ARMY GROUND RISK MANAGEMENT PUBLICATION

COUNTERMEASURE

VOL 21 NO 3 http://safety.army.mil MARCH 2000

POV FATALITIES
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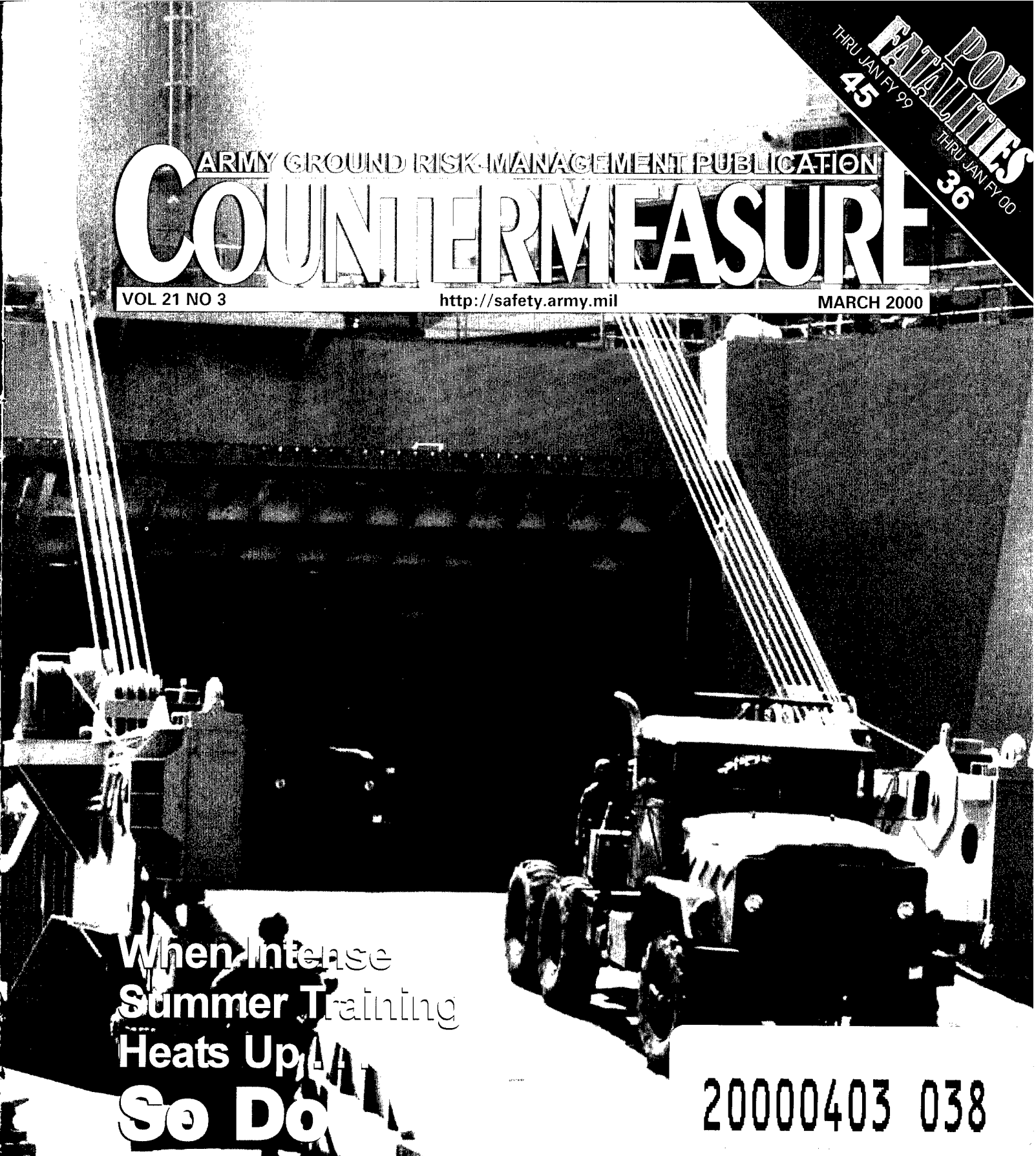

When Intense Summer Training Heats Up, So Do ACCIDENTS!

