

# On the Edge...Own the Edge!

**O**ur Army continues to fight the Global War on Terrorism, with our Soldiers fighting two active campaigns against a determined enemy. More and more of our active and reserve component forces are returning home hardened combat veterans. They've been "on the edge" in Iraq and Afghanistan and see themselves as combatants in every aspect of their lives.

This mindset has become clear to me as I've traveled and talked with our Soldiers, NCOs, and officers. They don't want to be viewed as the "guy on a Moped, decked out in all his safety gear, looking like a geek." In their minds they're warriors—a lens through which they view everything they do.

This attitude presents a unique challenge to leaders trying to manage risk. As leaders, we want to capture the energy and intensity that comes with being on the edge and channel it in a constructive way. The goal is to enable these warfighters to manage risk and operate in such a deliberate manner that they "own the edge."

The Combat Readiness Center continues to serve as the knowledge center for all loss, helping commanders

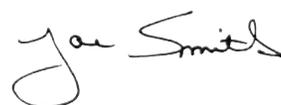
connect the dots and providing leaders with tools to manage risk. We know Soldiers are on the edge, but we want them to own the edge through Composite Risk Management (CRM).

As we start another fiscal year, our Army is launching a new campaign to get the CRM message down to first-line supervisors and individual Soldiers. This message is that CRM enables every Soldier to own the edge wherever they're operating. CRM teaches Soldiers how to think—not what to think—and challenges them to be smart about managing risk. This concept puts individual Soldiers and leaders in control of how far on the edge they can operate.

When a Soldier wakes up each day, whether in combat, in training, or off duty, we want them to ask themselves one simple question: "What could take me out today?" Some days it might be the enemy in Iraq or Afghanistan. Some days, like on a 4-day weekend, it might be speed, fatigue, or alcohol. But even in combat, it's possible the thing most likely to take you out is a hazard—not the enemy. No matter the threat, the most effective way to counter risk is CRM.

When Soldiers internalize

CRM, they begin making smart risk decisions wherever they are—be it in theater, in garrison, at home, or on the road. Safety transcends from nothing more than a separate paragraph in an operations order or an afterthought during mission planning to something instinctive and intuitive. With CRM, Soldiers become more lethal and ready so they're not just on the edge, they OWN THE EDGE!



# FY05 ROLL CALL

**a**t the beginning of each fiscal year (FY),

*Countermeasure* runs a “roll call” of Soldiers killed in accidents the year before. The roll call for FY05 includes only those Soldiers that died in ground tactical accidents—POV and off-duty fatalities are excluded. However, these statistics by themselves are sobering: 88 Class A ground accidents resulting in 99 Soldier fatalities, 3 Soldier permanent total disabilities (PTDs), and 3 Army contractor fatalities. In addition, one U.S. Air Force Airman died and two others suffered PTD injuries during Army missions. More than one-third of these accidents occurred in HMMWVs, with the vast majority involving M1114 up-armored vehicles. Physical training (PT) fatalities accounted for nearly a quarter of FY05 Soldier fatalities.

How do these numbers affect readiness throughout not only the Army, but the military as a whole? Think about it—105 troops gone from the fight forever in a single year alone, lost to accidents that,

for the most part, were preventable. Any number of factors could’ve saved many of these men and women: better situational awareness, better communication, better standards enforcement, the single click of a seatbelt. But now, it’s not about what should’ve been done—it’s about doing it right in the future.

●**Afghanistan, M998 HMMWV:** Soldier suffered fatal injuries when the HMMWV he was riding in rolled over into a 10-foot wadi. The HMMWV was the trail vehicle in a convoy, and the driver was attempting to turn the vehicle at the time of the accident. Seatbelt use is unknown, and injury to the driver and a second passenger were not reported. The accident occurred during the late afternoon.

●**Iraq, Up-armored SUV:** Soldier was killed when the up-armored SUV he was riding in struck a median and overturned. The Soldier was sitting in the right-front passenger seat at the time of the accident. The SUV’s gunner suffered unspecified injuries, and the driver was not injured. Seatbelt use is unknown.

The accident occurred during the mid-afternoon.

●**United States, Parachute:** Soldier suffered a fatal head injury when he and two other Soldiers became entangled at 700 feet during an Airborne operation. Of the surviving Soldiers, one suffered fractures to his pelvis and hip, and the other suffered a spinal fracture. The accident occurred during the late evening. Details of this accident can be found in the Investigator’s Forum article “Always to Standard” in this issue of *Countermeasure*.

●**Iraq, Electrocution:** Soldier suffered a fatal electric shock from the power washer he was using in the unit motor pool. The accident occurred during the early evening.

●**Iraq, M1114 HMMWV:** Soldier drowned when the HMMWV he was riding in rolled over into a water-filled ditch. The Soldier was serving as the vehicle’s gunner. Seatbelt use is unknown. The accident occurred during the early morning.

●**Iraq, M915A1 Truck/Tractor:** Two

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Soldiers were killed when their M915A1 truck hit a pothole, ran off the roadway, and overturned. The truck was pulling a 7,500-gallon water buffalo at the time of the accident. The two Soldiers were trapped beneath the truck and pronounced dead at the accident site. Seatbelt use is unknown. The accident occurred during the late evening.

●**United States, Heat Stroke:** Soldier suffered a fatal heat stroke during a land navigation course field training exercise. The Soldier had been reported missing and was found by a search team in a wooded training area. The accident occurred during the late morning.

●**Iraq, Non-tactical SUV:** Soldier suffered a severe head injury resulting in a permanent total disability when the non-tactical SUV he was driving was struck head-on by a civilian tractor-trailer. Three other Soldiers suffered unspecified injuries. Seatbelt use is unknown. The accident occurred during the early morning.

