

ARMY GROUND RISK-MANAGEMENT PUBLICATION

COUNTERMEASURE

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JUNE 1999

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Choose Safety First!

We have many reasons to celebrate this Fourth of July, but the most important one is our freedom. As American soldiers, we have fought bravely to preserve our right to life, liberty, and the pursuit of happiness for over 200 years. And today, we continue to put our lives on the line for our nation—for our freedom. Because of these sacrifices, we have the freedom to make choices.

As we celebrate our nation's birthday—let's remember to keep our mindset on safety and make it one of our choices. Do whatever it takes to prevent accidents. If we're going to drink, we must not drive. Take a cab or get a ride with a designated driver. If we're on the water, we must wear a personal flotation device or stay out. Have fun this Fourth of July, but think before you act. Yes, we have the freedom to make choices. Which shall we choose? Choose safety first!

Happy Birthday, America!

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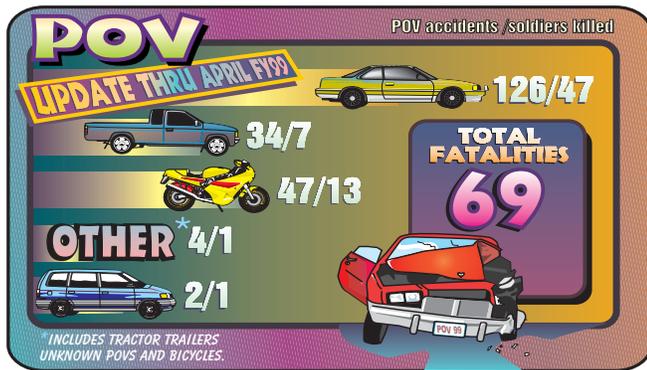
COUNTERMEASURE

The Official Safety Magazine for Army Ground Risk-Management

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Charles M. Burke
Brigadier General, U.S. Army
Commanding Officer

From The Editor

Summer Safety

Summer is finally here. With extended daylight hours and warmer temperatures, we will spend more time traveling and participating in outdoor activities. Whether we're driving cross-country, traveling to the beach, or visiting friends locally, take a few minutes to plan ahead. Remember there will be more vehicles on the road than normal. If you add fast-changing weather conditions, congested roadways, fatigue, impatience, and drunk and/or speeding drivers—you have a recipe for an accident waiting to happen.

Did you know that more Americans are killed in accidents during the period of June through August than in any other quarter of the year? Statistics also show an increased likelihood that some soldiers will be injured or killed in auto accidents, heat stress injuries, burns from fireworks or barbecuing, or drowning while boating and swimming.

These accidents are preventable. Prevention starts with a strong safety program—one with assertive leadership and command intervention. Supervisors must maintain an effective safety campaign throughout the summer and brief the following information as many times as necessary.

Traveling

Soldiers must be counseled on safe driving procedures. Those who plan to travel should ensure vehicles are prepared for the trip. Before 4-day weekends, recommend the chain of command perform safety checks on soldiers' vehicles. These checks are vital to the safety of our soldiers. Don't just go through the motions—really look those vehicles over.

- **Speed.** Observe the posted speed limits. Decrease/adjust speed based on conditions (weather/traffic). Don't rush. Stop at a rest area and call ahead—it's best to arrive alive. Speed is the number one killer of our soldiers.

- **Seatbelts.** Seatbelts save lives. Why is it that there appears to be a stubborn resistance to the wearing of seatbelts? It is a factor in most of our fatalities—on and off duty.

- **Fatigue.** Get plenty of rest before the trip.

Stop for rest breaks every hour or every 100 miles.

- **Alcohol.** Do not drive impaired! Supervisors should ensure all soldiers are aware of the consequences of drinking and driving, such as Article 15 or possible court martial and possible discharge action—not to mention the risk of injuring or killing oneself, loved ones or others. Instruct soldiers to plan ahead and provide a designated driver. Establish and maintain a list of designated drivers and taxi phone numbers. Soldiers, keep the list handy and use it!!

Heat stress

Heat stress injuries can range from painful heat cramps to a deadly heat stroke. Know the early signs of heat stress, such as dizziness, weakness, and profuse perspiration. To prevent heat stress injuries, drink plenty of water before, during, and after activity. Go to the nearest shaded or cool place and sit or lie down. If symptoms are not relieved in a few minutes, seek medical attention immediately. (See April 1999 issue of *Countermeasure* for more information on heat stress).

Water activities

Whether it is a dip in the backyard pool or a swim in the ocean, always follow the rules on water safety.

- **Swimming.** Wear a personal flotation device or life jacket. Before diving, always check for obstructions as well as the depth of the water. If there's any doubt, do not dive. Never enter the water alone unless a lifeguard is on duty; use the buddy system. Swim only in designated areas.
- **Boating.** Inspect boating equipment. Have life jackets for everyone and ensure they know how to use them. Never boat alone. Don't overload the boat. Don't speed. Avoid alcohol in all water activities. (See April 1999 issue of

Countermeasure for more information on boating/swimming tips.)

