

Leader Accountability in Reducing Accidents

GEN Peter Schoomaker
Chief of Staff, Army



In March 2003, the Secretary of Defense challenged the Services to reduce accidents by 50 percent by the end of Fiscal Year (FY) 2005. Our target was 101 mishap fatalities, but we actually suffered 302 Soldier deaths due to accidents. These losses represent a significant impact on our combat power, and many could have been prevented with good leadership.



In the most dangerous environments—those in theater—we have a much reduced accident rate relative to exposure levels. This is due to involved, engaged leaders who properly plan and then closely supervise their Soldiers' missions. Leaders are the key to preventing unnecessary loss. In recognition of this fact, we are strengthening the performance evaluation system on leader responsibility for risk management.

All leaders will include safety programs and tasks in their evaluation report support forms and counseling sessions. An excellent example is "Effectively

incorporating Composite Risk Management in all mission planning and execution to include quarterly training briefs and quarterly safety council meetings." Open and continuous communication between Soldiers and leaders on this critical topic will work to achieve that mission. Leaders at all levels must lead the way in changing behavior to reduce accidents.

All senior raters will pass their support forms down two levels. For example, division commanders will pass their support forms with safety objectives down to battalion commanders, who then will

pass their support forms with safety objectives down to platoon leaders. The NCO chain of supervision is linked in a similar fashion through their rating officials. Regular counseling in support of military evaluation systems is an already established requirement and practice. An oversight process for this requirement is in place as part of evaluation counseling.

We cannot afford to let this become a "check the box" requirement. Leaders must determine how their unit and Soldiers fit into programs and campaigns organized and promoted by the Army Combat Readiness Center. Leaders should take these broad agendas and translate them into specific tasks and objectives suitable for their unit and mission. This safety accountability focus at the leader level, along with counseling to see it placed squarely into all officer and NCO development, is vital to preserving our most precious resource, our Soldiers.

The Army Combat Readiness Center (CRC) has many valuable tools leaders can use to meet the requirements of the Chief of Staff, Army (CSA) directive to include safety in evaluation reports. These programs, initiatives, and metrics were developed to help leaders at every level integrate Composite Risk Management (CRM) into all facets of their units' operations and training. They also were designed to help leaders determine the value of their unit safety programs as a whole, while individual Soldiers can use the programs and metrics for inclusion in their support forms and counseling checklists.

Army Readiness Assessment Program (ARAP)

ARAP is a Web-based, battalion-level commander's tool used to evaluate unit climate and culture on issues including safety, risk management, command and control, and standards of performance. The program consists of an online assessment followed by proposed courses of action to improve the unit's effectiveness. ARAP was developed for battalion commanders as part of their command inspection program but is now available to all Headquarters, Department of the Army and major command staffs. More information on ARAP can be found on the CRC homepage at <https://crc.army.mil> or by going to <https://unitready.army.mil>.



Preliminary loss reports (PLRs) and "Got Risk?" posters

PLRs and "Got Risk?" posters are distributed to commanders via e-mail to raise awareness of the latest accidents. PLRs are generated by a team at the CRC for each Army accident involving a fatality and include tactics, techniques, and procedures (TTPs) to help prevent similar accidents from occurring. The "Got Risk?" posters highlight the basic facts of accidents occurring during specific 7-day intervals. All PLRs and "Got Risk?" posters are available on the CRC homepage at <https://crc.army.mil>.

Army Safe Driver Training (ASDT)

ASDT consists of hands-on accident avoidance training in several key areas including braking, skids, and high-speed maneuvering. This training can be

performed on both conventional vehicles and HMMWVs.

Commanders can request this program by contacting the CRC G-5 at (334) 255-2461 or DSN 558-2461. More information on the ASDT program can be found online at <https://crc.army.mil/RiskManagement/detail.asp?idata=56&iCat=454&iChannel=25&nChannel=RiskManagement>.

POV Toolbox

The POV Toolbox was designed to help leaders fight the number one killer of Soldiers outside combat—private vehicle crashes. This Web-based program includes the CSA's 6-Point Program, a POV inspection checklist, tools for trip planning and accident trend analysis, an accident review guide, options available to commanders in dealing with unsafe drivers, and leaders' guides. The POV Toolbox can be found online at <https://crc.army.mil/RiskManagement/detail>.

asp?iData=26&iCat=516&iChannel=25&nChannel=RiskManagement.

On-site CRM training

The CRC's Mobile Training Teams (MTTs) provide 3-day commander/leader courses and 5-day NCO courses on CRM for brigade- or division-sized units



free of charge at the requesting unit's location. The MTTs also provide a CRM train-the-trainer course on request. Commanders can schedule these courses by contacting the CRC G-7 at (334) 255-0242 or DSN 558-0242. More information on MTT visits can be found online at <https://crc.army.mil/Training/cat.asp?iCat=519&iChannel=16&nChannel=Training>.

Assistance visits

Commanders can request a white-hat team to conduct an on-site study of their units' operations and make recommendations to improve their CRM processes. The visits can be scheduled through the CRC G-5 at (334) 255-2461 or DSN 558-2461. More information on assistance visits can be found online at <https://crc.army.mil/Training/detail.asp?iData=43&iCat=519&iChannel=16&nChannel=Training>.

Commander's Safety Course

This course is a mandatory requirement for all commanders and can be found on the Combat Readiness University Web site at <https://safetylms.army.mil/librix/>

<loginhtml2.asp?v=usasc>.

Magazines

The CRC produces three full-color publications geared toward hazard identification and CRM: *Flightfax* (aviation), *Countermeasure* (ground), and *ImpaX* (driving). Electronic copies of each publication and

subscription information can be found online at <https://crc.army.mil/MediaAndPubs/cat.asp?iCat=59&iChannel=19&nChannel=MediaAndPubs>.

Commander's Toolbox

The Commander's Toolbox is an online package derived from best practices in the field and includes checklists, briefing formats, sample SOPs, training materials, automated risk assessment worksheets, etc. To access the Commander's Toolbox link, go to the CRC homepage and then click on the "Combat Readiness University" icon. Use your AKO user name and password to log in, and then go to "My Courses."

Guardian Angel

The Guardian Angel program is a national campaign that pairs family members, churches, schools, and other interested persons and groups with individual Soldiers to help keep them safe during off-duty activities. This program is especially useful during a Soldier's post-deployment phase. More

information on the Guardian Angel program is available online at <https://crcapps.army.mil/guardianangel/index.html>.