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DISTRIBUTION STATEMENT A
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DTIC QUALITY INSPECTED 3

ARMY GROUND RISK-MANAGEMENT PUBLICATION

COUNTERMEASURE

The Official Safety Magazine for Army Ground Risk-Management

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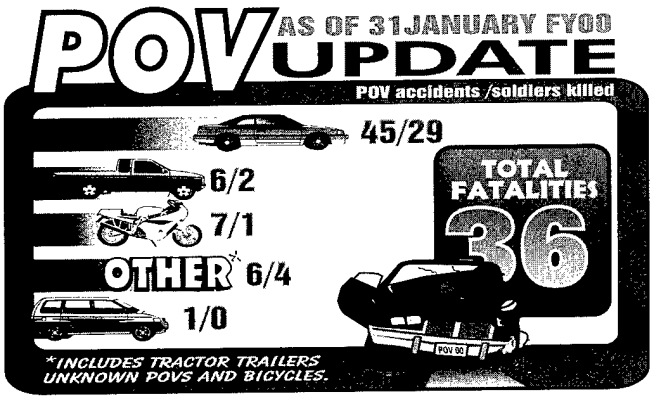

U.S. ARMY SAFETY CENTER

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Gene M. LaCoste
Brigadier General, U.S. Army
Commanding Officer

Stopping Accidents in Reserve Components

Each annual training (AT) cycle, Guardsmen and Reservists lose the equivalent of an entire battery of soldiers due to accidental injury. Moving tens of thousands of soldiers, military equipment, and supplies downrange and back is a complex and expensive operation. Leaders should expect that some skills will have declined since the last AT; therefore, soldiers need to be reminded that they are accountable for their actions and that self-disciplined performance to standard can have the greatest impact on accident prevention. The Reserve Components have long recognized the inherent dangers of their trade and have developed safety practices to minimize the number of accidents.

An analysis of Class A-C FY99 and FY00 Reserve Component (USAR and USANG) accidents revealed that there was a total of 196 accidents. Most fell into four categories: Army motor vehicles (AMV), Army combat vehicles (ACV), personnel injuries (PI), and privately-owned vehicles (POV).

Of those 196 accidents, personnel injuries topped the list with 130; 2 of those were fatally injured. Privately-owned vehicles claimed the lives of 11 of the 31 Guardsmen and Reservists last year.

Thus far this fiscal year, there have been 12 accidents (POV leading) with 4 fatalities (all POV). So, what can commanders do to prevent these accidents while continuing to train realistically? Read on!

Command Climate

The first step is to develop a command climate that permeates safety throughout the organization. Train personnel to standard, demand performance to standard, and take quick and effective action when standards are violated. Encourage personnel to develop a sense of responsibility for each other's well-being. This philosophy has to clearly come from the top. The old adage says it best: "The

command is a reflection of the commander's personality." If safety isn't important to the commander, it won't be important to the soldiers who follow.

Supervision

Statistics show that 80 percent of all accidents are caused by human error, and supervision is the key to preventing human error. Simply put, leaders can reduce human error by consistently enforcing standards in training and discipline. Failure to enforce a standard serves to establish a new, lower standard that may one day result in an accident. If, for example, a leader sits in the passenger seat and allows a driver to operate a vehicle too fast for conditions, he has failed in his leadership responsibility. He has increased the chances for an accident on that trip as well as future trips. Leaders set the example.

Buddy System

Establish a buddy system and provide guidance on the issues buddies should help each other with. Examples include drinking and driving; swimming; enforcement of water consumption, eating, and personal hygiene; watching for fatigue, sickness, heat stress, and cold injuries.

Plan by Managing Risk

Risk management is the process of making operations safer without compromising the mission. Accident experience shows that mission-stopper accidents occur when victims are ignorant of hazards and countermeasures, or when *directed* countermeasures are not implemented. The following principles provide leaders guidance on integrating the risk management approach into unit operations.

✓ **Include risk management in the planning stages of operations.** Assessment of risk begins with mission analysis. From this analysis, the staff considers the conditions most likely to cause mission failure and accidents.

✓ **Make risk decisions at the proper level.** The leader who has the authority to accept the risk of a mission has the responsibility to protect his soldiers from the hazards that make up that level of risk. He should make risk decisions at a level consistent with the commander's guidance.

✓ **Accept no unnecessary risk.** Leaders must take necessary risks to accomplish the mission. They must also understand that risk-taking requires a decision-making process that balances mission benefits with costs. Accept risks only when benefits outweigh the costs. Our soldiers should not be exposed to any unnecessary risks.

It is important to note that there is an increased potential for accidents when soldiers are returning home from AT. Leaders should monitor their personnel for "get-home-itis" (hurrying to unload equipment, speeding to get home, fatigue, alcohol consumption). Ideally, successful AT starts and ends at home, and includes getting to AT, performing the mission, and returning home safely. Leadership and each individual soldier making good common-sense decisions are the keys to success in every training event. ♦

Risk-Management Transfers to Off-duty

FY99 Reserve Component Class A-C Accidents						
TYPE	PI*	POV	AMV	ACV	Other	TOTAL
NUMBER	130	31	24	4	7	196

*Includes combat soldiering, sports, and human movement.

