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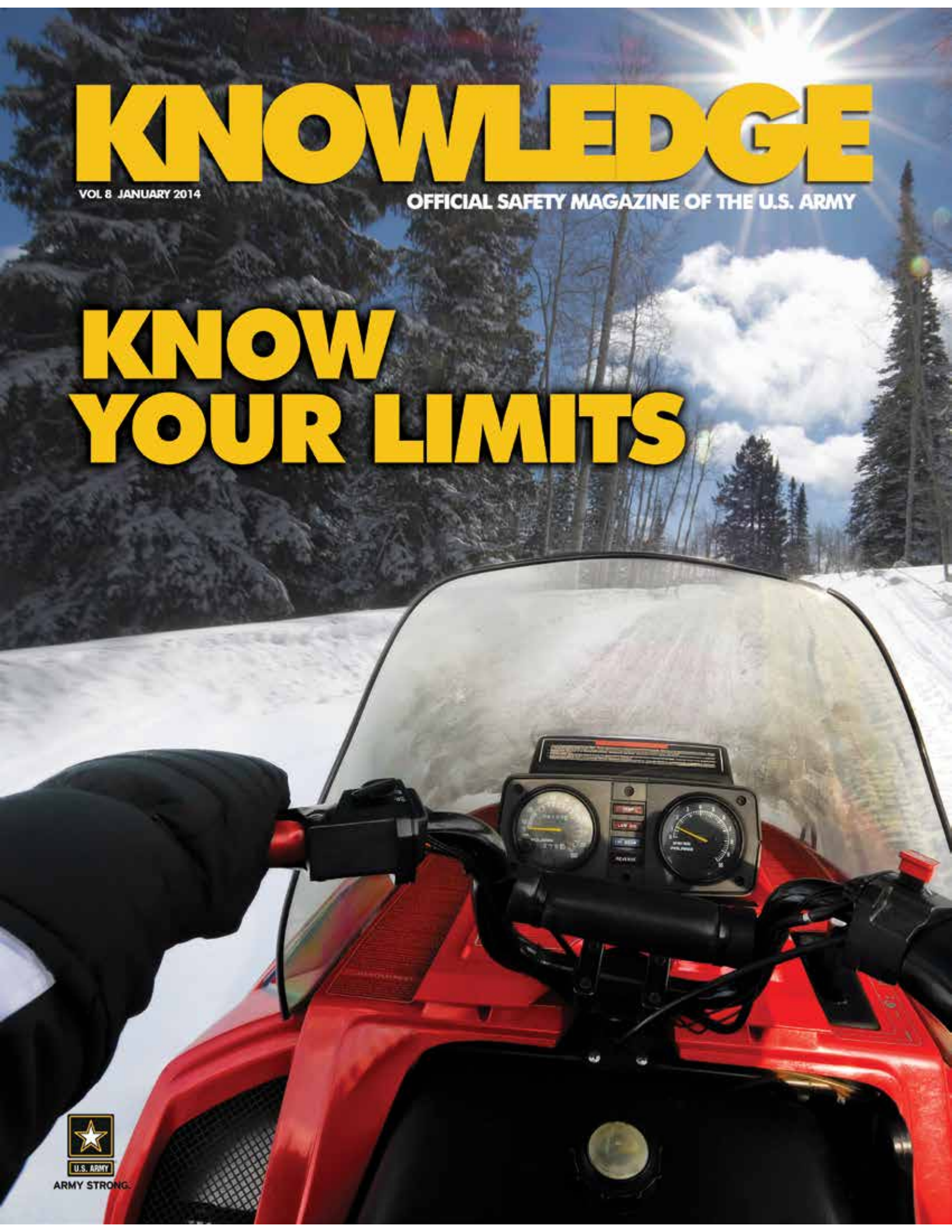
VOL 8 JANUARY 2014

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

KNOW YOUR LIMITS



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FROM THE DASAF
KEEPING PERSPECTIVE

With the new year comes an opportunity for fresh perspective. It gives us a chance to reflect and start anew with a clean slate, with plenty of hope for a better year than the last. This opportunity also offers leaders at all levels a chance to reinvigorate their safety programs, especially as Soldiers are more likely to be refreshed and refocused after coming off extended leave.

