

KNOWLEDGE

VOL 1 MAY 2007

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

TAKE LEAD!

TAKE CHARGE AND BE ARMY STRONG

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➤ CLICK IT OR TICKET p. 24



CREWMEMBER?

good judgment performing your duties

own the EDGE

Leading on the Edge



U.S. ARMY

ARMY STRONG.



U.S. ARMY COMBAT READINESS CENTER

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ARMY STRONG AND ACHIEVING SUCCESS

As we endeavor to take ownership and make protection of our force a part of our culture and focus to empower each and every Soldier to engage and make a difference, I think it appropriate to share with you one of our Army's significant successes.

Our goal to develop in all Soldiers an ability to think holistically, looking at where and when they might use their specific skill sets to protect their Team and save lives, is happening. While we're making progress in several areas, let me share with and toss out for your consideration some areas where we,

as an Army Strong, are achieving success.

Each of these successes is pertinent to all we do and inherent in a culture of "engaged leadership." Again, these are success stories worth sharing over and over! As you read, please think of other ways we might use this model for engaging with the entire Team.

Getting each and every Soldier to take ownership and assume responsibility for protecting our force is exemplified in the success of the Motorcycle Mentorship Program. Individual MMPs spread throughout our Army have done several things well. First and most significant is the incredible

success in driving down motorcycle fatalities. To date, our losses are some 60 percent below those seen in previous years.

Our losses in fiscal 2006 appeared to be a negative trend. However, our leaders and Soldiers quickly realized these unacceptable events must be STOPPED. Through the direct involvement of commands and the further direct engagement of experienced motorcycle riders, our Army stemmed the flow. That in itself is huge.

A look into the "why this happened" is enlightening and brings me to the second success of the MMP. Each regional MMP is essentially the result of Soldiers and/or civilians that perceived a need and

established a program to embody "ownership." While the individual MMPs aren't necessarily headed by formal leadership from the post or chain of command, a justifiable case can be made that these informal leaders crafted and achieved a model for best practices in engaged leadership. They've instituted organizations that embody ownership within their formations and made a cultural shift in protecting our force that's indeed a success.

These leaders have achieved a "band of brothers" mentality that's making a difference and saving lives. What's equally enlightening is these successes weren't confined to a particular

post, camp or station. In fact, they reflect the same "transformation" our Army has achieved—that we must depend on decentralized operations led by junior leaders.

I believe there are other places where informal groups of engaged leaders can impact and achieve success. FORSCOM has developed some excellent motorcycle best practices of which all riders should be aware. You can find them on the USACRC's MMP Web

site at <https://crc.army.mil/mmp> or FORSCOM's Web site at <http://www.forscom.army.mil>. Be sure you know these practices and pass them along to your troops so we all can learn what others have to teach. It's all about being a team and making sure we never leave a fallen comrade behind. «

William H. Forrester
Brigadier General, USA
Commanding

“ I BELIEVE there are OTHER PLACES where INFORMAL GROUPS of ENGAGED LEADERS can IMPACT and achieve SUCCESS.”



Engaged leaders hold themselves and their Soldiers to a high standard both on and off duty. They guide their subordinates and enable them to manage risk and prevent needless loss. Our Army breeds this type of leader and they make us "Army Strong." You won't find these leaders or their Soldiers in the U.S. Army Combat Readiness Center's accident database. Unfortunately, however, there's a small minority of leaders that don't fit the definition of "engaged leader." Let's learn from the mistakes made by the leaders in the following examples and keep the accident arrow turned down.

In our first accident, a Soldier was killed while moving an M2HB .50-caliber machine gun as part of a detail. The NCO in charge of clearing the gun after completion of firing failed to follow the procedure outlined in the technical manual. Although the company commander directed that either the platoon sergeant or platoon leader physically clear their platoon's M2s, neither cleared the weapon involved in the accident. At least two other leaders might have prevented this accident had

they directed someone to clear the weapon under their charge.

In another accident, a staff sergeant was in charge of a cadre training event. This NCO instructed the other cadre members to wear the required personal protective equipment while operating watercraft, which is a known and written standard. After reinforcing this directive several times, the NCO totally disregarded his own instruction by not donning the appropriate PPE or properly checking specific equipment on the boat, which subsequently capsized. The NCO drowned.

Sometimes, officers also fail to meet the standard of an engaged leader. One captain, a company commander, often conducted safety briefings and cautioned his Soldiers about the hazards of drinking and driving. He also counseled his Soldiers who rode motorcycles on the Army requirements relating to mandatory training and protective equipment. Tragically, he failed to heed his own advice.

One night, the captain and his wife left their home to enjoy some time together on their new motorcycle. They stopped at a local bar, where the captain met with some friends and started drinking. Leaving his wife at the first bar, the captain got on

the motorcycle without his helmet and followed a friend to another bar. After two more hours of drinking, he left his buddies to pick up his wife.

Traveling at a high rate of speed and still not wearing a helmet, he crossed a set of railroad tracks that sent the bike flying more than 60 feet through the air. After striking the ground, the motorcycle flipped 12 to 14 times before crashing into a fence. The captain was dead within the hour. Post-mortem toxicology tests indicated the captain's blood alcohol level was .28, more than three times the legal limit. A truly engaged leader won't allow themselves to fall into this kind of trap.

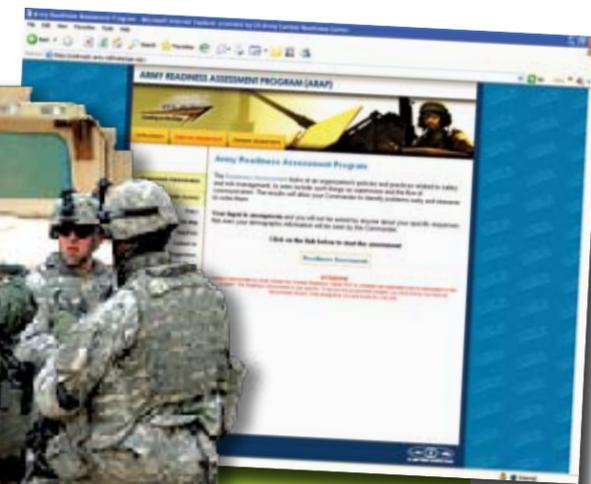
How do we prevent accidents such as these? The solution might be as simple as leaders being in the right place at the right time, knowing their Soldiers, enforcing standards and making informed decisions at the appropriate level. Taken together, these attributes are an excellent example of engaged and accountable leadership. We understand there are disciplined leaders throughout the Army who don't and won't fall prey to these types of accidents. So stay engaged, hold yourself accountable to the same standard you expect from your Soldiers and continue Leading on the Edge! ◀

TAKE LEAD!

1SG (RET) MIKE BARKSDALE
Tactical Safety Manager
U.S. Army Combat Readiness Center

FYI

Before the next mission, make sure your Soldiers are prepared and use the Army Readiness Assessment Program. It's a Web-based initiative that provides battalion-level commanders with data on their formation's readiness posture. Check it out today at <https://unitready.army.mil/>.



THINK WEAPONS SAFETY

MSG (RET) PERRY ADAMS
Ground Task Force, Deputy
U.S. Army Combat Readiness Center

To fight the negligent discharge problems the Army is currently experiencing, we must change the way Soldiers think about and handle weapons. Both leaders and individual Soldiers have a responsibility to set the example for others and make on-the-spot corrections. Drill home that your Soldiers must THINK weapons safety!

- T**reat every weapon as if it's loaded.
- H**andle every weapon with care.
- I**dentify the target before you fire.
- N**ever point the muzzle at anything you don't intend to shoot.
- K**ep the weapon on safe and your finger off the trigger until you intend to fire.

In many negligent discharges, it's clear the basic fundamentals of weapons handling were ignored. Based on information reported to the U.S. Army Combat Readiness Center, the most prevalent mistakes that lead to negligent discharges are horseplay, improper clearing procedures, incorrect weapon status, failure to keep the weapon on safe and finger off the trigger when there's no intent to fire and lack of muzzle awareness. These mistakes are a result of indiscipline, overconfidence and complacency.

In fiscal 2006, six negligent discharge fatalities were reported in the Army. As of March 1, 2007, there already have been four fatalities—and we aren't even halfway through the year! Three of

the four fatalities this fiscal year involved alcohol and privately owned weapons, and all occurred with what the Soldier believed was an unloaded weapon. Two Soldiers intentionally pointed a weapon at their own head and pulled the trigger. Here's a quick look:

■ In October 2006, a Soldier was showing his privately owned weapon to a friend. He removed the magazine but didn't clear the weapon, which discharged a round into his head. The Soldier had been drinking alcohol.

■ In January 2007, a Soldier had been drinking alcohol with a friend in the barracks. The friend warned the Soldier to stop playing with the weapon and not point it at himself. The Soldier told his friend not to worry because the weapon wasn't loaded. The Soldier

then charged the weapon, pointed it at his head and squeezed the trigger, discharging the weapon.

■ On the same day as the incident above, another Soldier who also was consuming alcohol was cleaning his POW in preparation for a hunting trip with a friend. He pulled back the slide, showed it to the friend and they pronounced the weapon "clear." The Soldier then released the slide, placed the weapon to the side of his head and pulled the trigger, discharging one round into his brain. He was a sergeant.

