



ARMY GROUND RISK-MANAGEMENT INFORMATION

# Countermeasure

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# Ground RISK *management*

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## features



on the web  
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## Recognizing Outstanding Soldiers and Civilians Is Important

I have used this forum many times to share my personal philosophy with you: *units that participate in tough, realistic training—with technically and tactically proficient leaders present—have significantly fewer accidents.* Those technically and tactically proficient leaders across our Army are doing a great job in integrating risk management to help us ensure that we have combat-ready battalions capable of going out and conducting tough, realistic training without hurting or killing soldiers before crossing the line of departure.

You have practiced risk management everyday, during every training mission. Now that we have deployed into actual combat conditions, risk management is an integral part of how each of you think and maneuver your way through situations as battlefield conditions change instantaneously.

You have repeatedly proven that risk management works and carries forward into combat. Our fellow soldiers continue to hold the torch high and execute real-world missions around the globe, fighting and winning this war on terrorism.

It is time to recognize our units and our outstanding soldiers and civilians who integrate risk management and safety into our tactical operations and garrison support missions. Their perseverance in identifying, assessing, and controlling hazards saves countless injuries and fatalities and prevents costly damage to our equipment.

Two shining examples come immediately to mind: the 101<sup>st</sup> Airborne Division, Air Assault, and Tobyhanna Army Depot. Thanks to the care and guidance of some dynamic leaders and NCOs, the 101<sup>st</sup> Airborne Division, Air Assault, has deployed 1,411 soldiers during Operation Enduring Freedom and brought them all home—alive! Over the last 9 years, Tobyhanna Army Depot, where overhaul and repair of essential warfighting equipment takes place, reduced the amount of Department of Labor compensation chargeback costs by \$8 million to cover civilian injury claims. Additionally, with great support by the chain of command and our civilian and military workforce, Tobyhanna Army Depot achieved Star Site status as a member of the Occupational Safety and Health Administration's Voluntary Protection Program.

The Chief of Staff and I would like to recognize your units, soldiers, and civilians—both at home and deployed abroad—for their efforts to incorporate risk management into plans and operations, and thus significantly enhance readiness by reducing accidental losses. We all know the loss of any soldier or damage to any piece of Army equipment seriously impacts our readiness and ultimately our ability to fight and win this war. For those units and individuals who excel in preventing this from happening, we owe them recognition for a job well done.

Review the criteria found in Army Regulation 672-74, *Army Accident Prevention Awards Program*, and nominate your units and individuals for either of the two Chief of Staff Safety Awards or any of the four Director of Army Safety Awards. Make time to do the small amount of paperwork necessary to ensure our great soldiers and civilians get the long-overdue recognition they have earned and deserve. ✪

**Train Hard, Be Safe!**  
**BG James E. Simmons**

# REPORT



**O**n the day of the accident, the platoon conducted wake-up, stand-to, and personal hygiene, ate chow, and began preparation for redeployment with the intent of redeploying to the field the following week to continue individual and team-level certification.

# ...again

The platoon leader took the opportunity to conduct driver training with select soldiers before redeployment. Four soldiers requiring the road test portion of driver training were identified and put under the control of the unit driver instructor. The soldiers departed the platoon command post to begin the road test, with four soldiers occupying the vehicle

seats and one soldier in the gunner's cupola of an M1114 up-armored HMMWV.

The first driver descended a slight grade on a gravel road leading to a low-water crossing. He then traveled through the water crossing and lost control of the vehicle. As the vehicle exited the water

**"There is a tremendous responsibility on your part to ensure the safe transport of other soldiers."**

crossing, it went into a broadside skid, rolled one and three-quarter times, and came to rest on its right side. During the accident, the soldier in the gunner's cupola sustained fatal injuries and was ejected from the vehicle, while the other four soldiers sustained minor injuries. Damage to the vehicle was extensive.

### Why did it happen?

As the driver was descending the hill before the water crossing, he was traveling in excess of 38 mph in a 25 mph speed zone. Further, the truck commander/unit driver instructor failed to ensure that the driver maintained





the 25 mph posted speed limit. The excessive speed caused the vehicle to hydroplane, and the driver was unable to regain control of the vehicle after exiting the water crossing.

### **What to do about it?**

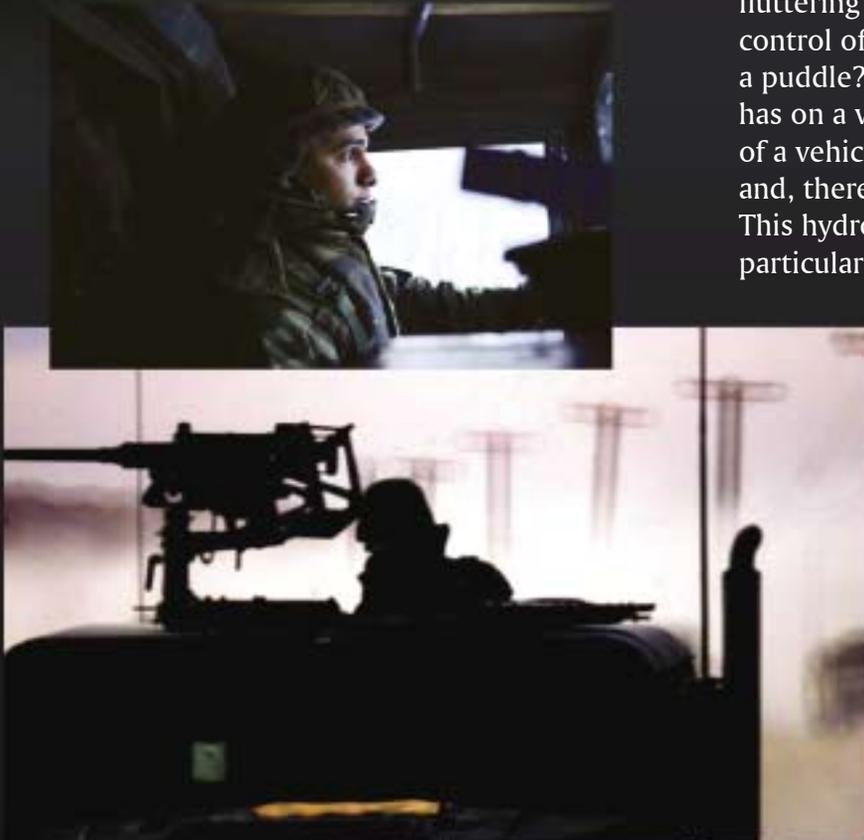
First, when you are the driver of a vehicle, you are the individual at the controls and there is a tremendous responsibility on your part to ensure the safe transport of other soldiers. Speed limits are determined and posted for good reason. Comply with posted speed limits and remember that the lives of fellow soldiers are in your hands.