Deployment Safety

In today's hectic operational environment, deployment is commonplace. Deployments can range from support missions in the Balkans, to field training gunnery exercises, to annual training for the Reserve Components, and all sorts of things in-between.

Whether you are stationed overseas or in CONUS, belong to an Active or Reserve Component unit, move as a unit or an individual—there are numerous hazards associated with deployment. In this article, we offer some tips for ensuring you have a safe deployment.

TIP 1. Identify early in the process what has to move.

Establish a deployment equipment list (DEL) and try not to vary from it if possible. A DEL provides a systematic way to identify the hazards associated with different types of equipment during the planning process and helps you address these hazards as part of your mission analysis. For example: moving a HMMWV is different from moving an M1 tank. Both of these vehicles pose unique hazards that must be addressed individually. Knowing early in the process what you are moving allows you to identify potential hazards and plan methods to mitigate the risks associated with those hazards.

TIP 2. Make risk assessment an integral part of the mission analysis process.

Just as you identify danger areas and enemy strengths and capabilities during your mission analysis, you must address safety hazards and plan for ways to control these hazards. A sample of the things you need to consider during your risk assessment includes:

- **Road movement/convoy operations.**
  - Night movement.
  - Weather/road conditions.

- Traffic patterns/high traffic times.
- Driver training/capabilities.
- Vehicle maintenance.
- Civilian road restrictions/ requirements.

■ **Rail movement**
- Railhead operations (steel-toed shoes/hard hats/reflective vests/ etc.).
- Day/night operations (lighting required?).
- Security of equipment during transit (guards/escorts required?).
- Host nation rules.
- Supporting railroad company's requirements.

■ **Sea movement.**
- Seaport operations.
- Day/night operations.
- What does the port authority provide/require?
- Who is allowed aboard ship?

■ **Air movement.**
- Aerial port operations.
- Who controls movement in the vicinity of the aircraft?
- Day/night operations.
- U.S. Air Force requirements /rules?

TIP 3. Establish a rest/sleep plan and stick to it.
It is especially important for leaders and their soldiers to get enough sleep. Make sure soldiers understand the importance of sufficient sleep when conducting any type of vehicular movement, especially convoy operations. You should also review the regulatory requirements outlined in AR 600-55 concerning responsibilities during vehicular movement.

TIP 4. Soldiers' health is also a safety concern, so plan ahead for the weather.
Seaports and airstrips can be cold and dreary places. Without sufficient protection from the elements, deployed soldiers may find themselves under the weather when they get to their destination. Coordinate with the agencies responsible for running the locations and find out what types of facilities are available.

TIP 5. Get with your local movement office for support in planning your movement.
These professionals can help identify potential hazards in your deployment. Furthermore, they work every day with the agencies that run the sites you will deploy from. For example, in Europe the movement control battalions coordinate all types of movements with the host nation(s), the local Area Support Groups (who manage and control railheads), the U.S. Air Force, and the European port authorities. Ask these movement officers what types of hazards were encountered during previous deployments and let them help you develop ways to mitigate these hazards before your deployment begins.

Safe deployments don't just happen; they are planned and executed by caring, proactive leaders.

TIP 6. Finally, remember that before you can start your mission, you have to GET THERE SAFELY!
Safe deployments don't just happen; they are planned and executed by caring, proactive leaders. When given the mission to deploy, use all the assets available to ensure you do it safely. Soldier safety is a leader responsibility and must be a priority in all that we do. ♦

POC: LTC Andrew Atcher, Ground Systems and Accident Investigation Division, USASC, DSN 558-9525 (334-255-9525), atcherd@safety-emh1.army.mil

Written by accident investigators to provide major lessons learned from recent centralized accident investigations.

Investigators' Forum

Leaders, Prepare Your Convoys Before Departing

The company was deploying from home station to a remote training area about 300 miles away. Since they were equipped with wheeled vehicles, they deployed via convoy. The commander broke the unit down into four march units, each with about 20 vehicles. He was the overall convoy commander and designated a lieutenant to lead each of the march units. They planned for three rest halts along the route.

Before departing, the march unit commanders gave their soldiers a safety brief. This briefing included the designated road speeds, catch-up speeds, breakdown procedures, and uniform requirements. The leaders also accompanied representatives from the installation movement control team, who verified the presence of the required convoy signs, flags, and hazardous cargo releases.

The convoy left at the designated start time. Each march unit left 30 minutes after the one in front of it. They arrived at the first rest halt without incident, and after conducting some during-operations maintenance, the march units continued.

They stopped again at the second rest halt. The company commander, traveling with the first march unit, noticed that the road conditions just beyond the second rest halt were deteriorating. The roadway was two lanes wide with narrow shoulders and no guardrails. The route itself included several switchbacks and grades as it passed through and around some mountains. Although the mission took place before the first winter weather began, there was already snow and ice on the road ahead, so the commander decided that his vehicles needed tire chains to

continue. He contacted the march unit commanders and told them to find a safe place to pull off the road and put the chains on.