■ In the most recent incident, two Soldiers were cleaning their M4 rifles in their living area when one of the weapons discharged, killing one of the Soldiers.

All these incidents were preventable. Leaders must

enforce the standards for weapons safety so we can keep our Soldiers in the fight. How's your unit doing in this area and what tactics, techniques and procedures do you have in place to prevent negligent discharges? Let us know; we'd love to hear from you! <<



» DID YOU KNOW?

To download copies of the Army's new weapons safety posters, visit <https://crc.army.mil/Multimedia/detail.asp?id=53&iCat=687&iChannel=19&nChannel=Multimedia>.

CULTURE CLASH

U.S. ARMY COMBAT READINESS CENTER

The Soldier had been a company commander for nearly four months. A National Guardsman called to active duty, he was preparing for drill that weekend. His job was to oversee training given newly enlisted Guardsmen to prepare them for basic training or advanced individual training. It was well into summer and he decided to leave work early that Friday afternoon.

The Soldier and his wife enjoyed riding their new Harley-Davidson. The weather that Friday was perfect, and they got on the bike and headed out about 6 p.m. to visit friends in town. A short while later, the couple met up with a riding buddy and rode to a downtown bar where they spent nearly two hours drinking.

A little before 10 p.m., the Soldier and his buddy rode to another bar; the Soldier's wife stayed behind. The Soldier left the second bar around midnight to pick her up on his way home. However, he got confused as he

attempted to retrace the route back to the first bar. Instead of turning onto the street where the bar was located, he turned onto another unfamiliar road.

A pedestrian walking south along this street heard the Soldier's motorcycle approaching from behind. Just ahead was a rise where some old train tracks had been smoothed over with concrete and, on the far side, a steep downgrade that led to an "L" intersection. A 90-degree left turn warning sign, accompanied by a suggested 10-mph sign, alerted motorists to the intersection ahead.

FYI

May is Motorcycle Safety Awareness Month, so before hitting the road, check out the Army Motorcycle Mentorship Program Web site at <https://crc.army.mil/mmp/index.asp>. Use the site as a resource for finding local riding associations and information on how to be a safer rider.



But in the Soldier's mind there wasn't any intersection. Rolling on the throttle, he accelerated to more than 60 mph as he roared down the road. The pedestrian watched the motorcycle pass, crest the rise and go airborne, flying 66 feet before it landed on the road. Although the Soldier hit both brakes upon landing, the motorcycle plowed into a chain-link gate at a construction site and ripped a 20-foot section of fence from its hinges. The Soldier and motorcycle became entangled in the fence and tumbled end-over-end more than a dozen times.

The pedestrian ran to the crash site and pulled the motorcycle off the Soldier's legs. For several minutes he tried to get a response from the Soldier, who seemed to be choking as blood ran from his mouth and ears. The man then ran to a nearby city jail where he told the desk sergeant about the accident and asked him to call 911. However, in his excitement, the pedestrian failed to provide the accident location before leaving and running back to the crash site. The sergeant called 911 at 12:15 a.m. but, without knowing the Soldier's location, couldn't give directions to emergency personnel.

In the meantime, another rider stopped to try to help the Soldier. Seeing the man running back toward the accident, the rider got on his bike and told him he was going for help. After checking the Soldier and seeing he still wasn't breathing, the pedestrian ran back to the street and tried to flag down several cars. He finally got a driver to stop and call 911 from his cell phone. Now that they had the accident location, local police and fire department personnel were on the scene within four minutes and, shortly afterward, an ambulance arrived. By then it was too late; the Soldier was already dead.

What killed this Soldier?

No helmet: The coroner examining the Soldier found three open skull

fractures. These fatal injuries might have been prevented had the Soldier worn a helmet as required by Army Regulation 385-55 and the National Guard's policy on motorcycle safety. The Soldier had previously completed the Motorcycle Safety Foundation's Basic RiderCourse and knew why helmets are important.

Impaired by alcohol: According to eyewitnesses, the Soldier drank heavily that night. Toxicology tests revealed the Soldier's blood alcohol concentration was .28. Most adults would be unconscious at that level.

Lost situational awareness: Being drunk, the Soldier was confused about where he was and took a wrong turn. He also failed to notice the caution sign warning of the dangerous intersection.

Speed kills: The motorcycle was traveling about 63 mph when it crested the rise at the old train crossing. This excessive speed kept the Soldier from stopping before hitting the chain-link gate and increased the severity of his head injuries.

Why did he die?

Why did this Soldier choose to be reckless? You can't blame it on alcohol because he was sober when he chose not to wear his helmet and go drinking and riding. The root problem was less what he did than why he did those things.

On duty, this Soldier was an excellent performer. He'd served with distinction in Iraq and was called to active duty at his current assignment

because of his proven abilities. He supported motorcycle safety at work by providing classes for other Soldiers. However, safety was neatly compartmentalized into his on-duty time. When he shed his uniform, he also shed the military regulations under which he served. The Army calls such a choice "indiscipline." In the end, it was indiscipline that set in motion the tragic events of that night.

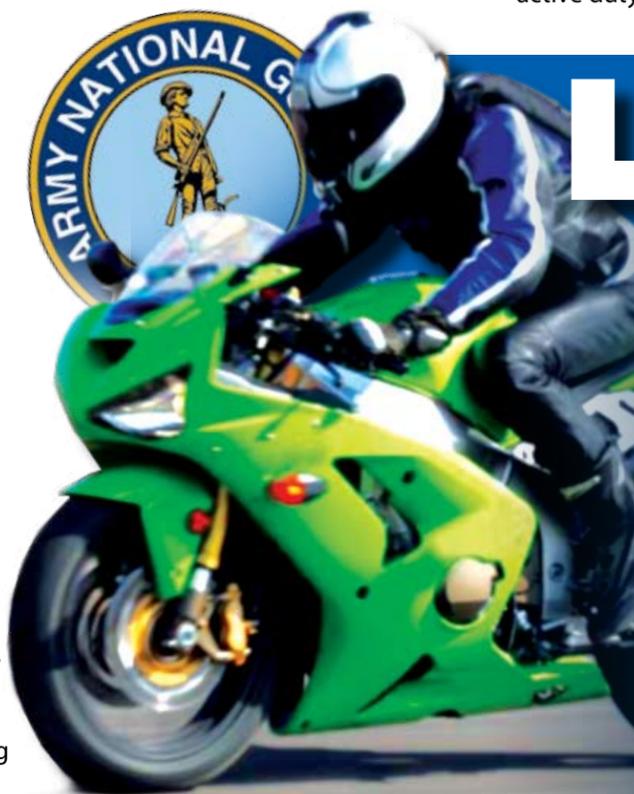
Culture counts

Inside every organization is a culture that defines what's important. Vacant additional duty safety officer and NCO slots, nonexistent safety programs and ignorance of Army safety policies defined the safety culture of this Soldier's organization. And there were other troubling symptoms. Another rider in the unit hadn't taken MSF training, wasn't licensed to ride her motorcycle and refused to wear a helmet. She said she'd buy private

insurance if the Army were to start finding riders who weren't wearing their required personal protective equipment not in the line of duty.

These type attitudes don't just happen in a vacuum; they're a reflection of the unit's safety culture. They also demonstrate why culture counts when it comes to the safety of individual Soldiers. How? When organizations adopt a culture of indifference, Soldiers adopt a culture of indiscipline.◀

“ He supported **MOTORCYCLE SAFETY AT WORK** by providing classes for other Soldiers. **HOWEVER**, safety was neatly compartmentalized into his on-duty time. When he **SHED HIS UNIFORM**, he also **SHED THE MILITARY REGULATIONS** he served under.”



LAYING DOWN THE LAW

On Oct. 2, 2006, LTG Clyde Vaughn, Director, Army National Guard, addressed the issue of motorcycle safety in a memorandum sent to the adjutant generals of each ARNG organization. In the memorandum he said: “Motorcycle accidents are occurring at alarming rates. Safety reports identify reckless driving, horseplay while excessively speeding, driving under the influence, loss of control and colliding with other vehicles.

To date, the United States Army sustained a total of 47 casualties due to motorcycle accidents. That is 47 Soldiers no longer able to stand alongside you and answer the call to duty.

“... This unacceptable trend toward death and injury requires leadership intervention. ARNG personnel need motorcycle training and education. It is hereby required ... for all personnel operating a motorcycle to complete the Motorcycle Safety Foundation Course.

“... ARNG personnel, regardless of duty status, are required to wear personal protective equipment when operating a motorcycle—even when not required by state law. This is a requirement and a responsibility of your service to the military and the people of the United States. Furthermore, all ARNG personnel, regardless of duty status, must comply with DODI requirements for motorcycle safety.

“... Rider PPE includes: Department of Transportation

approved helmet, face shield or impact goggles properly attached to the helmet, sturdy over-the-ankle footwear, long sleeved shirt or jacket, long pants, full fingered gloves or mittens designed for motorcycles and a brightly colored outer garment/vest/riding jacket (day)/retro reflective upper garment (night).