Second, have you ever been driving your POV along a wet road surface and had the heart-fluttering sensation that you momentarily lost control of the vehicle while traveling through a puddle? This is the effect that hydroplaning has on a vehicle. During a hydroplane, the tires of a vehicle lose contact with the road surface and, therefore, literally skim across the water. This hydroplane effect occurred in this particular accident.

Third, the truck commander must ensure that the driver maintains the posted speed limit. The truck commander's primary responsibility is to ensure the safe transport of soldiers.

Many accidents occur as a result of overconfidence and inadequate supervision. If a leader allows noncompliance of known established standards, then he/she is fostering indiscipline in subordinates that will result in noncompliance of standards as an accepted practice. Do the right thing and develop leadership skills that will earn you the respect of your peers and subordinates alike. 🚛

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



# A Chain Reaction

A convoy consisting of two M998 HMMWVs and 15 heavy equipment transporters (HETs) loaded with 14 Abrams main battle tanks and one M88 heavy recovery vehicle was conducting a convoy operation as part of a training support mission. While descending a steep .5-mile hill, the convoy encountered dismounted soldiers along the shoulder of the road. In accordance with (IAW) the unit standing operating procedure (SOP), the vehicle operators began decelerating to 5 mph and activated their four-way flashers. The operator of the 11<sup>th</sup> HET stopped his vehicle at the base of the slope in order to avoid a rear-end collision with the 10<sup>th</sup> HET. The operators of the 12<sup>th</sup> through 15<sup>th</sup> HETs were unable to stop their vehicles and avoid a collision with the vehicles to their front. The result was a multiple-vehicle chain reaction accident involving the 11<sup>th</sup> through 15<sup>th</sup> HETs. During the accident, 15 soldiers sustained minor injuries, while damage to the equipment was extensive.

## Why did it happen?

The vehicle operators, convoy commander, and HET truck commanders did not comply with a warning sign at the crest of the slope that specified for trucks to use low gear. Further, the HET technical manual (TM) specifies that the transmission low range be used for maximum engine braking while descending steep grades. All five HETs involved in this accident were not in low range when they descended the slope. The transmission range selector on these vehicles varied anywhere from 2-5, used for normal driving, to 2-3 and 2-4, which are used for cross-country travel. As a result, some of the vehicles were traveling at approximately 30 mph while descending the slope and were unable to slow and avoid a collision. Due to overconfidence and inadequate supervision, this had become a routine method in the unit for descending the slope in the past and, therefore, fostered an accepted practice of noncompliance with the warning sign located at the crest of the slope.

## What to do about it?

Vehicle operators, convoy commanders, and truck commanders have responsibilities associated with their respective positions. Foremost is the responsibility to safely transport soldiers and equipment. Warning signs are posted for a reason. Comply with all municipal, state, and military motor regulations, as well as published TM procedures. Your noncompliance could put your life, as well as the lives of other soldiers, at risk. If you observe noncompliance, alert your supervisor, express your dissatisfaction, and do the right thing. Supervisors, remember that your actions—good, bad, right, or wrong—are observed by subordinates and will directly influence their actions. 

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# M1A2 Tank NBC Fire

Recently, the Army experienced a tragic accident involving the M1A2 Abrams main battle tank. While the crew of the M1A2 was operating the vehicle, a failure within the vehicle's nuclear, biological, chemical (NBC) main system occurred and resulted in an NBC filter fire. One soldier died and nine others received injuries as a result of the incident. While there were numerous factors involved in this accident, the following information requires immediate command attention.

The M1A2 tank provides various warnings and cautions to crewmembers in the event of an NBC system problem. These warnings and cautions are displayed visually on the commander's integrated display (CID) and the driver's integrated display (DID); additionally, an audio tone is transmitted to each crewman via the vehicular intercommunication set (VIS). The audio warning is generated from the tank's analog input module (AIM) by way of the 2W119-5 wiring harness (Y-cable), which is connected to the driver's station full-function control box (AN/VIC 3). The Y-cable must be connected to the driver's control box at the J3 connector with the driver's combat vehicle crew (CVC) cable plugged into the P4 end of the Y-cable. Failure to properly connect the 2W119-5 cable will not interfere with vehicle communications, but will result in a "NO NBC" warning tone being heard. In addition to the accident vehicle, several other M1A2 tanks at this particular installation were found to have the same incorrect connection. Commanders should ensure that each M1A2 in their command is inspected to guarantee that this system is connected correctly. The NBC system should not

be used until the inspection is complete.