The commander from march unit three got the word to put on the tire chains shortly after leaving the second rest stop. He found an apparently suitable location, so he pulled the march unit over. He quickly realized that the roadway wasn't quite wide enough to safely have soldiers moving around their vehicles, so he decided to find a better place. After a few more miles, he saw the vehicles of march unit two along the side of the road. He decided that this was a good place for his element too, so he directed his vehicles to pull over.

What went wrong?

As the truck drivers applied their brakes and downshifted to slow down, they all began to slide. A layer of black ice had formed on this portion of the roadway. Several trucks with trailers jackknifed and others spun completely around. Two M35A2 2½-ton trucks, each towing a trailer, slid to the left side of the road. The drivers could not correct the slide and the trucks went off the highway. They slid down a 30-foot sloped embankment, rolling over several times. The driver of one of these trucks became pinned beneath the partially collapsed cab of the truck and was seriously injured. The other crewmen sustained minor injuries.

Lessons learned

Since this was the first winter weather experienced by this unit this year, they had not yet had the opportunity to conduct any hands-on winter drivers' training. Conditions at home station were not yet cold enough to allow them to practice handling their vehicles on ice. Many of the unit's drivers had arrived during the preceding summer and had never driven in these unique winter conditions. As a result, the drivers were not trained to know how to handle unexpected black ice.

Prior to departing from home station, the convoy participants did not receive any information on the road conditions along their route. They did receive a weather report from the training site, but that did not cover the march route. Information on road conditions was available from the highway patrol via their Internet web site or a toll-free telephone number. But no one took advantage of these resources before starting the movement.

Neither trailer involved in the accident had functioning brakes. One had no air lines, and the other had no brake fluid. Both conditions should have been identified during pre-operations PMCS. The drivers failed to identify these deficiencies, and their leaders failed to check or inspect these trailers. A simple visual inspection before departing would have shown the absence of the air lines. Leaders at all levels need to conduct pre-mission inspections to ensure that their vehicles are capable of accomplishing their mission.

Three of the soldiers involved in the accident received only minor injuries. Their seatbelts and Kevlar helmets did their jobs in protecting them during the multiple rollovers.

Summary

Leaders need to ensure that their soldiers and equipment are properly prepared before embarking on a mission. They must require that their soldiers are trained to the appropriate standards before executing a task. If this training cannot occur, then commanders need to apply the risk management process to identify the right people to drive, select a safer route, or otherwise mitigate the hazards associated with this lack of training or experience. Leaders also must check their equipment for serviceability prior to using it. ♦

Hand Brakes Are There For a Reason

The field artillery unit had moved into the assembly area at the beginning of the exercise. Their 5-ton trucks and M198 towed howitzers were lined up by battery in the unit area. In preparation for the next day's mission, the unit leadership directed that the trucks move to the refueling point. In

order to do this, the howitzers first had to be unhooked.

One howitzer in this unit did not have an assigned crew. The howitzer was taken to the field to fire and exercise its systems. One of the other gun crews used this particular weapon after qualifying on their assigned howitzer. The truck driver parked the vehicle in a small draw with the wheels of the howitzer slightly higher than the end of the trails. Since there was no assigned crew to unhook this gun from the truck, several soldiers in the area took the initiative to unhook it and get the truck to the refueling point. Six soldiers, plus an NCOIC, took up positions on the trails of the gun and prepared to lift it.