“... We are an organization committed to the safety of our personnel. We represent a Nation that expects and

deserves our very best. Even while on a motorcycle, we should exemplify nothing short of loyalty, duty, respect, selfless service, honor, integrity and personal courage. Remember, everywhere you ride you represent this country and this institution. The Army National Guard is always ready, always there and safety is therefore non-negotiable.”◀

Editor's Note: Seven crewmembers survived an accident in which an AH-64A landed on top of their UH-60A aircraft. The two pilots, two crew chiefs and three passengers in the Black Hawk escaped death; however, the two Apache crewmembers were killed and both aircraft were destroyed in a post-crash fire. One of the Black Hawk pilots agreed to share his story of that tragic night. What you'll read comes from the standardization instructor pilot's account he gave only hours after the incident. We're publishing his story here with his permission and approval, and we're grateful he's sharing his lessons learned.

Out of Nowhere

CW4 PAUL KAHLER
Tennessee Army National Guard

Our mission that night was to conduct a night visual meteorological conditions logistics and passenger transport mission while an AH-64A, flying trail, provided armed escort. We were the lead aircraft, a UH-60A, in a flight of two conducting a night formation flight approach to the Forward Arming and Refueling Point while using night vision systems. We approached the runway from the west at a 60-degree angle, flying a heading of approximately 90 degrees. Once we intersected the runway, I turned right and flew a heading of 150 degrees down the runway toward the taxiway leading to the FARP. I decelerated and performed a descending left pedal turn to the taxiway. Our main landing gear was about a foot off the ground and the tail wheel had already touched down when I felt the aircraft being pushed down and to the right.

Bam! Did something just hit us? And then there was an explosion. When I looked out my door, I immediately noticed two things: my rotor blades were gone and an Apache rocket

pod was lying on the ground.

Suddenly, there was another explosion and fire on our left. I exited the aircraft and ran about 30 feet from the Black Hawk and looked back. Our aircraft was already on fire. I found one of my crew chiefs, who told me he'd accounted for all our crew and passengers and moved them away from the aircraft, except the other pilot. Then I saw the other pilot beating on his door, trying to get out. I ran back to the aircraft and found him crawling over the center console. I helped him get out and we ran, not looking back.

The aircraft exploded as we

were running away. I found the rest of the crew and passengers about 50 yards from the Black Hawk. Of the seven crew and passengers, four were hurt but able to get themselves away from the aircraft. Although firefighters showed up almost immediately, they couldn't do much about the fire with ammunition exploding and 30 mm rounds flying in every direction. I asked if they'd found the Apache; I hoped they were able to taxi or fly away.

I went back to the injured Soldiers and found some were going into shock. We thought one had a broken leg or hip

and one a broken arm or shoulder. My crew chief and I started first aid and within minutes ambulances arrived. All crew and passengers were transported to the hospital at the other end of the airfield runway.

I was in the hospital getting checked out when I heard the Apache's tail section had struck our main rotor system from above and neither of the crew survived. The fire had been so big that we didn't realize it was two aircraft burning. I couldn't believe it. This was supposed to be a simple transfer of three passengers and a box of unmanned aerial vehicle parts.

Lessons learned

There are four things to be learned from this tragedy. First, incorporate mixed formations

into readiness level progression, especially for night operations. A mixed formation doesn't have to be dissimilar aircraft; it can be aircrews flying the same aircraft from two different units. Know the capabilities and limitations of the other aircraft in your formation. Second, brief and practice lost visual contact procedures. Radio discipline is secondary to communication in emergencies. If you lose sight of each other, plan for altitude separation and rally points. Light signals don't work well in urban environments.

Third, practice emergency egress procedures. Our enlisted flight instructor had recently completed the flight instructor course at Fort Rucker, Ala., and was trained

extensively in this area. In our pre-mobilization training, we trained emergency egress hard, landing in open fields and rehearsing duties in the event of a crash. Don't forget to consider your actions if ammo is cooking off around your rally point. Move far away from the crash and

get low to the ground. Lastly, ensure you and your aircrews receive combat lifesaver training. This training is critical in combat; I don't know too many people who've deployed and didn't use first aid in some type of situation. Don't do this training for yourself, do it for your Soldiers. ⬅

“ I couldn't BELIEVE IT. This was supposed to be a SIMPLE TRANSFER of THREE PASSENGERS and a BOX of unmanned aerial vehicle parts. ”



TIME TO BE A CREWMEMBER

U.S. ARMY COMBAT READINESS CENTER

It's an ingrained part of Army culture to teach, coach and mentor new Soldiers. We're taught to take every opportunity to train new warfighters and pass on tactics, techniques and procedures. This is especially true of instructor pilots in Army Aviation, who are taught to maximize the training value in every flight. But when does the instructor hat come off and the crewmember hat go on?

There's a fine line between the two and it depends on the mission. All crewmembers have duties to perform every time an aircraft takes off. Everyone must be an active crewmember first and instructor or trainee second. This lesson was revealed by a recent crash during an AH-64D night aerial gunnery exercise in which both crewmembers were killed and the aircraft destroyed.

What happened?

The crew was well respected within the battalion. Leadership was grooming the IP to become the battalion master gunner. The front seater was a new readiness level 1 pilot on his first aerial gunnery. This crew had flown together often and, during his time in the unit, the copilot-gunner had completed all his RL progression flights with this IP.

All levels of command were closely involved in the crew selection and Composite Risk Management processes, and the gunnery was well thought out and executed. The battalion commander had personally flown the diving rocket engagement with a CW2 front-seat crewmember to validate the safety of the engagement parameters before allowing other crews to conduct the engagement. Despite this risk mitigation, tragedy struck because each crewmember failed to perform their specific tasks as outlined in Aircrew Training Manual TC 1-251.

The crew was on their final engagement for their night table VII when they called the initial point inbound for the engagement. The tower read the script as the targets were brought up. The IP, flying in the backseat as the mission pilot in command, identified the burn barrels used to mark the engagement area at night and then told the CPG to inform the tower they had targets in sight and would call the next phase line. This particular engagement calls for a pilot independent rocket engagement employing the helmet mounted display sight select. The PC instructed the CPG to assist in making adjustments using the target acquisition and designation system.

The PC armed the aircraft at the next phase line. The CPG attempted to use the TADS to acquire the correct target; however, the PC became irritated with the CPG as he attempted to image autotrack multiple targets. The PC reprimanded the CPG for this action and instructed him to use the linear motion compensator to track the target. The PC indicated he had the target and then called the arrival at the next phase line, which was also the start fire line.

The tower cleared the crew for the engagement. The crew, with the PC on the flight controls, initiated a dive to conduct the attack. The crew began the dive at 60 knots airspeed and 1,500 feet altitude. The dive varied between 23 and 28 degrees pitch and reached a maximum airspeed of 150 knots. The CPG called verbal corrections to the PC, indicating the rockets were low and to the left. The PC said the last rocket wouldn't fire and began recovery from the dive.

The PC brought the aircraft's nose up to the horizon before beginning the turn, during which he allowed the angle of bank to reach 80 degrees. While on the controls, the PC directed his attention inside the aircraft to deactivate the rockets and press the ARM/SAFE button to safe the armament system. With his attention focused inside the cockpit and the aircraft in an 80-degree right turn, the nose began to drop, causing the Apache to re-enter a 23-degree dive angle. The CPG also was focused inside the cockpit and directed his

attention from the left multipurpose display to the right MPD, where his weapons page was displayed. The CPG then started talking about the rocket that didn't fire and its inventory status.

After completing his tasks inside the aircraft, the PC directed his attention back outside and saw a grove of tall pine trees about 2 to 3 feet in diameter. The aircraft struck the trees about 25 feet above the ground. The aircraft was traveling at 133 knots in a 13-degree nose down attitude and a 33-degree right bank, with a 4,947-foot per minute rate of descent.

Lessons learned

All crewmembers must perform their duties regardless their experience level. According to the AH-64D ATM Task 1422, "Perform Firing Techniques," the crewmember not engaging a weapons system will focus his attention outside the aircraft to assist with obstacle avoidance. The task also states the pilot not on the controls should operate the ARM/SAFE button.

Under the night considerations portion of Task 1422, it's stated that difficulty in determining aircraft altitude and rate of closure and detecting obstacles will increase the aircrew's fatigue level. The crew must use proper scanning techniques to avoid obstacles and prevent spatial disorientation.

In Task 1415, "Perform Diving Flight," the pilot not on the controls will provide adequate warnings to avoid traffic or obstacles detected in the flight path and any deviation from the maneuver parameters. The ATM doesn't excuse a pilot from completing tasks because there's an IP in the cockpit. In addition, the ATM doesn't excuse a PC from adequately distributing the crew workload even though he's an IP as well.

Fly the aircraft! These state-of-the-art aircraft have numerous displays, and pilots can quickly become overwhelmed with information. First and foremost, the pilot on the controls must always remember to fly the aircraft. In this accident, the battalion master gunner emphasized this point when conducting the fire brief. The PC must ensure proper distribution of crew duties throughout the mission to ensure the pilot on the controls doesn't get task saturated.

The PC in this accident could've easily maintained aircraft control and situational awareness if he'd used the three-step safing process described in Task 1422, which states, "The PC will determine the appropriate safe level of the armament systems for the firing method being employed." The critical task for all engagements is maintaining situational awareness and aircraft control. Any one of the three levels below will ensure the weapons system won't fire:

- (1) Weapon trigger switch released
- (2) Weapon action switch deselected
- (3) SAFE/ARM button—SAFE

IPs must ensure copilots perform their respective crew duties, even if it means a degraded level of performance, as long as safety isn't compromised. Instructors tend to pick up duties their students drop, giving the students a false sense of security that lowers their situational awareness and performance. "The IP has it, he'll keep us straight." This line of thinking is dangerous because students sometimes revert to a voice-actuated copilot instead of a functioning crewmember. IPs must be crewmembers first, instructors second. It's a delicate balance that requires good judgment in choosing which role to perform.