●**United States, PT:** Soldier collapsed and died during a 3.5-mile run.

The Soldier was participating in scheduled unit PT and was less than 50 meters from completing the run when he collapsed. The Soldier was pronounced dead at a local hospital. The accident occurred during the mid-morning.

●**Iraq, M1114 HMMWV:** Three Soldiers drowned when their HMMWV rolled over into a canal. The HMMWV was the trail vehicle on a patrol mission and under blackout drive when it ran into a washout and overturned. Those killed included the driver, gunner, and truck commander (TC). Seatbelt use is unknown. The accident occurred during the early morning.

●**Iraq, M1114 HMMWV:** A U.S. Air Force Airman suffered an unspecified injury resulting in a permanent total disability when the HMMWV he was riding in overturned. The Airman was serving as the vehicle's gunner and was pinned beneath the HMMWV. The accident occurred during the late morning.

●**United States, PT:** Soldier collapsed and died during the final run portion of an administrative Army Physical Fitness Test

(APFT). The Soldier died at a local hospital. The accident occurred during the late morning.

●**Afghanistan, Explosives:** One Soldier was killed and two Soldiers were injured when a flexible linear charge detonated prematurely. The Soldiers were conducting entry techniques training at their forward operating base range and were using the charge as a breaching charge at the time of the explosion. The accident occurred during the mid-morning.

●**Afghanistan, HMMWV:** Two Soldiers drowned when the HMMWV they were riding in overturned into a river. Recent rains reportedly caused the road to crumble beneath the HMMWV, which was part of a convoy. The vehicle's driver escaped without injury. Seatbelt use and the time of the accident were not reported.

●**Iraq, M1114 HMMWV:** Soldier suffered fatal blunt-force trauma to his head and neck when the HMMWV he was driving was involved in an accident. The type of accident, seatbelt use, and other passengers were not reported. The

accident occurred during the late evening.

●**Iraq, M998**

**HMMWV:** Soldier was killed when the HMMWV he was driving collided with a U.S. Marine Corps logistics vehicle system truck at an intersection. The Soldier was thrown from the vehicle. The accident occurred during the mid-afternoon.

●**Iraq, M1A2**

**Abrams:** Soldier suffered fatal injuries when the M1A2 he was driving ran off the roadway into a canal. The tank was part of a convoy traveling under blackout drive, and the driver was using the night vision system at the time of the accident. The nature of the driver's injuries was not reported. The accident occurred during the late evening.

●**United States, M4**

**Rifle:** Soldier suffered a fatal gunshot wound during convoy live-fire training. The Soldier was part of a four-man dismounted building/room clearing team and was struck in the neck and shoulder. He was pronounced dead at a local hospital. The accident occurred during the mid-afternoon.

●**Iraq, M1114**

**HMMWV:** Soldier was killed when he lost control of the HMMWV he was driving and rolled the vehicle. The Soldier was attempting to pass a slower convoy when he lost control, crossed the median, and flipped the vehicle. Seatbelt use is unknown. The accident occurred during the late evening.

●**Iraq, M1114**

**HMMWV:** Soldier suffered fatal injuries when the M1114 he was riding in rolled over. The HMMWV's driver swerved to avoid a civilian vehicle that failed to yield the right of way just before the accident. The Soldier was serving as the vehicle's gunner and was ejected from the HMMWV as it overturned. The accident occurred during the early evening.

●**United States, PT:**

Soldier collapsed during routine PT and was pronounced dead a short time later at a local hospital. The accident occurred during the mid-morning.

●**United States, Training:**

Soldier collapsed and died following a field training exercise. The Soldier had just returned from the exercise and was

entering the dining facility when he collapsed. He was pronounced dead at a local hospital. The accident occurred during the late afternoon.

●**Iraq, M2A2 BFV:**

Soldier suffered fatal injuries when the M2A2 he was riding in rolled over into a canal. The vehicle was on an early morning patrol with its white lights on at the time of the accident. The Soldier was serving as the vehicle's track commander. Seatbelt use is unknown.

●**United States, LMTV:**

Soldier suffered fatal injuries when an LMTV struck him during battalion PT. The Soldier's company was pulling the LMTV when he reportedly fell. The LMTV rolled over the Soldier's chest and abdomen. The accident occurred during the early morning.

●**United States, PT:**

Soldier collapsed and died while conducting personal PT. The Soldier was on TDY status away from home station and was pronounced dead at a local hospital. The accident occurred during the early morning.

●**United States, PT:**

Soldier collapsed and died during a unit PT run.

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The Soldier was evacuated to a local hospital and pronounced dead a short time later. The accident occurred during the early morning.

●**United States, Explosives:** Soldier suffered fatal injuries when a grenade exploded. The Soldier was part of an advance party on a range and reportedly took the grenade as a souvenir during a rest break. The accident occurred during the late morning.

●**Iraq, M1114 HMMWV:** Soldier was killed when the M1114 HMMWV he was riding in overturned. The HMMWV was providing convoy security on an improved road when it rolled over. The Soldier was serving as the vehicle's gunner and was ejected during the rollover. Two other Soldiers also were ejected but were not injured. The accident occurred during the early morning.

●**United States, PT:** Cadet died after collapsing during a company PT run. The cadet was evacuated to a local hospital, where it was discovered his body temperature had risen to 105 degrees. He died a short time later. The accident occurred during the early morning.

●**United States, Training:** Soldier died while conducting a land navigation course. The Soldier was reported missing and later found unconscious. He was evacuated to a local hospital, where he subsequently died. Weather (heat) is a suspected factor. The accident occurred during the late afternoon.