Fireworks

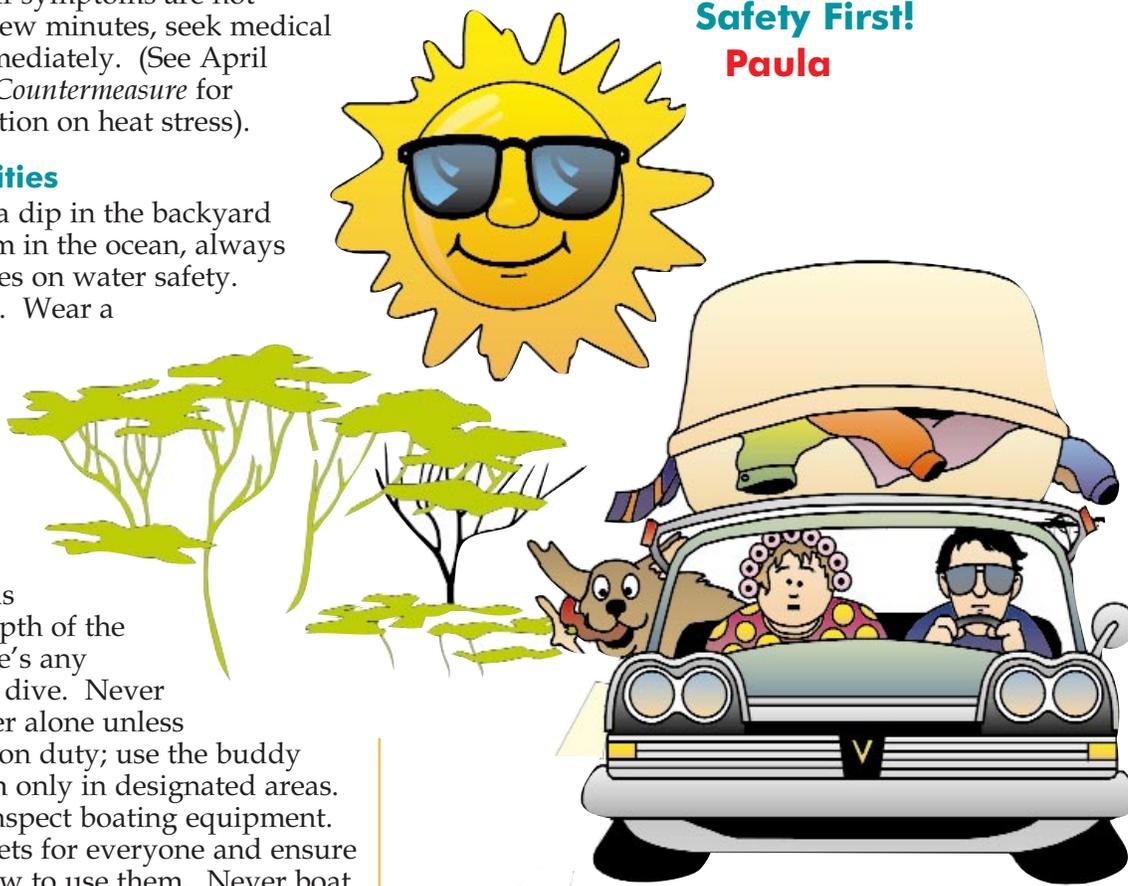
Play it safe and let the experts at a public display set off the fireworks.

Barbecuing

Keep the barbecue grill a safe distance from the house or flammable materials. Keep children and pets away from grill. Never start the grill with gasoline. Never leave the fire unattended. (See additional information on barbecuing on page 8 in this issue.)

Be prepared for the hazards of summer. Don't let safety be an afterthought when planning a vacation or that weekend getaway. Commit to making this summer free of injuries and needless tragedies. Take a few minutes to consider your safety as well as your family's. It can mean the difference between life and death. Have a safe summer. ♦

Safety First!
Paula



Munitions Safety

“Hey, Look What I Found!”

In FY98, 39 accidents involving ammunition and explosives were reported to the Army Safety Center. The majority of them were caused by either tampering or improper handling. For example:

- An explosive ordnance disposal (EOD) soldier left the EOD team and went off alone looking at ordnance piles. He picked up a grenade fuse not knowing that it was not expended. Consequently, it detonated when he picked it up resulting in severe burns on his hands and body. **CONTROLS:** All personnel must be briefed on the hazards of unexploded ordnance (UXO).

- Prior to a tactical training clean-up detail, all personnel were briefed not to handle any UXO and that if they found

any, they were to mark its location with Engineer tape or whatever was available. Two lieutenants from the group came across a UXO, but did not have Engineer tape, so they marked it with twigs and branches. Later, a group of soldiers came across the simulator. One of the soldiers picked up the simulator and indicated that there was no cap on it. All of a sudden, the ordnance flashed, severely burning the soldier's hands. **CONTROLS:** Chain of command must ensure that all material is available to properly mark UXO. They must also ensure soldiers are supervised at the proper levels.