Perspective has proven powerful. In conflicts throughout time, war has taken such a dramatic human toll that accidental losses were seen as one of the unfortunate costs of doing business. Perspective 150 years, or even 40 years ago held that accidents were an unavoidable consequence of combat, and some even held safety as a hindrance to the mission. Thankfully, we've learned from our history and are changing our perspective, and we're a much better Army for it.

This new perspective, if you will, is as critical as ever since accidents continue to claim far too many Soldiers. After more than a decade of combat losses often outpacing accidental fatalities, we're reaching the point where the opposite is true. As of mid-December, exactly double the number of Soldiers were killed in accidents as those lost in combat for the first quarter of fiscal 2014. That's a pretty sobering statistic, even when you consider both categories fell significantly from the same timeframe during the previous year.

This offers a powerful message for our Soldiers, one we should highlight to our advantage. Many have experienced the gut-wrenching loss of a battle buddy in combat. We must make all our Soldiers see that death by accident is no less tragic, nor is it inevitable, that a loss is a loss and has profound effects across the unit and Family. The bonds between Soldiers run deep; ensuring they realize these bonds extend their commitment to each other in accident prevention is "messaging" that will resonate with them.

Leaders can always benefit from fresh perspective as well, for what we don't know can hurt our Soldiers. The Army Readiness Assessment Program offers commanders a unique look into their biggest safety issues from various perspectives within their commands. ARAP has proven itself a helpful tool in giving leaders the power to bring about positive change. The revised Army Regulation 385-10, released last month, now mandates that all commanders at battalion level register their formations in ARAP at specific intervals. I've talked a lot about the program's successes in recent months, and this change demonstrates senior leadership commitment to it and its potential. The updated regulation, along with a summary of all changes, is available at http://www.apd.army.mil/pdffiles/r385_10.pdf <http://www.apd.army.mil/pdffiles/r385_10.pdf> .

Our Army isn't slowing down, and this year is sure to be as eventful as any. What we do with our time is what's important, and safety should be part of all our plans. Happy New Year - let's make the best of it!

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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KNOW YOUR LIMITS

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On a beautiful winter day, my brothers and I set out for a snowmobiling trip at Island Park, Idaho. Although all three of us were experienced and seasoned riders, it had been awhile since my older brother and I had ridden. My younger brother owned his snowmobile and was more experienced, so he led the way through the trees on the winding, groomed trails.

As we went along the trail, I noticed how it began to narrow as the terrain became more challenging. My younger brother attempted to communicate via hand signals and calling out directions as we approached an opening. As we climbed the hill, I noticed my younger brother — who was ahead of us — had disappeared from sight.

Feeling confident in our snowmobiling skills, my older brother and I took on the challenge. The trees and terrain, however, altered our perception of the trail's steepness. Unfortunately, we did not realize how steep the slope was until we were already committed.

We soon realized we had placed ourselves in a dangerous situation. My snowmobile tracks began to spin and I did not have the power or momentum to reach the top of the hill. Knowing my older brother was behind me, I veered to the right to turn around and go downhill. As I began my rapid descent, I quickly realized the trail's steepness was going to prevent me from stopping or controlling my snowmobile.

Racing down the slope toward a stand of pine trees, I realized I only had two options. I could ride it out and attempt to avoid the trees, or I could bail off the rented snowmobile, for which I had luckily purchased full-coverage renters' insurance. Bailing off into the three-foot-deep powder, I watched my snowmobile disappear into the pine trees and surrounding snow bank. As I lay in the snow regaining my composure, I realized this experience was not one I wanted to repeat.

