ARMY GROUND RISK-MANAGEMENT INFORMATION

Countermeasure

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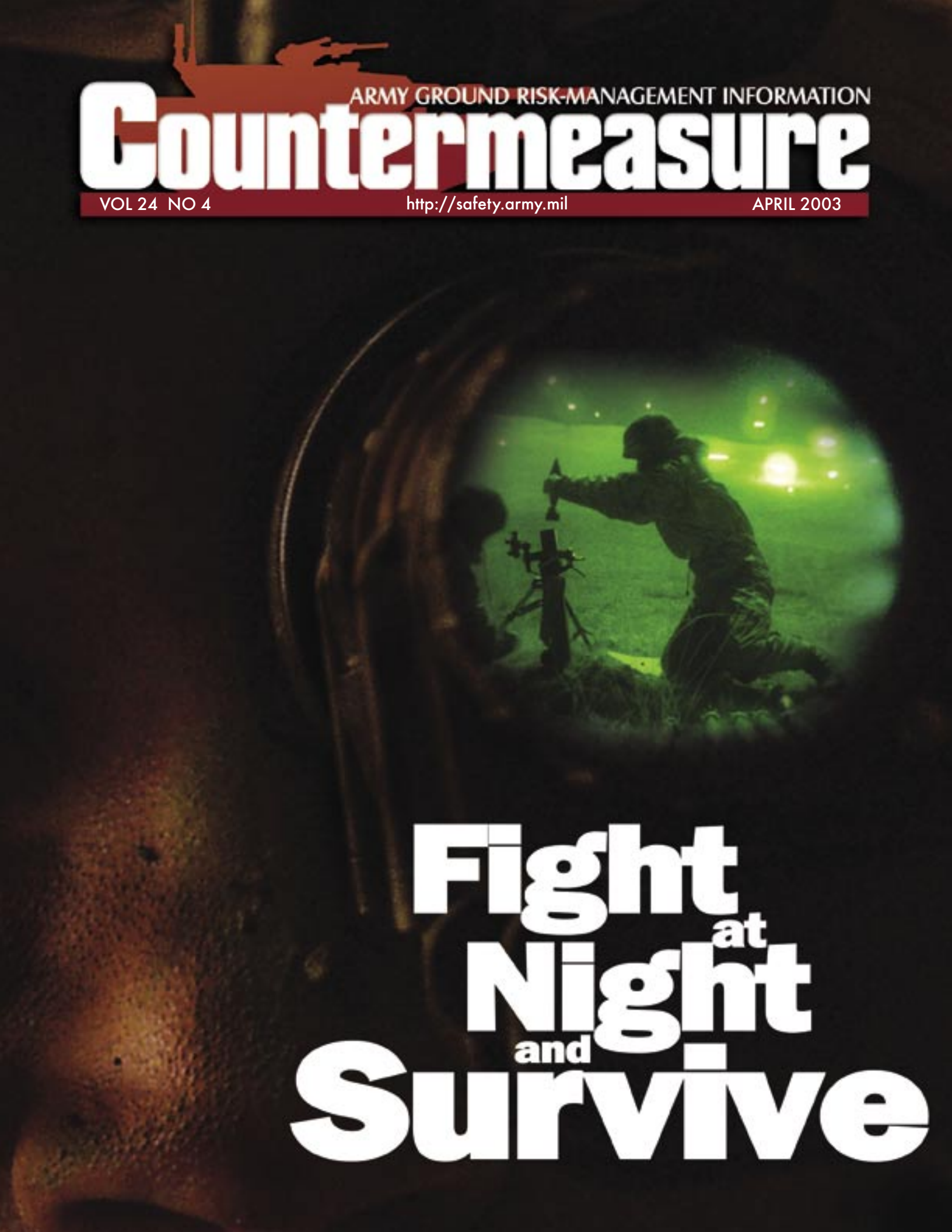

Fight at Night and Survive

Countermeasure

ARMY GROUND RISK-MANAGEMENT INFORMATION

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DASAF'S CORNER

From the Director of Army Safety

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?

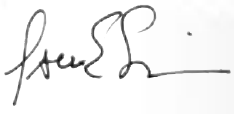
Failure to wear required PPE is clearly and simply a matter of indiscipline—knowing the standard and willfully choosing to violate it. Just because the Spalding vest may dig a bit into even the leanest of waistlines or push up into the chin when sitting inside the tank is not justification for not wearing 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.