- A specialist was left in a battle position to guard equipment when his squad was split into two sections in

order to set up an anti-armor ambush. While waiting, the specialist decided to load his M47 weapon system so he would be prepared to protect himself from armor threats. He opened the breech of the M47 with his bare hand, then proceeded to place an antitank weapon effects simulator system (ATWESS) cartridge into the breech. At this point, the firing pin had failed to disengage to the safe position and it detonated the ATWESS as



Follow the required procedures in technical manuals and Army regulations for handling and disposal of explosives such as these shown above.

pressure was applied to close the breech. The specialist received first and second degree burns to the majority of his right hand from the explosion. **CONTROLS:** Ensure leaders are enforcing the pyrotechnic standard operating procedures (SOPs) concerning explosive devices and protective clothing. Retrain all subordinate personnel in ATWESS weapon loading, firing, and unloading procedures. Ensure all ATWESS weapons systems are inspected by user and test-fired prior to mission. Supervise subordinates, especially when operating weapon systems.

Ammunition and explosives are inherently hazardous and dangerous. After handling ammo and explosives for long periods, soldiers sometimes assume the mistaken attitude that munitions are not really all that dangerous, and they begin taking shortcuts. **DON'T!**

Procedures for use, handling, and disposal are in technical manuals and Army regulations, but they are not effective unless they are followed. Training and education are the keys to safe handling of explosives.

Unit leaders must teach soldiers that ammo and explosives are dangerous and that they must use proper handling techniques and strictly follow established procedures.

Commanders must emphasize that explosives are handled under the direct supervision of trained personnel and that duds are handled only by EOD personnel.

Explosive ordnance disposal personnel can provide services other than getting rid of duds. They will, upon request, provide explosives safety and ammunition recognition classes to military and civilian authorities. Commanders should coordinate with their nearest EOD unit to integrate explosives safety training into the unit training program.

Where ammunition and explosives are concerned, there is a constant requirement for caution. This safety responsibility begins with receipt and extends throughout the life of munitions – including storage, transportation, handling, use, and disposal. For more information, consult FM 21-16, *Unexploded Ordnance (UXO) Procedures*. ♦

POC: CW3 Juan Convers, Ground Systems and Accident Investigation Division, USASC, DSN 558-2966 (334-255-2966), conversj@safety-emh1.army.mil

Explosives

Ammunition and explosives are Army tools that require constant caution. You must always handle them properly and strictly follow established procedures.

Most soldiers are exposed to explosives only during field training. Because you may not get to use them very often, you may be curious about them. But curiosity can kill where explosives and duds are concerned.

Simulators

Many soldiers have been killed or badly injured by simulators. Most of the victims treated the devices as toys—as “practice” rather than “real” explosives. Never make the mistake of thinking that “simulators” are toys. They’re not. They’re explosives that can kill you just as dead as the “real thing.” In fact, simulators contain more sensitive explosives than other ammo, so they will ignite or explode more quickly.

Curiosity can kill where explosives and duds are concerned.



Transportation of Explosives by Truck

Safely transporting explosives and ammunition can be a challenge. Materials can be transported by land, air, and sea. Each mode of transport has a list of advantages as well as a list of problems. *Countermeasure* will discuss only the method of transporting explosives by land.

Personnel securing ammunition while performing cargo operations must contend with many factors including the weight and size of objects, the strength of material used for securing cargo to the floor or to other cargo, and momentum. One of Newton's laws of physics explains that objects in motion continue to stay in motion unless acted upon by an external force.

Guidelines for dealing with force and momentum are based on physics, common sense, and the U.S. Army AMC 19-48 series drawing, *Index of U.S. Army Unitization, Storage and Outloading Drawings for Ammunition and Components* (Apr 98). Detail procedures are listed for moving every configuration of ammunition load by motor vehicle transportation in USAAMC 19-48 series. By following the proper procedures, soldiers will be safe and the mission will be completed in a safe and timely manner.

Personnel involved in the loading of explosives and ammunition for land transportation must be knowledgeable of blocking, bracing, and tie-down procedures. Information on blocking and bracing can be found in the following directives: 49 Code of Federal Regulations; DA Pam 385-64, 28 Nov 97,

Ammunition and Explosives Safety Standards, and TM 9-1300-200, Oct 69, *Ammunition, General*.

These requirements assure that:

- Cargo is loaded on the center-of-balance of semi-trailers and other cargo vehicles and then secured with blocking and tie-downs as appropriate.

- Movement of the load is minimized by using materials strong enough to withstand the abuse received from rough roads and sudden stops. To ensure that loads are safe,

USATCES performs test loads. The vehicle is loaded with inert ammo and driven over a course of railroad ties, unimproved roads, and over a washboard course designed to bounce materials out of position. The vehicle is then

subjected to panic stops.

- Cargo is retained

within the walls of the vehicle or tied to the truck bed. The cargo should not extend outside of the bed.

