit the van. Two people died and three more were injured because the pickup driver didn't bother to properly secure his ladder.

There were a number of lessons to be learned from this accident. First, don't be like the pickup driver. Be responsible and properly secure anything you are carrying on a vehicle. Second, seatbelts make a difference. The unbelted van driver was thrown around inside the vehicle and died from his injuries. His wife's injuries would have been much more severe—possibly fatal—if her seatbelt hadn't restrained her. The people in the passenger car were wearing their seatbelts and survived with minor injuries. Third, anything you leave loose in a vehicle can become a deadly missile, especially during a rollover accident. The 7-year-old boy was restrained properly, but that didn't keep him from being killed by a loose object that struck him. Finally, make sure any safety equipment you carry in your vehicle is tested properly. The

time to find out your extinguisher isn't working properly is not when you're trying to fight a fire.

On the plus side, the fact that I was the first person on the scene might have been a coincidence, but the lifesaving training I have received in the Army was not. I have no doubt the years of training I received in buddy care and combat lifesaving helped me care for the victims of this accident. 🚒

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150 Pounds of Knucklehead

BOB VAN ELSBERG
Managing Editor



I had been itching to ride in Tony's Austin Healy 3000 sports car. No puny little four-banger under the hood on this puppy like on the other English sports cars. This baby had an overhead-cam, 3.8-liter, six-cylinder racing engine that could unleash a whole herd of ponies when you stepped on the pedal. It was the envy of the rest of us teenage guys who were lucky if we didn't have to pedal our transportation.

In addition to having a sports car, Tony also had an "interesting" sense of humor. He'd offer each of us a chance to go for a "performance demonstration" ride in his car. You know, "fun stuff"—like seeing if the 3000 really would do the advertised 140 mph. Of course, we all bit.

Finally, I got my shot. It was late on a Saturday afternoon, and we had the speedometer needle bent well past the speed limit. It was great—I had never gone so fast in my whole life! I thought it couldn't get any better than this when, suddenly, Tony nudged me. I looked over at him as he jerked the steering wheel off the column and handed it to me. With a big grin he said, "Here, Bob, you drive!"

My heart stopped as all 17 years of my misbegotten life flashed before my eyes. I could see the front page story, "Police scrape two badly mangled bodies off the interstate—coroner using dental records to identify remains."

I sat there for what felt like a lifetime holding what had been the vehicle's primary means of direction. As I wondered what my mother would say at my funeral, Tony reached under his seat, grabbed a pair of vice-grips, and latched them onto the steering column. At least we had some semblance of steering again. From

the look on his face, it was clear he took great delight in my stark horror.

Luckily—if luck can be thought to have played a part in this—the car didn't go out of control, nor did we have to dodge anything. I found out later I was just one of a long list of Tony's victims. All the previous initiates had been sworn to secrecy so the next unwary passenger could get the full terror of it all.

Still, for a few seconds of amusement, Tony could have killed us both—which leads us to the moral of this story. Just how much risk are you willing to take for a thrill, to amuse a friend, or show off behind the wheel? Yes, of course, YOU know you're a better-than-average driver—but what if you "blow it?" Can you live with the consequences? Can your passengers? What about the other people on the road? Can you live with seeing one of your buddies buried while the parents grieve at the funeral?

A reckless driver used to be called a "loose nut behind the wheel"—but that wouldn't quite work here. You see, the problem wasn't a few ounces of missing nut. It was 150 pounds of knucklehead in the driver's seat!

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2003 ROLL CALL

This Army was busy in Fiscal Year (FY) 2003. Deployments to Southwest Asia and combat associated with Operations Iraqi Freedom and Enduring Freedom have been on the minds of many soldiers and their families. The dangers of being in a war zone are obvious. But what about the dangers on the open road? Even with thousands of our troops deployed overseas, the Army's privately owned vehicle (POV) fatality rate in FY 2003 was nearly identical to that in FY 2002.

Many of our POV accident reports cite speed,

fatigue, alcohol, traffic violations, and not wearing seatbelts as contributing factors. This is not a new phenomenon—these same factors apply year after year, proving there are no new accidents, just new victims. Young soldiers and NCOs watch their leaders both on and off duty. A momentary lapse of judgment or single act of carelessness, as highlighted in many of the cases below, can quickly and tragically change many lives. Always keep your “leader lights” on and remember that *you* set the standard for your soldiers to follow.

E6, Male: Soldier suffered fatal injuries when his vehicle ran off the roadway.

O3, Male: Soldier was killed when a vehicle turned in front of his motorcycle, causing him to strike the vehicle and go over its roof.

E4, Male: Soldier died from injuries suffered when the vehicle he was riding in ran off the roadway, slid sideways, and hit a telephone pole. The driver of the vehicle, also a soldier, suffered a head injury.

E7, Male: Soldier was killed on his motorcycle when he hit a vehicle making a left turn. The motorcycle was engulfed in fire as a result of the accident.

E2, Male: Soldier died after his vehicle left the roadway and rolled several times.

E5, Male: Soldier suffered fatal injuries when his minivan collided head-on with another vehicle.

E4, Male: Soldier died from injuries suffered when he lost control of his motorcycle on a curve, ran off the roadway, and struck a concrete culvert.

E2, Male: Soldier was killed when the vehicle he was riding in overturned and caught fire. The driver, also a soldier, was treated and released.

E4, Male: Soldier died after being struck by another vehicle while changing a flat tire.

E3, Male: Soldier suffered fatal injuries when the rear wheel of his motorcycle locked, causing the bike to skid 75 feet.

E4, Male: Soldier was killed when the vehicle he was riding in ran off the roadway, hit a guardrail, and struck a brick embankment.

The vehicle then burst into flames.
Suspected contributing factor:
Alcohol.

E4, Male: Soldier died when the vehicle he was riding in entered a construction zone and rear-ended a tractor-trailer.

E2, Male: Soldier suffered fatal injuries when he lost control of his vehicle and it careened into a river.

E1, Female: Soldier was killed when her vehicle ran off the roadway, struck a guardrail, and hit a concrete support beam.

Cadet, Male: Cadet died when his vehicle drifted over the centerline and collided head-on with another vehicle.

E6, Male: Soldier suffered fatal injuries when he overcorrected his vehicle after it left the roadway and then struck a tree. **Seatbelt not worn.**

E3, Male: Soldier was killed when his vehicle left the roadway and hit a utility pole.

E3, Male: Soldier died after being thrown from a vehicle in which he was a passenger. The driver reportedly swerved to avoid an animal and caused the accident.

E4, Female, and E4, Female: Two soldiers suffered fatal injuries when their vehicle overturned after a tire blowout. The driver and two family members also were killed in the accident.

E4, Male: Soldier was killed when his vehicle crossed the centerline, careened off an embankment, and struck a tree.

E3, Male: Soldier died when his vehicle struck a chain-link fence. A section of the fence struck the soldier, causing the fatal injuries.

E4, Male: Soldier suffered fatal injuries when his vehicle crossed the centerline and struck another vehicle head-on. The soldier was on PCS leave at the time.

E4, Male: Soldier was killed when his vehicle left the roadway and struck a signpost. The soldier was towing a trailer.

E6, Male: Soldier died when his motorcycle collided with a vehicle that cut in front of him.

W2, Male: Soldier suffered fatal injuries when his vehicle ran off the roadway, through a ditch and across a yard, then hit a brick house and overturned.

E4, Male: Soldier was killed instantly when he lost control of his motorcycle and hit a curb.
Contributing factor: Excessive speed.

E4, Female: Soldier suffered fatal injuries when a tow truck slid off a 30-foot embankment and fell on top of her vehicle.

E2, Male: Soldier was killed when he lost control of his vehicle and it ran off the roadway and struck a tree.

E6, Male: Soldier died when his vehicle was struck head-on by another vehicle. The other vehicle was trying to avoid a tractor-trailer that was passing the soldier's vehicle.

E4, Male: Soldier suffered a permanent total disability after he lost control of his vehicle and struck a bridge abutment. Two civilian passengers in the vehicle were killed.
Seatbelt not worn by soldier.

E3, Male: Soldier was killed when he lost control of his motorcycle and hit a concrete barrier. **Suspected contributing factor: Excessive speed.**

2003 ROLL CALL

O5, Male: Soldier died when his motorcycle was struck by a vehicle that ran a red light.

E5, Male, and E6, Male: Two soldiers suffered fatal injuries when the driver lost control of his vehicle and entered a slough.

E2, Male: Soldier was killed when he was thrown from his vehicle. The soldier hit a standing pool of water and hydroplaned, causing the accident. **Contributing factor: Seatbelt not worn.**

E4, Male: Soldier died from injuries suffered in a multi-vehicle accident.

E5, Male: Soldier suffered fatal injuries after his motorcycle was involved in a head-on collision. The soldier was attempting to pass another vehicle.

E3, Male: Soldier suffered a permanent total disability when he was involved in a vehicle accident on his way home from training.

E6, Male: Soldier died when his vehicle was involved in a head-on collision.

E2, Male: Soldier was killed after he lost control of his vehicle, struck several trees, and was ejected. **Seatbelt not worn. Contributing factors: Excessive speed and wet conditions.**

E3, Male: Soldier suffered fatal injuries after he was hit by a vehicle on an interstate highway.

E4, Male: Soldier died after he lost control of his vehicle and it ran

off the roadway and hit a telephone pole.

E3, Male: Soldier was killed when his vehicle ran off the roadway and overturned.

E6, Female: Soldier suffered fatal injuries when her vehicle was hit by a tractor-trailer. Another vehicle had struck the soldier's vehicle and spun it across the median into the path of the truck.

E4, Male: Soldier died from injuries suffered in a multiple-car pileup.

E6, Male: Soldier was killed after his vehicle collided with a tractor-trailer. The soldier's vehicle was pinned under the truck and caught fire.

E5, Male: Soldier suffered fatal injuries when he was thrown from his vehicle. The soldier failed to negotiate an exit ramp and was ejected as his vehicle slid down an embankment. **Seatbelt not worn.**

E1, Male: Soldier suffered a permanent total disability (paralysis from the waist down) when the vehicle he was riding in spun and struck a guardrail. The driver lost control while passing another vehicle.

E4, Male: Soldier died from injuries suffered when his vehicle ran off the roadway, struck a curb, and crashed into a tree. **Seatbelt not worn.**

E5, Male: Soldier was killed when he lost control of his motorcycle on a country road.

E3, Male: Soldier suffered fatal injuries in a vehicle accident on his way to weekend drill.

E4, Male: Soldier died when the vehicle he was riding in struck a barrier in the roadway's center and overturned. The soldier and the driver, who was also a soldier, were both ejected. **Seatbelts not worn by either soldier. Suspected contributing factors: Alcohol and speed.**

E2, Male: Soldier was killed after the vehicle he was riding in ran off the roadway and overturned, ejecting him. The driver, also a soldier, lost control of the vehicle. **Suspected contributing factor: Alcohol.**

E3, Male: Soldier suffered fatal injuries when his motorcycle struck another vehicle.

E7, Female: Soldier died after her motorcycle ran off the roadway and overturned. The soldier had swerved to miss the vehicle in front of her just before the accident.

E1, Male: Soldier was killed when the vehicle he was riding in crossed the centerline and collided head-on with a pickup truck.

E4, Male: Soldier suffered severe internal injuries when his vehicle rear-ended a tractor-trailer. The soldier died nine days later.

E5, Male: Soldier died after his vehicle ran off the roadway, struck a guardrail and overturned. **Suspected contributing factor: Alcohol.**

E4, Male: Soldier was killed when his motorcycle rear-ended a pickup truck as he tried to catch up with his riding partner. **Contributing factor: Speed.**

E4, Male: Soldier suffered fatal injuries when the driver of the vehicle he was riding in lost control, causing the vehicle to run off the

roadway and overturn.

E4, Male: Soldier died nine days after he was ejected from his vehicle when it ran off the roadway and overturned.

E4, Male: Soldier was killed when the vehicle he was riding in went out of control and overturned. The driver, also a soldier, was injured. **Suspected contributing factors: Alcohol and speed.**

E4, Male: Soldier suffered fatal injuries when he was struck by an oncoming vehicle. The soldier was setting up warning triangles from a previous accident just before being hit.

E5, Male: Soldier died after he lost control of his vehicle and it ran off the roadway and struck a tree.

E5, Male: Soldier was killed when his vehicle struck a steel beam and exploded. The soldier lost control of his vehicle while negotiating a traffic circle.