●**Iraq, M984 HEMTT:** Soldier suffered fatal injuries when the M984 he was riding in overturned. The vehicle was part of a convoy when the driver experienced difficulty with the brakes, causing the rollover. The Soldier was serving as the vehicle's gunner. The driver also was injured. The accident occurred during the late evening.

●**Germany, Electrocutation:** Soldier was electrocuted on a railroad track. The Soldier was serving as the officer in charge of rail movement operations and had climbed on an M3 Cavalry Fighting Vehicle loaded on a rail car when witnesses heard an explosion and saw the Soldier fall onto the track. The shock reportedly was caused by a 15-kilovolt power

line hanging close to the Soldier's head. The Soldier died from his injuries more than 3 months after the accident, which occurred during the late morning.

●**Iraq, M1114 HMMWV:** The gunner in an M1114 was killed when his HMMWV rolled over after hitting a civilian vehicle. The M1114's driver initially swerved to avoid the collision but struck the vehicle anyway, causing the HMMWV to overturn. Although the gunner was wearing his helmet and full individual body armor, seatbelt use is unknown. The HMMWV's driver was not injured. The accident occurred during the early afternoon.

●**United States, PT:** Soldier died at a local hospital after collapsing on post. The Soldier had just completed the 2-mile run portion of the APFT and was walking back to his building when he grabbed his leg and fell down. The accident occurred during the mid-morning.

●**Iraq, M1114 HMMWV:** The gunner in an M1114 died when his HMMWV overturned after striking a civilian vehicle that was blocking the roadway.

The civilian vehicle, which initially refused to move after repeated warnings, left the roadway but abruptly steered back and hit the HMMWV. The HMMWV then spun and rolled over, and all four occupants were ejected. The gunner was wearing his helmet and full IBA. The accident occurred during the mid-morning.

●**Iraq, Explosives:**

Soldier was killed when an unidentified piece of ordnance exploded in a tent. The Soldier was moving equipment from one tent to another at the time of the explosion. The accident occurred during the early morning.

●**Iraq, M1114**

**HMMWV:** The gunner in an M1114 suffered fatal injuries when his HMMWV overturned after swerving to avoid a civilian vehicle. The gunner, although not ejected, was crushed when the HMMWV rolled over. The gunner was wearing his helmet and full IBA, but the HMMWV did not have a gunner seat restraint system installed. The HMMWV's driver and other passengers were belted in and suffered minor injuries. The accident occurred

during the mid-afternoon.

●**Kuwait, M88A1 Recovery Vehicle:**

Soldier suffered fatal injuries when his head struck an M109 Howitzer barrel. The accident happened when the M88A1 the Soldier was driving lurched forward toward the Howitzer. The accident occurred during the late afternoon.

●**United States, M16 Rifle:**

Soldier suffered a fatal gunshot wound to his forehead during live-fire training. The Soldier was evacuated from the training area and died at a local hospital. The accident occurred during the early evening. Details of this accident can be found in the Investigator's Forum article "Is There Anybody Downrange?" in the August 2005 *Countermeasure*.

●**Iraq, M1114**

**HMMWV:** Soldier was killed when the HMMWV he was riding in rolled over. The Soldier was serving as the vehicle's gunner and was pinned under the vehicle after the accident. The other passengers and driver were not injured. The accident occurred during the early morning.

●**United States,**

**PT:** Soldier collapsed and died after completing a unit conditioning obstacle course and 2-mile run. The Soldier was pronounced dead at a local medical center. The accident occurred during the early morning.

●**United States,**

**PT:** Soldier collapsed and died while running during PT. The Soldier was transported to a local medical center, where he died a short time later. The accident occurred during the mid-morning.

●**United States,**

**M113A3 APC:** Two Soldiers suffered fatal injuries when the M113A3 APC they were riding in rolled over. The vehicle's driver lost control when the APC gained speed going down a hill. Five other Soldiers in the vehicle suffered moderate to minor injuries. The accident occurred during the mid-afternoon. Details of this accident can be found in the Investigator's Forum article "Never Enough to Go Around" in the October 2005 *Countermeasure*.

●**Kuwait, PT:** Soldier collapsed on a track while running and was pronounced dead within an hour at a

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local troop medical center. The accident occurred during the early morning.

●**United States, PT:** Soldier collapsed and died while taking the APFT. The Soldier did not respond to lifesaving procedures. The accident occurred during the early morning.

●**Iraq, Fire:** Two Soldiers suffered fatal burns while performing guard duty in an observation tower. The Soldiers were wearing ghillie suits at the time of the accident. The source of the fire is undetermined. The accident occurred during the late evening.

●**United States, PT:** Soldier collapsed and died following the 2-mile run portion of the APFT. The Soldier said he felt lightheaded just before he collapsed and stopped breathing. He was pronounced dead at a local hospital. The accident occurred during the mid-morning.

●**United States, Parachute:** Soldier suffered a permanent total disability when he failed to eject his equipment during a free-fall jump and impacted the ground. The

Soldier suffered injuries that reportedly will render him quadriplegic. The accident occurred during the mid-afternoon.

●**Iraq, M1025 HMMWV:** Soldier drowned when the HMMWV he was riding in rolled over into a water-filled ditch. The Soldier was serving as the vehicle's gunner. The Soldiers were on patrol when the road beneath them gave way, causing the HMMWV to overturn into the ditch. The accident occurred during the early afternoon.

●**Iraq, M1075 HEMMT:** Soldier suffered fatal injuries when the HEMMT she was riding in struck a barrier and overturned. The driver reportedly lost control of the vehicle before hitting the barrier. The deceased Soldier was serving as the TC. The accident occurred during the late evening.