If an NBC warning message (visual or audio) is given, crews should immediately press the NBC MAIN pushbutton on the CID to turn off the NBC main system. Continued use of the NBC main system will result in an NBC filter fire.

Tank crews must rehearse and commanders must re-enforce all emergency procedures as outlined in the M1A2 technical manual (TM 9-2350-288-10-1/2, with Changes). Fire evacuation drills must be understood fully by each crewmember and should be integrated into all pre-gunnery and maneuver training. It takes flawless crew coordination within the vehicle to maintain a safe operating environment. Commanders should verify that emergency evacuation procedures, as well as rollover drills, are rehearsed before gunnery or maneuver training where the NBC system will be used.

The NBC system is a critical component of the M1A2 and provides our crews with increased protection when operating in a combat environment. This system requires proper servicing and checks as outlined in the TM. Ensure that all NBC sponson bolts and hardware are properly mounted and secure at all times; failure to do so could result in the buildup of dirt and dust within the NBC sponson box, with the potential for damage to the air cycle machine (ACM) and other components. 🚗

U.S. Army Safety Center Website,  
<http://safety.army.mil/>

## HAZARDS

- NBC filters/materiel location
- Technical manual, no defined standards
- Communications connections for driver
- Confusing fire evacuation procedures

## CONTROLS

- Increased training for crews and maintainers on NBC system
- Review of the TM
- Establish a single fire evacuation drill
- Crew awareness of all NBC system functions



**RESULTS** ■ 1 fatality  
■ 9 injured

# Gasoline and Static Electricity-

## A **BAD** Combination

**S**tatic electricity can make sparks fly—literally. Produce those sparks while pumping gas in your car, and both you and your car could go up in smoke and flames!

Researchers at the Petroleum Equipment Institute (PEI), as well as several other companies, are working on a campaign to try and make the public aware of fires as a result of static electricity at gas pumps. Out of an estimated 16 to 18 billion fuelings a year in the United States, most are safe non-events that pose no danger to consumers. However, PEI has documented more than 150 incidents of static electricity related fires at fuel pumps nationwide, with more than half occurring since 1999. Even though incidents related to static electricity at retail gasoline outlets are extremely unusual, all motorists should be aware of the potential that re-entering their car creates static electricity that could cause a fire.

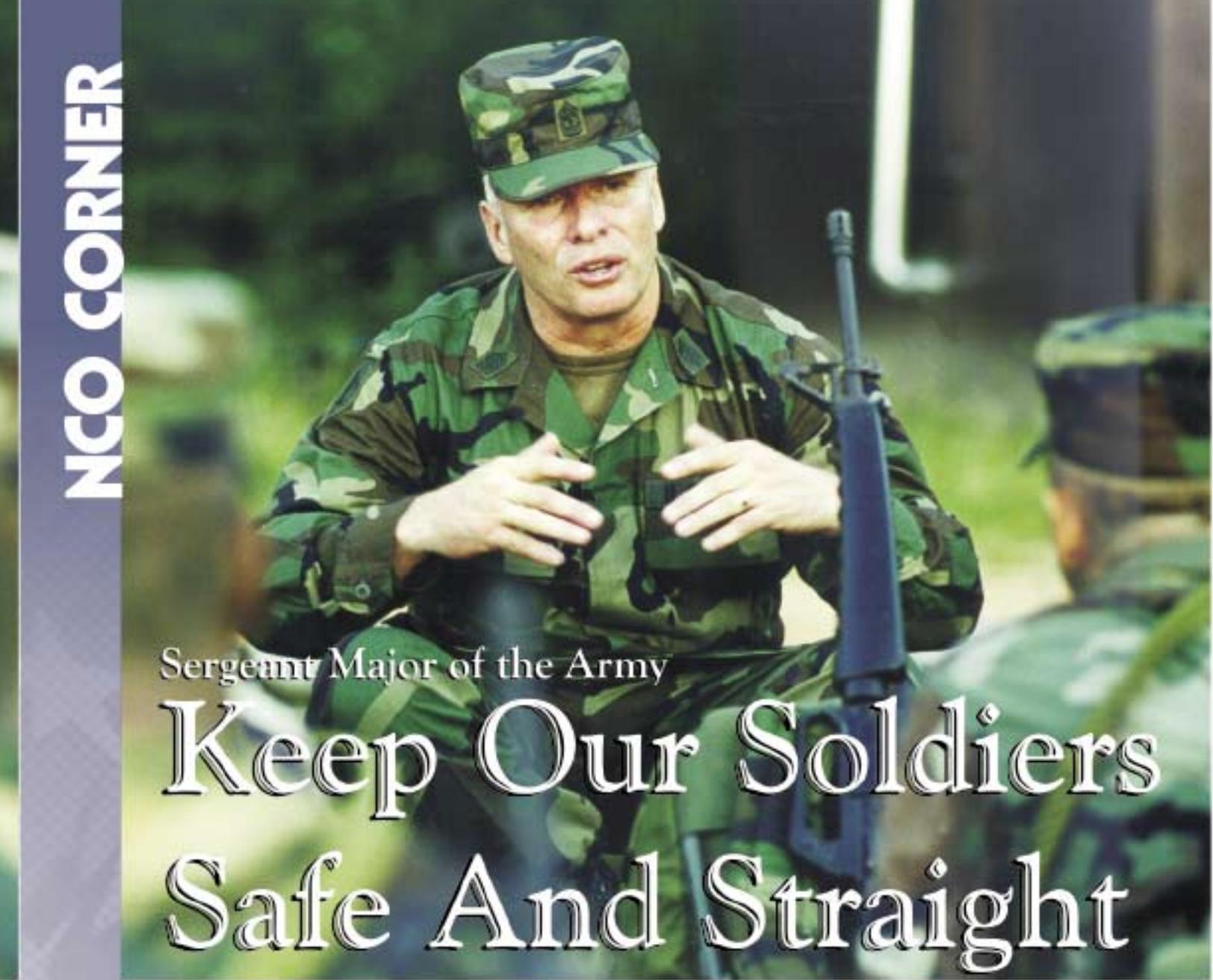
A buildup of static electricity can be caused by re-entering a vehicle during refueling, particularly in cool and dry climate conditions. If customers return to their vehicle's fill pipe when refueling is complete, the static could discharge at the fill point and cause a brief flash fire with gasoline vapors. To greatly minimize the likelihood of any buildup of static electricity, motorists should not get back into their vehicles during refueling. Customers who cannot avoid re-entering their car should always touch a metal part of the vehicle away from the fill point, such as a door, before removing the nozzle.