Safety awards program

Commanders can find policy, guidance, and samples of how to run their own safety awards program online at <https://crc.army.mil/CRC/detail.asp?iData=80&iCat=544&iChannel=13&nChannel=CRC>.

In addition, the CRC offers tools for individual officers and NCOs:

ASMIS-1 Aviation Risk Assessment Tool. This module of the ASMIS-1 system guides the user through the risk management process during aviation mission planning and can be found online at <https://crcapps.army.mil/>. (Note: ASMIS-2 Aviation is being developed and should be available soon.)

ASMIS-1 Ground Risk Assessment Tool. This module of the ASMIS-1 system guides the user through the risk management process during ground mission planning for operations such as convoys and can be found online at <https://crcapps.army.mil/>. (Note: ASMIS-2 Ground is being developed and should be available soon.)

ASMIS-2 POV Risk Assessment Tool. This updated version of the original ASMIS pairs individual Soldiers with their supervisors to help plan POV trips and make appropriate risk decisions. At the end of the assessment, Soldiers are provided with a full itinerary, a map with directions, and an automated DA Form 31. ASMIS-2 can be accessed online at <https://crcapps.army.mil/>.

Additional Duty Safety

Officer Course. This is a mandatory course for all additional duty safety personnel and is available online at <https://safetylms.army.mil/>.

Composite Risk

Management Course. This is an online course that provides policy, practice, and tools on CRM. To access CRM course material, go to the CRC homepage at <https://crc.army.mil>, and then click on the "Combat Readiness University" icon. Use your AKO user name and password to log in, and then go to "My Courses."

Videos. The CRC has a wide range of videos that can be used during training. Subjects range from driving POVs, explosives safety, HMMWV rollovers, aviation, and others. To access the videos from the CRC homepage, go to the "Media & Magazines" channel at <https://crc.army.mil/MediaAndPubs/detail.asp?iData=75&iCat=58&iChannel=19&nChannel=MediaAndPubs>, click the "Video Index" link, and then click to view or order.

Deployment Safety

Guide. The V Corps Safety Office developed this extensive manual that provides safety guidance, policy, and tools for many phases of deployment and can be found online at <https://crc.army.mil/Guidance/detail.asp?iData=207&iCat=371&iChannel=15&nChannel=Guidance>.

Confined Space Guide. This guide provides instructions on how to protect personnel who work in permit-required confined spaces. For more information, go to the confined space guide link on the CRC homepage at <https://crc.army.mil/Guidance/detail.asp?iData=205&iCat=456&iChannel=15&nChannel=Guidance>.

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Up-Armored HMMWV

Rollover Procedures. Graphic Training Aid (GTA) 55-03-030, *Up-Armored HMMWV Emergency Procedures Performance Measures*, consists of step-by-step emergency procedures for rollovers, water egress drills, MEDEVAC requests, and training suggestions. More information on this GTA can be found online at <https://crc.army.mil/Tools/detail.asp?iData=58&iCat=547&iChannel=17&nChannel=Tools>.

The following metric examples are for officers and NCOs to support active safety measures within their formations. Under no circumstances is the intent to foster a zero-defect environment. Rather, the goal is for units to quantify safety requirements, programs, and policies across the full spectrum of command to set the conditions for Soldiers, leaders, and commanders to own the edge. Each unit is highly encouraged to create and tailor metrics specific to their individual missions and requirements, showing linkage and continuity across every echelon from top to bottom.

- Effectively incorporated CRM in all mission planning and execution, to include quarterly training briefs and quarterly safety council meetings.

- Achieved 100 percent compliance of ASMIS-2 POV use by unit personnel.

- Achieved 100 percent reporting of all accidents in accordance with Army regulations using the Accident Reporting Automated System.

- Within 90 days of assuming

command or responsibility, executed all safety awareness and risk management programs to include ARAP, the Additional Duty Safety Officer Course, and CRM training.

- ___ percent of my Soldiers are enrolled in Combat Readiness University online programs.

- ___ percent of my Soldiers participated in ASDT programs including Motorcycle Mentorship and the Accident Avoidance Course.

- ___ percent of my aviation crews completed Aircrew Coordination Training-Enhanced.

- Developed unit-specific safety and accident avoidance training classes using CRC-developed products presented in officer and NCO professional development training sessions.

- Received, reviewed, and distributed both "Got Risk?" posters and PLRs across my formations to prevent similar events from occurring.

- Conducted thorough after-action reviews to capture best practices and TTPs that were then shared across formations to improve communication and refine and standardize SOPs to further mitigate risk.

- Never walked by an unsafe act or procedure by making on-the-spot corrections to ensure compliance with approved standards.

- Provided subordinates with the maximum planning time possible (1/3-2/3 rule) to minimize shortcuts and enhance the potential for overall mission success. ★



BG Joe Smith
Director of Army Safety
CG, CRC

This is Not Easy...

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

During a recent accident outbrief, a commander was interacting heavily with the Centralized Accident Investigation Board and asked several direct questions. In fact, his questions were so powerful they led the Board to conduct additional deliberations. These new deliberations resulted in revised findings and recommendations. Near the outbrief's conclusion the commander said, "This is not easy ... some of my Soldiers are getting this, but I am



still working on others." He continued by saying, "We have to be precise." Not until after the commander's comments did the board link the word "easy" with "lack of precision." I then realized the commander had unknowingly championed Composite Risk Management. **Accident Overview**

A route clearance team's rear gunner in an M1114 HMMWV observed headlights approaching from the rear. Although the gunner did not know it, these headlights belonged to an infantry convoy's lead M1114. The gunner, who was wearing night optical devices, told his truck commander (TC) another vehicle was approaching. The gunner signaled at the vehicle to initiate far recognition procedures. There was no response from the approaching HMMWV so the gunner, in accordance with force escalation procedures, fired a warning burst from his M249

squad automatic weapon.

The infantry convoy commander did not see the spotlight. However, he did hear the burst of gunfire and thought he saw muzzle flashes to his right. Seconds later, his gunner shouted that he saw gunfire coming from the left. The driver, a staff sergeant, accelerated the vehicle forward.

As the lead infantry convoy M1114 continued to approach, the route clearance team's gunner fired another warning burst, this time from his M2. The gunner told his TC the vehicle was still approaching, and the TC cleared the gunner to engage. The gunner then fired the M2 into the front of the oncoming HMMWV.