E3, Male: Soldier suffered fatal injuries when he lost control of his vehicle and hit another vehicle head-on. The soldier had been attempting to pass several vehicles.

E2, Female: Soldier died when her vehicle ran off the roadway and struck a tree. Her passenger, also a soldier, suffered a permanent partial disability. **Seatbelt not worn by deceased soldier. Contributing factor: Speed.**

E4, Male: Soldier was killed after he fell asleep at the wheel and his vehicle hit an exit pillar. The soldier had been released from staff duty just prior to the accident.

E4, Male: Soldier suffered fatal injuries when the vehicle he was

riding in rear-ended another vehicle, spun out of control, and overturned. Two other soldiers in the vehicle, including the driver, were injured, with the other passenger suffering a permanent partial disability. **Seatbelts not worn by any of the soldiers. Suspected contributing factor: Alcohol.**

E4, Male: Soldier died after his vehicle was hit head-on by a minivan.

E5, Male: Soldier was killed when his vehicle was struck head-on by another vehicle. Two other soldiers were injured in the accident.

E3, Male: Soldier suffered fatal injuries after he was ejected from a vehicle in which he was a passenger. The vehicle overturned twice, and three other soldiers also were injured.

E3, Male: Soldier died when his vehicle was involved in a head-on collision. The soldier had drifted over the centerline and overcorrected to avoid oncoming traffic. **Seatbelt not worn.**

E4, Male: Soldier was killed when he was hit by a tractor-trailer. The soldier was changing a tire on his vehicle at the time of the accident.

E4, Female: Soldier suffered fatal injuries when her vehicle was rear-ended by a van, rolled over, and hit a pole. The civilian driver of the van was drunk.

E5, Male: Soldier died after he lost control of his vehicle and flipped it, finally sliding down an embankment. The soldier was attempting to change multiple lanes. **Suspected contributing factor: Speed.**

E3, Male: Soldier was killed when his vehicle left the roadway, struck an embankment and overturned. The soldier was ejected from the vehicle.

E6, Male: Soldier suffered fatal injuries in a single-vehicle accident on the way to his parents' home. **Suspected contributing factor: Speed.**

O3, Male: Soldier reportedly ran a red light and died when his vehicle was struck by another vehicle. The soldier had a history of seizures and might have been ill at the time of the accident.

E7, Male: Soldier was killed when his vehicle crossed into the path of a tractor-trailer and was hit head-on. **Suspected contributing factor: Fatigue.**

E4, Female: Soldier suffered fatal injuries when her vehicle overturned as she drove home from drill. The soldier was not wearing her seatbelt and reportedly was speeding on her vehicle's spare tire, or "donut," causing it to blow.

E4, Male: Soldier died after his vehicle rear-ended a tractor-trailer and flipped.

E3, Male: Soldier suffered a permanent total disability and another was injured when his vehicle veered off the roadway and rolled three times. **Seatbelts not worn by either soldier. Suspected contributing factor: Alcohol.**

E4, Female: Soldier was killed after her vehicle ran off the roadway, traveled up an embankment, and overturned.

E1, Male: Soldier died after his vehicle ran off the roadway, hit a telephone pole, overturned and

2003 ROLL CALL

caught fire. **Seatbelt not worn.**
Suspected contributing factors:
Speed and alcohol.

E1, Male: Soldier was killed after his vehicle veered off the roadway and hit a tree. **Seatbelt not worn.**
Suspected contributing factors:
Speed and alcohol.

E3, Female, and E3, Male: Two soldiers suffered fatal injuries and two others were injured when their vehicle crashed head-on into another vehicle. A civilian also was killed.

E2, Male: Soldier died after he fell asleep at the wheel and his vehicle ran off an embankment and struck a tree. Another soldier was injured in the accident. **Seatbelt not worn by deceased soldier.**

O3, Male: Soldier was killed after his vehicle ran off the roadway and into a ravine, hitting a tree.

E3, Female: Soldier suffered fatal injuries after she lost control of her vehicle on a curve and was broadsided by another vehicle.

E4, Male: Soldier died in a single-vehicle accident while on PCS leave.

E4, Male: Soldier died two days after his motorcycle hit a tree.
Contributing factor: Helmet not worn. **Suspected contributing factors: Speed and alcohol.**

E3, Male: Soldier suffered fatal injuries when the vehicle he was riding in was rear-ended by a tractor-trailer. **Seatbelt not worn.**

E3, Male: Soldier was killed in a rollover accident when he attempted to pass another vehicle, left the

roadway, and overcorrected. Another soldier was injured.

E2, Male: Soldier was killed after his vehicle overturned. Another soldier was injured in the accident.
Suspected contributing factor:
Fatigue.

E6, Male: Soldier suffered fatal injuries when his vehicle hit a tractor-trailer parked on the side of the roadway. **Suspected contributing factor: Speed.**

E6, Male: Soldier died after he lost control of his motorcycle, ran off the roadway and hit the back of a parked vehicle. **Suspected contributing factor: Speed.**

E3, Male: Soldier was killed when his vehicle ran off the roadway, hit a tree, and overturned. **Contributing factor: Seatbelt not worn.**
Suspected contributing factor:
Fatigue.

E5, Male: Soldier suffered fatal injuries when he was ejected from his vehicle, which overturned while the soldier was four-wheeling in a quarry.

E3, Male: Soldier died after his vehicle left the roadway and overturned in a culvert in severe weather. The soldier was on his way to drill. The vehicle's tires showed significant wear, possibly contributing to the accident.
Contributing factor: Seatbelt not worn.

E4, Male: Soldier was killed when his vehicle hydroplaned and struck a telephone pole.

E3, Male: Soldier suffered fatal injuries after his motorcycle hit a sport utility vehicle at an intersection.

E3, Male: Soldier died after the

vehicle he was riding in overturned.

E7, Male: Soldier was killed when he lost control of his vehicle and it struck a tree. The soldier was on his way home from work.

E5, Male: Soldier suffered fatal injuries when his motorcycle crashed into a vehicle that was being backed into a driveway.

E7, Male: Soldier died after his motorcycle was hit by a sport utility vehicle at an intersection. The vehicle reportedly ran a stop sign, causing the accident.

E4, Male: Soldier was killed after his vehicle hit a dump truck. The soldier had lost control of his vehicle and overcorrected, sending the vehicle into the grass median and oncoming traffic. **Suspected contributing factor: Alcohol.**

E6, Male: Soldier suffered fatal injuries when he was thrown from his motorcycle into the path of an M931A2. The soldier had lost control of his motorcycle, hit the vehicle in front of him, and was thrown onto the roadway.

Editor's Note: The information provided in this article is as accurate as possible from the accident reports received at the U.S. Army Safety Center. If you would like help establishing a POV safety program, call us here at the Safety Center. Also be sure to visit our Web site, <http://safety.army.mil>, and visit the POV Toolbox and 6-Point POV Program. In it you will find many useful tools and links to the most up-to-date POV accident prevention information available, including a special post-deployment driving insert. 

Comments regarding this article may be directed to Ms. Julie Shelley, (334) 255-1218, DSN 558-1218, or e-mail shelleyj@safetycenter.army.mil.

What Does it Take?

MATTHEW P. KETTELL
CP-12 Safety Intern

In April 1989, two of my soldiers were killed when they hit an oncoming vehicle. They'd both been drinking and neither was wearing his seatbelt. They'd been on their way to pick up a fellow soldier and bring him back to a party. However, they never returned and what happened changed my life forever. I was their platoon sergeant.

We had just finished several support missions, redeployed to home station, and were transitioning to Division Readiness Force (DRF) 1. It was a Thursday, and we had completed all our inspections and were getting ready for a 3-day weekend. The commander gave us our safety briefing, and afterward I briefed my platoon on the 2-hour recall procedures and gave them an additional safety brief. I covered drinking and driving, speeding, and wearing seatbelts. Also, because we were on DRF 1, I told them not to drink any alcohol.

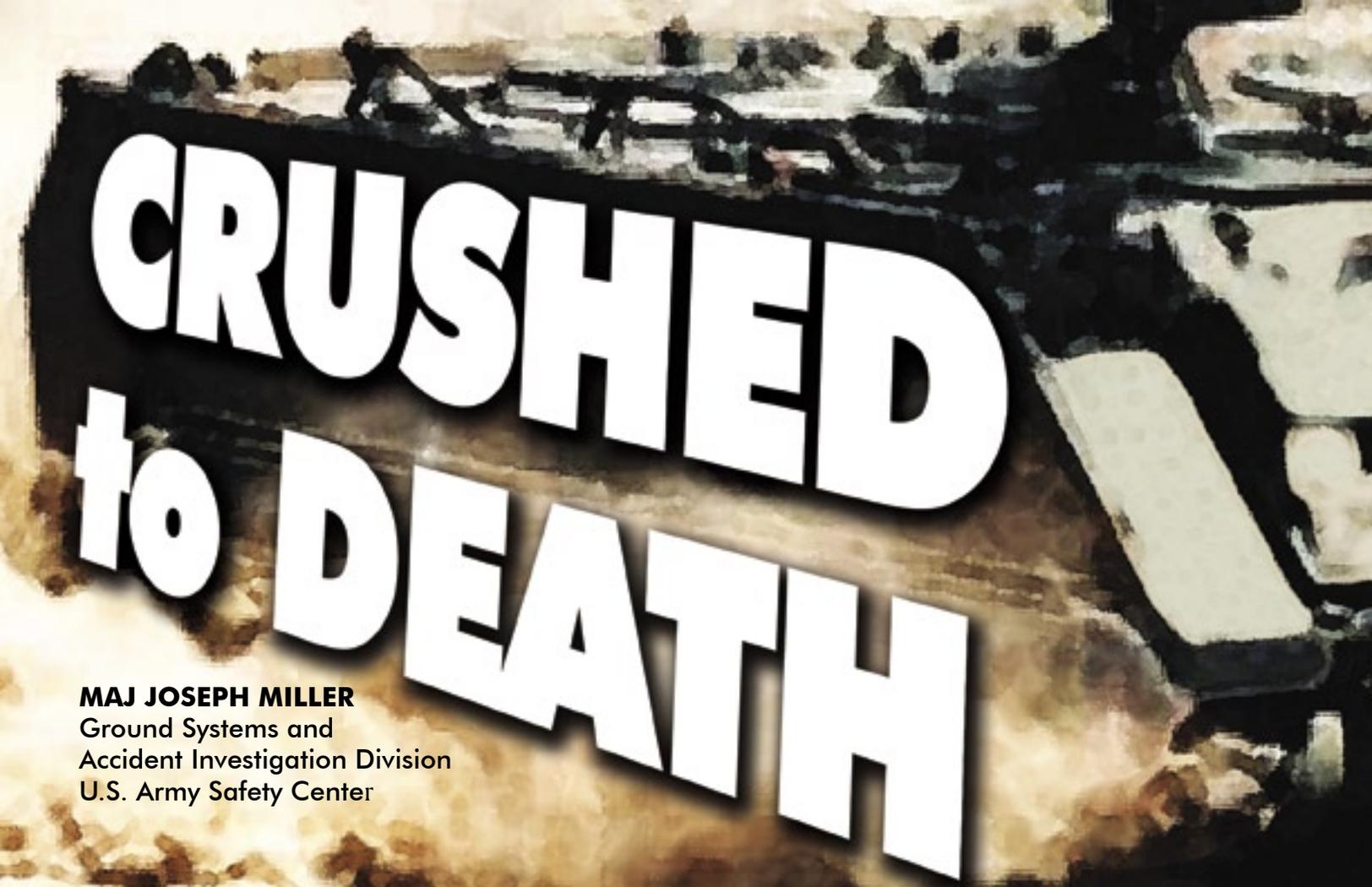
However, I was concerned about a couple of my soldiers. A day or so earlier their wives called me out of concern about their husbands' drinking and driving and lack of time at home. I decided to have a man-to-man talk with these soldiers about their wives' concerns. I set it up so I could talk to them individually at my home. The soldiers were 19 and 20 years old—at the prime of their lives—and had so much ahead of them. One was going to be a father in three weeks.

On Monday morning we had a recall formation to test the alert roster. As the squad leaders gave me their accountability reports, they reported two soldiers missing. The soldiers' wives were there, but the soldiers weren't. I went to the first sergeant's office to inform him of the report but he was with the commander, who asked me to come into his office. He told me the division staff duty officer had informed him that two soldiers were killed in an accident involving another soldier's car. The vehicle's owner told me that my soldiers had borrowed the vehicle.