Defense Ammunition Center, Transportation Engineering Division, provides drawings depicting acceptable configurations for blocking and bracing military ammunition for motorized land transportation. The index of the drawings may be ordered at <http://www.dac.army.mil/det/dapam/toc.html> or by contacting the Director, Defense Ammunition Center, ATTN: SIOAC-DET, Savanna, IL 61074-9639, DSN 585-8927 (815-273-8927), sioacdet@dac-emh1.army.mil ♦

POC: Mr. Robert Durand, USATCES, Savanna, IL, DSN 956-8397 (918-420-8397), Fax DSN 956-8503



Protect Your Eyes From Fireworks

Because the anniversary of the founding of the United States has been traditionally celebrated with explosives of some sort, Countermeasure wants to remind you to protect your eyes from injury this Fourth of July.

How hazardous are fireworks? The U.S. Consumer Product Safety Commission estimates that more than 11,000 people were treated for fireworks-related injuries in 1995 and more than 7,600 in 1996. According to the American Academy of Ophthalmology, fireworks cause over 2,000 eye injuries each year. The average age of those injured is 13 years.

What are the most dangerous fireworks? It isn't the big items that cause the most injuries to the eye. The firework that produces the most frequent eye injuries is the bottle rocket. Many of these injuries result in permanent vision loss or even loss of an eye. Sparklers are second on the eye injury list. Sparklers account for three-quarters of all fireworks injuries to children under age 5. The firecracker ranks high even though they are banned in most states. Severe injury can result from use of these devices.

How can I protect my family from fireworks-related eye injury? The best way to view fireworks is by watching displays produced by professionals from a safe distance. If you decide to use fireworks personally or allow your family to use them, here are some suggestions that will help prevent injury:

- Use only fireworks legal in your community.
- Both the people lighting fireworks and those

watching should wear safety glasses with side shields or goggles. Inexpensive (\$3-\$10) industrial safety eyewear meeting national safety standards are available

at most lumber or hardware stores. You can also use this safety eyewear the rest of the year when involved in other eye hazardous activities.

- Do not allow young children to handle or light fireworks.
- Never put fireworks in containers. An explosion may propel debris into the eye or other body areas.

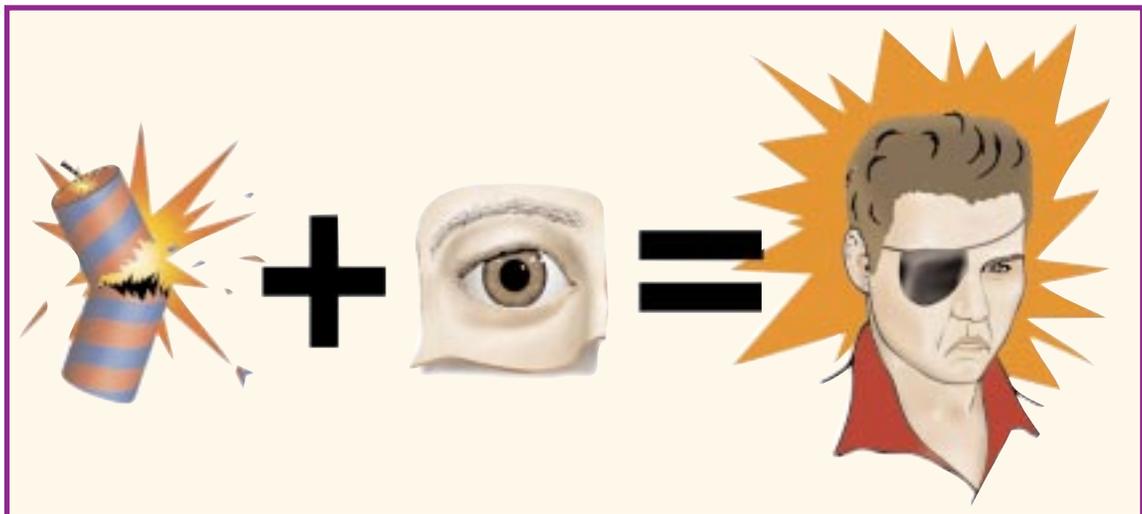
■ Make sure a bucket of water or hose is available to douse fireworks that do not ignite properly or stop fires started by the fireworks.

What should I do if an eye injury occurs?

Injury from explosions may cause damage to the inside of the eye even though damage to the outside of the eye does not appear to be too severe. Should an eye injury occur, do not put any pressure on the eye because the eye may be punctured. Protect the injured eye from pressure and call an ambulance or take the injured individual to an eye care provider or emergency room immediately.

The founders of this great nation planned the future with vision, plan ahead for your own clear vision by celebrating this Fourth of July safely. ♦

—Adapted from the U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD, DSN 584-2088 (410-671-2088 or 1-800-222-9698), Fax 410-671-4784



Don't Get Burned, Do It Right!

Fourth of July – motherhood, apple pie, and baseball. Okay, it's time to barbecue our favorite steaks, burgers, chicken, shish kebabs, and hotdogs. Smell that aroma of charcoal on the grill! Meat sizzling over the glowing coals!