When the vehicle did not stop, the gunner adjusted his line of fire and re-engaged the driver's compartment using all the ammunition remaining in his storage can. The lead infantry convoy M1114 was hit by at least 30 rounds, several of which impacted the windshield. The vehicle swerved off the road to the right and came to a complete stop after hitting a large rock and street sign.

The gunner in the second infantry convoy vehicle, also an M1114, was injured by shrapnel and fell down into the HMMWV. A passenger climbed into the turret to return fire after he saw the gunner fall down. He also was injured by shrapnel and fell back into the vehicle. At the same time, a round impacted the driver-side windshield, severely degrading the driver's ability to see forward.

The third M1114 in the infantry convoy was approximately 100 meters behind the second HMMWV when the driver saw tracer rounds to his front left. He saw the gunner from the lead vehicle return fire, and he soon heard "pings" inside his HMMWV. The third vehicle's TC attempted to contact the first vehicle via radio but received no response. The third vehicle's gunner did not fire his weapon.

The TC in the third infantry convoy HMMWV observed another vehicle swerve off the road. He made contact with the second vehicle's driver via radio and asked about the lead HMMWV's status. The driver mistakenly told him the lead M1114 had moved ahead and was en route to the company forward operating base (FOB). The route clearance team continued moving south along the alternate supply route to complete their mission.

The driver in the lead M1114 was mortally injured by round fragments that penetrated the windshield. He was pronounced dead at the battalion FOB aid station later that night. This fratricide accident was caused by a series of human errors, several of which were made due to a lack of precision—specifically in the operations orders, fragmentary orders, and convoy brief—and a perception the mission was easy.

Are you making it easy? Are you being precise enough?

The missions we're conducting aren't easy. No kidding, right? But some people, including your peers, don't get it. They just don't give mission preparation the attention it deserves. Think about what you're doing, truly recognize the complexity of your missions, and apply precise planning. You might use checklists or ask yourself and your Soldiers these questions:

- Is everyone wearing all their body armor and personal protective equipment properly?
- Did I conduct a realistic

and effective rollover drill?

- Do I know where the last improvised explosive device was discovered or detonated in my sector?

- Do I know where the last accident occurred in my sector? Do I know where the roads are narrow or severely congested?

- Has my assistant convoy commander checked my vehicles' combat loads?

- Have I checked on the location of other friendly forces in my sector? How do I effectively brief my convoy with respect to other friendly forces?

These questions represent only a few issues that must be raised before conducting any mission. They are but one tool leaders can use to begin precise planning. The real power of precise planning is the unconscious blending of tactical and accidental hazards—the process of Composite Risk Management (CRM)—and the subsequent creation of control measures to reduce risk.

If you take the right steps, you will realize no mission is easy. You will realize backing into a parking space at the motor pool could cause an accident. You will see even a 15-kilometer textbook convoy operation between two FOBs can be full of tactical possibilities. As a result, additional tactical and accidental questions will become apparent, and your thought process will change.

Your changed point of view will allow you to recognize mission planning shortcomings immediately. You will therefore be able to focus your efforts on the precise areas that need added emphasis. The more you

conduct precise planning, the more intuitive it becomes.

Conclusions

Do personnel assigned to your unit think some of their missions are easy? Do you or your peers think you are operating on minimum information that lacks precision? These conditions are indicators of future accidents and mission difficulties.

Ask yourself, "Do I get it? Does everyone in my formation get it?" If the answer to either of these questions is no, find someone who does get it and start learning. As you gain experience, recognize the importance of precise planning and thought processes based on considering all potential hazards. And start using the term CRM in your daily vocabulary while mentoring the Soldiers in your formation so everyone can own the edge! 

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigations Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

Not So Friendly Fire

OPERATIONS DIVISION
U.S. Army Combat Readiness Center

Friendly fire is the employment of a friendly weapons system against friendly troops or equipment by forces actively engaged with the enemy and who are directing fire at a hostile force or what is thought to be a hostile force. Friendly fire can (but does not always) result in fratricide, which is the employment of

attributed to indirect fire. Two incidents were caused by ground-to-air fire, and one resulted from air-to-ground fire.

The time of occurrence was split almost evenly—14 during the day and 13 at night. Two M1A1 tanks, one allied aircraft, and one U.S. Navy F-18 aircraft were destroyed in these incidents. A total of 11 Soldiers were killed, 1 Soldier suffered a

fire and maneuver, disrupted operations, and degradation of unit morale and cohesion.

How does a friendly fire incident occur?

There are two components of every friendly fire incident. First, there is the individual or unit that initiates the fire. Second, there is the individual or unit that receives the fire. Friendly fire occurs most often when one or more units have identified a friendly unit as an enemy or do not know the friendly troops are there due to a lack of situational awareness, and then engage them with direct or indirect fire.

How does one get into a position where they might receive friendly fire?

There are several ways an individual or unit can put themselves at risk for receiving friendly fire. One is loss of situational awareness, which can be caused by numerous factors. These include inadequate control measures to keep direct fire oriented toward the enemy; inadequate control measures that prevent an attacking force from becoming disoriented; inaccurate reporting that does not keep higher units apprised of the tactical situation; and communication errors that can lead to erroneous clearance of fires, thereby allowing indirect fire to rain down on friendly forces.

Inadequate land navigation is also a contributing factor in some friendly fire incidents. This can include Soldiers going



friendly weapons that results in the unforeseen death or injury of friendly personnel or damage to friendly equipment. Basically, if you shoot at your own forces, then you've carried out friendly fire; if you hit the personnel or equipment in the unit you engaged, then you've committed fratricide.

As of 31 January 2006, there have been 27 Army fratricide incidents reported since the beginning of Operation Iraqi Freedom in March 2003. Of these incidents, 26 were the result of direct fire, and 1 was

permanent total disability, and 10 other military fatalities (U.S. and foreign services) were reported.

What are some of the effects of fratricide?

Fratricide incidents have adverse effects on both units and individuals. A few of the more common results are hesitation to conduct limited-visibility operations, loss of confidence in the unit's leadership, an increase in leader self-doubt, loss of initiative, loss of aggressiveness during

outside their assigned sectors, thereby becoming disoriented and possibly traveling in the wrong direction. Some Soldiers might incorrectly report their location to a higher element, so no one outside their immediate element knows who they really are.

Units that do not mark their vehicles and personnel with some type of marking device identifying them as friendly forces are also at risk for friendly fire.

These markings must be visible in the day and at night and also be easily identifiable by friendly forces operating in the same sector. Easy identification is important because some equipment, such as a thermal sight on a tank, cannot see chem lights or glint tape. A marking system becomes even more critical in times of limited visibility or in a firefight that puts friendly and enemy forces in close proximity.