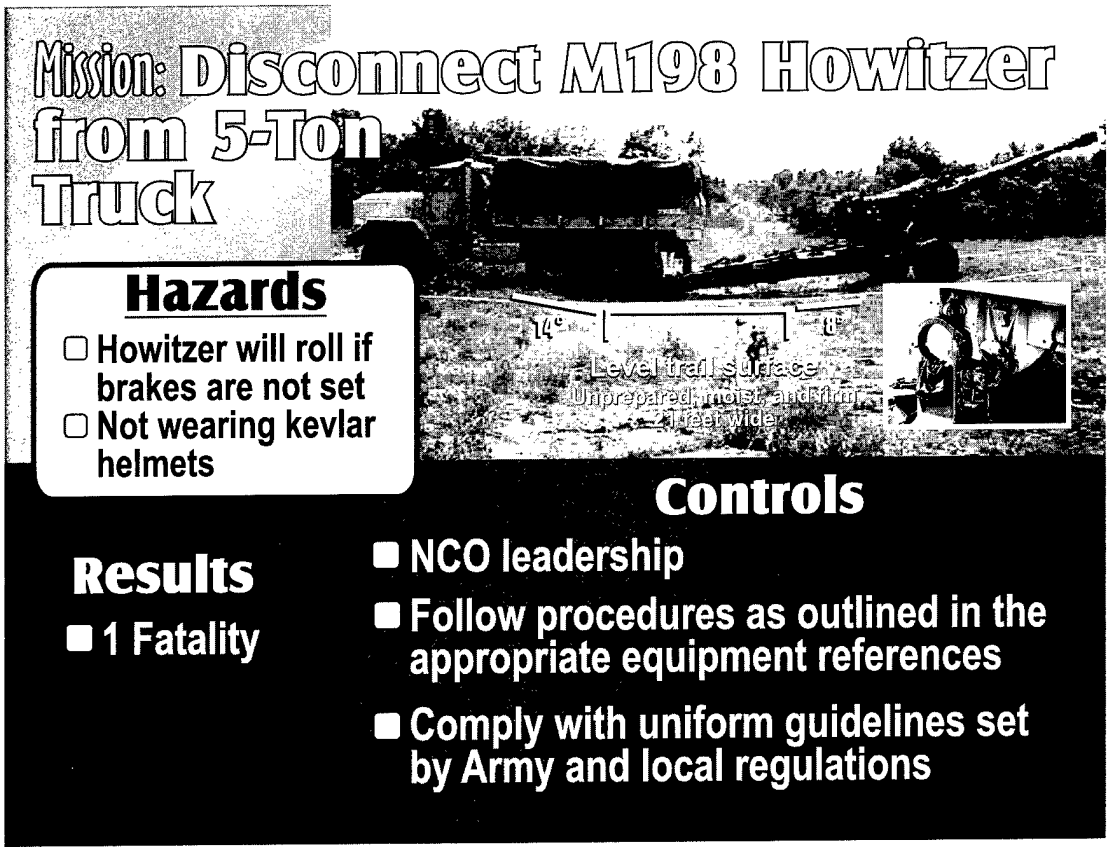
Three soldiers took positions on the gun trails on the driver's side. Three others manned the opposite side. The NCOIC stood behind the group to give the commands to lift and then place the gun's trails on the ground. The crew agreed that they would lift the lunette off of the towing pintle and then place it on the ground on the driver's side. The NCOIC made sure that everyone was ready before he gave the order to prepare to lift. Then he gave the order to lift the gun.

As they lifted the trails off of the pintle, the gun began to roll down the incline toward the rear of the truck. Five of the crewmen jumped out of the way, but the sixth did not. He became caught between the gun's travel lock cradle and the tow pintle and was crushed by the force of the rolling howitzer.

What went wrong?

The howitzer rolled down the slope because the parking brakes were not set. No one had set the brakes, and the NCOIC had not ensured that they were set. The M198 howitzer operators' manual (TM 9-1025-211-10) states clearly that the hand brakes must be set prior to lifting the gun.

In addition, the injured soldier was not wearing a Kevlar helmet. The unit left some of the soldiers' helmets in the main post motor pool, and this particular soldier's was among those left behind. Although not able to prevent the crushing head injury, the protection afforded by the helmet may have pushed his head out of the way upon impact and his injuries might have been less severe.



Lessons learned

Leadership at all levels is needed to prevent accidents. Standards are established to ensure safe and efficient mission execution. By failing to train and enforce standards, we put our soldiers and mission success at risk. ♦

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

In this section, we highlight accidents in the motor pool that demonstrate the need for leaders to remain alert and manage the risks associated with complacency.

Accident Briefs

Tire Cage Injury

While inflating a tire, the soldier stuck his head between the bars of the tire cage to see if the tire was sealed. The tire 0-ring blew off and hit him in the head and fractured his skull.

Hazard. This mishap was caused by the soldier's failure to follow correct procedures for the equipment he was using.