This close call taught me that I am never too experienced to ignore safety. My brothers and I still tell the story of how our fun vacation could have turned tragic. During future trips, we made it a point to familiarize ourselves with our machines and the terrain and know our limits. We also made it a point to use standard snowmobiling hand signals.

While there are many resources for information on snowmobiling safety, I have found www.snowmobilers.org to be particularly useful. Here is some additional information to keep you safe on the snow:

Safety Tips

- Wear a helmet and eye protection at all times. Goggles with colored lenses are indispensable on bright days. In addition, amber or yellow lenses are useful on dark days or late in the afternoon.

- Dress for the ride. The outside of your snowmobiling outfit should have a hood and be windproof and waterproof. Beneath that, dress in layers, making sure the clothing is not too tight. Thermal underwear will help insulate you from the cold. Protect your hands with snowmobiling gloves designed to allow your thumb and fingers to operate the controls. Wear rubber-bottom, leather-top boots or rubber-bottom, nylon-top boots to help keep your feet warm and improve traction. Woolen socks can help keep Jack Frost from nipping at your toes. Avoid loose clothing that could get caught on the snowmobile's moving parts.

- Do not let young or inexperienced riders operate snowmobiles without proper training and supervision.

- Do not use alcohol or other drugs when you ride.

- Learn your riding skills from an experienced rider or qualified trainer and practice them before going to the mountains.

- Always maintain a safe distance between riders. Following too closely can lead to collisions and injuries.

- Ride with other snowmobilers and let someone who is not riding know where you're going and when you plan on returning.

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- Before riding, review all local snowmobile laws and obey them.
- Check local weather conditions and dress appropriately.
- Know the terrain where you will be riding so you'll be aware of potential hazards.
- Always use the proper arm and hand signals when riding with others.
- Always ride safely and responsibly. Know your abilities and those of your snowmobile and don't exceed them.
- Make sure your equipment is in top working order before hitting the trails.
- Carry a map or a GPS receiver to help you navigate the trails. Mark your route on a map and provide it to someone you know.
- Frequently clear the ice and snow off your snowmobile so it will run properly and others can see your lights.
- If you're going into an area where avalanches are a potential threat, get the latest avalanche forecasts and bring the proper gear and equipment.
- Be prepared for anything and use common sense.

Etiquette

- Be considerate of others on the trail and keep to the right.
- Slow down when passing.
- Ride only where permitted.
- Leave gates as you found them.
- Yield right of way to animals and hikers.
- Carry out what you carry in.
- Wave and say "hello" as you pass.
- Report downed trees and trail maintenance to land managers.
- Always help those who look in need. One day, that may be you.

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EVERYONE IS A RANGE SAFETY

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It was a drill weekend and we were heading to the range for hand grenade training. I had just assumed command of my company and was eager to gauge my unit's range safety program. My predecessor couldn't execute a thorough handoff with me before I took over; therefore, I had a lot to learn about my new Soldiers.

I knew my company's experience level with hand grenades was limited, so I was looking forward to observing the range operations standard operating procedures that were in place. Our main training event was to qualify with hand grenades, culminating with a live hand grenade range. Ninety days prior to the training event, the officers in charge for the qualification and live ranges briefed me on range operations. The range's OIC, range safety officer, NCOIC and range safeties had completed the range safety certification process necessary to execute the training.

For the qualification range, I was briefed that every other lane would be used for safety separation and to maintain accountability of the throwers' grenades. The operational flow would be dictated by the tower's guidance to the throwers for all lanes. Overall, every thrower would act in unison and execute in the following sequence. Throwers would move to the throwing line and assume the throwing tables' required pre-position. Then they would be directed to secure one practice hand grenade in their throwing hand while covering that hand with the opposite hand. The tower would then instruct the throwers to execute the throw as the range safeties monitored them for spot corrections and safety halts as needed. Once all the throwers had executed their lanes, they would be directed to move down their lane to recover their M69 practice grenade. I was also briefed that the tower would provide an "all clear" from the lane safeties, indicating all grenades had expended their M228 detonating fuzes before anyone was allowed downrange. Everything was briefed by the books, and I felt comfortable with the preparation for the training.