How does one get into a position to commit friendly fire?

These factors are much the same as those mentioned above. There's loss of situational awareness, i.e., not keeping the weapon system oriented in the right direction, deviating out of the engagement area, or failure to adhere to control measures. Then there's inadequate land navigation. If an individual or unit doesn't know its location or the location of other friendly units, then it can't be certain who's operating in their vicinity.

Finally, there's failure by the individual to positively identify the target as an enemy before initiating fire (direct or indirect). This is especially critical in times of limited visibility such



GOT ACCIDENTS?

A Soldier suffered a permanent total disability when he was shot in the neck by a friendly sniper element while on a dismounted patrol. Another Soldier suffered a gunshot wound to his arm when the dismounted patrol returned fire. The accident occurred during the mid-morning.

- Mark unit vehicles and personnel so they can be identified by other friendly units operating in the same sector
- Ensure all Soldiers and leaders understand the

as darkness, fog, rain, or dust.

Units must have a plan to reduce the risk of friendly fire. The key is tough, realistic training with leaders actively involved in eliminating friendly fire incidents. Before every mission, good leaders will:

- Ensure the unit has adequate control measures that are distributed to the lowest level
- Ensure all Soldiers understand the operation and schemes of maneuver being conducted by their unit and adjacent units
- Rehearse the plan to ensure all Soldiers understand the operation and their unit's orientation during the mission
- Use all position location and navigation devices available and ensure Soldiers understand if their unit gets disoriented or lost, they must contact higher headquarters immediately for instructions and assistance
- Keep Soldiers informed and ensure they clearly understand friendly and enemy situations
- Ensure Soldiers understand they must make positive identification before engaging targets

rules of engagement

Following these guidelines will reduce—not eliminate—the possibility your unit will be involved in a friendly fire or fratricide incident. Stay aware, stay safe, and own the edge! 

Comments regarding this article may be directed to the Army Combat Readiness Center's Operations Division at (334) 255-3410, DSN 558-3410, or by e-mail at operationssupport@crc.army.mil.

Death Nature's Speed Bump

ACCIDENT INVESTIGATION DIVISION
U.S. Army Combat Readiness Center

High operational tempo and urgent mission requirements sometimes keep Soldiers from doing their business the right way. One unit in Iraq was distracted by a number of factors and paid a high price for their mistakes: one dead Soldier and three injured service members.

Background

A low-density unit was augmented with personnel from different units and branches of service to work together for the first time in Operation Iraqi Freedom (OIF). Their mission was to support the country's infrastructure so the population could sustain itself. These personnel arrived from different home stations at different intervals from various points of entry. As such, the service members were not trained as a group, and some received either conflicting or virtually no training at all in critical areas including rollover drills.

Due to the command's sense of urgency, a formal risk assessment for the overall base mission was overlooked. Skipping formal risk assessments for individual missions became a common practice. The unit did not have sufficient standard operating procedures (SOPs), but leaders were in the process of developing them.

As they acquired vehicles, the unit did not develop or implement a formal maintenance program. Some of the vehicles

in their inventory had modified equipment such as bumpers commonly found in OIF. After receiving their vehicles, the unit's personnel began regular logistical movements. The unit still had a mission to complete even though personnel were stressed with trying to establish the new organization.

The accident sequence

At 0730 the morning of the accident, personnel conducted preventive maintenance checks and services (PMCS) on the four



convoy vehicles that were to conduct a logistical run from their remote camp to a U.S. airbase. The weather was good with a few scattered clouds. After completing PMCS, the service members conducted pre-combat and radio checks. No one conducted a rehearsal or a formal risk assessment.

The lead vehicle was an M1114 HMMWV that was equipped with a modified, unapproved bumper. The crew consisted of three U.S. Air Force personnel—the driver, the gunner in the turret, and a passenger in the right-rear seat—and one Soldier, the vehicle commander (VC) in the right-front seat. The second and third vehicles were an M998 HMMWV and a civilian

pickup truck, respectively. The convoy commander was in the trail M923 5-ton truck and took the gunner's position so he could monitor the convoy.

The convoy departed the camp at speeds of 50 to 55 mph. No enemy activity had been reported along the route within the past year. The maximum authorized speed for a HMMWV on a hard-surface road is 55 mph, so the convoy was within this range, and there was no published command guidance that lowered this speed.

Once they arrived at the air base, the convoy personnel finished their assigned activities and linked up at 1300. The convoy commander conducted a convoy brief and accounted for all vehicles, personnel, and sensitive items. The convoy departed at 1320 for the return trip to their remote camp.

The VC and driver returned to their original positions in the front seats but did not buckle their seatbelts, nor did the right-rear seat passenger. The gunner did not have a gunner restraint system available in the turret. The crew also did not secure the vehicle's combat locks before departing the air base.

At 1340, the convoy was about 4 kilometers from its camp and traveling at 50 to 55 mph when a civilian pickup truck pulled from a side road in front of the lead M1114. The gunner, who had been watching the vehicle and was motioning with her hands to keep its driver from pulling out, yelled suddenly to warn the crew. The HMMWV's driver saw the civilian truck and abruptly steered

left to avoid impact. He missed the truck but overcorrected when he steered back right, sending the two right wheels over the roadway's edge and onto the loose-sand shoulder.

The driver steered hard to the left but overcorrected again, rotating the M1114's rear end 90 degrees counterclockwise. The vehicle slid right and, when all four wheels were back on the pavement, flipped on its right side and skidded about 20 feet off the road. The HMMWV then contacted the loose sand on the roadside and overturned three times, finally coming to rest on its right side over a small ditch.

All four doors came open during the rollover, and the four passengers were ejected. The VC was crushed under the HMMWV and killed instantly. The driver was thrown into the ditch under the vehicle but was not pinned. He suffered a fractured upper right arm, a slight concussion, and two bruised ribs and was unable to remember any details of the accident. The gunner was thrown about 8 feet from the vehicle into the ditch. Her individual body armor was torn off during the rollover, and she suffered a cut on her nose and various fractures to her back. The right-rear seat passenger was thrown 12 feet from the vehicle and suffered a mild concussion and abdominal and back contusions.

The vehicle suffered heavy damage. The M240B machine gun was torn off, both right-side tires and one left-side tire were flattened, the lid covering the rear hatch was ripped off, and the rearview mirrors were broken. The HMMWV's body was striated, scratched, and dented, but the survivable space within the

vehicle was not compromised.