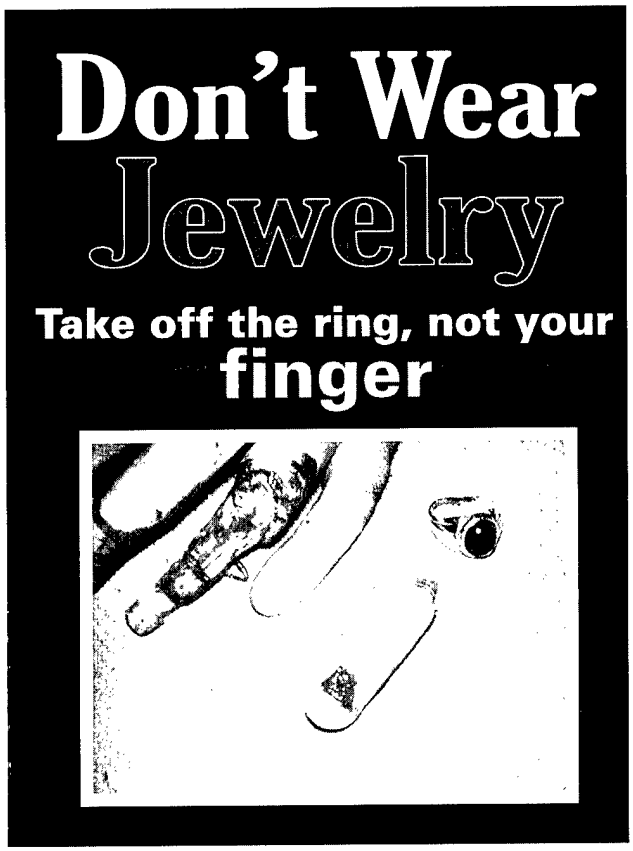
Controls. Remind your mechanics that the purpose of using a tire cage in the first place is to protect them in case something goes wrong. Sticking one's head inside the cage defeats this purpose in a hurry. Point out that it's easy to become careless when doing the same job over and over. Stress to your mechanics that they need to be safety-conscious while doing everyday tasks. ♦

Mechanic Run Over

Two mechanics were repairing a 2½-ton truck. One was working on the voltage regulator and the other was underneath the truck working on the emergency brakes. The first mechanic needed to check the voltage regulator, so he hit the starter. He found out that the truck was in gear when it lurched forward and rolled over the other mechanic's legs, breaking one of them.

Hazard. Maintenance was not being done by the book. The truck should not have been started while someone was under it.

Controls. The importance of by-the-book maintenance cannot be stressed too strongly or too often. Routine tasks such as these often result in accidents simply because people become complacent. This leads to carelessness. The truck should have been out of gear and the wheels should have been chocked to prevent movement. Insist that your people do every job, no matter how routine, by the book every time, no matter how often. ♦



Lost Finger

The mechanic was standing on the right tail guard of a 1½-ton trailer putting canvas on the trailer. His foot slipped and, as he was falling, his ring got caught on a bolt. His body weight and forward motion pulled his finger off.

Hazard. The mechanic lost his finger because he didn't realize the danger of wearing his ring while working in the motor pool.

Controls. Stress to your mechanics that any kind of jewelry is dangerous if worn in shops, the motor pool, or around machines. Also, remind your people that rings, watches, chains, bracelets, and earrings should never be worn while working on or near battery terminals. A short circuit could cause an arc and result in a severe burn. ♦

Editor's Note: All three of these accidents might not have happened if there was a leader present to enforce maintenance and safety standards.

NCO Corner

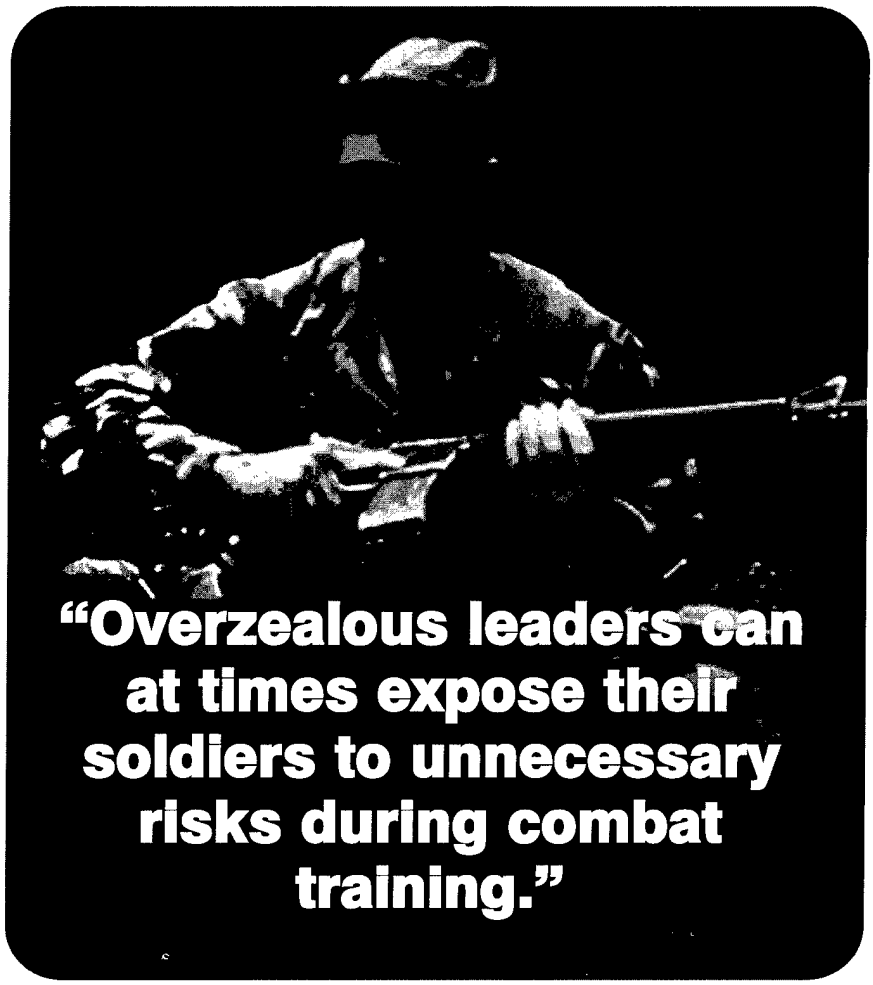
Safety. . . Friend or Foe?