Our business is inherently dangerous and even great crews can have a momentary lapse in situational awareness. We must each perform our crew duties to our utmost ability to ensure equitable distribution of workload and safe return after the mission. Engaged leaders are an important part of that crew mix and must take action and stay engaged to train Soldiers to operate safely in very trying conditions. We can change the culture in today's Army given proper planning, attention to detail and the active involvement of the chain of command. <<



FYI

Knowledge is now available in a new, easy-to-use online version! Check out the magazine Web site at <https://crc.army.mil/Knowledge/index.html> to find individual articles in easy-print PDF format or

download an entire month's issue for even more safety information. You also can subscribe to the magazine through the site and even share your "war stories" with your fellow Soldiers! For more information or to provide feedback on Knowledge, e-mail the editor at knowledge@crc.army.mil.

What training can a unit conduct at home station to help reduce accidents and injuries while deployed? Honestly, there are just too many tasks to list, but help is available. The Coalition Forces Land Component Command provides training priorities to units preparing to deploy, including driver training, rollover drills, crew coordination and prevention of heat casualties. Proper training and information, along with identifying and preventing complacency and indiscipline, equips your Soldiers with the tools they need to stay in the fight.

FIGHT AS YOU TRAIN

CW3 DAVID MUEHLEISEN
Ground Task Force
U.S. Army Combat Readiness Center

A driver training program that reinforces good, fundamental driving skills while training in garrison greatly enhances a unit's ability to successfully complete its missions in combat. Driving an M998 or M1025/1026 HMMWV at the Joint Readiness Training Center or National Training Center and then transitioning to an M1114 in combat requires drivers to modify their driving habits. The handling characteristics of the M1114 are vastly different from other HMMWVs. Understanding the impact of this vehicle's increased weight on its braking and

steering and adjusting accordingly can reduce accidents and rollovers.

Enforcing the use of seat belts and gunners' restraints also will reduce your unit's risk for fatalities. The risk of dying in a rollover is six times greater for Soldiers not wearing their seat belts in a HMMWV, while 94 percent of Soldiers who used their seat belts

survived a rollover incident. Excessive speed and the driver's experience level are factors leaders can monitor and control while conducting operations.

Units that practice rollover drills reap the benefits of that training in disciplined, skilled and competent vehicle crews that react instinctively during a rollover. While

deployed, ensure your Soldiers participate in HMMWV Egress Assistance Training. HEAT can increase a Soldier's ability to understand the disorientation involved in a rollover and instill the fundamental skills needed to react and survive if they're ever involved in one. HEAT training also teaches Soldiers

the value of wearing seat belts and reinforces the importance of securing loads within the vehicle. Soldiers surveyed after using HEAT devices in Kuwait said the training is as realistic as possible, and about half the Soldiers reported they learned a new skill. Graphic Training Aid 55-03-030 is a comprehensive guide that covers emergency procedures and water egress.

Crew coordination is a combat multiplier in any organization and works for all types of equipment operations. U.S. Army aircrews practice crew coordination and benefit greatly from this concept. Effective crews are made up of assertive crewmembers that continuously provide input to the vehicle commander or team chief as the mission is being developed and conducted.

A key component of crew coordination is the clear understanding of terminology and signals, as well as keeping every crewmember posted on relevant details. Develop a crew coordination program

within your unit and make it standard operating procedure. Also, ensure the entire crew participates as a team in mission planning, execution and after-action reviews.

Another area that continues to be a major concern for leaders and Soldiers is heat-related injury. Heat injuries and illnesses pose a significant threat to Army personnel both deployed and at home. Indiscipline and complacency can be deadly when Soldiers don't hydrate before, during and after operations in the extreme heat of the summer months. Those most at risk for heat injury are the youngest and most inexperienced Soldiers, which means leaders should monitor these personnel more closely.

According to the U.S. Army Center for Health Promotion and Preventive Medicine, there were 204 cases of heat stroke

and 958 cases of heat exhaustion reported in the Army in 2005. Prepare your team now for the extreme heat they'll encounter in Iraq and Afghanistan. Also, know which of your Soldiers have suffered previous heat-related injuries. USACHPPM reports that in the last five years there has been no clear trend in heat stroke among Soldiers; however, there has been a sharp increase in heat exhaustion over the past three years.

USACHPPM and the U.S. Army Research Institute for Environmental Medicine have several heat injury prevention products available on their Web sites, including posters and pocket guides. Leaders should use all the resources available to them and their Soldiers as we enter the hot summer months. Don't let a heat casualty happen in your formation.

Training Soldiers before deployment to drive

equipment responsibly and defensively is an easy way to ensure they're competent operators when the mission requires them to maneuver in combat. Soldiers should be prepared for the unique challenges of the combat environment by training fundamental skills and developing good habits. Leaders must also identify any unsafe acts or habits in garrison so Soldiers don't bring them into combat. There's a lot of free information out there for leaders to pass on to their Soldiers. Take advantage of it and keep your Soldiers in the fight.

For more information on the fundamentals of crew coordination, see the 4th Brigade Combat Team, 4th Infantry Division's Power Point presentation on the Army Knowledge Online site at <https://www.us.army.mil/suite/doc/6350417>. An AKO username and password is required to access the site. ◀

TOO MUCH OF A GOOD THING

Just as Soldiers can suffer a heat injury by not drinking enough fluids, they also can drink too much. Hyponatremia is a condition where the sodium concentration in human blood is lower than normal. Causes include overhydration, skipping meals or dieting, loss of body salt or misdiagnosis and treatment for dehydration. Those suffering from hyponatremia can exhibit symptoms such as confusion, weakness or nausea and vomiting. If you believe a Soldier is suffering from hyponatremia, help replace salt loss and follow the measures for heat exhaustion. If symptoms persist or become more severe, evacuate the Soldier to a medical facility. To prevent hyponatremia:

- Follow fluid replacement guidelines

- Replace lost salt by consuming meals and sports drinks as directed
- Provide snacks or carbohydrate electrolyte beverages during long training events
- Don't take dietary supplements

FYI

The Combined Arms Center-Training recently developed "The Road to Deployment" Web site for commanders as a "one-stop shopping" spot containing requirements for deploying units. The Web site provides FORSCOM and CFLCC training requirements as well as a number of links to information and capabilities that will help commanders meet those requirements. The site's SIPRNET URL is <http://rtd.leavenworth.army.smil.mil>.



THE FUTURE IS MFOQA

LTC(P) RICHARD KOUCHEVAV
Chief, Air Task Force
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All Army aviators and leaders should be familiar with Military Flight Operations Quality Assurance, an important futures program that promises to make a significant, positive impact on Army Aviation over the next decade. MFOQA was mandated by the Department of Defense for all services and is rapidly propagating through commercial and civil aviation.

So, what exactly is MFOQA? It's a predictive program that analyzes flight data to enhance operational readiness, training, maintenance and safety (OTMS, and now more commonly known as MOST) achieved through digital data download from aircraft. A fully integrated MFOQA capability will provide diagnostics and prognostics to enhance MOST at company, battalion, brigade and echelons above brigade. MFOQA capabilities are under the broader aircraft data exploitation capability concept, which will exploit the rapid proliferation of aircraft digital source collectors such as maintenance data recorders, flight data recorders, digital cockpit voice recorders and health and usage monitoring systems.

ADEC is an enabler for

instituting digital aviation logistics and condition-based maintenance. It also could support the common logistics operating environment protocols and standards for moving aircraft data detailing Army Aviation's needs to collect, store, analyze and act upon such data to support the effectiveness of joint and combined operations. This process involves hardware, software and process changes at the platform, unit and higher echelons (e.g., U.S. Army Combat Readiness Center, U.S. Army Aviation and Missile Command, Program Manager-Aviation Engineering Directorate, etc.) to better leverage digital data currently available and expand the types of data collected from our aircraft.

CBM, also known as predictive maintenance, is the set of maintenance actions taken to prevent or avoid the consequences of functional failure. The Army vision for CBM is to establish enterprise-wide predictive maintenance and anticipatory logistics capability by developing information exchange requirements for the Army integrated logistics architecture and connecting self-reporting/self-diagnosing platforms to the logistics enterprise to improve operational availability, mission capability

and combat power.

In practical terms, what does MFOQA entail? First and foremost, MFOQA means that by the end of fiscal 2013 the Army should have a suite of DSCs on all Army aircraft. That suite will be comprised of a sufficient number and type of digital collectors to record aircrew communications, flight data, aircraft performance and, where applicable, digital video. DSCs will also have the capability to record engineering data for use by aircraft and component program and product managers.

Secondly, a system will enable MFOQA to collect and transmit digital aircraft data, although the type and range to be collected and transmitted is yet to be determined. The Army also hasn't yet decided how that data will be transmitted. For example, it's possible to transmit data over a wireless

network from the aircraft through the unit into the Army network. However, wireless transmissions, while less labor intensive, are also more limited than aircraft-side downloads in terms of volume of transmitted data and information security. Nonetheless, aviation units will possess the capability to download digital aircraft data for their use and pass into the Army network for other users.