●**United States, M1025 HMMWV:** Soldier was killed when the HMMWV he was driving rolled over. Three other Soldiers suffered minor injuries. The HMMWV was part of a convoy traveling from their field training site back to garrison. The accident occurred during

the early evening. Details of this accident can be found in the Investigator's Forum article "Too Little Training, Too Much Speed" in the June 2005 *Countermeasure*.

●**Iraq, M1114 HMMWV:** Two Soldiers were killed when their M1114 overturned after striking another M1114 during a convoy movement. One of the deceased Soldiers was serving as the vehicle's gunner, and the other deceased Soldier was a passenger. The TC suffered minor injuries, and the driver was not injured. None of the Soldiers were wearing seatbelts, and the deceased and injured occupants were ejected from the vehicle. The accident occurred during the late afternoon.

●**Iraq, M16 Rifle:** Soldier suffered a fatal gunshot wound when the Soldiers at the traffic control point he was manning opened fire on a civilian vehicle. The Soldiers opened fire after the vehicle's driver failed to stop after repeated warnings. The accident occurred during the mid-evening.

●**Iraq, M1114 HMMWV:** Two Soldiers drowned when their M1114 rolled over into a canal. The

HMMWV's driver was backing the vehicle near a drainage ditch when the bank suddenly collapsed, overturning the vehicle into the water. The two deceased Soldiers were serving as the HMMWV's driver and TC. Both Soldiers were wearing their seatbelts. The accident occurred during the mid-morning.

●**Iraq, M915A2**

**Truck/Tractor:** Soldier suffered fatal injuries when the M915A2 she was driving overturned after colliding head-on with a civilian vehicle on a curve. The vehicle was towing a fuel trailer, and the driver entered the curve at an excessive speed. The assistant driver suffered minor injuries. Neither Soldier was wearing their seatbelt. The accident occurred during the mid-morning.

●**Iraq, Explosives:**

Soldier died when an explosion occurred inside a bunker. Several Soldiers were placing AT-4s inside the bunker, and the deceased Soldier was in a storage room at the time of the explosion. The accident occurred during the mid-morning.

●**Iraq, M1114**

**HMMWV:** Three Soldiers drowned when their M1114 overturned into a canal.

The HMMWV was part of a patrol convoy and was discovered missing after several other vehicles made a turn. The three Soldiers were wearing seatbelts. Seven military personnel suffered hypothermia and one U.S. Air Force Airman died during the rescue and recovery operations. The accident occurred during the early morning.

●**Iraq, M998**

**HMMWV:** Soldier was killed when his M998 HMMWV collided with an M1114 HMMWV. The deceased Soldier was driving the M998 and was ejected from the vehicle, resulting in massive head injuries. He was not wearing his seatbelt or helmet. The accident occurred during the early evening.

●**Afghanistan,**

**Forklift:** Soldier suffered a permanent total disability when she slipped from a forklift while stocking items in a warehouse. The Soldier was standing on the forklift's forks and lost her balance as the driver was backing the vehicle. The Soldier fell about 10 feet to the concrete floor below. The accident occurred during the mid-afternoon.

●**Iraq, M1078**

**LMTV:** Soldier died when the LMTV he was driving struck a barrier and rolled over. The vehicle was part of a day convoy, and visibility had been reduced by dust. The Soldier was not wearing his seatbelt and was partially ejected from the vehicle. The TC also was not wearing his seatbelt but suffered only minor injuries. The accident occurred during the mid-morning.

●**United States, Stryker:**

Soldier was killed after being struck by a tree limb. The Soldier was a passenger in a Stryker during driver's training. The Stryker clipped the side of several trees, causing the limb to fall. The accident occurred during the mid-afternoon.

●**Iraq, ACV:** One Soldier and one Department of Defense contractor were killed when their ACV was broadsided by a Stryker. The deceased Soldier was driving the vehicle. A U.S. Air Force Airman riding in the ACV suffered a severe head injury resulting in a permanent total disability. The ACV's gunner suffered a broken leg when he was thrown from the vehicle. Seatbelt use and the type of ACV were not reported. The accident occurred during the early afternoon.

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●**United States, PT:** Soldier died after complaining of chest pains during a PT test. The Soldier was transferred to a local hospital, where he went into cardiac arrest and died. The accident occurred during the early morning.

●**United States, Parachute:** Soldier was killed after she hit the ground during an Airborne operation. The Soldier made an improper exit out of the aircraft and became twisted in the parachute's risers and suspension lines, causing the main chute to remain closed. A suspension line also caught under the Soldier's arm and prohibited her from opening the reserve chute. The accident occurred during the early afternoon.

●**Iraq, M2A2 BFV:** Five Soldiers drowned when their BFV overturned into a canal. The road beneath the vehicle collapsed, causing the vehicle to roll over into the water on its top. Two other Soldiers were treated for hypothermia and lung and airway distress. The BFV was the trail vehicle in a tactical road march convoy and had been in the water for about 45 minutes before the other vehicle crews

realized it was missing. The accident occurred during the early evening. Details of this accident can be found in the Investigator's Forum article "Hidden in Plain Sight" in the April 2005 *Countermeasure*.

●**Kuwait, PT:** Soldier collapsed and died following a 1.5-mile PT run. The Soldier was transported to a local hospital, where he died 35 minutes later. The accident occurred during the late afternoon.

●**Iraq, M1114 HMMWV:** Two Soldiers drowned when their up-armored HMMWV overturned into a drainage ditch. The driver steered the HMMWV too close to the ditch's edge during a right turn, and the vehicle landed upside down in 5 feet of water. The accident occurred during the mid-evening. Details of this accident can be found in the Investigator's Forum article "A Cold, Wet Way to Die" in the April 2005 *Countermeasure*.