The victims' bodies were burned beyond recognition. The coroner needed to check their dental records for proper identification. I was 99 percent sure they were my two missing soldiers. I asked the commander what we were going to do because the wives were at the staff duty officer's desk wanting to know where their husbands were. As time went by the wives became increasingly upset. They had not been told the full situation yet, but in time, the dreadful call came.

I often wonder how you tell a soldier the worth of his life, the importance of his family, and the happiness a newborn child will bring. I thought I had gotten through to these soldiers, yet they died—not in combat, something that might be justified—but in an avoidable accident. To this day I still ask myself, "What does it take?" 

Contact the author at matthew.p.kettell@us.army.mil



CRUSHED to DEATH

MAJ JOSEPH MILLER
Ground Systems and
Accident Investigation Division
U.S. Army Safety Center

The Accident Sequence

The M113 was part of a night convoy moving under white service light conditions. The driver moved too far to the right of the road where, instead of a shoulder, there was a 16-foot drop-off. Although the track commander (TC) told the driver to move to the left, the command came too late to keep the driver from taking the M113 to the right edge of the road. The driver turned the M113 sharply to the left, but the vehicle's rear began to drop off the roadside. As the vehicle began to roll over, the TC yelled "Rollover!" and dropped into the TC hatch. The driver, who had never conducted a rollover drill, did not lower her seat. The M113 rolled down the embankment and landed upside down. The driver was killed instantly and the TC and another soldier in the rear of the vehicle suffered minor injuries.

The driver had never driven a military or civilian vehicle before and hugged the right side of the road as she drove her M113. Being only 5 feet 2 inches tall, she removed her driver's seat back and placed it

on her fully-raised seat so she could sit high enough to see the road. Her TC was an experienced driver, but he was new at being in charge of a vehicle. He told his driver to wear her seatbelt, but did not check to see if she was actually wearing it. He talked her through the steps of what to do in case of a vehicle rollover, but never had her rehearse. He repeatedly told her to move the vehicle more to the left while driving. However, he didn't stop her and show her the proper way to drive an M113 on a rural road.

Why the Accident Happened

- The driver had not received the required training on the M113 prior to her road test. She had received only 40 hours of classroom training and one hour of driving in daytime conditions.
- The driver did not undergo a valid road test. Instead of a qualified master driver administering her road test, her TC, who recently made E5, gave her the road test. The TC did not set aside a specific



time for that road test; instead, he did it while road-testing the vehicle for its semi-annual service. The mechanic was riding in the back of the track.

- The post-accident technical inspection of the TC's combat vehicle crewman (CVC) helmet revealed the TC's communication to the driver was broken and distorted.

- Platoon, company, and battalion leaders did not have their "leader lights" on. This was evident because no one implemented and supervised the controls in the risk management worksheets.

Why the Severity of the Injury?

- The driver had never practiced a rollover drill. Her TC discussed the procedure with her, but never rehearsed it. As a result, when the vehicle began to roll over, she didn't use the proper procedures. Those procedures included grasping the driver's seat quick-release latch, dropping down into the safety of the driver's compartment, and holding both hands tightly on the steering wheel.

- The driver was not wearing her seatbelt. Her TC told her to wear the seatbelt, but did not make sure she was wearing it. As the M113 began to roll over, the momentum pulled her upper torso out of the driver's compartment. As a result, she was crushed instantly when the vehicle landed upside down.

Recommendations

- Conduct driver's training to the established standards. Supervisors cannot take shortcuts when it comes to training a young soldier to safely drive a 12-ton military vehicle.

- Rehearse rollover drills. Supervisors cannot just talk soldiers through the procedures on these lifesaving drills—soldiers must be trained to standard.

- Supervisors must show the courage to step up to the plate and stop soldiers who continue to perform unsafe acts. The TC, who was experienced with the M113, should have stopped the vehicle and swapped positions with the driver and completed the convoy movement. The TC should then have taken the driver out to a safe location at a later time and trained her not to drive so close to the right side of the road.

- Track commanders must ensure they can communicate clearly with their drivers prior to and during vehicle operations. An important part of clear communications is TCs and drivers taking the time to clean and maintain their CVC helmets.

- Commanders must ensure drivers are tall enough to see out of the M113. The M113 was designed for males whose height ranks them between the 5th and 95th percentile of the male population. A 5th percentile male is 5 feet 5-inches tall, but the driver in this case was only 5 feet 2-inches tall. For a driver to see the waist of an average female soldier ground guide 10 feet in front of the M113, the driver's eyes must be 30.75 inches above the top of the seat. This is the minimum height for soldiers to safely drive the M113 family of vehicles.

- Leaders at all levels must ensure risk management controls are implemented, supervised, and evaluated during all operations. 🚫

Contact the author at (334) 255-3261, DSN 558-3261, or e-mail millerj@safetycenter.army.mil.

WANTED: SAFETY SUCCESSSES

LTC ROBERT BLACK
Training Director
U.S. Army Safety Center

Attention commanders, safety managers, unit safety officers, and NCOs at levels! Do you know a MACOM, installation, military organization at division or below, or an exceptional Army member or DA civilian doing great things to further Army safety or with an outstanding safety program? Sure you do! Would you like to see your organization or that individual recognized at Army level for their accomplishments? Sure you would!

With the ever-increasing OPTEMPO and the worldwide high-risk environments our units and personnel are operating in, it is critical as safety leaders that we take time to recognize those who are getting it right. And while unit- and MACOM-level safety awards can be appropriate, another venue is available for those who clearly are the Army's best. The Chief of Staff, Army (CSA), and the Director of Army Safety (DASAF) both have awards for recognizing outstanding achievements in Army Safety.

These prestigious awards are available from the MACOM level down to individuals. Included are awards presented for annual achievements and those presented for specific events or acts. The regulation governing these awards is Army Regulation (AR) 672-74. Below is a list of the Army-level awards available.

The **Chief of Staff, Army, MACOM Safety Award** is presented annually to MACOMs that make significant improvement in evaluated areas. The award nomination is initiated by a MACOM commander or safety manager, or the DASAF. The nominations are due to the U.S. Army Safety Center (USASC) by 1 December each year. A USASC panel meets in January to determine the winner.

The **Chief of Staff, Army, Award for Excellence in Safety** is presented annually to Army personnel and DA civilians who make significant contributions to accident prevention. The award nomination is initiated by a brigade or higher commander, or MACOM or installation safety manager. The nominations are due to USASC by 1 December each year. A USASC panel meets in January to determine the winner.

The **Director of Army Safety Award** is presented annually to Table of Distribution and Allowances (TDA) or Table of Organization

and Equipment (TOE) detachments through division-level units, or activities or installations that make significant improvements in accident and injury rates. The award nomination is initiated by the unit commander, or installation or unit safety manager. The nominations are due to USASC by 1 December each year. A USASC panel meets in January to determine the winner.

The **United States Army Safety Guardian Award** is presented to Army personnel or DA civilians who take extraordinary action in an emergency. The nomination is initiated by the unit commander, or installation or unit safety manager. A USASC panel meets quarterly to determine recipients.

The **Army Aviation Broken Wing Award** is presented to Army and DA civilian aircrew members for outstanding airmanship while preventing or minimizing aircraft damage or personnel injury. The nomination is initiated by the unit commander, or installation or unit safety manager. A USASC panel meets as needed to determine recipients.

The **Director of Army Safety Special Award for Excellence** is presented to Army personnel and DA civilians who demonstrate exemplary leadership in safety programs in the field. This is a DASAF impact award. The award is initiated by the DASAF; however, nominations are encouraged from the field.

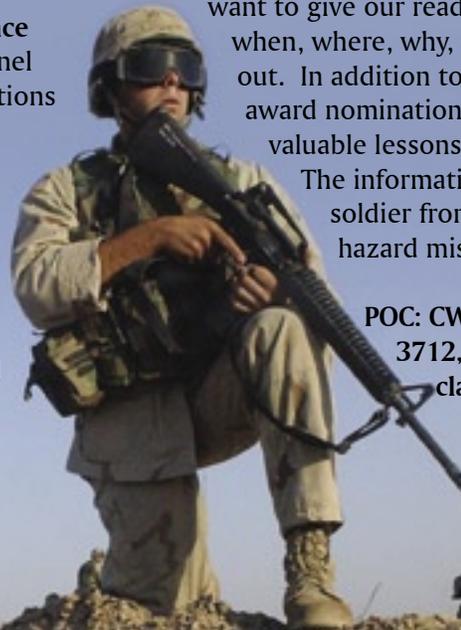
In order to breed safety success, you must foster it and then reward those who achieve it. The CSA and DASAF want to help reward your successes.

Your Awards Program

While the purpose of the awards program is to recognize deserving individuals, groups, and units for their mishap prevention efforts, we also want to give our readers the who, what, when, where, why, and how things turned out. In addition to serving as recognition, award nominations and write-ups provide valuable lessons learned for our readers.

The information could save another soldier from a similar situation or hazard mishap. 

POC: CW4 Paul Clark, (334) 255-3712, DSN 558-3712, e-mail clarkp@safetycenter.army.mil





ACV

Class B (Damage)

- Stryker suffered Class B damage when it overturned during driver's training. The driver lost control of the vehicle, causing it to overturn. The crew properly conducted a rollover drill. No personnel were injured in the accident.



AMV

Class A

- Soldier was killed when the HMMWV he was driving struck a tractor-trailer that had jackknifed while rounding a curve. Two soldiers riding in the HMMWV suffered minor injuries.

- Soldier was killed when the M915 tractor-trailer he was riding in overturned during a convoy movement. The soldier, who also was the vehicle's senior occupant, was pinned by the vehicle during the accident sequence. The driver was not injured.

Class B

- Soldier suffered a permanent partial disability (PPD) to his legs when he was struck by a HEMTT wrecker during off-load operations. The HEMTT was towing a deadlined HEMTT tanker at the time of the accident.



Personnel Injury

Class A

- One soldier was killed and two others were injured

when they were engaged by mounted troops outside their command post. No other details were provided.

Class B

- Soldier's toe was amputated when his M-16 fell from the wall of his quarters and struck his foot. The muzzle of the weapon caused the injury.

Class C

- Soldier broke his foot when he jumped off a 5-foot concrete wall while walking home from a bar. The soldier, who was intoxicated when he made the jump, required surgery for his injuries and was hospitalized for 5 days.

- Soldier suffered fractures to her leg when she tripped and fell on her barracks stairs. The stair light was out and had been on an emergency work order for more than a month at the time of the accident. The soldier's injuries required surgery, and she was hospitalized for 4 days.



POV

Class A

- Two soldiers were killed when the sport utility vehicle they were riding in blew a tire and overturned. The driver and two family members also were killed in the accident.

- Soldier was killed when he was ejected from a vehicle that had swerved to avoid an

animal. The civilian driver of the vehicle was not injured.

Class C

- Soldier suffered cuts and abrasions to his arm when his vehicle hydroplaned and rolled over. The soldier was driving down a country road during a rainstorm and was rounding a curve when the vehicle began to slide on the wet pavement. The soldier applied his brakes, but they locked and the car slid into an embankment and flipped. The soldier was wearing his seatbelt at the time of the accident.

- Soldier suffered fractures to his leg after he was struck by a vehicle while riding his motorcycle. The soldier was making a left-hand turn on the green arrow when he was struck by the oncoming vehicle. The soldier was wearing all necessary personal protective equipment (PPE) at the time of the accident, including a helmet, gloves, and reflective vest. He also is a recent graduate of the Motorcycle Safety Foundation-approved Experienced Rider Course.



Other

Class B (Damage)

- Army warehouse was reported to be burning during a thunderstorm with lightning. The building and its contents were destroyed in the fire.



Hi, I'm Joey! I'm a "hooah" soldier kickin' sand in Saddam's face, but sometimes I'm a bit more eager than experienced and bullets ain't friendly. At Forward Operating Base "Thunder" in Iraq, no one has gotten injured by an accidental discharge yet. That's because a couple of NCOs check the chamber of every weapon before it is carried into the base. I wish someone had done that here!

POW!

I'm trying to reduce the Army accident rate by 50% during the next 2 years.

Can you help me out with some ideas on how not to send fast-moving, pointy objects flying around where they shouldn't be? Maybe you've seen or had some close calls or near misses? We don't have to learn all our lessons the hard way! I could use your experiences or ideas and I'll share them with your buddies in this magazine. It doesn't matter how long or short they are, or whether they happened recently or sometime in the past. Just e-mail me at

joey@safetycenter.army.mil, or send a letter to: U.S. Army Safety Center, ATTN: "Joey," Bldg. 4905, 5th Avenue, Fort Rucker, AL 36362-5363. You can

also fax your story

to me at DSN

558-3003 (334-255-3003),

ATTN: "Joey".