It never fails, some inspired backyard chef will get the idea he can speed up the fire preparation by dousing an already-burning pile of briquettes with “just one more” squirt of charcoal lighter fluid. If he's fast, he might even get back before the fire flares up in his direction. If he's not, he might find himself minus his mustache, his eyebrows – or worse.

Never, ever pour charcoal lighter fluid on burning coals or an open flame to get the fire burning more quickly! Once the coals start turning white, they are ignited. That extra drenching with lighter fluid is just too dangerous.

Along with charcoal grills, many

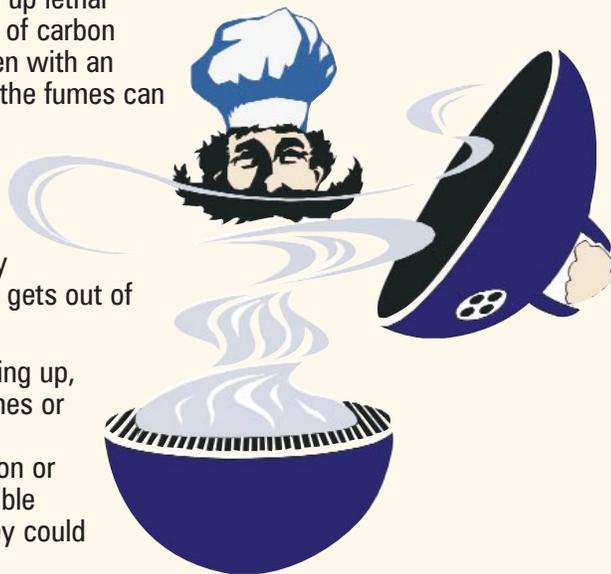
people now own gas grills. Some gas grills come equipped with a propane tank. Tanks can be filled at filling stations, any propane gas company, and RV dealerships. States now require a safety cap to be installed on gas grill propane tanks when transported. Without the safety cap, you can no longer have your tank refilled. One of the stories behind the safety cap was a mother who had a propane tank filled and had it placed in the back seat of her car along with her small child. The child had somehow managed to open the valve filling the car with gas. At some point in time, the mother decided to light a cigarette, well – you can figure out what happened!!!!

The point of this message is directed to those individuals who try to light the gas grill with a match. Most gas grills use a spark ignitor to ignite the gas, but we know how well they sometimes work. After a while, the ignitor stops working and we eventually have to go to the old standby, the match. The problem arises when we have problems getting the match to work. We close the lid on the grill, turn the gas knob on, then begin to strike the match against the side of the match box. After three unsuccessful attempts to get a match to work, one lights. We are proud of our success and place the match inside the grill not realizing that the gas has been on for 5 minutes. . .my how time flies! Of course, we wake up later in the hospital with no hair, no face, and no brains to find out you not only blew up your grill, but you burned down your house along with the whole neighborhood.

Be smart when cooking out. If you're in too big a hurry for your food, leave the barbecuing for those with patience and do your cooking in a microwave. ♦

BBQ Tips:

- Never move grill into the garage or other closed area because coals can build up lethal concentrations of carbon monoxide. Even with an open window, the fumes can kill you.
- Always have a fire extinguisher or a hose ready in case the fire gets out of control.
- When cleaning up, never trash ashes or briquettes in a cardboard carton or other combustible container—they could ignite.



The Dangers of Speed

For some, it's exhilarating to zip down the open road as fast as possible. Others think it's necessary because of poor time management before the trip began. For still others, speeding is part of a mindset that sees driving as a race with other vehicles for domination of the road.

BUT HISTORY SHOWS THAT SPEEDING IS DANGEROUS: When speed limits were cut to 55 in the 1970s, traffic deaths dropped off sharply. They rose again when the speed limit on the open road was raised back to 65. When you speed, you put others on the road in danger as well as yourself. Why is speed so dangerous? Let's look at a few facts.

SPEED AND STOPPING

DISTANCE: Remember the formula for stopping distance: Reaction distance + braking distance = stopping distance. Reaction time—the time it takes your foot to move from the accelerator to the brake—is generally the same at any speed, but the distance you cover during that reaction time depends on your speed. The faster you're going, the further you'll travel before coming to a stop. At 55 miles per hour, your combined reaction distance and braking distance add up to around 200 feet. At 65 miles per hour, it can take 300 feet—half again as far—to stop even under ideal traffic conditions. Failure to stop in time is one of the major causes of fatal collisions on the road.

SPEED AND IMPACT FORCE:

Another reason not to speed is that speed translates into force in a collision. The force of a collision at a mere 30 miles per hour is equivalent to the force of jumping off a 10-story building. Bad enough, but survivable if you're wearing a seatbelt. At 60 miles per hour, this force is quadrupled. Statistics show that the risk of being killed in a collision is twice as great at 65 miles per hour as it is at 55 miles per hour. At 75 miles per hour, the risk is tripled.