As the drill weekend unfolded, I headed to the range with my first sergeant and executive officer to observe training. As I walked onto the range, which was setup like an M-16 zeroing range, I saw Soldiers walking down the lanes as other Soldiers were throwing M69 practice grenades! This wasn't how the training was supposed to be conducted and deviated from what I was briefed beforehand.

From my time as a private in one unit station training to my current rank of captain, every range safety brief included the reminder, "Everyone is a safety." I immediately called for a cease fire. The RSO and OIC scrambled to my location and asked what was going on.

Here's an interesting fact about M69 practice hand grenades: they're armed with an M228 detonating fuze for more realistic training. The fuze creates 970 to 16,500 psi, according to an Army controlled explosives test. Comparatively, an average private motor vehicle tire holds about 35-40 psi, which, if inflated improperly, could hurt someone.

I explained the explosive characteristics of the M228 fuze, and they refuted my explanation. They tried to explain the safety control measures they had in place: one lane separation to mitigate blast hazards and safeties assigned to two lanes (instead of one as briefed) for positive fuze expenditures before entering the lane. They attempted to justify the change of range operations to speed up the completion of the range.

The broad psi range of the fuze wasn't controlled by three feet of distance. When I spoke with Soldiers, they said they could feel the fuzes going off when they were downrange. Lane encroachment by grenades rolling into other lanes was a hazard that could have taken off a Soldier's finger. One safety assigned to observe two lanes with six thrown grenades, at uncontrolled windows of execution, made the observation of the fuze expenditures hazardous. It was important that the RSO and OIC understood that the fuzes were like firecrackers, which can cause serious injuries. In addition to expediting the training, the RSO and OIC explained, "That's how we've run the range in the past."

Complacency in the unit's range safety program was identified during this weekend. I asked why the range operations deviated from the range brief I received and, again, I was told that's how it's always been. The RSO and OIC also explained that they had been in their positions for this range since they arrived to the unit.

Complacency is one of the most dangerous hazards to a range safety program. It's important to rotate personnel in their duties as well as having a leadership presence on ranges during operations. Rotating personnel allows for a larger knowledge pool of range safeties and provides fresh eyes to operations. Placing as many different sets of eyes on range operations greatly increases the likelihood of identifying hazards and, more importantly, mitigating those hazards.

Two positives came out of this drill. First, and most importantly, no Soldiers were injured. Second, all unit Soldiers understood and saw the command's emphasis on safety without being immediately disciplined. Asking questions and understanding how Soldiers operate and think can assist leaders in tailoring safety programs to their unit. Being seen and participating as leaders can positively impact unit range safety.

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BULLETS AND BIRDS

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The annual gunnery exercise in an attack battalion includes some of the best and worst times of an Apache pilot's career. Gunnery is a time to put to use what we train for — and do it with live ordnance. After battalion gunnery, flight crews earn either great bragging rights or a feeling of "I suppose I'll do better next year."

As a new pilot in command in the Longbow, I was part nervous, part excited and part in disbelief that our command was entrusting me and a relatively junior pilot with the opportunity to strap into our aircraft and unleash ordnance down a range. This was going to be awesome! It turned out that not only were my range skills going to be tested, but also my basic pilot skills, such as situational awareness.

The pilot I was flying with was a good friend. We had gone to flight school together, worked alongside each other at our civilian jobs and hung out on weekends. More importantly, we had been training together for weeks and spent lot of time studying. We logged plenty of time in the simulator. We were a battle team. We were solid.

Graded live fire consists of four "tables," and aircrews need to conduct two live day tables and two live night tables. Once you finish your Table 7 day, you move on to your Table 8 day for an official recorded score. The same process applies for the night tables. We were young, but we knew the range, weapon systems and aircraft. We were determined to help each other out and not only strive for a "first-time go," but also to do well.