●**Iraq, AK-47:** Soldier suffered a fatal gunshot wound during a joint patrol with foreign national troops. One of the foreign troops' AK-47s accidentally discharged, striking the Soldier. The accident occurred during

the late afternoon.

●**Iraq, .50-cal Machine Gun:** Soldier suffered a fatal gunshot wound to his head when a .50-cal machine gun discharged in the motor pool. The Soldier had driven his M1A1 tank into the motor pool after a combat mission, and the tank's crew was securing the gun when it discharged. The accident occurred during the early evening.

●**United States, M998 HMMWV:** Soldier died after a HMMWV struck him during a battalion-level tactical road march. The accident occurred during the late morning.

●**Iraq, AK-47:** Soldier suffered a fatal gunshot wound when he and a group of Soldiers and foreign national troops opened fire on a civilian vehicle that failed to stop at a checkpoint. The civilians in the vehicle did not stop at the checkpoint despite vocal and hand signals, as well as warning shots. The accident occurred during the late afternoon.

●**Iraq, M1114 HMMWV:** Soldier was killed when the HMMWV he

was driving was struck by a civilian vehicle. The HMMWV rolled over twice after the collision, and the deceased Soldier and two other passengers were ejected after the doors opened and separated from the vehicle. None of the Soldiers were wearing their seatbelts. The deceased Soldier suffered a skull fracture, and the other two Soldiers suffered various injuries. The accident occurred during the early afternoon.

●**Kuwait, M1070 Truck/Tractor:** Two Soldiers were killed and two other Soldiers were seriously injured when they were struck by a civilian vehicle while changing a tire on an M1070 truck. One of the injured Soldiers suffered leg fractures resulting in a permanent total disability. The accident occurred during the mid-morning.

●**United States, M4 Rifle:** Soldier suffered a fatal gunshot wound while participating in a live-fire room-clearing exercise. The accident occurred during the mid-afternoon. Details of this accident can be found in the Investigator's Forum article "It Was an Easy Range" in the March 2005 *Countermeasure*.

●**Iraq, M984E HEMTT:** Soldier died when the HEMTT wrecker she was driving collided head-on with a HET during a convoy movement. The vehicles were part of two separate convoys passing each other on a section of roadway under construction. The Soldier oversteered the HEMTT after running off the roadway, causing the vehicle to cross into the HET's path. Neither the Soldier nor her TC was wearing their seatbelts. The accident occurred during the late afternoon.

●**Iraq, M1114 HMMWV:** Soldier suffered fatal injuries when the HMMWV he was riding in struck a barrier and rolled over during a convoy movement. The Soldier was serving as the vehicle's gunner. Seatbelt use is unknown. The accident occurred during the late evening.

●**Afghanistan, M1037 HMMWV:** Soldier was killed when the HMMWV he was riding in rolled over into a 4-foot embankment. The driver, who was not injured, was attempting to negotiate the embankment during a

combat patrol. The deceased Soldier was serving as the vehicle's gunner. Both the gunner and driver were wearing their seatbelts. The accident occurred during the mid-evening.

●**Iraq, M1114 HMMWV:** Soldier died when the HMMWV he was riding in rolled over. The driver lost control of the HMMWV while changing lanes. The deceased Soldier was serving as the vehicle's gunner and was ejected. No other injuries were reported. The accident occurred during the early afternoon.

●**Iraq, M1114 HMMWV:** One Soldier was killed and two others were injured when their up-armored HMMWV overturned during an escort mission. The deceased Soldier was serving as the truck's gunner. The driver was attempting to pass a civilian vehicle when it swerved in the HMMWV's direction. The HMMWV then left the roadway and the driver lost control when the vehicle hit a pothole, causing it to roll over three times. Both the driver and gunner were not wearing their seatbelts and were ejected. The TC was wearing his seatbelt and suffered a split

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lip. The accident occurred during the early afternoon.

●**Iraq, M923A2 5-ton Truck:** Soldier was killed when the 5-ton truck he was riding in ran off the roadway and overturned into an irrigation canal. The Soldier, who was serving as the TC, was trapped in the truck following the rollover and drowned. The driver suffered minor contusions and bruises. The accident occurred during the mid-afternoon.

●**Afghanistan, Explosives:** Soldier was killed when a grenade detonated in the equipment kit he was repacking. The Soldier lost an arm and a leg in the initial explosion and died 4 days later. The explosion occurred in the Soldier's living quarters during the early evening.

●**Iraq, M1025 HMMWV:** Soldier suffered fatal injuries when the HMMWV he was riding in crashed into a parked M1A1 tank on a bridge. The Soldier was serving as the vehicle's TC. The tank's infrared flashers were activated at the time of the accident. The degree of injury to the other Soldiers and seatbelt use were not reported. The

accident occurred during the early morning.

●**Iraq, M998 HMMWV:** One Soldier was killed and eight other Soldiers suffered minor to serious injuries when their HMMWV rolled off a 20-foot embankment into an aqueduct spillway during a night combat patrol convoy. The driver steered the HMMWV too close to the spillway's edge during a right turn. The deceased Soldier was killed when an add-on armor plate broke off the HMMWV as it impacted the ground and pinned him under the vehicle. Seatbelts were not available in the accident vehicle. The accident occurred during the early morning. Details of this accident can be found in the Investigator's Forum article "Why Didn't You Tell Me That?" in the February 2005 *Countermeasure*.

●**Iraq, M923A1 5-ton Truck:** Soldier suffered fatal head injuries when the 5-ton gun truck he was riding in rear-ended a contractor refrigeration truck. The Soldier, who was serving as the vehicle's gunner, was sitting on the turret's ring mount and was ejected. The 5-ton struck the contractor truck at an estimated speed

of 40 to 45 mph in a dust cloud. The driver was wearing his seatbelt and suffered minor injuries. The accident occurred during the early morning.