The following tips will help to keep you and your family safe at the gas pump year-round:

- Keep gasoline away from ignition sources such as heat, sparks, and flames.

- Do not smoke around gasoline, either at the pump or at home.
- Shut off the vehicle's engine when refueling and disable or turn off any auxiliary sources of ignition (i.e., camper/trailer heaters, cooking units, or pilot lights).
- Only store gasoline in containers with approved labels, as required by federal or state authorities. Never store gasoline in glass or unapproved containers.
- Place portable containers on the ground during filling, and keep the nozzle in contact with the container to prevent buildup and discharge of static electricity. Never fill a container in or on a vehicle.
- Manually control the nozzle valve throughout the filling process. Fill a portable container slowly to decrease the chance of static electricity buildup and minimize spilling or splattering.
- Fill containers no more than 95% full to allow for expansion.
- Place the cap tightly on the container after filling—do not use containers that do not seal properly.
- If gasoline spills on the container, make sure it has evaporated before you place the container in your vehicle.
- When transporting gasoline in a portable container, make sure it is secured to protect against tipping and sliding, and never leave it in direct sunlight or in the trunk of a car. 

Adapted from PEI and American Petroleum Institute press releases. More information can be found at [www.pei.org](http://www.pei.org) and [www.api.org](http://www.api.org).



Sergeant Major of the Army

# Keep Our Soldiers Safe And Straight

**T**he past several months have continued to be busy times for the Army, but despite this hectic pace I ask each of you to increase your focus on safety and standards. We cannot allow ourselves to be lax on either—soldiers' lives depend on both.

I am especially concerned about accidents so far this year. Our fatalities are up and more than 60 percent of accidental deaths involve

either tactical or privately owned vehicles (POVs).

We have to ensure that our soldiers, civilian employees, and family members are wearing their seatbelts, helmets, road guard vests, and other safety equipment. These simple devices save lives only if they are used. They don't help anyone if they are tucked in a closet or not wrapped over a shoulder. Risk assessments, safety briefings, spot checks, and corrections are vital to keeping our troops alive.

On a recent trip, I left a battalion run to make a soldier—in uniform and in a government vehicle—put on his seatbelt.

What was even more troubling was that there was an NCO in the passenger seat who was not enforcing standards.

This is not an anomaly; any of us could stand at an intersection at any post and spot dozens of soldiers driving by not buckled in. I need your help to ensure that first-line supervisors all the way up to post commanders continue to stress safety.

Our soldiers are our most valuable resource. We can't afford to lose them because we didn't try hard enough to ensure people put safety first. This starts with enforcing standards. As I have said before, we cannot lead from behind a desk. You can't mentor via e-mail. You have to be out front showing soldiers what "right looks like."

It's our job as NCOs to lead in every aspect. Soldiers deserve nothing less. We have outstanding leaders out there. Don't let complacency detract from those qualities. We must energize our efforts and not disregard mistakes. Deficiencies need to be corrected. Training needs to be realistic and hard. Soldiers need to be inspected. Height and weight standards must be met. Force protection must remain rigid.

I'm not talking about a revolutionary way of doing business. These are the basics. If we don't keep our soldiers safe and straight, lives will be lost. Soldiers will die in accidents that could have been prevented or because we were lax on standards. We cannot afford to pay that price. America has given us her brightest and best.

Lead. It's that simple. 

—Adapted from SMA Jack L. Tilley's Message to MACOMs/Corps, 9 August 2002

## We Can Make a Difference!

We have made significant progress in soldier safety over the past decade, resulting in an approximate 50% reduction in Class A-C accidents and an estimated 10% decrease in fatalities.

So far this year, however, we have lost approximately 177 soldiers to accidents. When compared to the same time last year, this is about a 21% increase in fatalities. POV fatalities have increased by around 15%—roughly 97 of our soldiers lost to POV accidents. Almost an entire company gone forever. We can and must do better. We owe it to our soldiers and to the families who have entrusted us with their sons and daughters.

Statistics indicate that a large percentage of POV accidents possibly could be attributed directly to both poor discipline and a lack of standards enforcement. These same statistics show that you will have a serious injury or fatality in your unit if you don't take preventive steps. This is not somebody else's squad. This is not another division—this is all of us. This problem is an Army-wide issue and we must address it at all levels.

We have too many soldiers not using seatbelts and operating motorcycles without Department of Transportation (DOT)-approved helmets, safety equipment, and reflective clothing. Stand in the parking lot of any military facility and you will see examples of this. It does not require an MP to make this correction. It is called an "on-the-spot correction," and anybody can make one.

The standard is stated expressly in Army Regulation (AR) 385-55, *Prevention of Motor Vehicle Accidents*. Military or civilian personnel, active duty or reserve component, on or off duty, or on or off post, it does not matter: we are all required to wear seatbelts when operating motor vehicles and to use the proper safety equipment when riding a motorcycle. As leaders, we must take the time and effort to make the correction. It just might save a life.