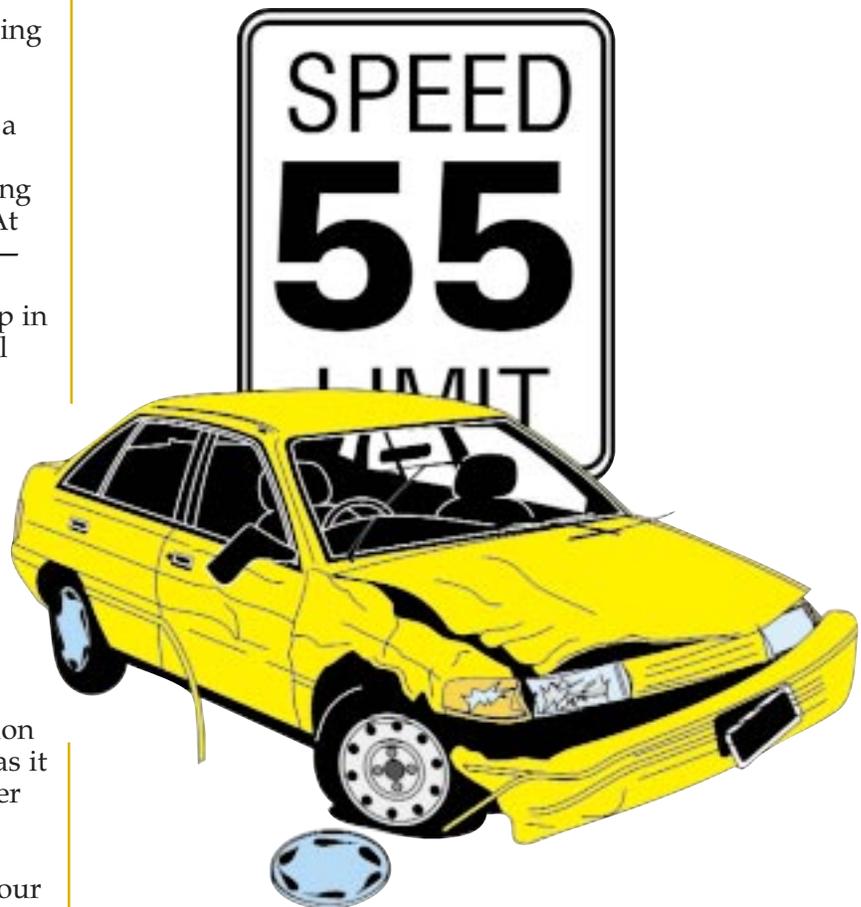
SPEED AND COST: Speed is not only dangerous, it's costly—both to your

wallet and to the environment. Studies show that steady travel at 55 miles per hour can yield a savings of up to 38 percent in fuel costs and 40 percent on overall maintenance. And these days with our concerns about pollution, it makes environmental sense to use fuel as efficiently as possible.

GIVE YOURSELF TIME TO SLOW

DOWN: Many people end up speeding because the time they allow for their trip is the time the trip takes under ideal conditions with no traffic. Why not start adding extra time to all your routine trips, so you don't get caught behind schedule? It can be hard to stick to the speed limit when everyone else is speeding, but it's not impossible. You can make the decision to behave safely and lawfully, even if others don't. ♦

POC: Al Brown, Traffic Safety Office, USASC, DSN 558-2046 (334-255-2046), brownj@safety-emh1.army.mil



Real People/Real Accidents

This month, we want to share some recent accident reports to remind you that an accident takes only a second to happen. This goes to show you that we need to always, I repeat, a-l-w-a-y-s, think safety.

■ A 25-year-old specialist died after a 3-story fall from his post barracks. The soldier fell over a metal guardrail while trying to spit farther than another soldier. To gain momentum, he hurled himself forward. Unfortunately, he misjudged the force of the jump and went over the balcony, leaving him balancing his body weight on his arms. His handgrip was not strong enough to hold his body weight and he fell approximately 24 feet to the concrete walkway below, sustaining fatal head injuries. The soldier's blood alcohol content was estimated to be between .13 and .15 at the time of the accident. His judgment and reaction time were impaired because of the effects of the alcohol he had consumed during the two hours prior to the accident.

■ A soldier was practicing ramp jumps on a dirt bike course. Apparently, the rider who preceded him on the ramp was involved in a crash in the landing area; however, the soldier either was not aware of this situation or thought he could avoid it. Upon clearing the ramp, the soldier realized that his landing area was obstructed, and he too crashed upon touchdown. The dazed soldier sustained a right femur fracture and was hospitalized with complications for a

period of approximately 14 days.

■ A sergeant and two other soldiers were rock climbing in an unauthorized area when they were asked to leave by a quarry foreman. In his haste to leave, one of the soldiers attempted to jump from one rock to another and lost his balance.