●**Iraq, M1117 ASV:** Soldier was killed when the M1117 ASV he was riding in was struck by a POV at an intersection. The M1117, which was stopped at the intersection, overturned several times. The Soldier was serving as the M1117's gunner. The accident occurred during the mid-morning.

●**Iraq, M1A2 Abrams:** Soldier was killed when the M1A2 tank he was riding in overturned en route to a refueling operation. The accident occurred during the early morning.

●**United States, Explosives:** Two Army contractors were killed and another suffered a permanent partial disability when an explosion occurred inside a propellant storage bunker. The contractors were moving a steel drum containing M-9 propellant for storage. The barrel apparently tipped over during movement, causing its lid to come open and spill the propellant on the floor. The propellant then ignited from

an unknown spark source.  
The accident occurred  
during the mid-afternoon.

● **Iraq, M1114**

**HMMWV:** Soldier was  
killed when the M1114  
HMMWV he was riding in  
overturned. The Soldier  
was ejected from the  
vehicle when one of its  
doors separated during  
the rollover. The HMMWV  
was operating in blackout  
drive. The accident occurred  
during the early morning.

For more information  
on accident prevention or  
statistics, please contact  
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# FY05 How'd We Do?

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**T**he Army experienced 1,455 Class A through C ground accidents, excluding Privately Owned Vehicle mishaps, in Fiscal Year (FY) 2005. Personnel Injury-Other (PIO) incidents were responsible for 72 percent of reported ground accidents, and Army Motor Vehicles (AMV) accounted for 17 percent. Army Combat Vehicle (ACV), Army Operated Vehicle, and Other Army Vehicle accidents combined were responsible for 8 percent of the Class A through C totals, leaving fire and explosives with 3 percent. These accidents combined killed 126 Soldiers and cost the Army nearly \$40 million.

## AMV

According to the year-end review article in the December 2004 *Countermeasure*, there were 255 Class A through C AMV accidents reported in FY04. For FY05, there currently are 243 Class A through C AMV accidents in the Army Combat Readiness Center (CRC) database. However, as delayed reports come in, that number is likely to climb and equal or even surpass the FY04 total. About 53 percent of AMV accidents

in FY05 involved HMMWVs, which have become the focus for military officials concerned with decreasing accident and fatality rates.

In terms of AMV mishaps by accident classification, Class A numbers remained relatively stable in FY05, with 46 compared to 47 in FY04. The number of Soldiers killed in these accidents—49—remained unchanged from FY04. Nearly 76 percent of these 49 Soldiers were killed in HMMWVs. Also, 81 percent of the 31 HMMWV Class A accidents involved rollovers. The M1114 up-armored HMMWV accounted for almost 72 percent of AMV rollovers. Finally, 42 of the 46 AMV accidents occurred outside the U.S., primarily in Iraq, Afghanistan, and Kuwait.

## ACV

The number of FY05 ACV accidents was slightly lower than those reported in FY04. There currently are 60 Class A through C ACV accidents for FY05 in the CRC database—about 19 fewer than FY04. Similar to FY04, the M1-series tank accounted for the greatest number of Class A through C reports with 27 percent, or 16 accidents. The Bradley Fighting Vehicle (BFV) made up 25 percent, or 15 total, of the 60 Class

A through C accidents. In all, 14 Soldiers died in FY05 ACV accidents: 6 in BFVs, 2 in Strykers, 2 in M1s, 2 in Armored Personnel Carriers, 1 in a Recovery Vehicle, and 1 in an Armored Security Vehicle.

## Fire

There were 17 Class A through C fire-related accidents in FY05, a decrease from FY04's 19. Two of FY05's fire accidents were Class As. In one of these accidents, two Soldiers suffered fatal burns while performing guard duty in an observation tower.

## Explosives

There were 25 Class A through C explosives accidents in FY05, a 39-percent increase from FY04, when 18 explosives accidents were reported. Four Soldiers were killed by explosives in FY05. Two Soldiers were killed by a premature detonation while destroying a cache of captured enemy ammunition at an ammunition supply point. Another Soldier died while improving an area around an ammunition bunker when the ammunition caught fire and exploded. The fourth fatality was attributed to indirect fire.

## PIO

There was a 7-percent

overall decrease in PIO accidents in FY05, but 4 more fatalities than FY04—62 versus 58. In terms of Class B and C accidents, there were a combined 1,074 in FY04, while 989 have been reported in FY05. Although this decrease might seem like good news, delayed reports probably will increase these numbers. The top three primary activities involved include parachuting with 23 percent; physical training with 16 percent; and sports with 14 percent. There were 2 parachuting fatalities, 14 physical training fatalities, and 13 sports-related fatalities.

### Conclusion

Overall, PIO accidents continue to cause the majority of Soldier injuries and fatalities, with AMV accidents a not-too-distant second. The CRC has developed a number of useful tools to assist leaders and individual Soldiers in assessing the hazards found on the battlefield and at home. These tools include Preliminary Loss Reports, the Risk Management Information System, the Accident Reporting Automation System, Close Calls, and the Army Readiness Assessment Program, all of which can

be found on the CRC Web site at <https://crc.army.mil>. Let's turn the arrow down for FY06 and own the edge!