Who is primarily responsible for enforcing the standard? The Non-Commissioned Officer. Us. We are the ones who can make it happen.

Let's tighten up our shot group. We are a championship team comprised of the finest warfighters in the world. It is time to get back to basics and demonstrate it. Mistakes cost lives in our world, but we know how to prevent them, so let's do it. The Army Safety Program belongs to commanders and NCOs at all levels.

The United States Army Safety Center (USASC) provides the tools to help unit leadership develop and implement an effective risk management program for their commands. These tools are easily obtained at the USASC website at <http://safety.army.mil/home.html>.

As NCOs, we make the program work. Together we can make a difference. 

SGM David Griffith  
USASC

**"It's our  
job as  
NCOs  
to lead  
in every  
aspect."**

# Hurricanes

## Family Disaster Plan

This is the second part of a two-part series on hurricane preparedness.

**P**repare for hazards that could affect your area with a family disaster plan. Where will your family be when disaster strikes? They could be at work, school, or in the car. How will you find each other? Will you know if your children are safe? Disaster may force you to evacuate your neighborhood or confine you to your home. What would you do if basic services—water, gas, electricity, or telephones—were cut off?

### Steps to take

#### *Gather information about hazards.*

Contact your local National Weather Service office, emergency management office, or American Red Cross chapter. Find out what type of disasters could occur and how you should respond. Learn your community's warning signals and evacuation plans. Assess your risks and identify ways to make your home and property more secure.

#### *Meet with your family to create a disaster plan.*

Discuss your plan with your family. Pick two places to meet: a spot outside your home away from an emergency (such as fire), and a place away from your neighborhood in case you can't return home. Choose an out-of-state friend as your "family check-on contact" for everyone to call if the family gets separated. Discuss what you would do if advised to evacuate.

#### *Implement your plan.*

1. Post emergency telephone numbers by the telephone.

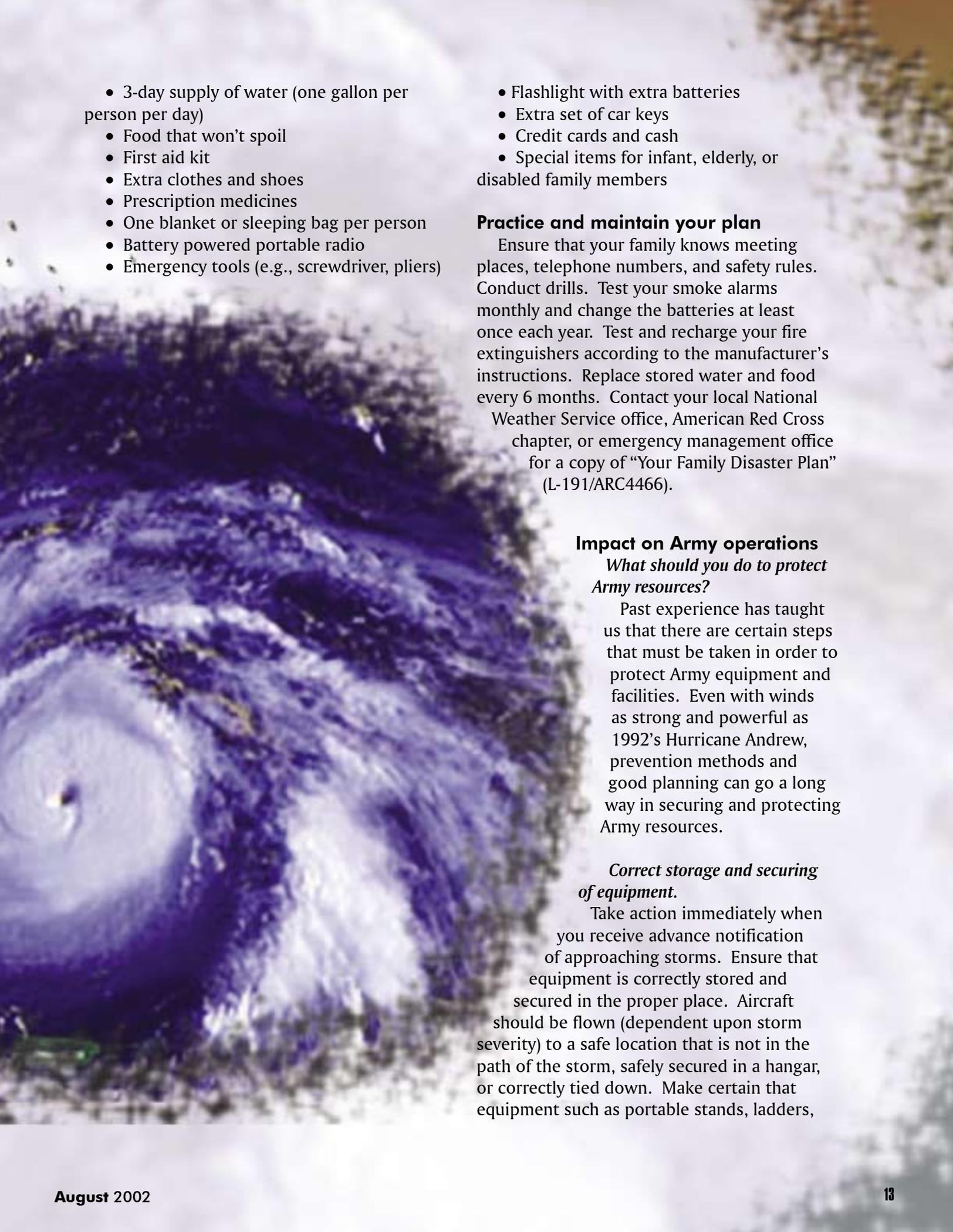
2. Install safety features such as smoke detectors and fire extinguishers in your house.