One of the most controversial issues associated with Army combat readiness concerns realistic training and safety. Does safety impede realistic combat training? Or does safety, blended into hard, tough training, increase the Army's fighting ability and combat readiness? Answers to these questions vary. On one hand, noncommissioned officers (NCOs) are urged to train their personnel as they will fight; on the other, we all know and stress that safety is paramount.

The controversy over the issue stems from a commonly held view that realistic training and safety are incompatible partners—that one must be sacrificed at the expense of the other. This assumption, however, ignores the fact that safety is essential in combat as well as in training.

Having said that, safety measures are justified and have a definite place in combat and realistic combat training. The NCO must train the way he plans to fight. But at the same time, he must conserve Army resources and reduce risks. Combat training involves not only the correct operation of equipment and procedures, but also risk management.

Combat training can be conducted both realistically and safely. The key is leaders—the unit commander and his NCOs. They must carefully plan and examine missions, operations, and training exercises and take safety precautions that will reduce the chances of accidents, and at the same time allow full training benefit.



Too Much Enthusiasm—Too Little Safety

The cause of many training accidents lies in a failure to integrate safety into the mission. Over ambitious leaders sometimes become so involved with the tactical scenario that they subject their soldiers to unnecessary hazards that often have no training benefit. Here's an example:

During a night training exercise, the friendly force's mission was to ambush an "enemy" force. While performing a recon of the area, an enemy soldier was captured.

During interrogation, the POW revealed the location of the enemy force. The friendly force leader suggested two options. They could go through the woods, or they could swim across the lake. Although the unit commander had ordered that training was to be conducted

only along the road, the squad leader sent the five strongest swimmers across the lake to come in behind the ambush site for a surprise attack. Four other soldiers were to approach the site on foot and create a diversion. The swimmers, fully clothed and with boots on, entered the extremely cold water at about 2230. Fifteen minutes later, a 19-year old infantryman drowned.

Overzealous leaders can at times expose their soldiers to unnecessary risks during combat training. They get so caught up in the "war game" that it ceases to be training at all.

The commander, along with his NCOs, must make sure that troops do not use tactical training exercises as an excuse to ignore regulations and safety. They must not let soldiers become so involved in the tactical scenario that they forget that the purpose of realistic training is to produce combat-ready soldiers and equipment. Dead soldiers and wrecked equipment produce neither.

Leaders are the key to safe, realistic training. Do not allow the desire to ensure training realism to eliminate the requirement for detailed risk management. You don't need to choose between safety and realism in training. You must have both. ♦

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STOP, Look, and Listen!

USASC personnel recently investigated an accident involving a collision between a military vehicle and a civilian freight train at an unguarded railroad crossing near a major CONUS military installation. An article on this accident will appear in a future edition of *Countermeasure.*

Leaders at all levels need to know NOW that railroad crossings are hazardous locations. Many are not guarded by lights or barriers, even though traffic may justify such measures. In addition, train horns may not be audible inside of vehicles with the windows rolled up and heaters or fans on, so crews need to know that they should actually LOOK for approaching trains before crossing ANY railroad tracks. FM 21-305 requires crews to "slow down, look, and listen" at all railroad crossings. We recommend that commanders consider requiring drivers to STOP, instead of just slowing down, at all unguarded crossings.