*Editor's note: PIO accidents involve injury to personnel not covered by any other accident type. These statistics are current from the CRC database as of 1 November 2005. Delayed reports and follow-up details on preliminary reports could change the statistics, figures, and findings.*

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## SUMMARY OF ARMY PERSONNEL FATALITIES

PRIMARY ACCIDENT DESCRIPTION	TOTAL
Army Combat Vehicle	14
Army Motor Vehicle	49
Army Operated Vehicle	0
Explosives	4
Fire	2
Other Army Vehicle	0
Personnel Injury-Other	57
<b>TOTAL</b>	<b>126</b>

PRIMARY ACCIDENT DESCRIPTION	A	B	C	TOTAL
Army Combat Vehicle	13	11	36	60
Army Motor Vehicle	46	19	178	243
Army Operated Vehicle	3	1	35	39
Explosives	6	7	12	25
Fire	2	4	11	17
Other Army Vehicle	1		19	20
Personnel Injury-Other	62	20	969	1,051
<b>Total</b>	<b>133</b>	<b>62</b>	<b>1,260</b>	<b>1,455</b>

# Always to Standard

ACCIDENT INVESTIGATION DIVISION  
U.S. Army Combat Readiness Center

**e**very Soldier in our Army must constantly uphold standards. When participating in live-fire exercises, specialty training, or Airborne operations, strict adherence to standards is critical in ensuring realistic, meaningful, and safe training.

Leaders at all levels must ensure their Soldiers clearly comprehend, train to, and maintain standards during prolonged operations. Unfortunately, however, even units with favorable standards climates sometimes fall victim to accidents. A recent parachute accident illustrates the consequences of a Soldier-level standards breach and begs the question, "What more can be done?"

## Background

A specialist and a private first class occupied the sixth and seventh jump positions on the right side of a C-17A as it approached the drop zone (DZ). A third Soldier, another private first class, was in the fifth jump position on the aircraft's left side. Each Soldier was scheduled to exit the aircraft during its first pass over the DZ.

The primary jumpmaster (PJ), a master sergeant, began the operation by pushing a mortar bundle through the aircraft's right door as it flew over the pre-programmed release point and after the green light illuminated. The PJ visually cleared the bundle by leaning out the right door. He then came back inside

the aircraft and issued the "go" command to the first Soldier. Upon seeing the first Soldier exit the right door, the assistant jumpmaster (AJ), a staff sergeant, on the left door "tapped out" the first Soldier on his side.

Approximately 4 seconds later, the specialist in sixth position on the right side exited the aircraft. Less than 1 second later, the private in fifth position on the left side exited through his door. At nearly the same time, the other private in seventh position on the right side jumped.

The two privates from the left and right doors became entangled soon after they exited the aircraft. They then became entangled with the specialist. The entangled parachute canopies experienced air starvation, causing a leap-frog effect. Only one full canopy was observed during the final seconds of the descent, and no reserve chutes were deployed.

All three Soldiers impacted the ground nearly simultaneously. Their final resting locations coincided with the impact points. The private and specialist who exited the aircraft from the right door impacted the ground side by side. The private who exited the aircraft from the left door impacted the ground 3 feet and 6 inches to the southeast.

The specialist suffered a broken pelvis and broken right femur. The private from the right side suffered two broken ankles, broken tibias, and lower back and spinal injuries. The private from the left side impacted the ground with the upper-right portion of his head and suffered fatal injuries.

## Why the accident happened

The three Soldiers exited the aircraft nearly simultaneously, which severely reduced the interval between the sixth and seventh Soldiers on the right side. It also nearly eliminated the stagger required to prevent personnel exiting the aircraft through opposing doors from becoming too close as their parachutes deployed.

The sixth and seventh Soldiers exited the right door without maintaining the proper separation interval. Had the private on the right side—the one in seventh position—maintained the proper interval between himself and the Soldier directly in front of him, the opposing-door stagger would've been maintained. He wouldn't have become entangled with the jumper directly in front of him or caused the eventual three-way entanglement.

The investigation revealed the PJ and safety on the right-side door performed their duties in accordance with all applicable regulations and field manuals. Neither the PJ nor safety could've reasonably prevented this accident.

## What more could've been done?

We might never know why the Soldier in this accident failed to maintain the proper interval between himself and the Soldier ahead of him. The two most likely reasons for his standards breach were his inexperience and excitement as he approached the aircraft's exit

door. However, he wasn't the only inexperienced Soldier on the aircraft, and he certainly wasn't the only excited one. His leaders did everything required (and more) to ensure he was prepared. He participated in rehearsals, sustained Airborne training, and all other prerequisite training. Both his AJ and PJ looked him in the eye just before the mission.

What more could've been done? There are no easy answers, nor is there a "go/no-go" light installed on Soldiers' foreheads. Therefore, leaders must:

- Emphasize the specific standards that must be followed to ensure mission success.
- Leverage the standards with stories, facts, and real-life examples of how proper implementation can and will reduce injuries and save lives.
- Lastly—and most importantly—ensure someone in the chain of command is responsible for guaranteeing every Soldier in the formation is complying with the standards.

### **Conclusion**

Leaders can use techniques ranging from simple "hip-pocket" training to full-blown mission rehearsals to assess and emphasize their standards climate. A favorable standards climate can foster several positive side effects, one of the most important being enhanced Composite Risk Management (CRM). Enhanced CRM through strict adherence to standards allows commanders to move their formations to the edge. This, in turn, allows them to operate with confidence,

knowing their Soldiers are using standards to mitigate both accidental and mission (tactical) hazards. Ensure your unit is embedding standards into every operation, and continuously communicate the importance of those standards to your Soldiers.

As our Army continues to fight the Global War on Terrorism and steadily transform, you, as a leader, will take your unit to the edge. Practicing effective CRM will allow you to conduct prolonged operations on the edge while remaining cognizant of the hazards.

**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](mailto:helpdesk@crc.army.mil).**

leaders must ensure all Soldiers wear their seatbelts during mounted combat missions outside the FOB. Leaders should rehearse rollover drills at least once a month, to include evacuating the vehicle through a single door. The Program Executive Officer-Combat Support and Combat Service Support currently is working to modify the HMMWV family of vehicles so Soldiers can egress quickly if they're upside down in water with all four doors blocked.