My co-pilot gunner and I did do well and not only qualified on every engagement —which means we didn't have to repeat any shots — but also scored high. Yes, we were full of ourselves. My CPG was a master with the sighting systems, and I was able to guide him right to the targets. I was controlling the speed, angles and constraints — whatever he needed to make his shot. Although we were both junior, we were a functional team.

As the backseater, I was mostly concerned with flying. The CPG was focused on the engagements. And this is where we had a problem.

After the night Table 8, our final task was to land at the forward arming and refueling point, de-arm, refuel and fly back to the airfield. We were both excited about our positive gunnery results and that feeling of accomplishment. Sitting on the refuel pad at 3 a.m., I came to the realization that I had been flying (at the controls) for the entire range event. The flight from the airfield, to the FARP and to the range was not unfamiliar to either of us. For the last leg of the final flight of a successful gunnery, I decided to let my CPG fly back home.

The problem came shortly after we took off from the FARP. Once I gave up the controls, I also stopped paying attention outside the aircraft. With thoughts and conversations inside the cockpit only referencing our awesome engagements, I completely disregarded my scan techniques. We then experienced a bird strike.

Not a minute after takeoff, I heard a "splat" and saw bird parts all over the front windshield. The final minutes of that flight to the airfield were really quiet as we relied on our night vision system to land. The maintenance team found no damage, just a mess. Of course, we were given a hard time, but no one was hurt and nothing was damaged. It was not until I was filling out the report that I realized how lucky we were. I learned an important lesson that day. Basic pilot skills, such as maintaining good SA, are a requirement not just during the actual mission, but from start-up to shutdown.

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SLICK ROADS

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When someone brings up the topic of safety, my first thought is the prevention of aviation accidents or hazards associated with being a pilot. Every day, safety is enforced in my company through risk assessments, briefs or monthly training. The fact is my job is very safe due to the restrictions, policies and regulations put into place to mitigate many of the hazards I may face. The most dangerous portion of my day actually takes place when I'm on the ground, driving back and forth to work.

Much of my daily 45-minute commute takes place on highway 41A, located outside of Fort Campbell, Ky. This highway is notorious for accidents due to motorists driving erratically, and I often deal with heavy traffic, inexperienced drivers, people texting and driving, road rage and environmental factors I can't control. Not surprisingly, I often pass several accidents. While most of these are only minor, there is the occasional fatality.

My story begins on a cold day in January 2011. The forecast predicted sleet and rain, so one of my friends suggested we carpool due to the possibility of bad weather. At the time, I owned a Ford F-150 four-wheel-drive extended-cab truck, so I suggested I drive because my vehicle was better equipped for the weather conditions than his sports car. Since I was picking him up at his house, we decided to take I-24 to work. We figured it should take us about 30 minutes to get there.

Moments after we got on the road, the rain changed to sleet and then to snow. We contacted our supervisor to let him we might be a few minutes late due to the changing conditions. He told us the weather was quickly changing there, too, but there hadn't been any word passed down about canceling our flight or releasing us from duty, so we continued to work.

Once we got on the interstate, I decided to stay in left lane since the road conditions seemed to be better suited for driving. We talked about the changing conditions and slowed our speed, staying with the flow of traffic and allowing plenty of room between vehicles. We passed several accidents along the way where vehicles had slid off the road into ditches, including one that had overturned into an embankment.

With our exit approaching, I knew I needed to change lanes. However, when my tires hit the slush that had built between lanes, my truck began to slide out of control. While we slid backward, I tried my best to regain control as we went over an embankment and slammed through an exit sign before coming to rest beside a farmer's field.

My truck sustained major damage to the front end and bed when we crashed through the sign. We were very lucky we didn't overturn or strike any other vehicles as we exited the road. Best of all, we were uninjured — just a little shaken.