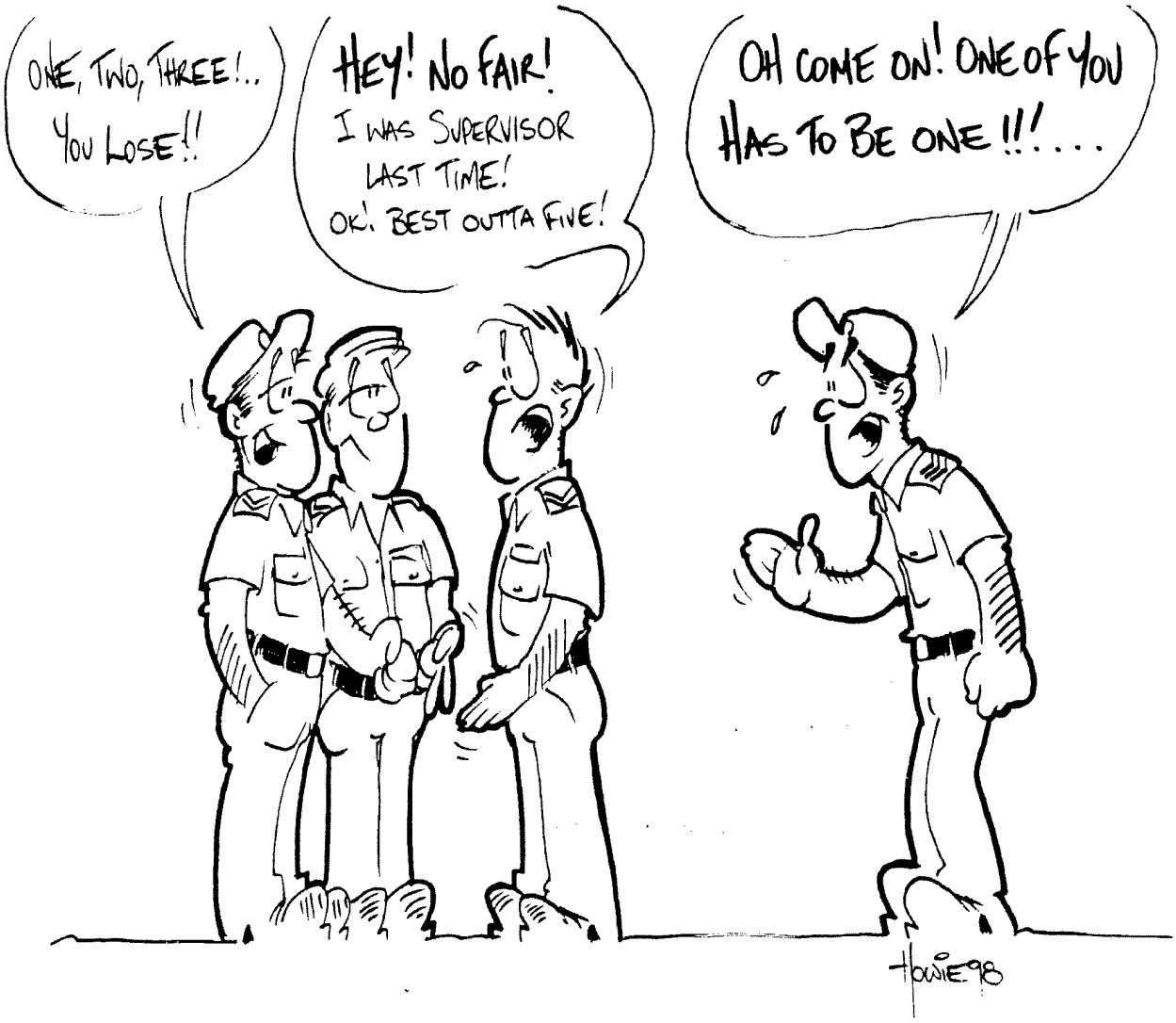
Leaders also need to include railroad crossings as part of their risk management process for unit movements. They need to identify these and other hazardous points along the route of march and develop control measures to mitigate the risks involved in crossing them. For example, a leader can position himself at the head of the group so that he can personally look for trains and make sure the way is clear before continuing across the tracks. The presence of railroad crossings should also be included as part of the pre-movement safety briefing.

Installation safety officials should, in concert with local law enforcement authorities, evaluate each railroad crossing on post, as well as the ones off post that may be frequented by military vehicles. Road and rail traffic should be evaluated at these crossings to ensure that the appropriate signs and barriers are in place, as required by local, state, and federal laws. ♦

Oops, we goofed!

In the January issue of *Countermeasure*, the headline, "Radioactive Material...Common, but DEADLY!" was a little overzealous. The title was misleading and totally out of line with the tone of the article. According to COL Robert N. Cherry, the article's author, the potential hazard to health, safety, and the environment due to any radioactive material in captured enemy equipment is very small in all normal circumstances and most certainly is NOT "deadly." We apologize for the mistake. ♦

WHO'S IN CHARGE?



We'd like to thank the artist, SGT Darrin Howe, for allowing us to print this cartoon in Countermeasure. SGT Howe works in South Australia at the Royal Australian Air Force Institute of Aviation Medicine.

Soldiers are entitled to outstanding leadership. Accidents happen when there's confusion in regards to roles and responsibilities. Before conducting any task, leaders need to ensure their soldiers are aware of who's in charge. It shouldn't be a guessing game! Soldiers depend on leaders to do their job... so they can do theirs.