

ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

VOL 24 NO 10

<http://safety.army.mil>

OCTOBER 2003

NCO

Issue



COMING NEXT MONTH,

JOEY



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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.

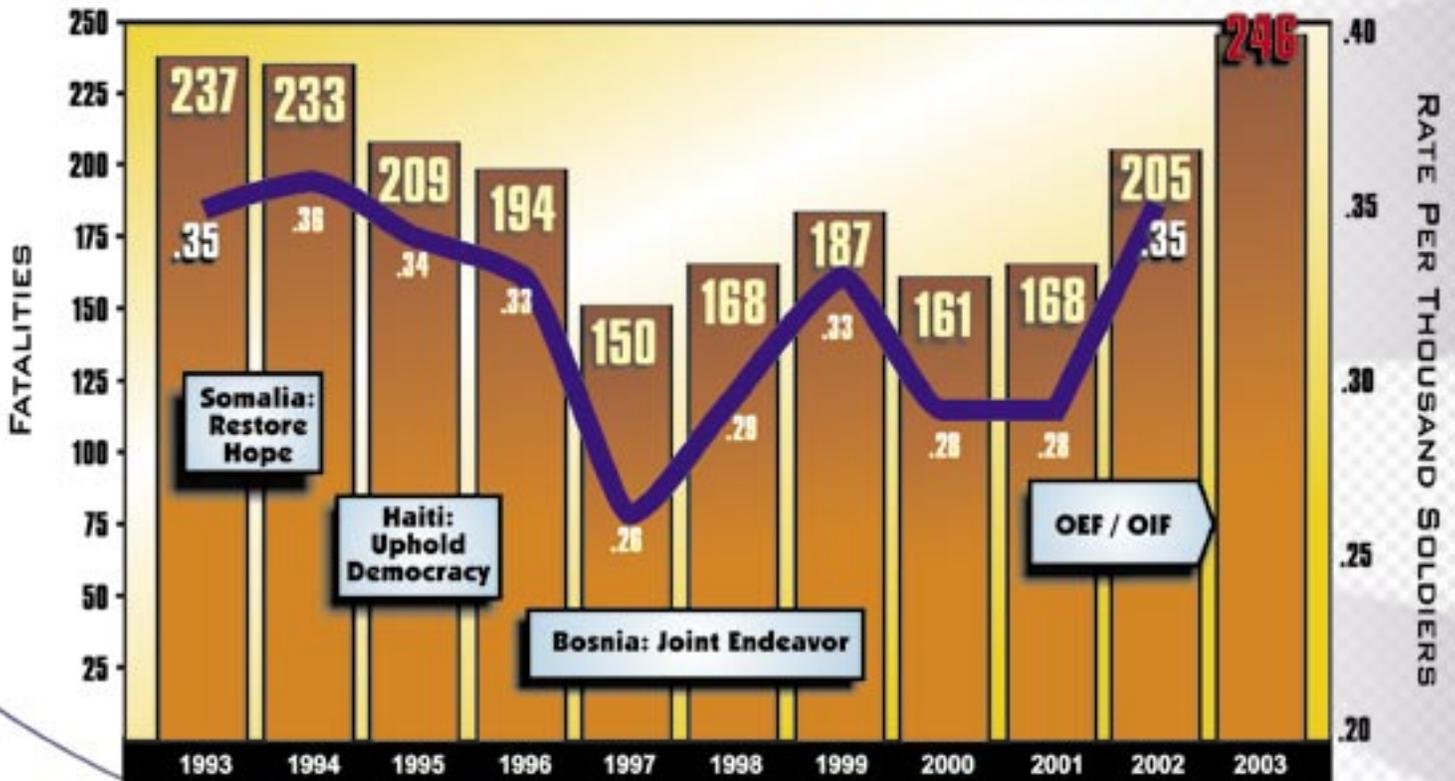
Let's look at accidental deaths over the last 10 years. In 1993 we were losing .35 per thousand soldiers. Last year we were at .35. For 2003, we are at .39...and climbing.

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:

$$f(\text{degree of organizational safety success}) = (D + O + M) \times S \times L^{(t \times k \times e)}$$

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.

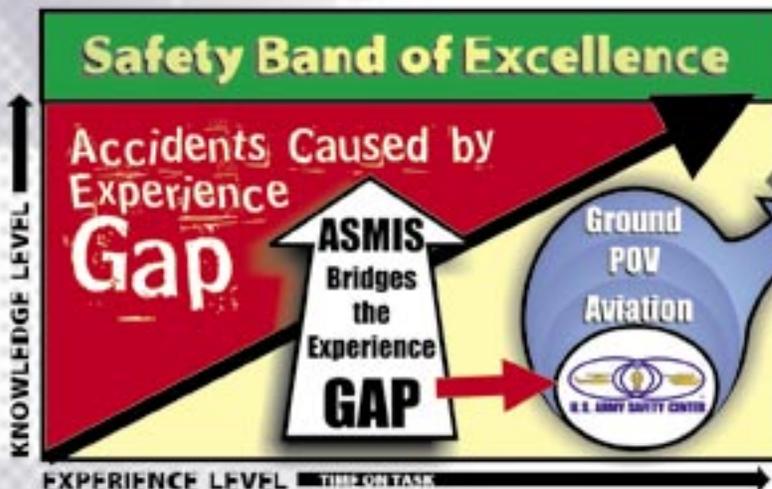
Additionally, the Safety Center has just fielded the first ground Directorate of Evaluation and Standardization (DES) team in an effort to help commanders evaluate their drivers' training and operation programs. Instead of being post-accident focused, we are aggressively working to identify and flag 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

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and

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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

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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! 🐾

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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!

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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

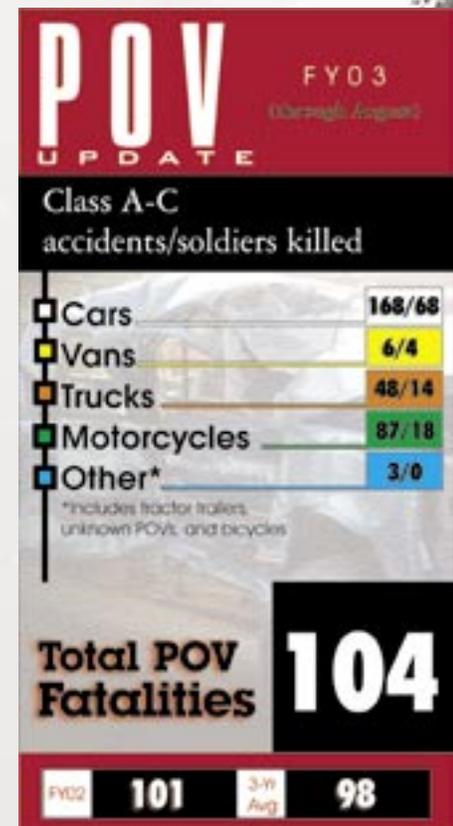
I was riding in the front passenger seat with a bandaged right eye while my wife drove us home from one of my post-operative doctor's visits. We were wearing our seatbelts and traveling in heavy traffic in the middle lane of a three-lane interstate.

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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ACV

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.



AMV

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.



Personnel Injury

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.



POV

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

- **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.