In the end, the most dangerous part of our accident was not the actual crash but, rather, some of the good Samaritans who stopped to assist us. Although they were trying to be helpful, they ended up causing other people to crash. It was a total disaster. If you must drive in winter conditions, keep these tips to help keep you safe:

- Turn on your lights to increase your visibility to other motorists.
- Make sure your tread is in good condition.
- Keep your headlights and windshield clean.
- Use low gears to keep traction, especially on hills.
- Don't pass snowplows and sanding trucks. The drivers of these vehicles have limited visibility, and you'll likely find the road in front of them worse than the road behind.
- Don't assume your vehicle can handle all conditions. Even four-wheel and front-wheel-drive vehicles can encounter trouble on winter roads.

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FYI

Winter weather can cause dangerous conditions on roadways. Check out the following tips from the National Safety Council to keep you and your family safe this winter.

Weather

At any temperature, whether it is minus 20 F or above 90 F, the weather affects road and driving conditions and can pose serious problems. Because of that, it is important to plan your trip in accordance with the weather forecast.

Your Vehicle

- Prepare your vehicle for winter. Start with a checkup that includes:
- Checking the ignition, brakes, wiring, hoses and fan belts.
- Changing and adjusting the spark plugs.
- Checking the air, fuel and emission filters and PCV valve.
- Inspecting the distributor (if you have an older vehicle that has one).
- Checking the battery.
- Checking the tires for air, sidewall wear and tread depth.
- Checking the antifreeze level and freeze line.
- Your vehicle should also have a tune-up to ensure better gas mileage, quicker starts and faster response for pick-up and passing power. Check your vehicle's owner's manual for the recommended intervals for tune-ups.

Necessary Equipment

An emergency situation on the road can arise at any time, so you must be prepared. Following the tune-up, ensure you have a full tank of gas and fresh antifreeze in your radiator. In addition, you should carry the following items in your trunk:

- Properly inflated spare tire, wheel wrench and tripod-type jack
- Shovel
- Jumper cables
- Tow and tire chains
- Bag of salt or cat litter
- Tool kit
- Flares

Essential Supplies

Be prepared with a "survival kit" that should always remain in the vehicle. Replenish it after each use. Essential supplies include:

- Working flashlight and extra batteries
- Reflective triangles and brightly colored cloth

- Compass
- First aid kit
- Exterior windshield cleaner
- Ice scraper and snow brush
- Wooden stick matches in a waterproof container
- Scissors and string/cord
- Nonperishable, high-energy foods like unsalted canned nuts, dried fruits and hard candy
- In addition, if you're driving long distances in cold, snowy and icy conditions, you should also carry supplies to keep you warm such as heavy woolen mittens, socks, a cap and blankets.

If You Become Stranded

- Do not leave your vehicle unless you know exactly where you are, how far it is to possible help and are certain you will improve your situation.
- To attract attention, light two flares and place one at each end of the vehicle a safe distance away. Hang a brightly colored cloth from your antenna.
- If you are sure the vehicle's exhaust pipe is not blocked, run the engine and heater for about 10 minutes every hour or so, depending upon the amount of gas in the tank.
- To protect yourself from frostbite and hypothermia, use the woolen items and blankets to keep warm.
- Keep at least one window open slightly. Heavy snow and ice can seal a vehicle shut.
- Eat a hard candy to keep your mouth moist.

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BAD EXAMPLE

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We've all heard the saying, "It's all fun and games until someone gets hurt." This expression couldn't be truer, especially in the Army. Most military occupational specialties require personal protective equipment. From medical technicians to motor pool mechanics, PPE is required for a myriad of daily tasks and procedures. I've learned the importance of protective equipment firsthand, and I assure you that the discomfort of some PPE is worth the protection it provides.

Several years ago, I was an experienced mechanic performing a hydraulic servicing procedure on the tail wheel strut of an AH-64. I had on the required PPE, but as I was waiting for the strut to drain, I decided to take off my safety goggles. I then waited by the strut for the next step in the task.