Why the accident happened

- The driver lost control of his M1114 HMMWV because he was driving at excessive speeds for the mission conditions.
- The principles of risk management were not applied as indicated in Department of the Army Pamphlet (DA Pam) 385-1, *Small Unit Safety Officer/NCO Guide*; Field Manual (FM) 100-14, *Risk Management*; and Air Force Instruction (AFI) 90-901, *Operational Risk Management*.

Contributors to severity of injury

- All the HMMWV occupants with access to seatbelts did not wear them. The crew also failed to activate the vehicle's combat locks even though their use is prescribed by the vehicle's technical manual (TM).
- Unit members had not been trained properly on rollover drills.

Observation

- The unit's vehicles had been modified without approved modification work orders.

Countermeasures

- Enforce the requirements of Air Force Joint Manual 24-306, *Manual for the Wheeled Vehicle Driver*; Army Regulation (AR) 600-55, *The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing)*; and Training Circular 21-305-4, *Training Program for the High Mobility Multipurpose Wheeled Vehicle*, as well as all aspects of safe motor vehicle operations.
- Ensure training replicates tactical situations, and develop unit guidance for safe vehicle

operations with emphasis on maximum authorized speeds for various road and environmental conditions.

- Using Composite Risk Management, conduct focused risk assessments for all unit-level operations to reduce hazards to an acceptable level.
- Enforce the safety equipment utilization requirements prescribed by AR 385-55, *Prevention of Motor Vehicle Accidents*; AR 600-55; AFI 91-207, *The U.S. Air Force Traffic Safety Program*; and TM 9-2320-387-10, *Operator's Manual For Truck, Utility: S250 Shelter Carrier, 4x4, M1113, And Truck, Utility: Up-Armored Carrier, 4x4, M1114*.
- Train all unit members on the proper execution of rollover drills in accordance with Graphic Training Aid (GTA) 55-03-030, *HMMWV Uparmored Emergency Procedures Performance Measures*, and GTA 55-03-031, *Water Egress HMMWV Uparmored Rollover Task and Performance Measures*, and integrate these drills into unit programs and SOPs. Rollover drills must be rehearsed before all convoy operations.

- Inspect all vehicles, identify unapproved modifications, and perform documented risk management analysis in accordance with FM 100-14 and AFI 90-901, then submit a special mission modification request in accordance with AR 750-10, *Army Modification Program*.

Comments regarding this article may be directed to the U.S. Army Combat Readiness Center (CRC) Help Desk at (334) 255-1390, DSN 558-1390, or by e-mail at helpdesk@crc.army.mil. The Accident Investigations Division may be reached through CRC Operations at (334) 255-3410, DSN 558-3410, or by e-mail at operationsupport@crc.army.mil.

JULIE SHELLEY
Managing Editor

As this issue of *Countermeasure* goes to press, 13 Soldiers have been lost in rollover accidents since the beginning of Fiscal Year (FY) 2006. That's only 3 months, so think about it: just over four Soldiers a month—one a week—dying because someone was driving too fast or they didn't buckle their seatbelt or for whatever reason. The vast majority of these fatal accidents involved HMMWVs, a trend that's continued since operations in Iraq began 3 years ago.

The fact is, the numbers aren't getting better; in fact, they're getting worse. From 1 October 2005 to 1 February 2006, the Army lost 15 Soldiers in HMMWV accidents. Compare that number to the 9 Soldiers lost in HMMWVs during the same timeframe in FY05. Of the 15 Soldiers that died in HMMWVs to date in FY06, 10 were killed in rollovers.

The following preliminary loss reports (PLRs) highlight several rollover accidents that have occurred thus far in FY06. The narratives are followed by tactics, techniques, and procedures leaders can implement to help curb the rollover trend that has taken far too many Soldiers already this year. This isn't just a leader problem—individual Soldiers must remember that, ultimately, their safety is

their responsibility. It's their decision to buckle a seatbelt or tell a driver to slow down.

PLR 0663, Iraq:

A 21-year-old specialist was killed and two other Soldiers were injured when their M1114 HMMWV hit an M1A2 tank head-on and rolled over. The specialist was operating the vehicle under night vision goggles in black-out drive conditions. The accident occurred at approximately 1920 local time.

PLR 0662, Iraq:

A 22-year-old private first class was killed when the M1114 he was riding in struck a civilian vehicle head-on and rolled over. The Soldier was serving as the HMMWV's gunner. One other Soldier in the HMMWV was injured. The accident occurred at 1450 local time.

PLR 0653, Afghanistan:

A 19-year-old private first class suffered fatal injuries when the HMMWV he was riding in rolled over. The M1114 was traveling on an unimproved secondary road when a truck crossed its path. The HMMWV's driver swerved the vehicle to avoid the crash, causing it to overturn. The private first class was serving as the vehicle's gunner and was thrown from the M1114, suffering a fatal head injury. Four other occupants in the HMMWV were wearing their seatbelts and suffered

minor injuries. The accident occurred at 0830 local time.

PLR 0638, Iraq:

A 40-year-old sergeant first class was killed when the M1A2 tank he was commanding rolled over into a canal. The tank was traveling alongside the canal when the road below the vehicle gave way. The tank rolled into the 25-foot-deep canal, which was filled with between 3 and 4 feet of moving water, and came to rest on its turret. The track commander's and loader's hatches were submerged, but the driver evacuated through the driver's hatch and the loader and gunner evacuated through the loader's hatch. Before leaving the tank, the gunner checked the sergeant first class's vital signs but found no pulse or responsiveness. The gunner was unable to extract the sergeant first class from the tank. The accident occurred at 1903 local time.

PLR 0625, U.S.:

A 30-year-old specialist died when the M923A2 he was driving rolled over on an interstate. The truck was part of an 11-vehicle movement and was traveling downhill on a right-hand curve when it hit a slick spot from an earlier rainstorm and fishtailed. The vehicle then struck an embankment and rolled over. The specialist was not wearing his seatbelt and was ejected from the vehicle.



He was pronounced dead at the scene. The M923A2 following the accident vehicle hit the same spot and spun around twice before stopping in a ditch. The specialist was licensed properly and had sufficient sleep before starting the mission. The accident occurred at 1640 local time.