PING!



DING!



JOEY

Al Mawsil
ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 12

<http://safety.army.mil>

DECEMBER 2003

Baghdad •

IRAQ



Doing It Right

in Baghdad



CONTENTS

- 3 DASAF's Corner**
Safety Success in Korea:
Leadership in Action
- 6 Doing It Right in Baghdad**
- 10 Fort Polk**
Forging the Safety Spirit
- 12 Accidental or Negligent Discharge?**
- 14 FY03 Army Ground Accident Review**
How Did We Do?
- 17 Only You Can Prevent Holiday Fires!**
- 18 POV Corner**
It Ain't No Footrest!
- 20 Countermeasure 2003 Article Index**
- 22 Mail Call**
- 23 Accident Briefs**
- 24 Coming Soon to a Post Near You!**

features



on the web
<http://safety.army.mil>

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Countermeasure is published monthly by the U.S. Army Safety Center, Bldg 4905, 5th Avenue, Fort Rucker, AL 36362-5363. Information is for accident prevention purposes only and is specifically prohibited for use for punitive purposes or matters of liability, litigation, or competition. Address questions about content to DSN 558-2688 (334-255-2688). To submit information for publication, use FAX 334-255-3003 (Mr. Bob Van Elsberg) or e-mail countermeasure@safetycenter.army.mil. Address questions about distribution to DSN 558-2062 (334-255-2062). Visit our website at <http://safety.army.mil/>.



Safety Success in Korea: Leadership in Action

As our Army continues to operate at an OPTEMPO not seen in 50 years, the safety challenges our commands face are unique and require unique initiatives. As I analyzed recent safety statistics across our MACOMs, Korea's figures caught my attention.

Over the last 5 years, 6.9 percent of the Army's Soldiers have been stationed in Korea; however, Korea has suffered only 4.5 percent of our accident fatalities.

The power of this statistic is significant to me considering the current world environment. For the past 50 years, we've asked our Soldiers in Korea to remain at the highest level of readiness every day. We've asked them to train and operate at that level in one of the world's harshest environments, and to do so with a new team of Soldiers every year. We've been patching the line across from the world's sixth largest Army with 50 years of 1-year Band-Aids™. What could be more challenging? Yet, Korea continues to have a lower accident rate than the Army at large.

Now we are asking the entire Army, including the Guard and Reserve, to prepare for and face an unpredictable enemy in a harsh environment with inexperienced Soldiers. My hypothesis is that through 50 years of lessons learned, Korea has developed some safety initiatives that could be shared as Army "best practices." Although I've never been stationed in Korea, I visited there for the first

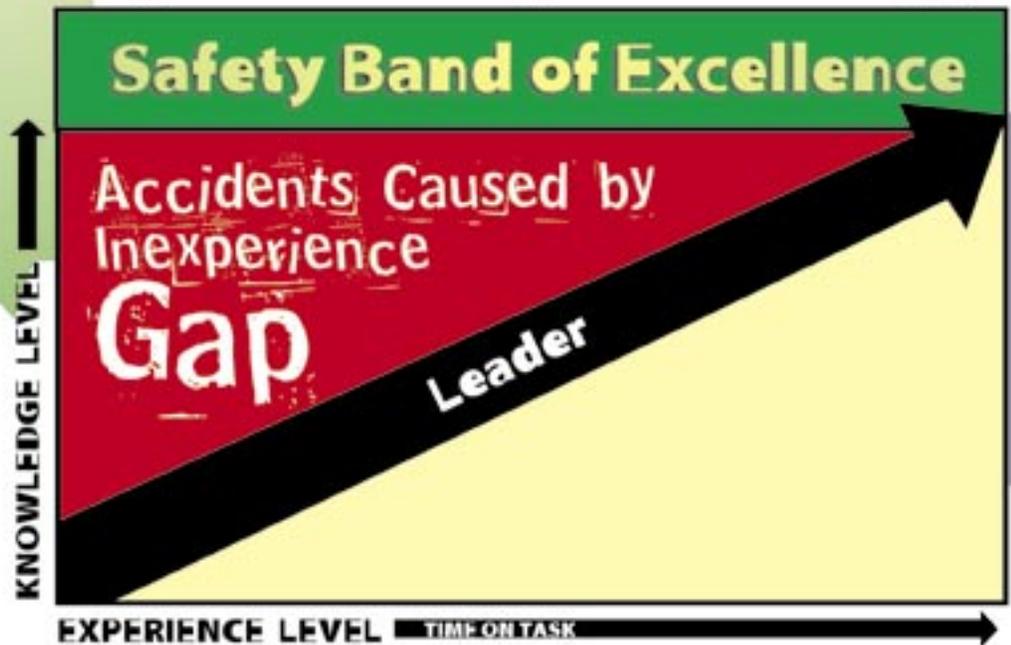


The CODY Model (Leader Inexperience Gap)

time in years last month. What I found was an organization that understands its hazards and overcomes them through effective control measures. The 2nd Infantry Division's (2ID's) Convoy Operations Procedures provide some excellent examples.

The unimproved roads and bad weather make every convoy movement in Korea a high-risk event. Added to that challenge are the 250 new Soldiers who report for duty with 2ID each week. Many of those Soldiers do not have a driver's license. The 2ID's control measures include **maintaining "Movement" as its own mission essential task list (METL) task**, and requiring each new Soldier to attend its **Division Support Command (DISCOM) Driver's Academy**. In addition, each serial of two or more vehicles must follow the planning guidelines in FM 55-30, *Field Manual for Convoy Operations*. These control measures have proven effective. Last year, 2ID conducted 31,500 convoy movements and suffered only two fatalities. The resulting accident rate was only .07 per 100,000 miles.

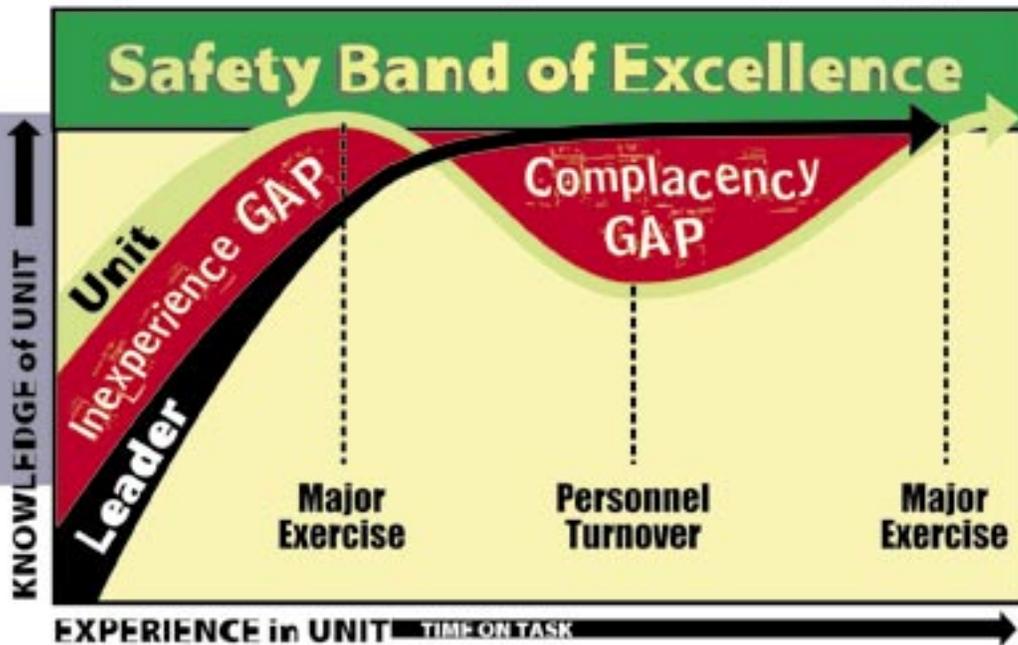
Control measures, however, do nothing unless they are implemented and supervised by leaders. To ensure that



happens, 8th Army leadership applies the "3-Deep" concept, involving leaders at multiple levels to provide young leaders with the necessary knowledge.

When Soldiers sign into 2ID, they are given a small pamphlet called *The Tribal History*. That history lists every fatal accident in 2ID over the last 10 years, along with their causes. On Day 1, senior leaders give junior leaders the historical knowledge to keep their Soldiers safe. During mission planning, junior leaders must brief their commanders in detail on their control measures and contingency plans. Mission briefs are NOT done in passing or over the phone. Commanders train junior leaders on the five steps of risk management so they can safely perform their mission. The junior leaders then reinforce those five steps to their Soldiers in the "safety-minute" just prior to mission execution.

The Korea Model (Leader Complacency Gap)



Korea has identified a further hazard threatening the Army as junior leaders gain experience. I have previously discussed the hazard of the “**Inexperience Gap**” in the Cody Model, showing how accidents occur when junior leaders lack experience in mitigating risks. Time on task (experience) reduces this hazard and enhances junior leaders’ risk management skills. Until that point, it’s the junior leaders’ inexperience that puts themselves and their Soldiers at increased risk.

But there is a second risk that can occur after these junior leaders have gained some experience. As junior leaders remain in position after a high OPTEMPO period, new Soldiers will move into their units to replace others who are leaving. When this turnover occurs, those junior leaders’ safety experience will exceed that of their new Soldiers. However, in the young leader’s mind, he may still think of his unit

being as capable as it was during the high OPTEMPO point. This mindset can cause junior leaders to *assume* their Soldiers will understand and correctly implement control measures. This assumption breeds complacency and can cause leaders not to properly supervise their new, less-experienced Soldiers.

Units in Korea are not risk-averse; they don’t have that luxury. They must be ready to “fight tonight” every night. What they have done is identify the challenges of their mission and mitigate risks by combining safety initiatives and good old-fashioned leadership. As the rest of the Army’s challenges look more and more like Korea’s, we can look to Korea’s 50 years of experience for guidance. 🇰🇷

Keep Your Leader Lights On!