3. Inspect your home for potential hazards (items that can move, fall, break, or catch fire) and correct them.

4. Have your family learn basic safety measures such as CPR, first aid, fire extinguisher use, and water, gas, and electricity turn-off procedures.

5. Teach children how and when to call 911 or the local emergency medical services number.

6. Keep enough supplies in your home for at least 3 days. Assemble a disaster supply kit. Store supplies in sturdy, easy-to-carry containers such as backpacks or duffle bags. Keep important documents in a waterproof container. Keep a smaller disaster supply kit in your car. Items to include in a disaster supply kit include:

- 
- 3-day supply of water (one gallon per person per day)
  - Food that won't spoil
  - First aid kit
  - Extra clothes and shoes
  - Prescription medicines
  - One blanket or sleeping bag per person
  - Battery powered portable radio
  - Emergency tools (e.g., screwdriver, pliers)

- Flashlight with extra batteries
- Extra set of car keys
- Credit cards and cash
- Special items for infant, elderly, or disabled family members

### **Practice and maintain your plan**

Ensure that your family knows meeting places, telephone numbers, and safety rules. Conduct drills. Test your smoke alarms monthly and change the batteries at least once each year. Test and recharge your fire extinguishers according to the manufacturer's instructions. Replace stored water and food every 6 months. Contact your local National Weather Service office, American Red Cross chapter, or emergency management office for a copy of "Your Family Disaster Plan" (L-191/ARC4466).

### **Impact on Army operations**

#### *What should you do to protect Army resources?*

Past experience has taught us that there are certain steps that must be taken in order to protect Army equipment and facilities. Even with winds as strong and powerful as 1992's Hurricane Andrew, prevention methods and good planning can go a long way in securing and protecting Army resources.

#### *Correct storage and securing of equipment.*

Take action immediately when you receive advance notification of approaching storms. Ensure that equipment is correctly stored and secured in the proper place. Aircraft should be flown (dependent upon storm severity) to a safe location that is not in the path of the storm, safely secured in a hangar, or correctly tied down. Make certain that equipment such as portable stands, ladders,



carts, etc., is stored in the proper place. Experience has shown that these items can be picked up by the wind and literally thrown into aircraft and equipment, causing damage that otherwise would not have occurred had it been stored correctly.

The same standard applies for ground vehicles and equipment. If possible, store ground vehicles inside a building and ensure that extraneous lightweight equipment, tools, and objects are stored correctly and secured properly to prevent them from becoming flying objects.

Utilities must be shut off and facilities prepared as much as possible to prevent damage. Follow your local standing operating procedure (SOP) for disaster situations. Every installation must maintain an SOP for each natural disaster that is prevalent for that location.

When emergencies occur, people tend to abandon safety in an effort to perform

the mission. In preparing for disasters, and then in the subsequent rescue and cleanup operations, it is imperative to perform to standard. If standards do not exist, then they must be established. Require all personnel to perform to standard in all operations. Establish a command climate from the outset that promotes safety. Begin by establishing a safety network and designating safety personnel.

In rescue and cleanup operations, make certain that arriving troops are given the opportunity to rehydrate and rest *before* being assigned duties. Remind soldiers to avoid strains and lifting injuries by lifting correctly. Remind soldiers to use teamwork. Fatigue will only lead to more accidents, so adequate rest is imperative.

When issuing equipment, make absolutely certain that the person who is receiving the equipment knows how to use it safely. In cleanup operations after Hurricane Andrew and other natural disasters, equipment such as chainsaws was issued to Army personnel clearing debris. Chainsaws and other such equipment can be dangerous if used improperly and without proper instruction. Safety personnel working with the cleanup crew quickly realized the error, and that error was corrected.

Operate according to the “crawl before you walk, walk before you run” philosophy, especially in an unfamiliar environment. It is a tragedy to lose personnel in a natural disaster, but inexcusable to lose them in cleanup operations. 🚢

# Did You Know?

## 1900 Hurricane

In terms of loss of life, the greatest natural disaster to strike the U.S. was the Galveston, Tex. 1900 Hurricane. An estimated 6,000 to 8,000 individuals lost their lives as a result of this devastating storm that struck the small barrier island in early September 1900. More people died during this hurricane than all fatalities combined from the 325 tropical storms and hurricanes that have occurred since then.



The 1900 Hurricane that struck Galveston, Tex. devastated not only property within the booming town, but the population as well. An estimated 6,000 to 8,000 people lost their lives in the storm.

## Hurricane Andrew

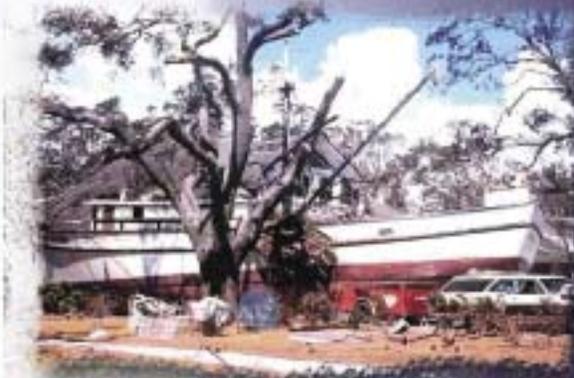
In terms of property damage, 1992's Hurricane Andrew was the costliest hurricane to make landfall in the U.S., with an estimated \$26.5 billion in damage left in its wake. One of Hurricane Andrew's biggest impacts on the economy of south Florida was the complete destruction of Homestead Air Reserve Base, which resulted in an annual loss of \$430 million in economic activity and 11,400 jobs. When Andrew hit the southern tip of Florida in August 1992, it was classified as a category 4 hurricane, with winds of up to 175 mph recorded. Twenty-three people were killed.