PLR 0624, Iraq:

A 44-year-old lieutenant colonel was killed when the M1114 he was riding in rolled over. The HMMWV was the lead vehicle in a four-vehicle convoy and was traveling on a hardball, flat-surface road when a civilian truck ran a stop sign and pulled in front of it. The driver lost control of the HMMWV, which ran off the road and overturned onto its right side. None of the M1114's occupants were wearing their seatbelts, and all were ejected from the vehicle. The lieutenant colonel was crushed by the HMMWV during the rollover. The driver, gunner, and rear-seat passenger were U.S. Air Force members. The accident occurred at 1349 local time.

PLR 0618, U.S.:

A 23-year-old sergeant was killed when his M997 HMMWV ambulance rolled over. The M997 was part of a small convoy when it ran off the roadway. The sergeant overcorrected and lost control of the vehicle, which struck a concrete median and overturned onto its side. The Soldier was wearing his seatbelt. The accident occurred at 1200 local time.

PLR 0606, Iraq:

A 30-year-old sergeant and a 26-year-old sergeant died when their M1114 HMMWV rolled over. The HMMWV was providing

security for a convoy when it struck a pothole and overturned, striking a passing civilian vehicle. The two sergeants were serving as the vehicle commander and gunner, respectively. The driver, a private first class, reportedly was wearing his seatbelt and suffered minor injuries. The accident



occurred at 0655 local time.

PLR 0627, Iraq:

A 33-year-old staff sergeant was killed when the Stryker he was riding in rolled over. The Stryker was part of a three-vehicle convoy when it overturned, killing the staff sergeant and injuring three other Soldiers. There is a possibility materiel failure caused the accident, but no other facts were immediately available. The accident occurred at 0710 local time.

Leaders should implement the following control measures to prevent future rollovers and keep their units combat ready:

- Ensure drivers are trained in accident avoidance and hands-on skills improvement by implementing and resourcing a program such as the Army Safe Driver Training course ([\[crc.army.mil/riskmanagement/driving_pov/asdtbrochure.ppt\]\(https://crc.army.mil/riskmanagement/driving_pov/asdtbrochure.ppt\)\).](https://</div><div data-bbox=)

- Ensure drivers and vehicle commanders are familiar with the capabilities and limitations of their assigned vehicles, and brief them on the hazards that cause or contribute to loss of control and rollovers. The

Army Combat Readiness Center (CRC) has two instructional training videos, "UAH Rollover Contingencies" (<https://crc.army.mil/streamingvideo/videolist.asp?video=1065>) and "UAH Rollover Drills" (<https://crc.army.mil/streamingvideo/videolist.asp?video=1066>) available for download off its Web site.

- Ensure up-armored HMMWV vehicle crews are familiar with and rehearse the rollover procedures contained in Graphic Training Aids (GTAs) 55-03-030 and 55-03-031 (<https://crc.army.mil/guidance/gta55-03-030.pdf>). These drills should be rehearsed before every mission.

- Ensure all crewmen are positioned properly in open hatches at nametag deflade with the least amount of body exposed outside the hatch.

- Ensure armor crews conduct and rehearse rollover and evacuation drills in accordance with the appropriate technical manual before every mission. Inspect the vehicle's load plan and ensure easy egress is possible.

- Conduct pre-mission briefings whenever possible and identify hazards that might exist along the selected route. Recognize hazards associated with roads that run alongside canals with moving water.

- Ensure Soldiers know they are required to wear seatbelts at all times when operating or

riding in DOD motor vehicles as directed by Army Regulation 385-55, chapter 2, paragraph 2-16a (http://www.army.mil/usapa/epubs/pdf/r385_55.pdf). Enforce seatbelt usage and conduct spot checks.

- Speeding kills. Brief personnel on the necessity to adhere to speed limit guidance and to decrease speed as conditions dictate.

- Perform good pre-mission planning for all convoys, big and small. Ensure planning includes route reconnaissance to identify any hazard areas along the route such as narrow

roadways or soft shoulders. Develop and implement controls to address identified hazards including adjusted convoy speeds, vehicle spacing, or alternate route selection.

Editor's note: Complete texts of all PLRs are available on the CRC's Web site at <https://crc.army.mil/> (you must have an AKO username and password to access the PLR site).

Comments regarding this article may be directed to the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.

Cooper Sling

no cure for rollovers

JULIE SHELLEY
Managing Editor



Gunners in Iraq and Afghanistan have one of the toughest yet most important jobs in the Army. Standing inside their wheeled vehicles, protecting themselves and their crew, gunners face more risk from both the enemy and accidents than any other crewmember. Rollovers are one hazard that claims far too many Soldiers and especially gunners in theater. As such, the popularity of commercial restraint products has increased steadily since operations in Iraq began in March 2003.

The Cooper Sling is one such item being marketed by its maker, Black Mountain Industries, as a

comfort and restraint system for gunners in tactical wheeled vehicles including HMMWVs. The system is advertised to protect gunners from being ejected and to give additional support and promote proper posture during vehicle rollovers.

Unfortunately, rollover testing conducted on the Cooper Sling did not yield positive results and prompted the Program Manager-Tactical Vehicles (PM-TV) to release Safety of Use Message (SOU) 06-012. Tests showed the seat did not prevent the gunner from being ejected through the gunner's hatch in a rollover and would prevent the gunner's rapid entry into the vehicle crew compartment during an actual rollover. The device held the gunner to the top of the vehicle during testing, meaning the gunner would be crushed between

the vehicle and the ground during a rollover accident. The results showed use of the Cooper Sling will lead to almost certain serious injury or death for gunners involved in rollover incidents.

In compliance with SOUM 06-012, all units must stop procuring and installing the Cooper Sling or any other non-approved restraint system immediately. Cooper Sling systems currently installed in vehicles must be removed before the vehicles go back into service. The PM-TV has developed an approved harness and retractor system for use in M1114 HMMWVs with weapon ring mounts. This system (vendor part number 901-US-07001) is the only approved and authorized tactical vehicle gunner's restraint currently in the Army inventory. The approved Army

restraint, which takes about 1 man-hour to install, is being fielded now and should be distributed Army-wide by July 2006.

Editor's note: Anyone with questions regarding the Cooper Sling or the approved Army gunner restraint should contact Mr. Donald Starkey via e-mail at donald.starkey@us.army.mil or MAJ James Dell'Olio at james.dellolio@us.army.mil. The complete text of SOUM 06-012 can be found on the Army Combat Readiness Center's Web site at <https://crc.army.mil/Message/detail.asp?iData=80&iCat=530&iChannel=14&nChannel=Messages>.