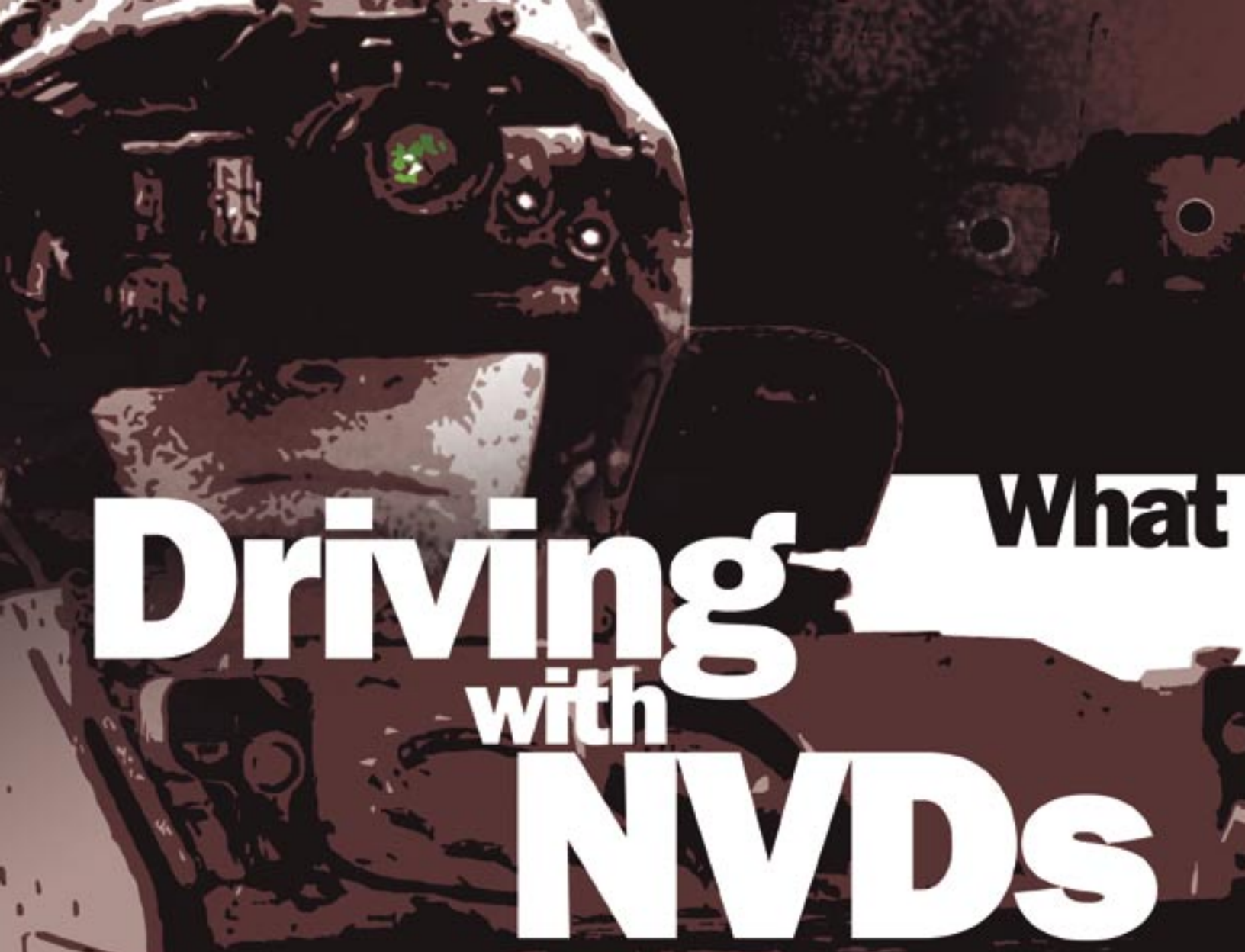
The Army holds us as commanders accountable for the safety of our troops. The troops will emulate their leaders; therefore, we as leaders must demonstrate what "right looks like" all the time. So it's a command responsibility that leaders at every level not only set the example by wearing required PPE,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





What Driving with NVDs

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)