Vehicle accidents have claimed far too many of our Soldiers already and continue to kill at an alarming rate. We must do everything we can to turn the arrow down and bring our

Soldiers home safe. Operations in Iraq are a whole different ball game from what we're used to in the United States. Take note of your lessons learned and train your Soldiers right.

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**Class B (Damage)**

■ A Stryker and an FMTV suffered Class B damage when the FMTV rear-ended the Stryker. The vehicles were traveling to a forward operating base to drop off the FMTV when they encountered a traffic jam. The Stryker was the lead vehicle and braked to avoid the traffic, but the FMTV's brakes failed. No injuries were reported. The accident occurred during the mid-morning.

coming from the HMMWV's engine, which subsequently failed. Fire consumed the HMMWV and caused significant damage to the vehicle, the trailer it was towing, a night vision system, a smoke generator, and various other equipment. No injuries were reported. The accident occurred during the late evening.

**Class B**  
**Soldier's fingers were amputated when the tailgate of an M929 5-ton dump truck fell on her hand. The Soldier noticed the tailgate was stuck and freed it with her left hand. However, the tailgate then fell onto her right hand, crushing and partially amputating the tips of her fourth and fifth fingers above the first joint. The Soldier was wearing leather gloves. The accident occurred during the late afternoon.**

Soldiers were conducting driver's training, and the driver hesitated while making a lane change to access the exit ramp. The Soldier abruptly changed lanes close to the exit but swerved too hard and steered the HMMWV onto the roadway's right shoulder. He then oversteered left and lost control of the vehicle, which impacted a guardrail before rolling over onto its top. All four Soldiers were wearing their seatbelts, and their injuries ranged from



**Class B (Damage)**

■ An M1113 suffered Class B damage when it caught fire during an unspecified operation. The crew reported seeing smoke



**Class B**

■ Four Soldiers were injured when their M998 HMMWV overturned near an interstate exit ramp. The

**SEATBELT SUCCESS STORIES** **Class D**

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

■ Soldier walked away without injury when the M923 5-ton he was driving rolled over. The truck was part of a five-vehicle convoy traveling in the dark on a vehicle trail. As the Soldier made a left turn, the truck veered onto the trail's soft shoulder. The road then collapsed under the truck, which flipped over the trail's edge. The vehicle

stopped short of falling into a creek below the trail after it hit two trees. The Soldier was wearing his seatbelt and helmet. The accident occurred during the mid-evening.

■ The gunner in an M1025 HMMWV survived when the vehicle rolled over during a turn. The HMMWV's driver made the turn at a high rate of

speed even though his truck commander told him to slow down. The driver abruptly slowed down when he realized the truck was going too fast and oversteered to negotiate the turn. The gunner was wearing his seatbelt and dislocated his shoulder when he hit the turret during the rollover sequence, but otherwise was uninjured. The remaining

crewmembers were checked at the local aid station and released for duty. The driver received a negative counseling statement and was ordered to complete the Army Defensive Driving Course and repair the vehicle himself to fully mission capable status. The accident occurred during the early afternoon.

cuts and lacerations to a fractured jaw and neck injury. The accident occurred in the late afternoon.

#### Class B

- Soldier's finger was amputated by an environmental control system fan. The Soldier was working on the system and was reaching inside it for a part when the fan cut his right middle finger. The accident occurred during the late morning.

#### Class C

- Soldier suffered first- and second-degree burns to his upper left and lower right legs when a smoke grenade detonated in his pocket. The Soldier was conducting a battle simulation exercise at the time of the accident. Another Soldier initially tried to detonate the grenade, which had a paper clip in place of the pin and duct tape securing the spoon. He couldn't release the tape, so he handed the grenade back to the injured Soldier, who then put it in his left-front pocket. After the accident, the smoke grenades used in the exercise were deemed unserviceable and negative counseling statements were issued to the supervisors involved. The accident occurred during the early morning.

# What Thinking? were they

## I love the taste of JP-8 in the morning!

**W**hat do one over-fueled HMMWV, two eager Soldiers, and one garden hose equal? In this case, at least 6 days in the hospital! Two Soldiers decided they'd take matters into their own hands when a HMMWV came into their motor pool with an excess of JP-8 in the tank. Although the Soldier who was trained to conduct such tasks was present and accounted for, he didn't have the equipment to do the job. He said he'd do it later and went about his business.

Well, never put off to tomorrow what you can do today! The two resourceful Soldiers found an old garden hose, stuck it in the HMMWV's fuel tank, and one began to siphon the JP-8 with his mouth. He wisely gave up after he swallowed a little fuel—heaven, and that HMMWV, could wait.

The other Soldier, however, was determined to do better. He grabbed the hose, took a deep breath...and swallowed an "undetermined" amount of JP-8. On the bright side, the fuel was flowing freely from

the HMMWV. (On the not-so-bright side, it was creating a fire hazard on the floor.)

In case you didn't know, JP-8 isn't safe for human consumption. Our "human siphon" figured this fact out right about the time the room started spinning. Coughing severely, the Soldier had to be assisted to the restroom, where another genius told him to drink water and wash the fuel from his face. About 10 minutes later someone decided it was ER time and drove the Soldier to the hospital, where he stayed for several days. (Apparently no one consulted the material safety data sheet for JP-8. Otherwise, they'd have known to take the Soldier to the hospital immediately, not wait around to see what happened.)

This Soldier's haste made waste—wasted days away from work and wasted dollars spent on medical care. Murphy's Law almost always applies to shortcuts, so do the job right or wait until someone who can do it right comes along.