Comments regarding this article may be directed to the editor at (334) 255-1218, DSN 558-1218, or by e-mail at julie.shelley@us.army.mil.

Buyer Beware

DON WREN
Systems Safety Engineer
U.S. Army Combat Readiness Center

Every day, those of us “back here” in the Army see how everyone “out there” is getting suggestions to solve the various issues that confront our troops in Southwest Asia. From our perspective, these efforts are both gallant and risky. Our Soldiers are saturated with advertisements for commercial off-the-shelf (COTS) items ranging from helmet suspensions, Ghillie suits, and fuel cans to tire carriers and vehicle bumpers, all claiming to be the best around.

There’s a legal term—caveat emptor—that means “buyer beware.” Any manufacturer can claim their product does great and wonderful things, but the real test comes when the item is put to use. Have you ever bought a TV or radio and then, when you got it home, it wouldn’t turn on or didn’t last nearly as long as the seller said it would? A simple example, but similar scenarios are playing out for our Soldiers every day in theater.

Army program managers (PMs) and TRADOC system managers (TSMs) have staffs to assist them in developing or integrating items into the Army’s inventory, missions, and operating environments. These individuals work together to evaluate

COTS equipment such as the new desert boots, unit radios, and mine clearing equipment for safe and effective use. The PMs then evaluate the items to determine if the risks to Soldiers are too great. An example of a COTS item that did not pass PM inspection is the external fuel can carrier designed for mounting on the back of HMMWVs. The risk of fire in a hot environment during rear-end collisions was unacceptable to the PM, so the device was not approved for Army-wide use.

What leaders can do

According to Army Regulation 385-16, *System Safety Engineering and Management*, commanders who authorize their supply personnel to order COTS items not managed by the Army logistics system effectively become the PMs for those items. They also are responsible for publishing usage instructions and inspection criteria, establishing safeguards, and providing suitable training on the equipment.



DID YOU KNOW?

Nine Soldier deaths have been attributed at least in part to COTS equipment failures during the past 3 fiscal years. Two fatalities were attributed to commercial Ghillie suits, two involved COTS communication equipment mismatch, and five involved commercial external fuel cans.



Buyer Beware

Commanders must ask the following questions before purchasing any COTS item:

- Is there another item in the current Army inventory that performs the same function?
- How will the unit maintain the COTS equipment—serviceability inspections, obtaining repair parts, etc.—in a combat zone? (It is often difficult to obtain support from manufacturers that have no real tracking or notification system to relay problems with their products back to the purchasing units.)
- Who will be the subject matter expert on the equipment, and who will train and certify them?
- How much time will it take to train my Soldiers on the equipment?
- What safety features or hazards have been identified?
- What effect will this item have on other equipment—

radio interference, different plug configurations, etc.?

- What additional injury or damage will the COTS equipment cause in an accident?

Commanders might not realize they're assuming some high risks when they acquire COTS equipment. They assume if they can purchase COTS items advertised in military publications, the equipment is safe; unfortunately, this often isn't the case. The Army Combat Readiness Center database is filled with numerous Class A accidents involving COTS equipment. In fact, as of 1 February 2006, five Soldiers have died in COTS-related accidents thus far in Fiscal Year 2006 (see box).

Commanders must ask themselves if they really need that gadget staring back from a glossy magazine ad. Is that item really necessary to accomplish the mission and bring everyone

back home alive? If the PMs and TSMs felt all COTS gear was worthwhile and necessary, they'd be working hard to get it to the field. Remember, just because a product is featured in a military publication doesn't mean it's safe and without risks. Caveat emptor! 

Contact the author at (334) 255-3774, DSN 558-3774, or by e-mail at donald.wren@us.army.mil.



A MOVING VIOLATION

An activated Claymore mine zip-tied to the front of an M1114 HMMWV is NOT a good thing. Someone spotted this HMMWV parked in a Soldier housing area in theater, prompting a safety alert message from CFLCC and Multi-National Corps-Iraq warning against

any such practice. The unit involved was using the mines as standard tactics, techniques, and procedures on their vehicles (why, nobody knows). The crew risked not only their lives but also those of their fellow Soldiers with this "grossly unsafe action." However,

the Claymore isn't the only unapproved modification to this vehicle. See if you can spot the others and e-mail your answers to countermeasure@crc.army.mil. We'll publish the correct answers in the May 2006 *Countermeasure* and spotlight the Soldiers who got them right.



Class A

■ Soldier suffered fatal head injuries when the Stryker he was riding in rolled over. The Stryker was part of a three-vehicle convoy when one of its rear wheels came off, causing the vehicle to overturn. The deceased Soldier was serving as the vehicle commander. Three other passengers were injured. The accident occurred during the mid-morning.



Class A

■ A Department of the Army contractor was killed when the M998 HMMWV he was driving was struck by a civilian water truck. The contractor turned the HMMWV in front of the water truck, which could not stop in time to avoid the impact. The water truck hit the HMMWV on the driver's side. The accident occurred during the mid-morning.

■ One Soldier died and two Soldiers were injured when their M998 HMMWV rolled over during convoy operations. The vehicle overturned after the driver failed to negotiate a turn. The deceased Soldier was serving as the vehicle's gunner and was pronounced dead at a combat support hospital. None of the Soldiers were wearing seatbelts. The accident occurred during the mid-morning.

■ One Soldier was killed and three others were injured when the vehicle they were riding in overturned on an interstate highway. The Soldiers were making an equipment run in support of hurricane relief efforts when a dump truck entered their lane and forced



their small SUV off the road. The vehicle struck an embankment and rolled over. The deceased Soldier was sitting in the SUV's backseat and was ejected. The SUV's driver was treated and released, and the two remaining Soldiers were hospitalized. The accident occurred during the early afternoon.

■ Three Soldiers were killed when their M1025 HMMWV struck an overpass pillar. The vehicle's driver veered off the roadway's right side just before impact. The three Soldiers were pronounced dead at the scene. Initial reports indicate speed and fatigue were contributing factors. The accident occurred during the mid-afternoon.

■ Soldier suffered fatal head injuries when he was thrown from the M1114 HMMWV he was riding in. A civilian vehicle merged into the HMMWV's lane during convoy operations. The M1114's driver swerved to avoid hitting the civilian vehicle, but the truck veered off the roadway and rolled over. The deceased Soldier was serving as the vehicle's gunner and was ejected when the vehicle overturned. The accident occurred during the mid-morning.