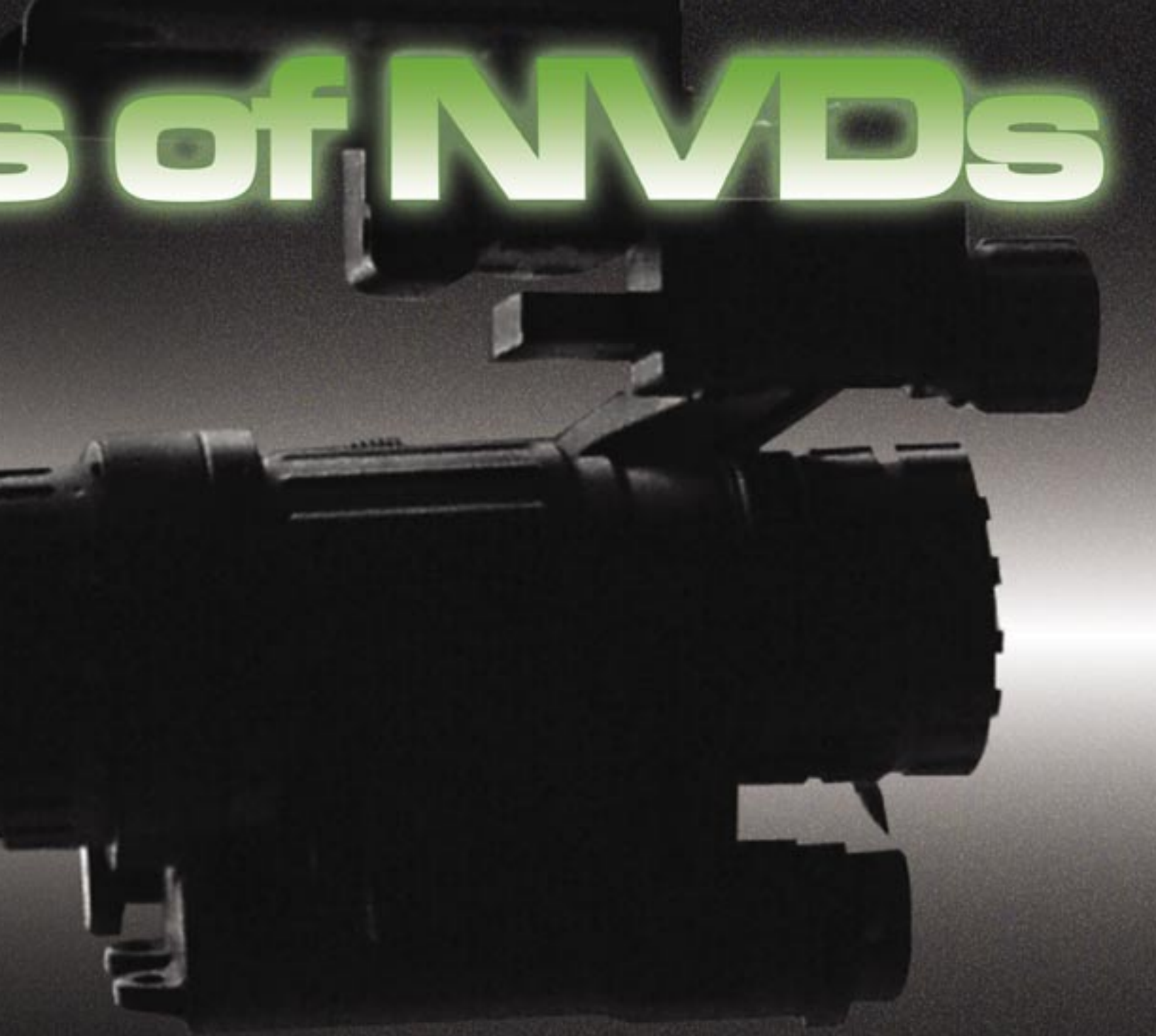
At their best, NVGs cannot provide the same level of sharpness to what you see as what you're accustomed to in the daytime. While normal vision is 20/20, NVGs can, at best, provide only 20/25 to 20/40, and even this is possible only during optimal illumination and when you have a high-contrast target 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 abject. 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



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 NVDs. 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 NVD 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*

ROLLOVER

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

HOT STUFF for SOLDIERS!

With summer approaching and much of our forces already deployed to warmer climes 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 appropriate 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!)