BG Joseph A. Smith

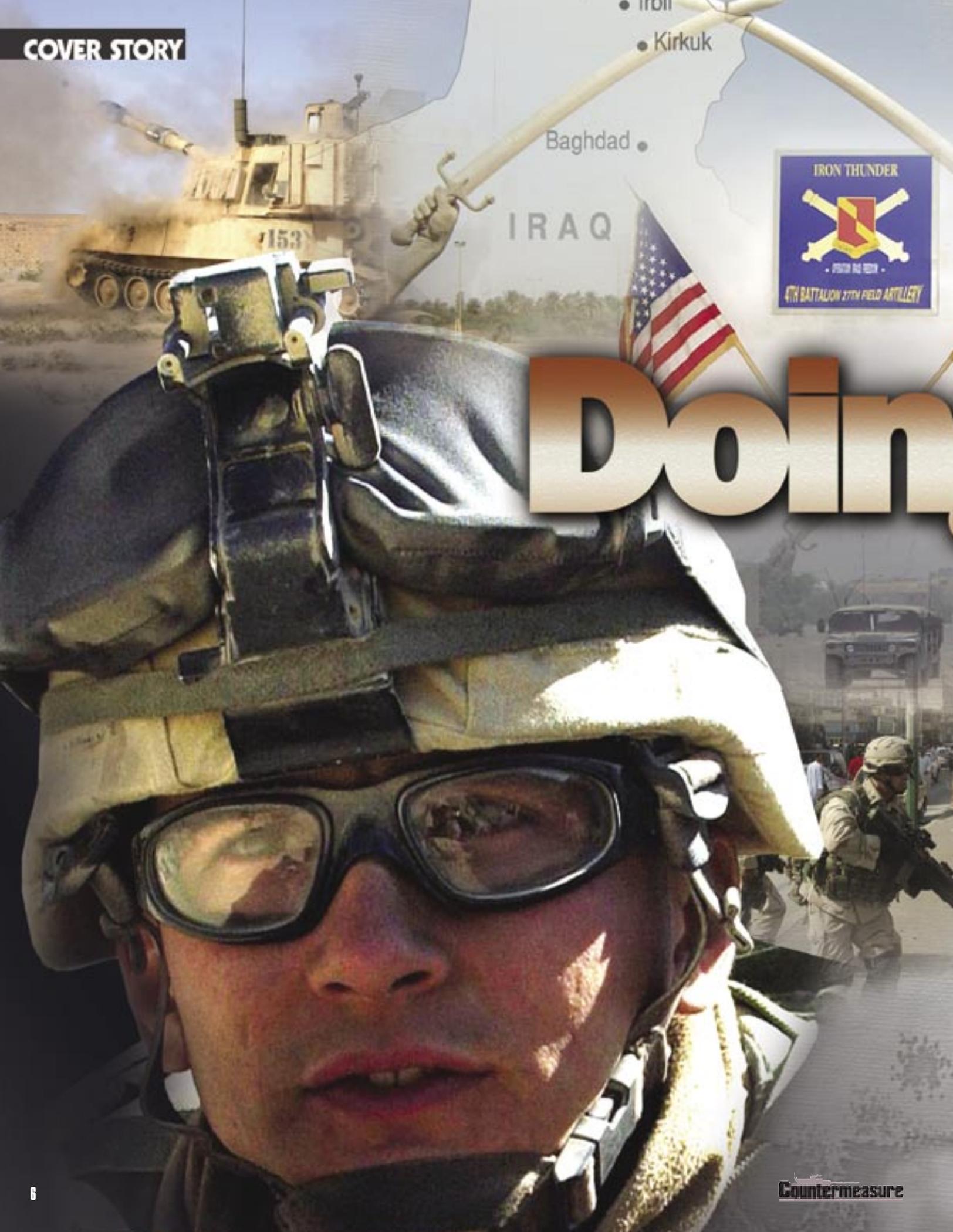
• Irbil
• Kirkuk

Baghdad •

IRAQ



Doing





A bus load of terrorists tries to crash the gate at a forward operating base in Baghdad, Iraq, and is stopped by heavy machine gun fire. A mortar round falls near a group of sleeping Soldiers, reminding them that post-war Baghdad is a very hostile place. But it's not just the violence directed against Soldiers that is a threat. Sometimes the enemy is inside the compound, right inside the Soldiers' BDUs. It's an enemy the Soldier cannot see; but he can see the carnage that follows. As SFC Cagle relates, one unit has found the key to fighting this enemy. And they are beating him right in the middle of Baghdad.

g It Right *in Baghdad*

SFC BENNIE CAGLE
Ground Accident Investigator
U.S. Army Safety Center

I was recently in Baghdad investigating an accident when I stumbled upon an unusual situation. The unit I lived with had made risk management so much a part of their daily operations that it had become instinctive—they no longer even noticed they were doing it. You might think every unit would do this—but if you did, you'd be wrong. During the past 18 months I have carried out risk assessments on combat units deployed throughout the Middle East. I looked at standards and discipline, leadership and supervision, risk management, maintenance, structures and facilities, weapons safety, physical training programs, traffic, and new personnel integration. But never during that time did I see a unit make risk management a part of their everyday operations as seamlessly as

the 4-27th Field Artillery (FA).

The 4-27th FA maintains very high standards. Young Soldiers, NCOs, and officers were all highly disciplined. The entire time I was with the unit I never saw a Soldier out of uniform, and each Soldier was moving with a purpose. The unit's leaders were very visible—supervising Soldiers, providing them guidance, and taking an active part in the unit's missions. I saw the command sergeant major going to positions on the perimeter to check on the welfare and status of the Soldiers. All the NCOs and Soldiers I talked with expressed confidence in their leaders and pride in their unit. They had been in country 4 months and still had 8 months left to serve. However, I heard no complaints about the mission or the unit's leaders.

Doing It Right in Baghdad

4-27th FA heads out on a mission in Baghdad.

Stopping Accidental Discharges

Weapons safety was stressed constantly. At first, they had problems with negligent discharges—something all units seem to struggle with. Soldiers would forget to drop the magazine, inadvertently chamber a round, and fire it into the clearing barrel. The 4-27th FA added an extra step to their clearing procedures by having Soldiers drop their weapon's magazine and hand it to the NCO supervising the clearing barrel. Soldiers were not allowed to clear their weapons until the NCO had the magazine in-hand. This stopped the rash of accidental discharges.

A Safe Motor Pool

I walked through the motor pool and found the mechanics hard at work, with the NCOs right there with them. I saw jack stands being used, and the mechanics were being good environmental custodians. They had not brought a tire

cage with them when they deployed, which was a huge concern for the NCOs. They knew that changing a split ring tire is a very hazardous task. I worked with the battalion executive officer (XO) to help find a tire cage close enough to support his unit. As it turned out, the unit that shared the compound had a tire cage, so the XO worked out a co-use agreement. This concern for the mechanics' safety—followed by immediate action—showed a commitment from the battalion chain of command that I saw the entire time I was with the unit.

A Safe Living Environment

The Soldiers lived in a two-story building that was kept in excellent repair and had good air conditioning. The battalion noted there were not enough fire extinguishers in the building, so they went out and purchased some. The battalion fire marshal mapped out a fire evacuation plan and checked the building frequently. If this all sounds like business as usual, don't lose sight of the fact these Soldiers are in a hostile environment and being engaged daily.

The battalion set up a tent with weights in it for the Soldiers and designated a running

The main entrance to Forward Operating Base "Thunder." Alert guards stopped a busload of armed terrorists from breaking through this gate into the compound.



IRAQ

area inside the compound so the Soldiers could concentrate on their fitness. The speed limit for HMMWVs inside the compound was 5 mph, and all large vehicles were ground guided. When I went to the mobile kitchen trailer (MKT) to get breakfast, I noticed a Soldier sitting in a chair between the hand washing point and the MKT. He was there at every meal, so I asked him what he was doing. He was a battalion medic. He explained the unit understood that a Soldier who was too sick to perform his mission because of poor field sanitation put the unit at risk. His job was to make sure every Soldier washed his hands before entering the MKT. He added that the number of Soldiers going to sick call decreased after this measure was put into place. He would not take credit for the decrease, but instead insisted the Soldiers were becoming more resistant to the environment. I think this is an example of a Soldier making a difference.

Getting Replacements Trained

The battalion received replacements while I was residing with them. The chain of command set up an integration program to ensure new Soldiers completed the battalion's Individual Readiness Training (IRT) before going on any missions. Although the new Soldiers had received IRT in Germany before deploying, the leaders still ordered them to go through the battalion's training. Unit leaders wanted to be sure the new Soldiers were trained properly for the battalion's current mission. This gave the Soldiers and their leaders an opportunity to get used to working together (team building) before going onto the streets of Baghdad.

The 4-27th FA, a part of the 1st Armored Division, has successfully incorporated risk management into their everyday operations. They have lowered their overall risk by



The 4-27th FA's Mobile Kitchen Trailer provided meals to soldiers only after they had washed their hands. This focus on field sanitation helped keep soldiers healthy.



Although open-air maintenance was the norm, the 4-27th's maintainers were able to work more safely thanks to an agreement to share a tire cage with another organization.

recognizing hazards and adjusting the way they do business to include safety in their daily operations. They have broken the code on risk management and are quietly setting the example for the rest of today's Army. 🚗

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FORT POLK

Forging the Safety Spirit

JOHN COSTA
Safety Manager
Joint Readiness Training Center
Fort Polk, LA

To safely train for the dangerous mission of warfighting is a bold challenge, one being met successfully at Fort Polk, LA, and the Joint Readiness Training Center (JRTC). There, Soldiers are given tough, realistic training to fight the ongoing war on terrorism and to meet the challenges to America's security, wherever those challenges arise. Meshed with the need to prepare Soldiers for war is a concern for the welfare of the Soldiers, civilians, retirees, and families who work and live at Fort Polk. The "War Against Accidents" is as real there as the War On Terror. It's a war being won because leaders from the commander on down have made winning it a priority.

Charting the Winning Trend

The accident figures for Fort Polk are as low—and in some cases drastically lower—than they were in FY00. The fact that units can come to Fort Polk and the JRTC and leave intact proves safety can be made to work, even in tough training environments. The charts below show what can happen when a safety program is successful.

Organization, Equipment, and Initiatives

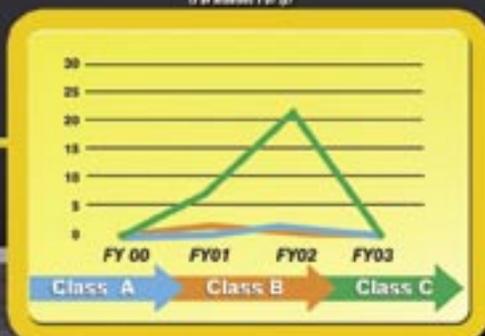
Part of this success story is the organization

and equipment of Fort Polk's safety office. The safety manager is a special staff advisor to the commanding general. The safety office has two teams, one focused on base operations and the other on mission support. The safety office also has tactical equipment including HMMWVs, single channel ground and air radio systems, cameras, and global positioning systems (GPS). This equipment allows the safety office to respond to almost any kind of safety incident.

The command's holistic approach to safety encompasses military members, family members, and civilian employees. There is also a close relationship with the surrounding communities designed to make those communities safer. Examples of safety initiatives and programs are:

- Leading U.S. Army Forces Command (FORSCOM) in the establishment of an aggressive driver awareness campaign.
- Improving boater safety by:
 - Mounting GPS on all Morale, Welfare and Recreation (MWR) boats rented by Fort Polk so they can always be located.
 - Mounting marine radios on all MWR boats to improve communication during emergencies.
 - Partnering with the Coast Guard Auxiliary for Coast Guard boating safety courses.
- Implementing standards for civilian

Fort Polk and JRTC Ground Accidents
(Permanet Fort)



Rotational Ground Accidents





employees who drive materiel handling equipment (MHE).

- Expanding the FORSCOM “Stop, Think, Observe, Plan, and Proceed” (S.T.O.P.P.) risk assessment program.
- Providing the 2nd Armored Cavalry Regiment with a safety specialist during their deployment.
- Directly interfacing with the operations group prior to, during, and after each JRTC rotation by:
 - Building a working relationship with the planners to identify and resolve potential problems. An example was the development of a mechanism to secure eye-safe lenses to various laser systems.
 - Participating in the daily commander’s battle update brief.
 - Providing a minimum of two ground safety tactical specialists and one aviation safety specialist to support rotations. As a rule, there are at least six specialists involved in the various aspects of each rotation.
 - Providing a Right-Seat Program for rotational safety personnel.
 - Assisting rotational safety personnel.
 - Coordinating with higher headquarters and the U.S. Army Safety Center (USASC) for additional support and advice. A prime example was the additional support obtained for the Stryker

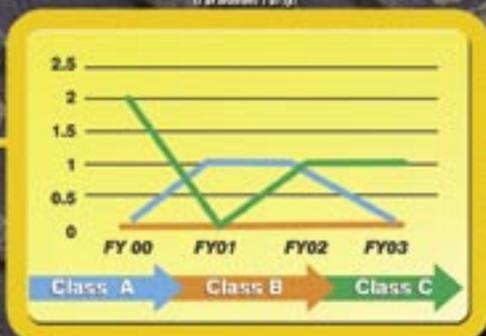
Brigade Combat Team (SBCT) rotation. The safety office got two safety personnel from FORSCOM Safety and five from USASC. Because of this effort and the command emphasis, this rotation had no Class A or B and only three Class C accidents.

- Safety messages, bulletins, signs, and incentives.
- Quarterly safety days and an annual safety fair.
- Annual Bicycle Rodeo.
- Caution at Bus Stops (CABS) program.
- Automated driver’s safety course.
- Motorcycle Safety Foundation (MSF) Experienced Rider Course.
- Initiatives being developed:
 - MSF Basic RiderCourseSM.
 - MSF DirtBike SchoolSM.
 - Driver simulators for privately owned vehicles and Army motor vehicles.

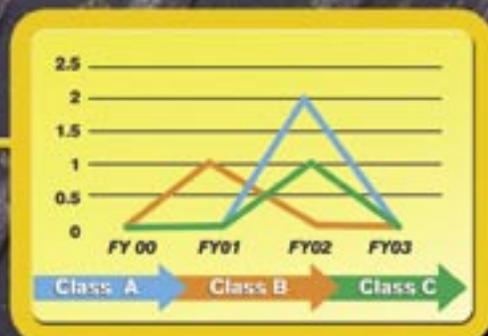
“Forging the Safety Spirit” is more than a slogan at Fort Polk—it’s a way of life. We can never treat safety as an afterthought, nor can we afford the luxury of hindsight. Our goal is to train Soldiers so they can accomplish their missions *safely*. In America’s War On Terror, the War Against Accidents is a vital combat multiplier. 