A fellow Soldier walked up curiously to see what I was doing. As a joke and without thinking, he collapsed the end of the strut quickly. Hydraulic systems are pressurized to push fluid through the system. When the Soldier collapsed the strut, the remaining fluid in the cylinder sprayed out of the drainage port and into my eye. Fortunately, I knew exactly where the eyewash station was located and immediately flushed my eyes. However, I suffered damage to my left eye.

At first, I was angry with the Soldier. Then I realized I should've kept on my goggles or at least stepped away from the strut while it was draining. It was my fault, not his. One might assume that this incident would make me an avid goggle user, but that's a big negative. Eventually, I forgot about this experience and complacency crept back into my work habits.

So, there I was (again), coating a tail boom frame with epoxy, a mixture of chemicals that form an enamel coating. The harsh fumes emitting from the mixture was evidence that it wasn't good for skin and definitely worse for eyes. I had on all my PPE — gloves, glasses and mask — and so did my co-worker, who was a sergeant like me. Two noncommissioned officers should set the standard, right? Not this time. Sadly, experience sometimes causes complacency, and that's when accidents happen.

When we were cleaning up the area, we did not use our goggles. They were uncomfortable, sometimes affected depth perception and fogged in hot weather. A litany of excuses, yes, but still reasons many Soldiers choose not to wear them.

We neglected to clean the rim of the can that still contained residual epoxy. When my co-worker closed the lid on the can, he slammed the edges with a hammer to secure it. As he did this, the remaining epoxy in the lip of the can splashed directly into my left eye. I was rushed to the emergency room, but this time, the damage was irreparable. Fortunately, these two accidents haven't prevented me from performing my job. However, there's a difference in strength and clarity between my left and right eye.

Today, I'm extremely cautious of any chemicals or particles that could get into my eyes, on my skin or ingested. I cannot explain how foolish and irresponsible I feel to have had two accidents like this happen. To make matters worse, at the time, I was unaware of the standard I was setting for my Soldiers. To them, I was stating that is was OK to not wear PPE if you were "experienced" and knew what you were doing.

Because of my accidents, I lost credibility with my Soldiers. I'm hopeful they learned from my experience, though. PPE is required for a reason. It's there to protect you and others. Use it.

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BE EVER VIGILANT

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All too often, we find ourselves caught in disbelief at the circumstances that stand before us, not knowing what the outcome might be. It's a quantifiable sense of urgency to make the right decision at the right time; yet, we are often unable to act upon that desire for fear of facing the outcome. We find ourselves in a Catch-22 of sorts, trying to find a way to escape the loop that has become our decision-making process.

In March 2007, I reported for duty at Fort Riley, Kan., where the newly formed 1st Combat Aviation Brigade had stood up. This was fortunate on my part, as I had wanted to be stationed there when I completed flight school; however, I was given the options of Korea, Korea or Korea. I was told I would like it in Korea, learn a lot and get plenty of flight time there. Twelve months and all of 85 flight hours later — of which, 24 were readiness level progression — I eventually reached my desired destination.

I knew I was behind because I understood more about the battalion headquarters and staff work than I did about my primary job — to employ the AH-64D in combat. I had just arrived from an organization that trained to fight a war force on force, cold war antics and deep strikes to destroy the North Korean hoard. These tactics were the staple of attack operations up until we entered Iraq in 2003. Over the next six months, I trained with my company, learning urban operations and continuous movement/high-energy tactics to fight the war we were in now.

After settling into operations in Iraq, I began to gain a better understanding of how to employ the AH-64D in the urban desert environment that many terrorist militias called home. During the first three months of my tour, I was primarily a front-seat co-pilot/gunner responsible for employing the aircraft's weapon systems during engagements. I had gained a certain comfort, knowing that I could employ each weapon system effectively while monitoring up to five radios for important communication between air and ground elements. My focus was on being a diligent and capable CPG.