Perhaps most important to commanders, MFOQA will provide the ability to sample and analyze aircraft data at the brigade level and below. That ability will allow commanders and trainers to tailor aircrew training based upon aircrew performance downloaded from aircraft after missions. For example, a commander could, through modeling, review a certain pilot's last five night vision system training flights to determine how the pilot's

performance fares against the training standards for NVS flight. In another example, commanders could use data downloaded from flights to assist in the after-action review process or to determine lessons learned from near misses. One very promising capability offered by MFOQA is for trainers to fly and record "gold-standard model" maneuvers and, by review, virtually place every member of the unit in the cockpit with an instructor pilot while he or she is demonstrating a given maneuver to standard.

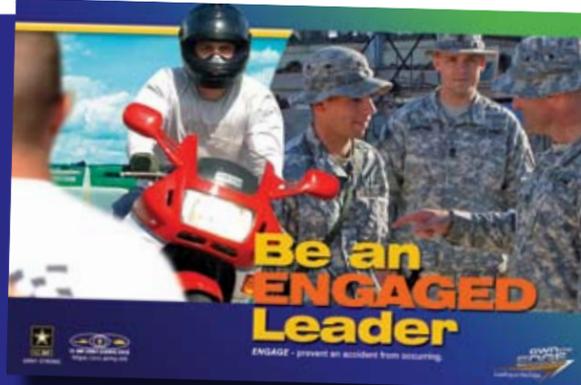
In the area of safety and accident prevention, the Army is already reaping some of the benefits of MFOQA. AH-64Ds and limited numbers of other aircraft types are by now outfitted with MDRs, HUMS and, in some cases, CVRs. These devices are fielded in concert with crash-

survivable memory units that have been of great utility in conducting post-crash forensic analyses of Army Aviation accidents. When these devices have been present on Army aircraft, the USACRC has been successful in helping accident investigators reconstruct portions of the flight to possibly determine accident causes or review aircraft performance factors. MFOQA will further this capability by allowing commanders to be more proactive in preventing accidents, compared to our present limited capability to conduct reactive accident analysis.

The U.S. Army Aviation Warfighting Center is leading the Army effort to determine how the MFOQA and ADEC programs will be developed. The Program Executive Office-Aviation and USACRC, along with the Army Staff and other Army agencies, are working in concert with USAAWC. Through our combined efforts, the Army is currently staffing an MFOQA capability development document. USAAWC will move forward this year to further develop the ADEC program and to obtain a fully staffed and approved initial capabilities document as part of the joint capability integration and development system process. <<

FYI

It was brought to our attention that the pull-out poster in April's *Knowledge* contained an editing error. We apologize for this mistake, especially to the Soldier in the photo, and we appreciate the feedback from our readers that brought this error to our attention. Your feedback allows us to continually improve our publication to better meet the needs of our Army Team. Keep it coming! Send your comments and recommendations to knowledge@crc.army.mil. Army Safe – Army Strong!



CSA SAFETY AWARDS ANNOUNCED FOR 2006

PAULA ALLMAN
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Congratulations to the winners of this year's Chief of Staff, Army Safety Awards. The Army operates the largest and most comprehensive safety program in the world, and this past year was an active and successful year. Deployments are up and the OPTEMPO is high, yet thanks to the professionalism and quality of Army leaders and Soldiers, missions are being completed safely and to standard. These units are crossing the line of departure and arriving in battle positions on time, meeting all pickup, landing zone and convoy checkpoint times and doing it all safely.

Excellent equipment, solid doctrine and great Composite Risk Management training programs significantly contributed to the accident reduction in fiscal 2006. These units' safety programs were selected as the best in the Army. The Director of Army Safety credits these warfighters' solid leadership, in-rank discipline and mission focus with directly contributing to an unprecedented year in accident prevention.

The winners of this year's CSA Safety Awards include seven recipients whose safety efforts clearly reflect their significant contributions to preserving Army combat readiness:

- CSA Army Headquarters Safety Award: Eighth U.S. Army
- CSA Exceptional Organizational Safety Award, Division: 377th Theater Support Command, Third Army, U.S. Army Central
- CSA Exceptional Organizational Safety Award, Brigade: FIRES Brigade, 4th Infantry Division (Mechanized), FORSCOM
- CSA Exceptional Organizational Safety Award, Battalion: U.S. Army Medical Material Center, Southwest Asia, Third Army, U.S. Army Central
- CSA Exceptional Organizational Safety Award, Garrison: Headquarters Command Battalion, Fort Meade, Md., IMCOM
- CSA Individual Award of Excellence in Safety, Officer: CW2 Faaruwq Muhammad, U.S. Army Medical Material Center, Southwest Asia, Third Army, U.S. Army Central
- CSA Individual Award of Excellence in Safety, NCO/Enlisted: SSG Henry Moye, Headquarters, 1st Battalion, 10th Aviation, 10th Mountain Division, FORSCOM

The awards have been given to the recipients' higher headquarters for presentation. For more information on the CSA Safety Awards, visit the U.S. Army Combat Readiness Center Web site at <https://crc.army.mil>. <<



MOUNTAIN



HEAT STROKE: A SURVIVOR'S STORY

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Fort Detrick, Md.
and
BOB VAN ELSBERG
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Steve Myers walked into his front yard. It was hot, but nothing unusual for July in Georgia. A competitive swimmer, he'd lived in the southeast for years and was used to the heat and humidity, probably more so than others, or so he thought. Suddenly his world began to spin and moments later went black as he fell unconscious to the ground. He'd suffered heat stroke!

A neighbor saw Steve fall and called for help. The ambulance got to his house quickly but as Steve regained consciousness, he panicked and started fighting with the emergency medical technicians.

"I had to be sedated at the scene," he said.

"I remember thinking 'I can't breathe, I'm having a heart attack!' I clutched my throat and collapsed."

Fortunately, Steve lived only a mile away from a regional university hospital, where doctors used a cooling blanket and circulated chilled water through his system to lower his 103-degree body temperature. Steve also was suffering from rhabdomyolysis, a condition where his skeletal muscles broke down and were delivered into his bloodstream, clogging his kidneys and liver. This problem caused him to stop breathing; after he was placed on a respirator, Steve ultimately fell into a coma. When he awoke three weeks later, he faced a long, tough battle to recovery.

How could a man who normally acclimated well to hot, humid weather so unexpectedly suffer heat stroke? The answer lies in the days just before his heat injury. Steve, an environmental engineer with the U.S. Army Corps of Engineers Savannah, Ga., District, had been at Fort Benning, Ga., investigating an accidental fatality at a dormitory rehabilitation project. He'd spent much of his time outdoors in the unusually hot weather without ready access to water or shade. The cumulative effects of days of dehydration, exhaustion and hotter-than-normal temperatures set him up for a heat injury.

There were other contributing factors as well. At age 40, Steve

was less able to handle the heat and heavy workload than when he was younger. Fatigue also played a role. While Steve was hospitalized, doctors found he'd been suffering from a previously undiagnosed sleep disorder. His poor rest and the exhaustion caused by his work made him more vulnerable to heat stroke.

Steve was fortunate to have survived. He spent 42 days in the

hospital undergoing physical therapy after he awoke from the coma. It was weeks before he could sit up or walk on his own. Only during his last week in the hospital did Steve's kidneys begin to function again, and he suffered nerve damage that makes walking painful. Still, he's alive and, after months of outpatient rehabilitation, back at his job.

Grateful for having survived, Steve knows

Soldiers often face the same dangers during training stateside or when deployed to hot locales such as Iraq. He shares his story to encourage Soldiers to watch closely for the signs of heat injury in themselves and their buddies. Because of what he went through, Steve knows heat injuries can kill or leave victims with permanent health problems, things no Soldier wants to experience. <<



FYI

For more information on heat injury prevention, visit the U.S. Army Combat Readiness Center Web site at <https://crc.army.mil>, the U.S. Army Center for Health Promotion and Preventive Medicine Web site at <http://chppm-www.apgea.army.mil/heat/> or the U.S. Army Research Institute for Environmental Medicine Web site at <http://www.usariem.army.mil/heatinjury.htm>.

WHAT IS HEAT STROKE?

Heat stroke occurs when the body's temperature rises rapidly, causing the sweating mechanism to fail and rendering the body incapable of cooling itself. Body temperature in heat stroke victims can rise to 106 degrees or higher within 10 to 15 minutes, causing death or permanent disability if emergency treatment isn't provided immediately.

Warning signs:

- An extremely high body temperature (above 103 degrees)
- Red, hot and dry skin (no sweating)
- Rapid, strong pulse
- Throbbing headache
- Dizziness
- Nausea
- Confusion
- Unconsciousness

What to do:

- Get medical assistance as soon as possible and move the victim to a shady area.
- Cool the victim rapidly using whatever methods are available. For example, immerse the victim in a tub of cool water; place the person in a cool shower; spray the victim with cool water from a garden hose; sponge the person with cool water; or, if the humidity is low, wrap the victim in a cool, wet sheet and fan him or her vigorously.
- Monitor body temperature and continue cooling efforts until body temperature drops to between 101 to 102 degrees.
- If emergency medical personnel are delayed, call the hospital emergency room for further instructions.
- Don't give the victim fluids to drink.