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Fort Polk and JRTC Aviation Accidents
(Permanent Party)



Rotational Aviation Accidents





Thousands of our Soldiers have been and continue to be deployed to Iraq, Afghanistan, Bosnia, and Kosovo, not to mention Korea and other locations throughout the world. This being said, I wonder how we, as a fighting force, have missed out on combat soldiering?

Combat soldiering is defined as using or developing skills peculiar to combat, including receiving instructions or training in such skills. (This excludes classroom training.) I am taking a great leap of faith and placing weapons handling procedures, to include loading, unloading, weapons firing, muzzle awareness, and weapons maintenance all under combat soldiering.

In 17 years of combat arms training and deployments, I have been bombarded with training on weapons handling. From the moment you sign your weapon out of the unit arms room until you sign it back in, YOU—the individual Soldier—are responsible for your weapon and its proper use. The first thing I was taught, and which I now pass on to others, is that when you receive a weapon, you ensure the weapon is unloaded (i.e., cleared). You pay attention to where the muzzle is pointed (situational awareness), and make sure the selector is always set on “SAFE.” What sets the standard for a cleared weapon? You guessed it—the technical manual (-10) for that particular type of weapon.

Clearing procedures are nothing more than the weapon’s unloading procedures.

Why, then, do Soldiers inadvertently discharge weapons, damaging equipment and injuring or killing others? I have heard the following comments concerning this issue since my return from Operation Iraqi Freedom:

- Soldiers don’t handle loaded weapons enough in training to be comfortable with ammunition on deployments.
- The experience level and maturity of individual Soldiers and leaders is at its lowest at the section and squadron levels—sometimes even the platoon

Accidental or Negligent

Discharge

SFC RAYMOND HAMILTON
Ground Accident Investigator
U.S. Army Safety Center

level—because of rapid promotions.

- We do not train as we fight.
- A lack of leadership in both the commissioned and non-commissioned officer corps.
- Soldiers are put into a “qualification/range” mentality as far as weapons safety.

These are a few of the comments that stand out in my mind. Not excuses, mind you, but concerns expressed by deployed Soldiers and their leaders—leaders who are responsible for bringing them home safely.

As an Army, how do we address these issues? Remember that today’s Army is based on the “Total Force” concept, which hinges on combining active-duty Soldiers and Army reservists and guardsmen to provide a complete combat package. While Soldier mentality might be the key, leadership experience is the cornerstone, and self-discipline is a must.

The moment you are issued ammunition, you instantly assume a higher level of personal responsibility. I have noticed the change in my own mentality and the mentality of others. You suddenly realize the outcome of any mistake could mean death to yourself or those around you. Or, perhaps you are concerned only with being able to account for all of your ammunition come turn-in time. Either way, there is usually some change in your thinking. Ammunition, then, can be equated to an emotional stress inducer. Training is a factor in this because you have more confidence in your ability if you actually have learned and used the proper procedures for your weapon.

Different units have different levels of training and weapons unique to their mission. NCOs must be trained thoroughly on all weapons under their control or those their unit has in its inventory. NCOs are taught to educate themselves through research and self-motivation. Lack of leader supervision often shows a lack of knowledge on the subject. Leaders who are knowledgeable are always ready and willing to correct a Soldier or peer who is improperly performing a certain task. Reviewing the appropriate technical and field manuals will provide the knowledge to train Soldiers and rigidly enforce standards. As a leader, can you properly function check, load, and unload all of your Soldiers’ weapons? Officers, NCOs, and Soldiers must be familiar with weapons handling to spot check and ensure compliance with orders and guidance.

Maturity and experience are not always one and the same. We have young leaders in positions of responsibility who are technically and tactically proficient, yet still lack maturity. It is hard for Soldiers to take these NCOs seriously when they do not take their own positions seriously. The Army also is running into leaders who, through no fault of their own, are promoted in their career fields while performing additional duty requirements such as a recruiter or drill sergeant. These individuals are then placed in leadership positions without having the needed practical experience. When they go back to working in their primary MOS, they are often task-saturated with the current OPTEMPO and have to learn some hard lessons.

Our training centers do not provide realistic training for current base camp operations. We dress the part in MILES gear, put a magazine of blanks in our weapons, and roll into the box. We do not address weapons clearing procedures when entering base camps or unit tactical operations centers (TOCs), to include clearing areas and procedures for crew-served weapons mounted on vehicles. Our units are left to come up with a standard solution based on their leadership’s experience level.

The “qualification/range” mentality says that most personnel handle ammunition and weapons only well enough to meet military qualification requirements—and even then, only under strict supervision. Because of that, they have more mishaps in real-world scenarios.

Is a weapons discharge an act of negligence or an accident? I guess the answer depends on whether you’re on the muzzle end or the trigger end when the weapon fires. I have looked at all of these hypotheses and can see two sides to each story. Yet, as an NCO, I cannot ride the fence and point fingers. I have to give advice and direction when and if required. I request your input and suggestions to help solve one of the leading safety issues in our Army today. 🐾

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How Did We Do?

To give our readers a more timely review of how we did in FY03, we began our analysis of the accident data shortly after the end of the fiscal year, even though not all of the accident reports have been received. So, what does this mean? It means the statistics and information included are not yet complete for FY03, but they will give you a snapshot of how we did and some insight into the accident problem areas. To let you know how we did as compared to last year, we used a snapshot of the data for FY02 shortly after the end of the year so the timeframes are comparable.

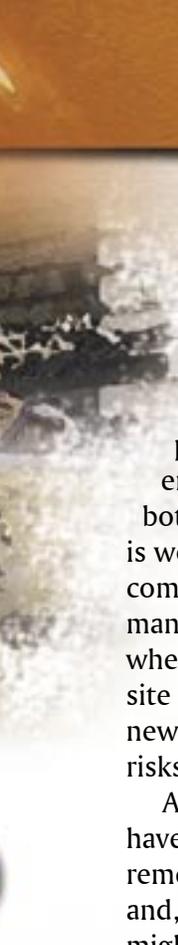
The Army has been extremely busy this fiscal year (FY). Troops were mobilized and deployed in a buildup that led to Operation Iraqi Freedom, which began on 20 March 2003. Although we won the war, the Army still is conducting operations in the area. Because of that, information on FY03 in-theater accidents is still filtering into the Army Safety Center. Future articles will discuss these accidents in more detail.

Overall, the Army experienced a 7-percent decrease in Class A through C ground accidents in FY03 compared to the same time period during FY02. However, there was a 40-percent increase in Class A ground accidents. Most of the increase occurred in Army motor vehicle (AMV) accidents, Army combat vehicle (ACV) accidents, and personnel injury (PI)-other accidents.*

MARY ANN THOMPSON
Research Psychologist
U.S. Army Safety Center

Privately Owned Vehicle (POV)

Although there was no increase in Army POV fatalities from FY02 (110 in FY02 vs. 109 in FY03), POV accidents remain the most common cause of accidental death in the Army. Of the 225 Army accidental fatalities in FY03, 48 percent were POV accidents. The good news is that motorcycle fatalities decreased from 26 in FY02 to 19 in FY03, and truck fatalities went from 23 in FY02 to 17 in FY03. Fatalities in automobiles and vans, however, increased from 55 to 68 and zero to 4, respectively. The most commonly reported causes of fatal POV accidents were excessive



speed, driving under the influence of alcohol or drugs, inattentiveness, and fatigue. Not using required safety equipment, such as seatbelts, also contributed to POV fatalities.

These factors continue to contribute to the deaths of Soldiers, and command involvement is critical to reducing these problems. Leaders must get involved and emphasize safety and risk management, both on and off duty. The Army Safety Center is working on a number of efforts to help commanders, leaders, and individual Soldiers manage risk in their everyday lives, especially when driving POVs. Check the Safety Center Web site at <http://safety.army.mil> to see some of the new initiatives being developed to help manage risks and prevent accidents.

Although this year's figures suggest we have made progress in reducing POV fatalities, remember many Soldiers were deployed overseas and, therefore, weren't operating their POVs. We might not have tackled our problem as much as avoided it. Leaders should pay particular attention to Soldiers returning from long deployments and counsel them prior to leave or pass, especially if they're taking long trips.

Personnel Injury (PI)—Other*

The largest numbers of Class A through C accidents this fiscal year were PI accidents. In FY03 we had 881 of these accidents, compared to 1,018 in FY02—a 13-percent decrease. The activities that most frequently led to these accidents included: physical training (PT), such as running, jogging, and performing a confidence course—19 percent; “human movement,” such as walking, running, climbing, and mounting—17 percent; and parachuting—16 percent.

Although the overall figures for Class A through C accidents went down, there was an increase in Class A accidents and fatalities. In FY02 the Army reported 39 Class A accidents and 41 Army fatalities. This fiscal year those figures jumped to 63 Class A accidents and 59 Army fatalities. On-duty accidents accounted for 41 of the 63 Class A accidents and 39 of the 59 fatalities. Off-duty accidents accounted for 22 Class A accidents and 20 fatalities.

On-Duty Class A Accidents

Of the 41 Class A on-duty PI accidents, 18 involved weapons handling and 10 involved PT activities. The 18 weapons handling accidents resulted in 17 Army fatalities and one non-Army fatality. Accidental discharges were the biggest problem, causing nine fatalities, while friendly fire accounted for four. Six of the PT fatalities occurred while Soldiers were running or immediately afterward, and three Soldiers died during PT testing. Twenty-four (59 percent) of the on-duty Class A PI accidents (including all but three of the weapons handling accidents) occurred in-theater during the buildup for and actual conduct of Operation Iraqi Freedom.

Off-Duty Class A Accidents

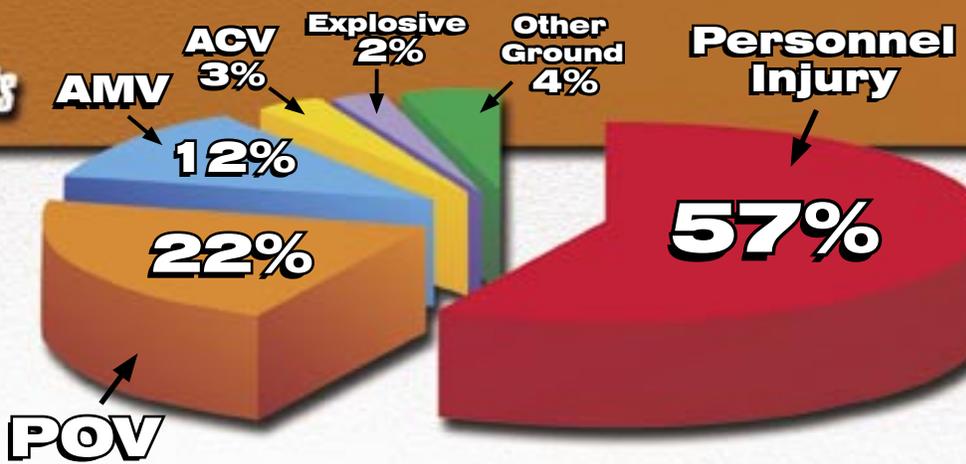
Of the 20 off-duty Army fatalities, 11 involved sporting activities. Five of these fatalities happened while the individual was mountain climbing or hiking, and five involved water sports such as diving, fishing, operating a personal watercraft, canoeing, and swimming.

Army Motor Vehicle (AMV)

There were 183 Class A through C AMV accidents in FY03, up 18 percent from the same period during FY02. Tactical vehicles were involved in 68 percent of these accidents, with the most frequently involved vehicle—the HMMWV—accounting for 34 percent. Government sedans/station wagons accounted for 12 percent of these accidents, making them the most frequently involved commercial vehicles.

Although there was an increase in Class A through C AMV accidents, there was an even larger increase in Class A accidents and fatalities. During the same time in FY02, the Army had 19 Class A AMV accidents and lost 16 Soldiers. In FY03 there were 41 Class A accidents, with 33 Soldiers killed. Tactical vehicles accounted for 31 of the fatalities, with 20 involving the HMMWV. Commercial vehicles accounted for two of the fatalities, with over-2-ton commercial trucks and sedans/station wagons accounting for one each. Most (73 percent) of the Class A accidents occurred in theater during the buildup or actual conduct of Operation Iraqi Freedom. This included all but 3 of the 20 HMMWV Class A accidents, 7 of which

FY 03 Class A-C Army Ground Accidents



happened during convoys. At least six of the in-theater HMMWV accidents were rollovers.