A damaged F-16 sits at the devastated Homestead ARB after Hurricane Andrew ripped through southern Florida in August 1992.

## Hurricane Camille

Category 5 hurricanes are fortunately rare, with only two striking the U.S. during the 20th century. The first, the 1935 Florida Keys Labor Day Hurricane, left 423 dead. The second category 5 storm, Hurricane Camille, made landfall on the Mississippi coast on 17 August 1969, bringing with it maximum sustained winds of 190 mph and gusts of up to 220 mph. The death toll from Camille was 256, with 143 killed along the Gulf Coast and an additional 113 in the Appalachians, where its remnants caused massive flooding in the days following landfall.



Hurricane Camille's 25-foot storm surge and 200 mph winds brought death and destruction to Mississippi's Gulf Coast.

# Protect Yourself Against

# WEST NILE VIRUS

**I**n recent months, a new outbreak of West Nile Virus (WNV), a mosquito-borne illness, has been reported throughout the United States. Department of Defense (DoD) installations have not been immune to WNV—infected mosquitoes have been found at Forts Myer, McNair, and McPherson, the Pentagon, and Andrews Air Force Base. Fortunately, no human infections have been reported among DoD personnel or their families at those or other installations; however, all military personnel should take the necessary precautions to protect themselves and their families from the potentially deadly illness.

Before an outbreak in New York City in August 1999, no cases of WNV had ever been documented in the Western Hemisphere. During that time, 62 human cases, including 7 deaths, were confirmed in the New York area. The following year, 21 cases, including 2 deaths, were reported in 3 states. As of September 2001, WNV had been confirmed in 22 states and Washington, D.C. At the present time, at least 36 confirmed cases of WNV and WNV-related deaths have been reported in 33 states as far north as North Dakota, south to Texas, east to Florida, and north to the New England states, with Mississippi and Louisiana being hit hardest. In addition to humans, WNV has been found in a wide variety of North American species, including birds and horses. Although WNV occurs primarily in late summer and early fall, it can be transmitted year-round in southern climates.

WNV is spread to humans through the bite of infected mosquitoes, who become infected by feeding on birds that carry the disease. Although there is no evidence that a human can get WNV by handling dead birds or infected horses, gloves should always be worn when handling dead animals, and double-plastic bags should be used for their disposal.

If you suspect your dog, cat, horse, or other pet has been infected with WNV, contact your veterinarian immediately. WNV is not transmitted from one person to another.

A person's chance of becoming seriously ill from any one mosquito bite is extremely small (less than 1% of humans bitten by an infected mosquito develop severe symptoms). However, the flu-like symptoms of WNV—fever, headache, and body ache—should not be ignored. In a small number of cases, particularly among the elderly, the disease is much more serious and can cause encephalitis, or an inflammation of the brain. Although there is no specific treatment for WNV, its symptoms and complications can be managed and treated.

To reduce your and your family's risk of becoming infected with WNV, follow these tips:

- Stay indoors at dawn, dusk, and early evening (hours when mosquitoes are most active).
- Wear a long-sleeved shirt, long pants, and socks when you are outdoors, and wear loose-fitting clothing to prevent bites through thin fabrics.
- Use Environmental Protection Agency (EPA)-approved insect repellents. For your skin, use a product that contains 20% to 50% DEET, and apply the product sparingly and evenly to exposed skin, avoiding eyes, lips, and broken or irritated skin. Use DEET sparingly on children and don't apply the product to their hands. Always wash the DEET-based product off when your exposure to mosquitoes ends.
- For your clothing, use an insect repellent spray that contains either DEET or permethrin (available commercially as a 0.5% spray formulation). Permethrin should be used only on clothing, never on exposed skin.
- Soldiers should utilize the DoD Insect Repellent System for optimum protection

against mosquito bites and WNV. In addition to proper wear of the battle dress uniform (BDUs), which provides a physical barrier to insects, this system includes the concurrent use of both skin and clothing repellents. The standard military skin repellent is the 33% DEET long-acting formulation (one application lasts up to 12 hours) (NSN 6840-01-284-3982). There are two standard military clothing repellents to choose from: an aerosol 0.5% permethrin spay (one application withstands five to six washes) (NSN 6840-01-278-1336); or a 40% permethrin impregnation kit (one application lasts the life of the uniform) (NSN 6840-01-345-0237).

- During field training exercises, the proper use of bed nets and repellents should be enforced. Ensure bed nets are intact, without holes or rips.

- Eliminate mosquito breeding sites by emptying water from birdbaths, old tires, and other outdoor containers or debris.

- Empty and refresh pet water dishes, watering troughs, and birdbaths at least once a week.

- Ensure that garbage cans and receptacles have tight-fitting lids.

- Clean debris from rain gutters and remove any standing water under or around structures or on flat roofs.

- Check around faucets and air conditioner units and repair leaks or puddles that remain for several days.



- If you have a swimming pool or spa, keep it chlorinated and, when not in use, cover. Empty children's wading pools immediately after use.

- Store small boats upside down and cover large boats. Make sure the drain plug is removed so standing water can drain from the boat.

- Stock ornamental pools with "mosquito fish" (contact your local health department or mosquito abatement district for information on these fish).

- Irrigate lawns and gardens carefully to prevent standing water.

- Adult mosquitoes rest on weeds and other vegetation. Remove brushy areas from around structures and mow your lawn regularly.