Spending a day on the water is a great way to relax and enjoy the outdoors. Both on and off Army installations, there are a number of fun recreational activities on and around water for Soldiers and their families. Unfortunately, these same activities also have their share of danger. However, knowing your limitations and some of the hazards involved will help ensure a nice day in the sun and surf doesn't end in tragedy.

According to the U.S. Coast Guard's 2005 statistics, 491 Americans drowned while boating. Of those, 426—a whopping 87 percent—failed to use a personal floatation device. From fiscal 2004 through Feb. 12, 2007, 30 Soldiers have died from drowning. Nine

of those fatalities involved some type of watercraft, and in only one instance was the Soldier wearing a PFD. Had they used PFDs, many of these Soldiers might still be serving in our formations. By promoting the use of Coast Guard-approved PFDs while operating watercraft, we can help prevent boating fatalities.

- According to the U.S. Coast Guard's Boating Safety Web site, about 25 to 35 people die every year as a result of being struck by the propeller and/or propulsion unit of their boat. An additional 200 to 250 people suffer non-fatal injuries from mishaps. When operating a boat with a propeller, follow these simple steps:
- Look before starting the engine
 - Never exit or enter from the rear while the engine is running
 - Educate your passengers on propeller awareness
 - Take extra care when towing passengers
 - Never permit riders on the boat's tail

Taking the time to put on a PFD is obviously a smart decision; however, it could be all for naught if you decide to operate a watercraft under the influence of alcohol or drugs. Coast Guard statistics reveal that a boat operator with a blood alcohol concentration above .10 percent is estimated to be more than 10 times more likely to die in an accident than a sober operator. In addition, watercraft motion, vibration, engine noise, sun, wind and spray all intensify the effects of alcohol and drugs.

Most states and the federal government have a BAC limit of .08 percent, and it's illegal to operate a motorboat, canoe, rowboat, personal

watercraft or any other vessel under the influence of alcohol. The Coast Guard and local law enforcement agencies cooperate to enforce these stringent state and federal laws. Penalties include large fines, suspension or revocation of boat operator privileges and even jail terms. Drinking alcohol and operating gasoline-fueled equipment proves the old saying "fuel and water don't mix" is true.

Another threat we normally might not consider is operating a watercraft while using prescription or over-the-counter medications. Common medications such as those for blood pressure or allergies

FYI

Plan on spending the day operating a watercraft? If so, leave the alcohol on shore. Here are some typical ways boating under the influence can affect an operator:

- Your peripheral vision, night vision, focus and ability to distinguish colors (particularly red and green) diminish.
- Your inner ear can be disturbed, making

it impossible to distinguish up from down if you fall in the water.

- A physical sensation of warmth might make it easier to fall victim to hypothermia.
- Your cognitive abilities and judgment deteriorate.
- Your balance and coordination are impaired.
- Your reaction time decreases.

might have side effects that can be multiplied by environmental stressors. So, boating under the influence is a factor even for those who don't drink or use illegal drugs. If you're unsure or have questions about your medications, contact your physician.

Educating our Soldiers who participate in water-related activities can help reduce the number of those who drown as a result of a boating or personal watercraft accident. Wearing a PFD can increase the survivability rate of a non-swimmer or a swimmer who suddenly finds himself in open water. Understanding your physical limitations, the effects of environmental stressors, drugs and alcohol and implementing proper controls to mitigate the risks are the keys to a safe day on the water.

For more information on boating safety, visit the International Sail and Power Association Web site at www.safeboating.com, or the U.S. Coast Guard Web site at www.uscg.mil.

SOMETHING FISHY GOING ON

Would you consider fishing a high-risk activity? Would it even register if one of your Soldiers told you they were going fishing this weekend? Tragically, in December 2006, two Soldiers lost their lives while fishing at a local lake. Were they drinking? Nope, alcohol wasn't a factor. Here's what happened: One of the Soldiers was a non-swimmer, and neither wore a personal floatation device. When a storm blew in, the weather conditions drastically changed the water's surface conditions. The Soldiers' small vessel was no longer suitable for the conditions and capsized. Wearing heavy winter clothing and no PFDs, these Soldiers never stood a chance of surviving this tragic event.

- Leaders should take time to educate Soldiers on safe boating practices, placing a special emphasis on wearing PFDs.
- Encourage Soldiers to take a boating safety course before getting on the water.
- Leaders must ensure their Soldiers understand the Composite Risk Management process and apply it during off-duty recreational activities.

WET WILD?



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Campaign Kicks Off

The National Highway Traffic Safety Administration's 2007 "Click It or Ticket" Campaign will run May 21 through June 3. During the campaign, law enforcement personnel will be closely checking drivers and passengers for seat belt use. Although seat belt use is rising as a whole, NHTSA reports nearly 20 percent of Americans still fail to buckle up. Those unbelted drivers and occupants account for more than half of all vehicle fatalities.

Seat belt use within the Army isn't optional. Army Regulation 385-55, *Prevention of Motor Vehicle Accidents*, requires

military personnel to wear seat belts whenever they're in a vehicle and wherever they might be driving. Seat belt use is also required by all Department of Defense civilians when they're in duty status on or off post. Also, anyone riding in a DOD-owned or leased vehicle or traveling on a DOD installation must wear their seat belt at all times.

The "three impacts"
Buckling up is more than just obeying the law or Army regulation. Modern vehicles and seat belts are designed to protect you during the three impacts that are part of every collision.

First, there's the impact between your vehicle and the object it collides with. Included in

your vehicle's design are crumple zones that allow part of the structure to crush inward to reduce the impact. However, suddenly decelerating from the speed you were going to zero mph in the distance of your crumple zone, perhaps only 3 feet, puts tremendous force on your body. No amount of stiff-arming the steering

wheel or dash will keep you from flying forward and being badly injured.

The second impact is between your body and whatever stops it from moving inside your vehicle. If that's a seat belt, you'll likely be left with little more than a nasty bruise. If it's the steering wheel, dash or windshield because you're unbelted, you'll hit them at the same speed your vehicle was

traveling. The front of your face, head and chest will become your personal crumple zone.

Finally, there's the impact of your organs slamming into each other or your bones. While these injuries might not be visible on the outside, they can be life-threatening. A

severe impact to the chest can tear your aorta, causing you to bleed to death internally. A severe impact to your head can cause disabling or fatal brain injuries.

While there's no way to completely eliminate all impact forces during a collision, seat belts direct that force to the parts of your body that can best handle it: the bones in your hips, shoulders and chest. Beyond that, seat belts keep you inside your car so you're not thrown into traffic or crushed by your own careening vehicle.

You can't always avoid the bad choices others make while driving. However, before you get on the road, you can always make the right decision to buckle up. <<



FYI

According to the National Highway Traffic Safety Administration, "Traffic crashes are not only a grave public health problem for our nation, but also a significant economic burden. Traffic crashes cost our economy approximately \$230 billion in 2000, or 2.3 percent of the U.S. gross domestic product. This translates to an annual average of \$820 for every person living in the United States." More information on traffic safety can be found at www.nhtsa.gov.

SAVED BY THE BELT

CW4 (RET) MARK A. MARTIN



It was a sunny April day in Fort Hood, Texas, when a seat belt saved my life. My day had begun way too early with an Army Physical Fitness Test. I'd left the house about 5 a.m. to take the test with my unit, which was undergoing the unit fielding and training program for the OH-58D Kiowa Warrior. After the APFT and a full day of staff meetings and office work, I finally decided it was time to call it a day. I took the same monotonous route home I'd taken for the past several months.

Traffic was moving swiftly and, while I was glad to be off work, I was tired as I drove my wife's Mazda Miata convertible with the top down. I was traveling in the left lane of an undivided four-lane road when a car pulled out from a side street, crossed two lanes of traffic and stopped in front of me. I looked in my right-hand mirror and saw I couldn't change lanes, so I jumped on the brakes—and the car went into a skid. The next thing I remember was hearing the Miata's horn blowing and looking at the air

bag drooping from my steering wheel. Some other motorists immediately rushed to help me and the driver I'd hit.

Thanks to the airbag and my seat belt, I was uninjured except for a slightly sprained left wrist. The other driver, however, wasn't so fortunate. She wasn't wearing her seat belt and was seriously injured. Her older-model car also didn't have an air bag.

This kind of unfortunate accident is all too common on today's highways. A moment's inattention or misjudgment can have life-changing consequences. As I learned through this experience, your best countermeasure in an accident is a properly fastened seat belt. I stressed that point many times when I served as my squadron's safety officer. I'm convinced following my own advice that day saved my life. <<





an electrifying month

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U.S. Army Combat Readiness Center

On March 1, 2007, a devastating tornado swept through the city of Enterprise, Ala., killing eight high school students and an elderly city resident. In the days that followed, downed electrical lines posed a deadly hazard in the debris-strewn areas of the city. Rescue workers, power crews and local volunteers, many from the Army's nearby Fort Rucker, responded by going into the area to help the storm's victims. Fortunately, no one was injured or killed by coming into contact with a live downed power line. But not everyone in America is so fortunate.

Each year, approximately 400 people are killed and thousands more injured in electrical accidents. Beyond the human cost, the nearly 140,000 electrical fires that happen annually result in billions of dollars in property damage. Helping prevent those fatalities, injuries and property losses is the

reason May has been designated National Electrical Safety Month. The goal, according to Electrical Safety Foundation International, is to promote electrical safety in the home, school and workplace.