Class C

■ Soldier suffered various fractures when he was struck by a HMMWV in a parking lot. The Soldier was standing in front of another HMMWV and reading a newspaper when the accident HMMWV came around a curve and hit him, pinning him between the two vehicles. The accident occurred during the late afternoon.

■ Soldier suffered unspecified injuries when the M1025 HMMWV he was riding in rolled over. The HMMWV was in a convoy when it hit an area of soft dirt and overturned. The Soldier, who was hospitalized for his injuries, was wearing all required personal protective equipment. The accident occurred during the late morning.

■ An M998 HMMWV suffered Class C damage from a fire in its engine compartment. The HMMWV's crew was conducting a mounted reconnaissance patrol when the vehicle began to lose power. The engine began to smoke shortly thereafter, so the crew evacuated the vehicle. The crew noticed smoke coming from the accident vehicle 3

Seatbelt Success Stories

Spotlighting Soldiers who wore their seatbelts and walked away from potentially catastrophic accidents

Class C

■ Two Soldiers suffered minor cuts and bruises when their M1025 HMMWV overturned. The HMMWV was traveling down a dirt road from an observation point. As the vehicle's speed increased, the vehicle commander told the driver to slow down. The driver hit the brakes but the HMMWV's tires lost traction, causing the vehicle to fishtail and roll over. The Soldiers performed a proper rollover drill and were wearing their seatbelts and helmets. A third Soldier, the vehicle's gunner, was ejected from the vehicle's back door even though he braced himself in accordance with the rollover drill. The gunner suffered a minor concussion. The time of the accident was not reported.

Class D

■ Soldier suffered a dislocated shoulder but otherwise was not injured when his forklift rolled over on an icy, narrow road. The forklift's right-front tire slid off the road during movement, causing the vehicle to overturn. The Soldier was wearing his seatbelt and all required personal protective equipment. He was placed on 30 days of restricted duty, but his injuries did not require hospitalization nor did he lose any workdays. The accident occurred during the early morning.

Class A

■ Soldier was killed when the M1A2 tank he was riding in overturned into a canal. The driver reportedly lost control of the tank after the ground below gave way. The deceased Soldier was serving as the track commander. The accident occurred during the early evening.



days before the fire and took it to the maintenance bay for repair. The HMMWV was returned to the crew just before the patrol mission. The vehicle's engine and passenger compartments were burned extensively, but the crew was not injured. The accident occurred during the late afternoon.



Class A

One Soldier suffered fatal head injuries and 19 others were injured when the bus they were riding in rolled over while making a turn. The bus was being driven by a local national contractor who failed to slow down during the turn. Seatbelts were not available on the bus. The accident occurred during the mid-morning.

Two Soldiers suffered fatal gunshot wounds during a friendly fire incident. The Soldiers were part of a dismounted platoon patrol that was attempting to evacuate the area following a hostile engagement. The accident occurred during the late afternoon.

Soldier suffered a fatal head injury during an Airborne jump. After the Soldier landed at the drop zone, a wind gust caught his parachute and dragged him about 400 feet across the ground. The Soldier was evacuated to a trauma center,

where he died the next day. He was wearing his helmet. The accident occurred during the mid-afternoon.

Class B

Soldier's left-hand ring finger was amputated by a 9 mm round during a live-fire room clearing exercise. The accident occurred during the late morning. No other details were provided.

Two Soldiers suffered third-degree burns resulting in permanent partial disability when a fire broke out in their guard tower. The Soldiers were using a kerosene heater while they performed guard duty. Reports indicate the Soldiers were operating the heater improperly, resulting in the fire. The Soldiers were evacuated and hospitalized for burns to their hands and legs. The tower received minimal damage. The accident occurred during the early morning.



WHAT WERE THEY THINKING?

YOU MIGHT WANT TO CHECK THAT...

Our first story begins one summer morning when a Soldier was driving an M929A2 dump truck in Afghanistan. As anyone who's been there will tell you, many Afghan roads aren't exactly ideal driving surfaces. This fact alone makes proper preventive maintenance checks and services (PMCS) that much more important.

The Soldier performed PMCS on the dump truck and set off on her way. She didn't know things were about to take a scary turn, but that's the thing about accidents—they often come out of nowhere. As the Soldier was driving down a hill, the vehicle's hood came open and flew upward.

Now the Soldier was in a pickle. She was driving a large truck down a bad road and couldn't see a darn thing because of the hood blocking her windshield. The truck veered too close to the road's edge and—you guessed it—rolled over.

The accident report doesn't state whether the Soldier was wearing her seatbelt, but she escaped without injury—very lucky indeed. After this caper, the Soldier (and everyone else in her unit) will have to check the hood latch before setting off on all missions and during scheduled maintenance stops.



Apparently Army vehicle parts were flying every which way this summer. Just before our first unlucky Soldier got hoodwinked, another Soldier experienced an embarrassing mishap on a German autobahn. This one was driving an M915A3 from a paint shop back to home station in the mid-morning.

According to the accident report, at some point the truck's freshly painted rear-quarter fender fell off. The Soldier apparently didn't notice the thud, the sparks, or the 18-wheeler behind him. So, it was a ways down the road when the Soldier finally stopped and realized the fender was gone.

He backtracked to his original starting point and retraced the route. A construction vehicle crew witnessed the incident and told the Soldier the police had the missing fender, which had hit and damaged the 18-wheeler. The Soldier wasn't reprimanded for the incident, but from now on he and his buddies will be "covering their fenders" during PMCS.

Have you ever noticed the numbers painted on interstate overpasses? In a conventional car or truck they don't mean much, but when you're hauling heavy equipment you might want to pay attention. This is especially true if the equipment is taller than the overpass.

A Soldier had just finished a late-afternoon mission at a work site. He'd hauled an excavator truck on the back of an M916A1 for about 150 miles to the site that morning and had been on duty for more than 10 hours when the job was finally completed. Although the boom on the excavator wouldn't go down, the Soldier loaded the truck anyway and decided to drive with the boom raised. He then placed an auger in the boom but didn't bother to tie it down.

The return trip was going smoothly until the truck approached an overpass that had a clearance of 14 feet, 6 inches. With the boom up, the excavator (combined with the trailer's height) stood 14 feet, 8 inches tall. The Soldier drove under the overpass, and the boom went BOOM!

The auger flew through the air into traffic and hit a tractor-trailer. The excavator suffered heavy damage, but neither the Soldier nor anyone else was hurt. Maybe when the Soldier completes remedial driver's training he'll be more careful—or so we hope!