- Ensure that door and window screens do not have holes.

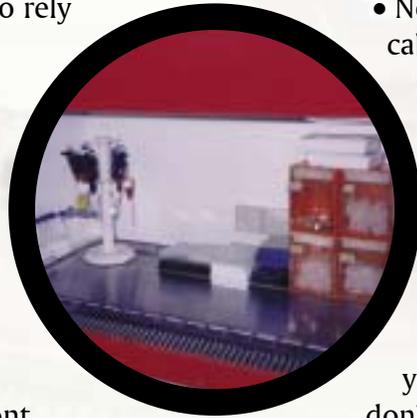
- Vitamin B, ultrasonic devices, and bug "zappers" are NOT effective in preventing mosquito bites.

More information on WNV can be found at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm> and <http://chppm-www.apgea.army.mil/westnilevirus/>.

**Adapted from the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Entomological Sciences Program September 2001 bulletin**

# BSC The "S" Stands for Safety

**F**or those workers who rely on the protection of a biological safety cabinet (BSC), does the interior of your cabinet resemble this photo? If so, then a review of some basic work practices is in order. First, a BSC is not a glove box. It is not totally enclosed. It has an open front and is designed to protect the product and the environment using HEPA (high-efficiency particulate air)-filtered air, while inward airflow protects the worker. When operating according to the manufacturer's specifications and used correctly, BSCs greatly reduce the chance of your product being contaminated and, more importantly, you being contaminated. Before you begin work in a BSC, consider the following safe work practices:



- Contact your industrial hygienist or safety officer to ensure you have the proper cabinet for the type of work you are doing. Class II BSCs provide worker, product, and environmental protection, while Class I BSCs only protect the worker and the environment—not the product.

- Ensure your BSC is certified annually or following maintenance or relocation of the cabinet.

- Leave the cabinet blower running at all times. If your lab standing operating procedure (SOP) does not allow this, then allow the blower to run approximately 3 to 5 minutes before beginning work to purge the air that is in the cabinet. Likewise, allow the blower to run 3 to 5 minutes following work.

- Never use volatiles or an open flame in the cabinet, especially inside the cabinets, which recirculate the majority of air. Otherwise, dangerous gases or vapors could accumulate in the cabinet, leading to an explosion hazard. An open flame could also damage the HEPA filter.

- Immediately after entering the lab, turn off the ultraviolet (UV) light if your cabinet is equipped with one. Also, don't rely on the UV light for disinfection. The UV light must be operating at the correct wavelength in order to have germicidal properties. Just because you see a blue light does not mean it is operating at the correct wavelength. Dust and dirt on the UV light can minimize the effects of UV germicidal properties.

- Before beginning work and before beginning a new procedure, always disinfect the interior surfaces of the cabinet. Use the proper disinfectant for the microorganism you are targeting. Ethanol may not always be the best choice.

- Place only items needed for a particular procedure in the cabinet. Placing extraneous items inside the cabinet increases the chances of product contamination and could disrupt airflow and possibly contaminate you, the worker.

- Minimize traffic around the cabinet while you are working. Even minor movement can disturb greatly the airflow in the cabinet, increasing the chances of you or your product becoming contaminated. 🐾

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## ACV

### Class A

- Reported explosion and fire in an M1A1, resulting in fatal injuries to two crewmembers.



## AMV

### Class A

- Forklift overturned while downloading an ammunition pallet from a commercial carrier, fatally injuring a Department of the Army Civilian.

- HMMWV departed the roadway for unknown reasons and overturned, ejecting the driver. The driver died of his injuries 3 days later.

- A 5-ton truck overturned on a downgrade, resulting in three fatalities.

### Class B

- While performing ground guide activities for a crane, a soldier caught his hand between the crane deck plate and a piece of equipment, resulting in amputation of his finger.



## Personnel Injury

### Class A

- Soldier died while conducting the Land Navigation Course.

- Soldier was struck and killed by vehicle while walking home from a local tavern.

- Soldier was participating in a recreational fun run when he collapsed. Soldier died the following day.

- Soldier collapsed during diagnostic APFT and died 8 days later.

- Soldier collapsed following organized PT and died at the local medical facility.

- Soldier collapsed during cool-down lap following a 1-mile diagnostic PT run and was pronounced dead at the scene.

- Soldier collapsed during a PT run and subsequently died.

- Soldier collapsed during cool-down lap after PT test. Attempts to revive soldier were unsuccessful.

- Soldier had been swimming with fellow soldiers when he was observed to be struggling in the water. Soldier was retrieved from the pool after several attempts and was pronounced dead at the local medical facility.

- Soldier drowned while swimming in a lake.



## POV

### Class A

- Soldier died when his POV was struck from behind by a POV driven by another soldier.

- Soldier sustained fatal injuries when his motorcycle was struck by another vehicle.

- Soldier pulled into roadway and was broadsided by a truck carrying steel beams. The driver was ejected from his POV and covered by the steel beam cargo, resulting in fatal injuries.

- A soldier's POV rolled several times, resulting in fatal injuries to one soldier and critical injuries to another.

- Soldier rolled his POV and was ejected, resulting in fatal injuries.

### Class B

- Soldier's POV struck a median and overturned, resulting in amputation of the driver's leg. 



**I**t takes more than tanks and guns and planes to win.  
It takes more than masses of men.  
It takes more than heroism, more than self-sacrifice,  
more than leadership.  
Modern war requires trained minds.  
The days of unthinking masses of manpower are over.  
Individual intelligence, individual understanding,  
and individual initiative in all ranks will be powerful  
weapons in our ultimate success.

General Brehon Somervell, Public Addresses, 1941-1942