Army Combat Vehicle (ACV)

There were 45 Class A through C ACV accidents in FY03, one more than during the same time last fiscal year. The majority of these accidents—33 percent—involved the M1 Abrams tank, while 29 percent involved fighting vehicles. Comparing the accidents during the same periods in FY02 and FY03, Class A accidents jumped from 6 with 5 fatalities during FY02 to 21 accidents and 15 fatalities in FY03. M1 tanks and fighting vehicles accounted for 57 percent of these Class A accidents. Some 67 percent of Class A accidents occurred in theater during the buildup to Operation Iraqi Freedom or during the actual operation.

At least seven of the Class A ACV accidents involved vehicle fires. Of those, at least six occurred when vehicles encountered terrain obstacles and hazards, such as drop-offs, embankments, sink holes, and power lines.

Fire

Although non-vehicular fires do not account for a large portion of the FY03 Class A through C accidents and fatalities, there was an increase from 3 in FY02 to 14 in FY03. Class A fire accidents went from zero in FY02 to four in FY03. There was only one fire-related fatality in FY03.

Explosives

Although explosives accidents cause only a relatively small number of Class A through C accidents and fatalities, they can cause catastrophic losses. During FY03 there were 35 of these accidents, compared to 33 in FY02. In FY02 there were five Class A accidents, resulting in 10 fatalities, most of which occurred during three multiple-fatality accidents. In FY03 there were six Class A explosives accidents, resulting in six fatalities.

Conclusion

Overall, there was a slight decrease in the number of Class A through C accidents in FY03 compared to FY02. However, there was an increase in the number of Class A accidents and Army fatalities. Those increases occurred in AMV, ACV, and PI accidents. As with previous years, POV accidents were the single largest cause of Army fatalities (48 percent), with PI in second place with 26 percent. Accounting for 22 percent of our accidents were AMVs and ACVs, while explosives accidents accounted for 3 percent.

It's important that Soldiers and leaders at every level act to reverse the increase in Class A accidents and fatalities. Every Soldier must take responsibility for his or her actions and manage risks both on and off duty. Doing things by the book is as critical during combat operations as it is during training. Leaders must be tactically and technically proficient and enforce standards. Command involvement at the appropriate level is the key. Commanders must emphasize risk management and conducting operations by the book.

Leaders must remember they set the example for their troops, and Soldiers must remember that they set the example for their peers. It's vital that the example be a good one.

**Personnel injury accidents are Army accidents that involve injury to personnel not covered by any other accident type.*

Editor's Note: These statistics are current from the Army Safety Center database as of 20 October 2003. Delayed reports and follow-up details on preliminary reports could change the statistics, figures, and findings somewhat in the coming months.

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Only You Can Prevent Holiday Fires!

2LT HEATHER GROSS
Fort Rucker, AL

As winter temperatures fall, the risk for fires goes up and brings a new set of hazards you need to be aware of. According to the U.S. Fire Administration, fires cause some 2,000 injuries and over \$500 million in damage each holiday season.

To prevent a fire, you need to understand how one is created. Fire requires three components—oxygen, fuel, and a heat source. Simply eliminating any one of these will prevent a fire. However, since oxygen exists naturally in the atmosphere, you need to concentrate on keeping fuel and heat sources apart. Heat can be produced by heaters, lights, appliances, or fire itself. Fuel is anything that will burn, including drapery, trash, dry wood, and even wires.

If you use a fireplace for heat, have your chimney inspected and cleaned by a professional to remove any creosote—the dark brown or black flammable tar that builds up inside the chimney. Using a metal mesh fireplace screen will keep burning embers from flying out. When using artificial logs, follow the instructions closely and never burn trash, to include wrapping paper, in your fireplace.

Know the layout of your home. If you have a window above a heater, make sure the drapes don't touch it. When using a space heater, keep 3 feet between the heater and everything around it, including furniture. Space heaters can be effective, but be careful and follow the manufacturers' instructions.

Christmas trees are another holiday fire hazard. Pick a fresh, green tree that has needles that don't break easily and, if bounced on the ground, few needles fall off. To keep your tree fresh, keep it away from heat and make sure the stand is full of water. If you select an artificial tree, make sure it is flame retardant and keep it away from heaters.

Test your holiday lights, whether they are old or new, before you use them. Check each strand

to make sure the wires aren't frayed and the insulation is in good condition. Replace any lights that are missing or inoperable. As a rule of thumb, don't link more than three strands together unless the manufacturer says it is safe to do so. Never leave your lights on unattended, and periodically check the wires—they should not be warm to the touch. Be careful not to overload electrical sockets (this rule holds true throughout the entire year!). Avoid using candles, but if you do, be very careful. Ensure they can't be tipped easily and never put them on a tree or leave your house while they're burning.

These tips are a starting point to help you be safe during the holiday season. However, fire prevention needs to be practiced year-round to be effective. Here are some suggested additions to your New Year's Resolutions:

- Make sure you have working smoke alarms on each floor of your home and located outside each sleeping area.
- Test the batteries in your smoke alarms each month, and change the batteries twice a year.
- Never leave the kitchen unattended when cooking, and avoid open flames when you're wearing loose clothing.
- Never overload electrical sockets.
- Plan and practice a fire escape plan with your family.
- Contact your local fire department concerning any special needs of family members and to have your fire escape plan reviewed.
- Most local or post fire departments will show you where to install smoke detectors in your home. Normally this is a free service.
- Keep a phone near your bed so you can call 911 in an emergency.
- Think about fire prevention every day! 

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It Ain't No

Imagine a woman riding in a car on a warm, sunny afternoon. With her boyfriend driving, she is free to stretch out and relax like a cat sunning herself next to a window. Reclining her seatback and resting her feet on the dash, she closes her eyes and then drifts off to sleep, lulled into never-never land by the soothing voice and mellow music coming from the radio.

The driver watches the broken line dividing the lanes. Like yellow dashes, they slip beneath the car's left front fender, only to be spit out behind and disappear into infinity in the rearview mirror. The steady drone of the tires creates a hum, just barely audible beneath the radio music.

The miles slip behind almost effortlessly. It's been a long drive, especially since the Southwest scenery consists mostly of mile markers, sagebrush, and cactus. With just an hour to go, the driver reaches for his cell phone to call some friends. As he does, he looks into his rearview mirror and sees a red Chevy S-10 eating up his back bumper. Suddenly, the Chevy whips into the left lane, passes him, and then pulls back in front of him, almost cutting him off.

"What the ...?" the driver thinks. Then he looks into the rearview mirror and sees the reason.

bob FOOTREST!

BOB VAN ELSBERG
Managing Editor

A yellow Ryder truck flies up on his back bumper so close he can see the bugs splattered on the grill. Startled by being sandwiched between two dangerous drivers, he drops his cell phone, which bounces off the center console and lands near the brake pedal. Feeling around with his left foot, he nudges the phone back along the floorboard until he can reach down and get it. Glancing ahead, he sees the Chevy still there, just a few feet ahead. Apparently the driver is waiting for the Ryder truck to pass and go on down the road.

As our driver reaches down for the cell phone, he momentarily glances toward the floor. At that instant, the Chevy's left-rear tire blows out. The S-10 fishtails as gray smoke trails from the blown tire. The Chevy's driver, now panicking, hits his brakes, hoping that slowing down will keep him from losing control.

Our driver straightens up and looks forward again just as the front of his car slams into the back of the S-10. The driver and passenger airbags erupt so quickly and forcefully that it startles him. He hears his girlfriend scream. Although shaken, he keeps the car under control and steers onto the right shoulder.

He looks over at his girlfriend, who is still screaming. The passenger-side airbag did exactly what it was supposed to. At the moment of impact it erupted upward toward the inside of the windshield and backward toward her. Unfortunately, she'd been resting her feet on the dash when the airbag deployed. Coming out at approximately 200 mph, the airbag blew her feet and lower legs into the windshield, shattering several bones.

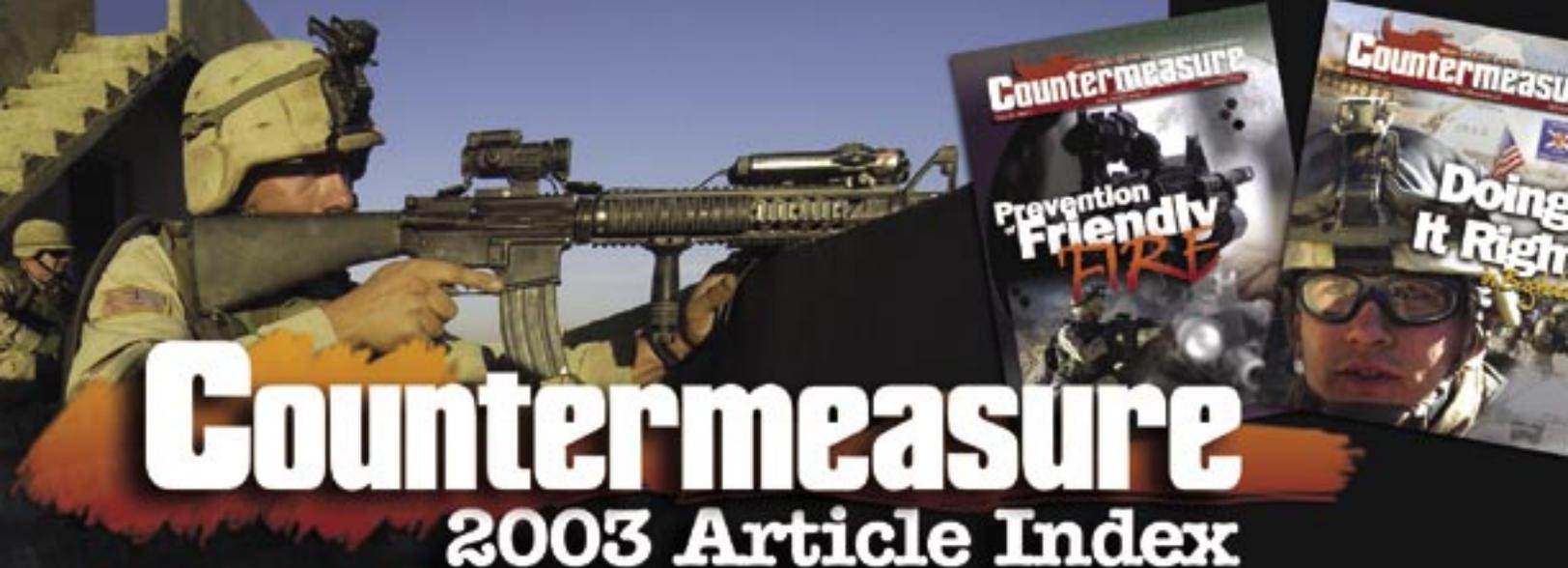
If you think this story is pure fiction, it isn't. A similar accident happened to a sailor in 2000, and it took several surgeries to correct his injuries. You'd think people would be able to see the obvious dangers in this. Yet, how often do you see someone riding in a vehicle with their feet resting

on the dash? I've even seen drivers with one foot hanging out the window and the other on the dash (they must have cruise control). If they were to have an accident, the airbag erupting from the steering wheel would give a whole new meaning to "doing the splits."