Power lines are the single greatest on-the-job electrical hazard, killing an average of 133 workers per year. Contacts by ladders, construction equipment and gardening tools is the leading cause of electrocutions of this type.

In addition to power line hazards, there are a number of other electrical dangers lying in wait for unsuspecting victims. Observing the following safety checks from the Wiregrass Electrical Cooperative of Dothan, Ala., can reduce your potential of becoming an electrical accident victim:

Receptacles. Inspect receptacles for overloads and cracked or missing faceplates. Also, ensure child-proof protective plugs have been inserted into receptacles

to prevent injuries to small children.

Service cords. Ensure the service (power) cords for your electrical appliances aren't cracked, frayed or spliced or wrapped with electrical tape. Also be sure they haven't been nailed or stapled to walls or placed under rugs.

Service plugs. Ensure plugs are inserted properly into receptacles and that ground pins (third prong) haven't been removed to make a grounded plug fit a two-pronged receptacle.

Ground fault circuit interrupters. These receptacles protect individuals from shock by breaking the electrical circuit when electrical current attempts to run through the human body to the ground. GFCIs should be installed anywhere damp conditions could exist such as kitchens, bathrooms, garages, crawl spaces, basements and outdoor receptacles. Because they can fail after several years, GFCIs should be

replaced with new harmonized GFCIs, which incorporate improved safety features to better protect and alert users when the device malfunctions.

Appliances. If an appliance consistently trips a circuit breaker or blows a fuse when you plug it in or shocks you when you touch it, unplug the appliance and either have it repaired or replaced.

Outdoor equipment. Ensure electric mowers, hedge trimmers, leaf blowers and power tools are never used while it's raining or in wet conditions. Also check any heavy duty power cords you use for outdoor equipment for wear or cracks in the insulation.

Electrical wiring. Don't risk serious injury or death by attempting do-it-yourself home electrical repairs. Always leave electrical wiring jobs to certified electricians.

For more information, visit the EFSI Web site at <http://www.esfi.org/home-safety.html> or the Wiregrass Electric Cooperative Web site at <http://www.wiregrass.coop/mayenergy.html>. <<

OCCUPATIONAL HAZARDS?

More than 5,000 people die each year from injuries suffered on the job. To emphasize the importance of reducing these illnesses and injuries, the North American Occupational Safety and Health Week will be observed May 6 through 12, 2007.

According to the American Society of Safety Engineers, the week has three primary goals:

- Increase understanding of the benefits gained by investing in occupational health and safety
- Highlight the contributions of safety, health and occupational professionals
- Help reduce workplace injuries and illnesses through encouraging new health, safety and environmental activities

This year's primary focus is on transportation safety, the No. 1 cause of work-related deaths. According to the most recent data provided by the ASSE, 43,433 people died in transportation-related accidents during 2005 and another 2.7 million were injured. The cost of these fatalities and injuries was more than \$230 billion. In addition, the 2005 Census of Fatal Occupational Injuries, published by the U.S. Department of Labor, profiled other fatal work-related injuries by type:

Aircraft—147 fatal injuries, a decline of 36 percent from the previous two years

Railroad—84 fatal injuries, an increase from 50 fatalities during 2004

Falls—767 fatal injuries, a 7-percent decline from the series high in 2004. While fatal falls from roofs, ladders, stairs and non-moving

vehicles declined, falls on the same level (falling to the floor or against an object) increased.

Struck by objects—604 fatal injuries compared to the previous year's 602

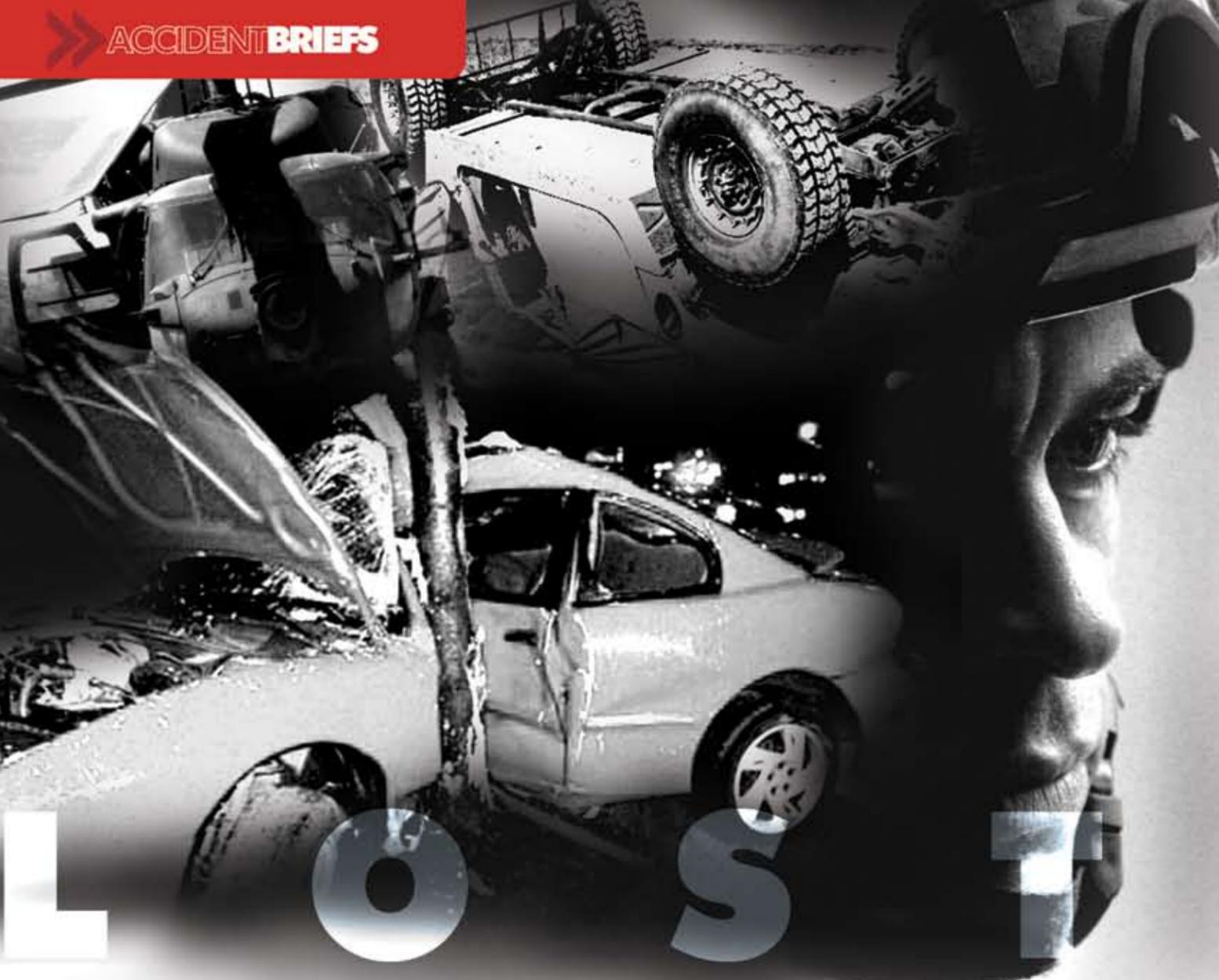
Homicides—564 workplace homicides, a slight increase from the previous year's 559

Suicides—177 workplace suicides, a 14-percent decline from 2005 and a series low

Exposure—Fatal work injuries resulting from exposure to harmful substances or environments rose 7 percent in 2005. The most notable increase was the 47 workers who died after exposure to environmental heat compared to 18 fatalities in 2004. Fatalities also rose as more workers lost their lives from inhaling caustic, noxious or allergenic substances.

For additional information on North American Occupational and Safety Health Week or workplace safety, visit the ASSE Web site at <http://www.asse.org/newsroom/naosh07/>. <<





LOSERS

AVIATION



CLASS C **D Model**
 While performing aircraft shutdown, the instructor pilot inadvertently pushed the No. 2 engine start switch into the ignition override position, resulting in a damaged No. 2 engine air turbine starter.

LEADERS, ARE YOU AWARE THAT ACUTE AND CHRONIC FATIGUE EFFECTS MAY CAUSE MENTAL ERRORS?



CLASS A
 During initial test flight, the crew experienced a low fuel pressure warning signal followed by engine failure. The crew executed an autorotation and made ground contact. The aircraft overturned and suffered major damage.



CLASS C **D Model**
 The left-side pilot's door separated from the aircraft during a maintenance test flight. The

aircraft was straight and level and accelerating from 80 knots to 135 knots at 1,500 feet mean sea level when the incident occurred. The door was retrieved and the aircraft returned to the airfield without further incident. Both doors had been removed to complete a modification to prepare the aircraft for deployment. The door was properly reinstalled and inspected by all required personnel.



CLASS A **E Model**
 The aircraft crashed and overturned after a reported power

loss during flight. The crew was conducting a passenger transport mission at the time of the accident. Seven Soldiers and one Airman were killed; 14 other passengers survived the crash.



CLASS C **D(R) Model**
 The aircraft exceeded NP/NG limitations during a manual throttle (full authority digital electronic control) approach for a run-on landing.