LTC JOSEPH MC KEON
HQ USASC Command Surgeon

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

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.**

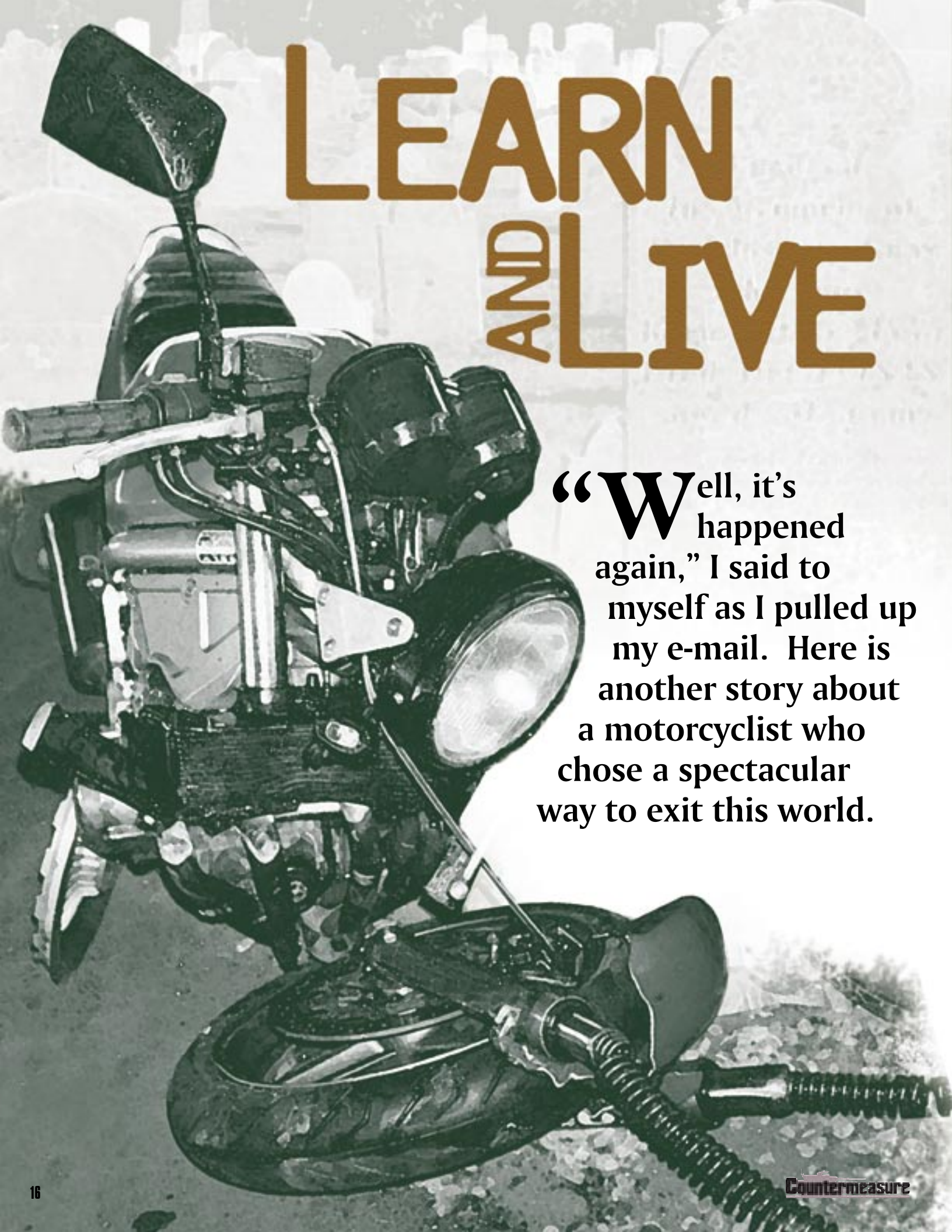
2001-2003 Subaru Legacy, Outback; 2002-2003 Forester, Impreza; 2003 Baja. Number potentially involved—163,243. Defect: Certain passenger and sport utility vehicles equipped with automatic transmissions were produced with an improperly manufactured transmission parking rod. When the transmission selector 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.

"SIPDE"

- **SCAN for hazards**
- **IDENTIFY them**
- **PREDICT what they may do**
- **DECIDE and**
- **EXECUTE a safe plan of action**

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.*

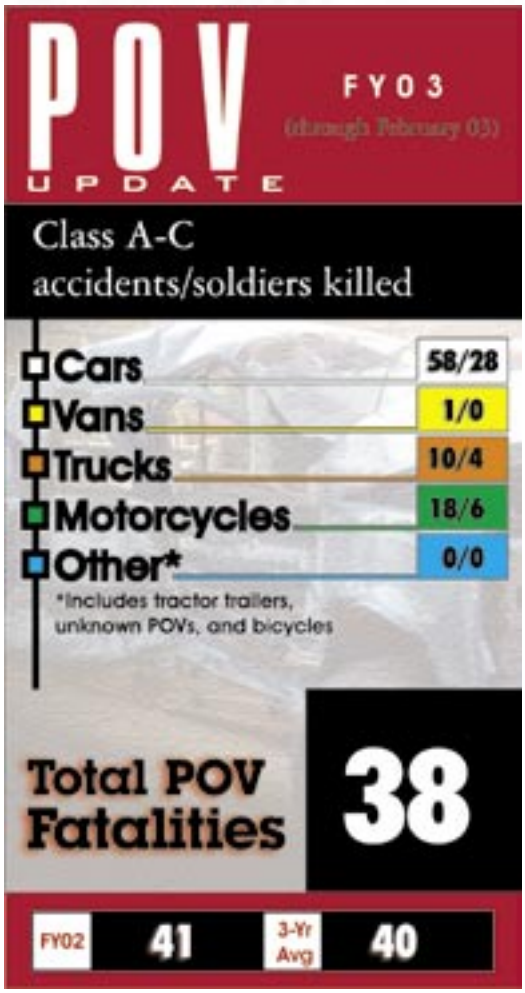
BOB VAN ELSBERG
Managing Editor

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.

ACV

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.

POV

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.

AMV

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.

Do you have a Good News story to share?

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.

U.S. ARMY SAFETY CENTER