Airbags are designed to work with your seatbelts in protecting you during a crash. However, that assumes you're sitting in the proper position. Using your dash as a footrest might look "cool" or even be comfortable, but if you get in an accident and have airbags, it could be crippling. 🚗

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Countermeasure

2003 Article Index

All-Terrain Vehicles

- Safely Riding the 'Gator'—August

Army Motor Vehicle (AMV)

- Sliding Into Disaster!—August

Best Practices

- "Bullseye" Program Hits the Mark—June
- Doing it Right in Baghdad—December
- Fort Polk—Forging the Safety Spirit—December

Bradley Fighting Vehicle

- Driving with NVDs—What You Can't See Can Kill You—April
- Bradley Safety Performance Review—May
- The Bradley Fighting Vehicle's Commitment to Safety—May

Cell Phones

- * FAQs—May

Child Safety

- * This Kid Don't Float!—August
- * Child Safety Goes With You—August

Cold Weather Safety

- A Warm Tent and a Cup of Soup—September
- Cold Hurts!—September
- A Long Winter's Night—September
- Remember C-O-L-D—September back cover

Cranes and Lifting Devices

- FAQs—May

Deployment

- Going Somewhere?—February

Desert Combat

- Chemical Agents: Battlefield Foe, Lethal Enemy—March
- Don't Let the Desert Defeat You—March

Desert Driving

- Tips for Driving in the Desert—June

Diet and Health Supplements

- FAQs—March

Driver's Training

- DASAF's Corner—November

Environment (Animals and Insects)

- Who's Sleeping in My Bag?—March

Equipment Purchasing (Safety)

- FAQs—January

Explosives Safety

- From the Front: EOD in Afghanistan—January
- Use Extreme Caution! Mines & UXO—February back cover
- Need a Hand? You Might...—July back cover

Family Safety

- Holiday Toy Recalls—January
- Child Safety Goes With You—August
- This Kid Don't Float!—August
- Barbecuing 101 Or How I Almost Burned Down the Forest—August
- Only You Can Prevent Holiday Fires!—December

Fighting Position Safety

- Fighting Position, or Death Trap?—January

Fireworks

- My Daddy's No Rocket Scientist!—June

Foot Care

- Oh My Aching Dogs!—May

Fratricide (Friendly Fire)

- Managing Risks Prevents Fratricide (DASAF's Corner)—January
- Prevention of Friendly Fire—January
- News & Notes (PLGR)—May

Fuel Cans and Containers

- FAQs—March

Hearing Protection

- FAQs—March

Heaters

- Family of Space Heaters—Emphasis on Safety—October
- Mail Call—December

Heat Injuries

- Don't Let the Desert Defeat You—March
- The Clear Facts on Water—March
- Hot Stuff for Soldiers!—April
- Are You Packing Enough Water?—June back cover
- Heat Is the Hunter—July

HMMWVs

- Rollover Crew Drill—May back cover
- Just Having a Little Fun—June
- Get "Belted" in that HMMWV!—June
- Chock Shock—August back cover
- A Meeting of the Mirrors—October
- Recipe for a Rollover—October back cover

Investigator's Forum

- Lessons Learned in Light and Heavy Force Integration—February
- Rollover—April
- Just Having a Little Fun—June

Joey

- Negligent Discharge—November back cover

Leadership

- One Moment Can Affect a Lifetime—January
- Leading Is Not Always Easy, but Profoundly Rewarding (DASAF's Corner)—February
- SMA Tilley Sends—July
- Keep Your "Leader Lights" On... (DASAF's Corner)—August
- SMA Tilley Sends—October
- As We See It... Safety From an NCO's Perspective—October
- Safety Success in Korea: Leadership in Action (DASAF's Corner)—December
- Doing It Right in Baghdad—December
- Fort Polk—Forging the Safety Spirit—December

M1 Abrams

- Lessons Learned in Light and Heavy Force Integration—February

M2 Machine Gun

- Is Your M2 Machine Gun Ready for Battle?—March
- News & Notes—May

M-9 Paper

- News & Notes—June

M113

- Rollover—April
- Crushed to Death—November

M925A1 (5-Ton Truck)

- Sliding Into Disaster!—August

Mail Call

- Seven Years' Bad Luck—September
- I Am Still Here—September, December
- Space Heaters—December

Miscellaneous

- A "Sometimes Humbling" Experience—June

Motorcycles

- Learn and Live—April
- I Am Still Here—July

NCO Role in Safety

- As We See It—Safety From an NCO's Perspective—October
- How to Be a Safety NCO—October
- SMA Tilley Sends—October

Night Vision Devices (NVDs)

- FAQs—January
- Driving with NVDs—What You Can't See Can Kill You—April
- The ABCs of NVDs—April
- NVD Types and Uses—April

Privately Owned Vehicle (POV)

- Properly Maintain Your POV in the New Year—January
- Don't Let Static Electricity Burn You—January
- Keep Your Tires Rolling—February
- Keeping the Attack Aggressive on Deadly POV Accidents (DASAF's Corner)—March
- Speed Kills... Slow Down—March back cover
- News & Notes—April, June, July
- Saved by the Belt—May, June, July, October
- I Almost Made It Home!—May
- Run the Clock Forward—June
- Mayhem on the Motorway—November
- 150 Pounds of Knucklehead—November
- 2003 Roll Call—November
- What Does it Take?—November
- It Ain't No Footrest!—December

Recreation Safety

- Barbecuing 101 Or How I Almost Burned Down the Forest—August
- Ship of Fools—August
- This Kid Don't Float!—August
- Flameout at the 19th Hole—August
- On Thin Ice—October

Risk Management

- Risk Management: A Life-Changing Experience—June
- Run the Clock Forward—June

Rollovers

- Rollover—April
- Rollover! Crew Drill—May back cover

- Recipe for a Rollover—October back cover

Safety Training and Classes

- Who Ya' Gonna Call?—February
- Coming Soon to a Post Near You—December

Safety Awards Program

- Wanted: Safety Successes—November

Safety Performance

- First-Half FY03 Army Ground Accident Review—June
- FY03 Army Ground Accident Review: How Did We Do?—December

Severe Weather

- Severe Weather Field Hazard—February

Speed Bumps on Post

- FAQs—May

Suicide Prevention

- The ABCs of Suicide Prevention Part 1—August
- The ABCs of Suicide Prevention Part 2—September

Safety of Use Messages (SOUMs) and Ground Precautionary Messages (GPMs)

- 1st Quarter—February

Vehicle Recalls

- News & Notes—April, June, July

Weapons (Tactical) Safety

- Managing Risks Prevents Fratricide (DASAF's Corner)—January
- Prevention of Friendly Fire—January
- Get 'On-Target' With Your Weapons Training—July
- Accidental or Negligent Discharge?—December

Weapons (Privately Owned) Safety

- Seven Years' Bad Luck—July

Workplace Safety

- Keep Your Workplace Safe This Year—January 

"I Am Still Here"

Countermeasure, July 2003

Editor's Note: *The motorcycle helmet survival article "I Am Still Here" was published in the July 2003 Countermeasure. Readers are still continuing to share their thoughts, observations, and personal experiences as they reflect on this story. If you have a personal experience where a helmet or a seatbelt saved your life, please take a few moments to write down what happened and e-mail it to countermeasure@safetycenter.army.mil.*

I read this story in the light of a recent tragedy. A player on my son's soccer team went skateboarding on the evening of 27 September without a helmet. He fell off his skateboard—nobody knows the details—and then walked home. His parents gave him ice for the injured area, but about a half hour later he still didn't feel well. His parents took him to the hospital, but he died 3 days later from his head injury. He was only 11.

I'm 55 and indulge in rollerblading. I wear not only a helmet, but also pads on my wrists, elbows, and knees. The human body is too delicate to rollerblade or skateboard unprotected.

Gary Kazin
Picatinny Arsenal, NJ

As of 4 September this year, helmets are no longer required by law in Pennsylvania. I thought I would try going "helmet-less" because I thought the freedom would be great. Then I thought about the risks involved and decided to wear my helmet. I'm glad I ran this thought process back through my rusty brain.

I was riding my motorcycle early in the morning on 24 September. I reached a stop sign, looked both ways, and proceeded to make a right turn. About halfway through the turn, my front tire hit a wet spot (possibly oil), and my motorcycle and I parted company. Despite more than 30

years of riding experience, there was absolutely nothing I could do to keep from going down. When my body hit the asphalt, my head hit rather hard. My elbow bruised my ribs and I had a few scrapes on my knee, but I was all right. However, I might not be writing this if I hadn't had my helmet on.

Remember, it doesn't matter how careful you ride or how experienced you are on a motorcycle—an accident can happen to you. Because I was wearing my helmet and a leather jacket, my injuries were minimized in this situation.

Don't take needless risks. Wear your helmet and protective clothing, such as good-quality leather, to protect you against serious injuries. Although Pennsylvania might allow me the freedom to choose not to wear a helmet, I choose to live.

CW2 David H. Goddard
Fort Indiantown Gap, PA

"Family of Space Heaters—Emphasis on Safety"

Countermeasure, October 2003

In the October 2003 *Countermeasure* we published an article titled "Family of Space Heaters—Emphasis on Safety." Mr. Christopher Carroll of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) contacted us to advise that USACHPPM has published a new fact sheet on space heater use. The fact sheet is titled "Guidance on the Use of Heaters Inside Tents and Other Enclosed Shelters" and can be found on the USACHPPM Web site at <http://chppm-www.apgea.army.mil/documents/FACT/55-007-1003.pdf>.

The Editor



ACV

Class A

- Civilian reporter died after being fired upon by a tank crew on a patrol mission.



AMV

Class A

- Soldier suffered fatal injuries when the HMMWV he was driving was hit by a civilian truck. The HMMWV was traveling with a convoy at the time of the accident.

- Soldier died after his HMMWV ran off the roadway and into a canal. The HMMWV was part of a two-vehicle convoy on a reconnaissance mission at the time of the accident.

- Soldier was killed when the Palletized Load System (PLS) he was riding in rear-ended the PLS in front of it during a convoy movement. No other Soldiers were injured.

- Soldier suffered fatal injuries when the HMMWV he was riding in ran off the roadway and overturned. The HMMWV's driver, who was not injured, was attempting to pass another vehicle and swerved to avoid an oncoming vehicle, causing the accident. The deceased Soldier was sitting in the turret seat.

- Soldier died when the HMMWV he was riding in overturned during a convoy escort mission. The deceased Soldier was manning the HMMWV's gun turret when it rolled. The vehicle's driver was hospitalized for injuries suffered in the accident.

Class A (Damage)

- Two HMMWV TOW missile carriers were destroyed by fire. The fire started in one of the vehicles and spread to the other, causing the damage.



Personnel Injury

Class A

- Soldier died while hiking in a mountain range. The Soldier's body was found after he failed to return to duty. No other details were provided.

- Soldier suffered fatal injuries when his weapon discharged accidentally. The Soldier was returning to his living quarters after guard duty when the weapon discharged, striking him in the chest and shoulder.

- Soldier drowned after he jumped into a river to wash off after a haircut. The Soldier's body was found the next day.

- Soldier was killed while trying to put out a fire at an indoor small-arms range. The Soldier's unit was conducting weapons training at the range when a bullet ricocheted and ignited the fire.

- Cadet suffered a heat stroke and died during PT. The cadet, who had been running, was found after collapsing in front of an on-post barracks.

- Soldier was pronounced brain dead after collapsing during rifle bayonet training. No other details were provided.

- Soldier suffered a fatal gunshot wound during a night infiltration live-fire exercise.

The Soldier who fired the weapon was not injured.

- Soldier died after suffering a heat injury while riding in a convoy. No other details were provided.

- Soldier was killed after he fell 20 feet from the top of a building. The Soldier was on guard duty at the time of the accident.

- Soldier suffered a fatal gunshot wound when a 50-caliber machine gun fired as it was being loaded onto a HMMWV following live-fire training.

Class B

- Parts of Soldier's thumb and middle finger were amputated when a breaching charge fell and detonated during MOUT training.

- Three Soldiers suffered first- and second-degree burns when their HMMWV caught fire and started a secondary explosion. The Soldiers were part of an EOD team and were preparing demolitions to destroy confiscated munitions at the time of the accident.

- Soldier's foot was shattered, resulting in a permanent partial disability, after he fell from a rooftop in a lodging compound. The Soldier reportedly was raising a flag atop the compound at the time of the accident.

- Soldier lost one eye when the star cluster he was returning to a storage room ignited.

Coming Soon to a Post Near You!

Check here to find out when the U.S. Army Safety Center Mobile Training Team will present the Risk Management Course at your facility.

Scheduled Visits

Location	Dates
Fort Rucker, AL	1-5 December
Fort Riley, KS	1-5 December
Fort Bragg, NC	26-30 January
Fort Sam Houston, TX	9-13 February
Ohio Army National Guard	21-22 February
Fort McPherson, GA	1-5 March
Fort Bliss, TX	8-12 March
Camp Zama, Japan	19-23 April
Okinawa, Japan	26-30 April
Fort Irwin, CA	9-13 February
Fort Sill, OK	2-6 February
Fort Drum, NY	23-27 February
Fort Lee, VA	23-27 February

Open Visit Dates

(2004)
12-16 January
19-23 January
2-6 February
1-5 March
15-19 March
22-26 March
29 March-2 April
5-9 April
12-16 April
3-7 May
10-14 May
17-21 May
24-28 May

If you don't see your facility represented here, call your installation safety office and ask them to schedule a training visit. Visits are provided at no cost to your installation. For more information on the Risk Management Course or other safety courses, please contact:

MSG Robert Spaulding
DSN 558-2046 (334-255-2046)
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