DO AIRCREWS ANTICIPATE THROTTLE AND POWER APPLICATIONS AND ASSOCIATED LAG TIMES DURING A DEGRADED MODE?



CLASS B **H Model**
 The aircraft overturned while landing at a confined area during a training iteration.

ARE YOU USING PROPER LANDING TECHNIQUES AND PAYING ATTENTION TO AIRCRAFT LIMITATIONS?



CLASS C **A Model**
 The aircraft's tail contacted the ground during landing. Cyclic was applied forward and the nose subsequently contacted the pavement.

CLASS C
 The aircraft suffered damage while the crew was performing desert brownout landings for mission execution. Although the aircraft was flown the entire mission without noticeable effects to performance, damage was

noted on the trailing edge of all four main rotor blades during the postflight inspection. The ALQ-144 also suffered damage to the screws on top of the aircraft survivability equipment but was still operational. Maintenance replaced all four main rotor blades and the ALQ-144 screws.



CLASS C **H Model**
 The crew experienced smoke in the cockpit during flight. The aircraft was landed without incident at an Army airfield. The crewmembers were admitted to a local medical facility for treatment of smoke inhalation.



CLASS B
 A Shadow TUAS struck a parked UH-60 during a landing sequence.

CLASS C
 The aerial vehicle operator experienced rpm fluctuation followed by engine failure and battery voltage drop during return flight. The UAS was landed in accordance with emergency procedures and, although the chute deployed, the vehicle suffered some damage.

The AVO received a generator failure indication during flight. During the recovery/return maneuver, the system experienced an ignition/engine failure and rpm dropped to 0, at which time the recovery chute activated.

ARMY AIRCRAFT LOSSES FY02 to Present thru April 11, 2007



AH-64A/D	11/45
U/MH-60L	11/24
C/MH-47	6/14
OH-58D	8/22

TOTAL 36/105

ARMY GROUND LOSSES FY07 thru April 2007



AMV	15/16
ACV	11/7
PERSONNEL INJURY	20/19

WEAPONS HANDLING 3/3 FIRE/EXPLOSION 0/0

TOTAL 46/42

GROUND

ACV



CLASS A (DAMAGE)

A Soldier was operating an M2A2 Bradley Fighting Vehicle over a bridge when the ground gave way, sending the vehicle into a canal. All three crewmembers were able to safely exit the vehicle. The accident occurred in the early morning. (For more information on this accident, see the story "As Good as It Gets" in the March issue of *Knowledge*, or visit our Web site at <https://crc.army.mil/knowledge>.)

DO YOUR SOLDIERS REHEARSE ROLLOVER DRILLS?

AMV



CLASS A

A Soldier suffered fatal injuries when the M1114 HMMWV she was riding in overturned. The driver of the HMMWV was attempting to negotiate a split in the road at the time of the accident and was not injured during the rollover. The accident occurred in the early evening.

An Army contractor was killed when his privately owned vehicle was struck at an intersection by a Soldier operating a HMMWV. The Soldier was not injured. Seat belt use was not reported. The accident occurred in the early afternoon.

DO YOU IDENTIFY AND BRIEF ROAD HAZARDS DURING MISSION PLANNING?

CLASS B (DAMAGE)

An M1070 Heavy Equipment Transporter and M1000 trailer overturned while hauling an M1

Abrams tank. The load shifted as the HET's driver was negotiating a serpentine barrier, causing the vehicle to roll over. The accident occurred in the early morning.

Personnel Injury



CLASS A

A Soldier choked on unknown food during a football party, became unconscious and went into cardiac arrest. Although the Soldier was rushed to a hospital and placed on life support equipment, she later died.

A Soldier suffered a permanent total disability when she fell in her home. The Soldier slipped on some water that had been tracked in from outside and fell backward, striking the back of her head and neck on a wall. The fall caused a crack in the Soldier's vertebrae, resulting in paralysis below her waist. The accident occurred in the early morning.

A Soldier suffered a possible permanent total disability when he collided with a vehicle while riding his bicycle. The Soldier suffered back and head injuries, and the current prognosis

is paralysis from the waist down. Personal protective equipment use was not reported. The accident occurred in the early morning.

CLASS B

A Soldier suffered a permanent partial disability when his finger was struck by a round from his M9 pistol. The Soldier was firing the weapon when it became jammed and discharged as he was attempting to clear it. The injury required amputation of the Soldier's left pinky finger. The accident occurred in the early afternoon.

ARE YOUR SOLDIERS PRACTICING PROPER CLEARING PROCEDURES?

CLASS C

A Soldier accidentally shot another Soldier in the leg while showing him a pistol. The Soldier with the pistol failed to clear the round from the chamber and the weapon discharged. The injured Soldier was transported to a hospital and treated for his injuries. The offending Soldier was arrested and charged



POV DRIVING LOSSES FY07

CARS	21/22
VANS	1/1
TRUCKS	11/11
MOTORCYCLES	12/11
OTHER*	10/9

*Includes tractor-trailers, unknown POVs and bicycles

54
TOTAL DEATHS

FY06: **53** 3 year average: **58**

CRITICAL DAYS

This year, the Army commences its 101 Critical Days of Summer Safety campaign with a simple yet meaningful slogan, "Never Give Safety a Day Off." Memorial Day through Labor Day marks the critical time when accidents and mishaps pose an increased risk to Soldiers and their families. As the weather turns nice, more vacations and road trips are taken, cookouts are abundant, water sports become a favorite pastime and, unfortunately, safety often becomes the furthest thing from everyone's mind. As Soldiers and their loved ones participate in summer activities, they need to remember to never give safety a day off. Composite Risk Management is a valuable life skill for all activities, whether Soldiers are

on- or off-duty. There is no better time than now for commanders and supervisors at all levels to stress the use of CRM during off-duty activities.

Soldiers need to be self-disciplined and avoid taking any unnecessary risks. As always, leaders need to stay engaged and realize that they are accountable for their Soldiers' actions as well as their own.

The U.S. Army Combat Readiness Center stands ready to assist Soldiers and leaders by providing a greater awareness of the hazards surrounding these favorite pastimes and activities. On a weekly basis, starting May 28 and concluding Sept. 3, 2007, the USACRC will produce several multimedia products such as articles, posters and public service announcements. Those PSAs will



101 Critical Days of SUMMER
21 May - 3 Sept 2007
Never Give Safety A Day Off

contain information to assist Soldiers and leaders in doing the right thing and making sound judgments both on- and off-duty. Summertime should be spent having fun with

friends and Family—not marred by accidents and injuries.

For questions on the 101 Critical Days of Summer Safety campaign, visit our Web site at <https://crc.army.mil>

with negligent discharge of a firearm. The accident occurred in the late evening.

A Soldier suffered a leg injury when he stabbed himself while playing with a sword in his barracks. The Soldier was drinking with two women, playing with the sword and talking with his mother on the telephone when the accident happened. The Soldier was hospitalized for 10 days. The accident occurred in the early evening.

DRIVING
POV



CLASS A

A Soldier was in leave status when he was killed in a single-vehicle accident. According to police reports, the Soldier was driving approximately 61 mph in a 45-mph zone when he attempted to round a curve. The Soldier lost control of his vehicle, which

ran off the road, rolled over once and struck a tree. The accident occurred at 3:22 a.m., and the road surface was covered with snow and slush. The Soldier was not wearing his seatbelt.

HAVE YOU TOLD YOUR SOLDIERS TO ADJUST THEIR SPEED ACCORDING TO DRIVING CONDITIONS?

A Soldier was a passenger in a POV when the driver lost control of the car, which struck a tree. According to police reports, the driver was traveling about 80 mph in a 55-mph zone and the vehicle overturned several times. Neither the civilian driver nor the Soldier was wearing their seat belts. The accident occurred about 4:30 a.m. The driver died at the scene and the Soldier died four days later at a medical facility.

DO YOUR SOLDIERS KNOW ACCIDENT RISKS RISE BETWEEN THE HOURS OF 2300 AND 0500?

A Soldier was on pass driving on a four-lane divided highway when he was involved in a head-on collision with a wrong-way driver in his lane. Although the Soldier and other driver were wearing their seat belts, both died in the collision. The Soldier had completed an ASMIS-2 automated risk assessment and was not at fault for the crash.

Two Soldiers were killed when their vehicle collided head-on with a civilian fuel tanker. The Soldier driving the vehicle crossed both lanes on his side of the highway and was in the oncoming lanes when he hit the tanker. Seat belt use was not reported. The driver was on restriction because of a recent Article 15 and is thought to have fallen asleep at the wheel. The accident occurred about 5:40 a.m. on a weekend. Alcohol and drug use are also suspected.

Look out. Be aware.

May is Motorcycle Safety Awareness Month, so remember there are over 33,425 motorcycles currently registered on Army installations. Share the road and the responsibility.

WARNING: Objects in mirror are closer than they appear



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EDGE

Leading on the Edge

educated?

*don't learn
the hard way*



Have you completed a motorcycle rider education and training course? Successfully completing rider education and training gives you the basic skills needed to ride safely.

**May is Motorcycle Safety
Awareness Month**

be aware



TREAT WEAPONS AS SAFETY!

Treat every weapon as if it's loaded.

Handle every weapon with care.

Identify the target before you fire.

Never point the muzzle at anything you don't intend to shoot.

Keep the weapon on safe and your finger off the trigger until you intend to fire.



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