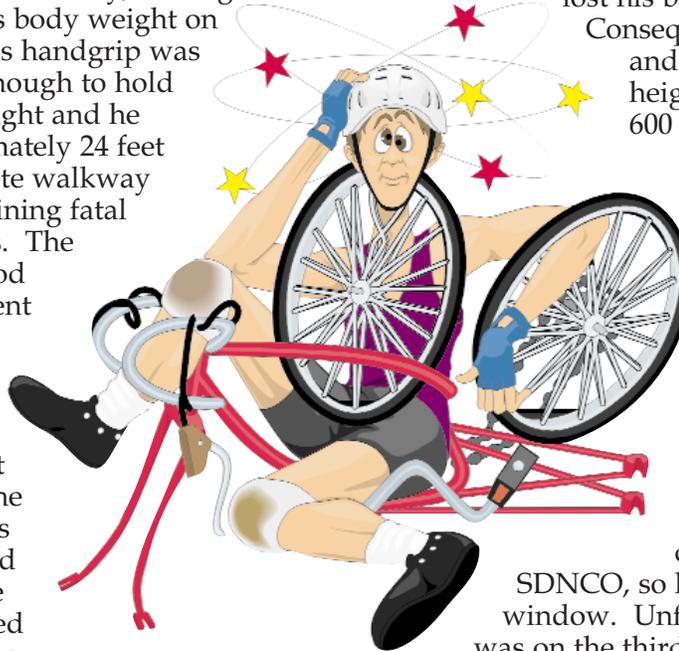
Consequently, he fell back and off the ledge from a height of approximately 600 feet to his death.

■ A private was in his room at the barracks drinking with a female friend when he heard a loud banging on his door by the staff duty noncommissioned officer (SDNCO). He didn't want to confront the

SDNCO, so he jumped out his window. Unfortunately, his room was on the third floor! He was taken immediately to the hospital by ambulance and admitted for surgery on his two heels and treatment for his back.

■ A specialist was cutting timbers with a circular saw. While trying to avoid cutting the power cord, he lost control of the saw and cut his thigh. The cut was approximately 12 inches above the soldier's right knee and required 80 stitches.

■ A sergeant was injured while riding his off-road motorcycle through a pineapple field when his foot slipped off the foot peg and got caught under the back wheel.



Safety Alert

Asbestos

Sample data has recently revealed that certain vehicle components within the Army inventory currently identified as asbestos-free do in fact contain asbestos. Maintenance personnel must be immediately informed of proper control measures to minimize exposure to asbestos fiber dust.

Specifically, the presence of asbestos has been

discovered in engine gaskets and braking systems of various AMVs within the Army inventory. As an example, the gaskets of the newer model 6.2-liter diesel HMMWV engine have been identified as containing asbestos. Locally purchased gaskets and those procured through the Army supply system inventory for HMMWV engines as well as for other series vehicles have re-introduced asbestos hazards into Army

operations. Personnel are exposed to significant dust contamination while attempting to clean away gasket residue with a power tool and wire brush attachment.

In addition to engine gaskets, the residual presence of asbestos has been discovered in the braking systems of many series vehicles in the Army inventory, despite efforts to remove asbestos brake shoes and pads from the system. Due to the inability to visually identify asbestos, control measures must

be implemented into all specific maintenance procedures to comprehensively reduce the hazard of potential exposure (see Asbestos Advisory in May 99 issue of *Countermeasure*).

Exposure to asbestos dust in low concentrations can cause significant health problems, although often not

realized for many years thereafter.

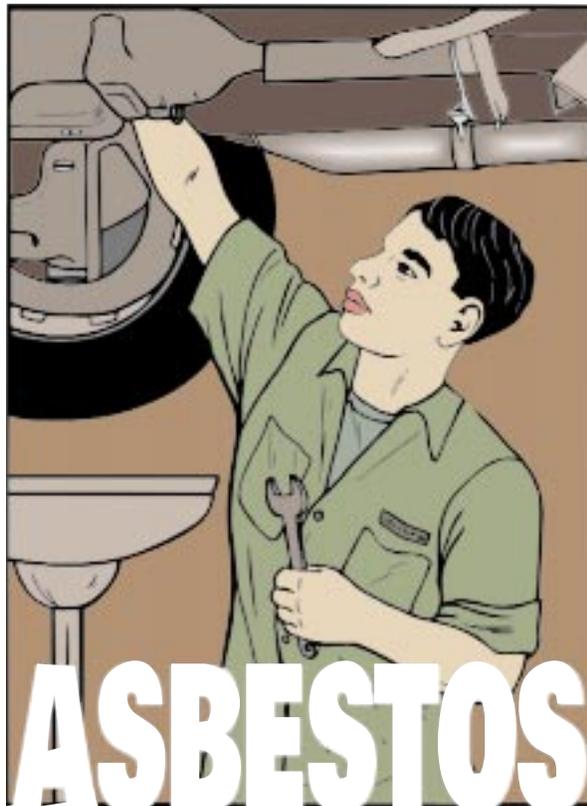
Control measures:

■ Unit level:

All gaskets, brake shoes, and pads should be handled under the assumption that they contain asbestos. Prohibit dry, abrasive cleaning methods. Contact your local medical department industrial hygiene representative for site-specific asbestos-handling procedures.

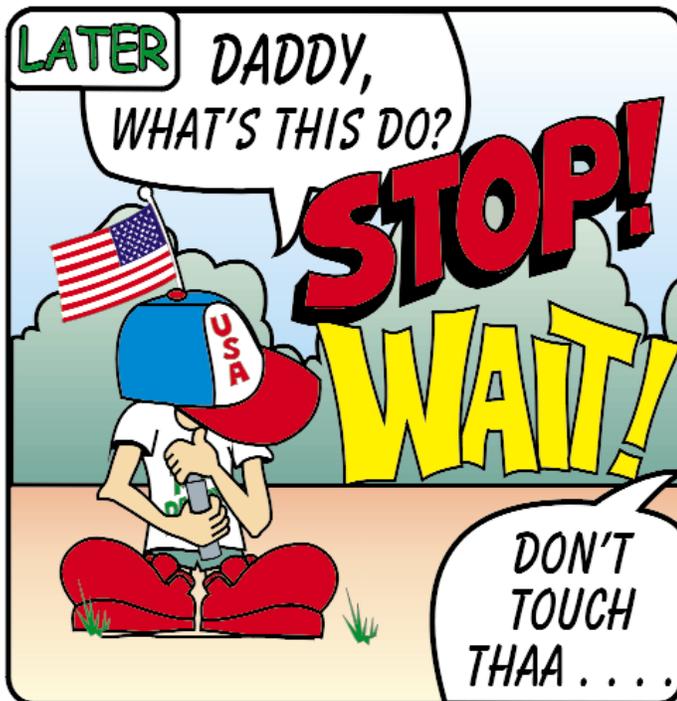
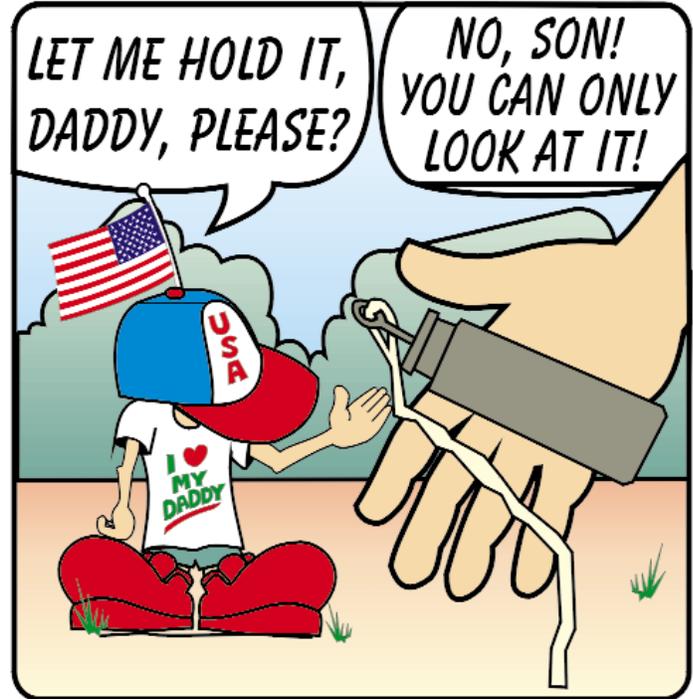
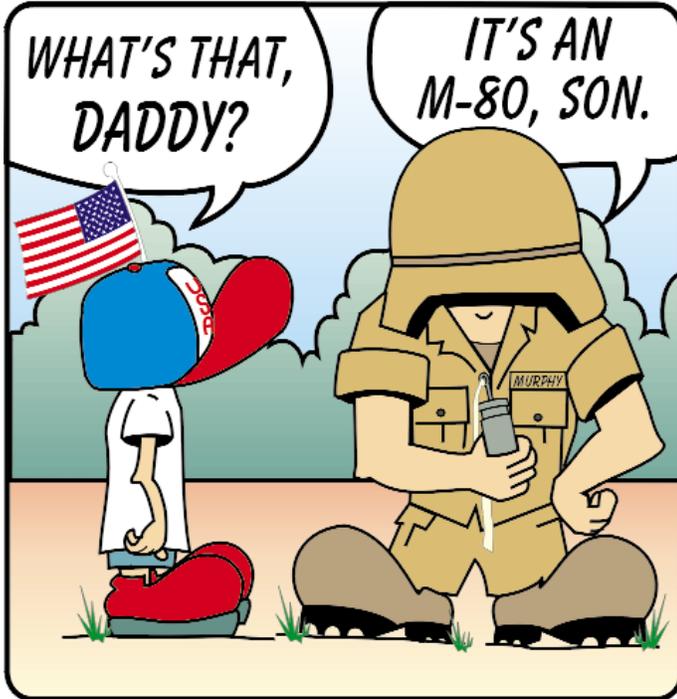
■ **Army level:** Actions are underway to issue a Safety-Of-Use Message regarding this subject. Applicable technical manuals will be updated to cite and warn against the possibility of asbestos hazards with regard to various vehicle components and cite proper use and disposal requirements. ♦

POC: Jennifer Houser, Industrial Hygienist, U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD, DSN 584-2559 (410-436-2559)



Murphy's Flaws

Celebrate The Fourth of July Safely



DON'T LET KIDS PLAY WITH FIREWORKS WITHOUT STRICT ADULT SUPERVISION!