Months earlier, during training events that lead up to our deployment, we had created a battle roster with combat crews that would initially fly and fight together so we would be able to focus on mission tasks with a familiar crew mix. I had been battle rostered with my company commander, who had about 650 flight hours, of which, 35 were pilot in command, at the time of deployment. I had about 325 total hours, of which, 75 had been flown in the previous six months during unit training.

We were a very junior crew compared to the rest of the battalion. As it turns out, lessons are sometimes better learned. About 25 missions and six weeks into the deployment, I learned one of the most valuable lessons that I still carry with me today. After taking action to support friendly forces in contact with the enemy in central Iraq and extending ourselves just beyond our bingo fuel number, we departed station headed to the forward arming and refuel point at Taji. As we departed, we were reviewing and talking through the engagement to ensure we had captured any points that would be valid to the after-action report.

As we approached Taji from the north, I announced I would be inside, reviewing the video footage of the engagement to mark the areas that we had discussed. The pilot on the controls acknowledged and stated he would advise me as we descended through 500 feet for the approach.

It took only a couple of minutes to mark the tape at the locations we had discussed, at which time I oriented my view back outside the aircraft to observe our location. I was a bit perplexed by what I saw. Having not heard the other pilot announce any obstacles in front of us, we were not turning to avoid what I clearly had in view. Time seemed to slow down as our adrenaline rushed through our veins, providing the perceived ability to react faster than normal. I ran course after course of action through my head for possible outcomes as we approached the yet unidentified obstacle.

In situations that deserve the most urgent action, we, as pilots, employ a two-challenge rule. This common rule, as part of crew coordination training, tells us to identify the hazard twice to the pilot on the controls, at which time if they do not react appropriately, we are to assume control of the aircraft and avoid the identified hazard. Occasionally there is only time for thinking and acting, and we are often not afforded the time to explain what our actions will be. As I reached for the cyclic and collective to make an immediate left turn, I stuttered out the words, "I have the controls." During the execution of the turn, while my eyes were locked with the obstacle we were turning to avoid, I had realized exactly what it was.

Taji had a notice to airmen that prohibited aircrews from making western approaches to the FARP. This NOTAM was not to avoid noise-sensitive areas, or even suspected small-arms hotspots; it was to avoid the aerostat balloon that was tethered in the northwest corner of the forward operating base.

I remember being so close to the balloon that I was able to see the blocked lettering on the side from the dim red light emitted from the strobe atop the balloon. I also remember the silhouette of the plastic shroud that the red strobe light was housed in. We had only been to the FARP at Taji once before during the day, and I do not recollect seeing the aerostat balloon on the FOB. This, combined with a lack of experience, contributed to our oversight as a crew to identify the known hazards.

Cross-monitoring of each crewmember is vital during critical phases of flight. In an AH-64D with tandem seating, combined with a combat environment, there are many critical phases that seem to mesh to form a constant need for diligent cross-monitoring. If one pilot could complete all mission tasks, there would only be one seat. I developed a certain comfort in the skills my counterpart possessed and had seen little to nothing that indicated errors in judgment about aircraft safety. It is a comfort we all acquire out of familiarity with someone or something we work with on a regular basis. Whether that comfort is based on a positive result from each experience or a negative one, it is usually the same result and we grow accustomed to it. It is this comfort that can lead to our own undoing and result in a catastrophic loss of equipment or even life.

Many of us have approached this moment only to be pulled away, having never known what could have been. When your time comes, and it will, make the decision the best you can. Be alert, be cognizant and be ever vigilant, lest ye be next.

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LEGGO THAT EGO

SGT. 1ST CLASS LITTELL WILLIAMS
306th Military Intelligence Brigade
Fort Hood, Texas

On Jan. 23, 2008, exactly six months after I bought my first motorcycle, I had my first accident. It's a day I'll never forget.

Because of snow, I hadn't ridden my 2007 Yamaha FZ6 for about two weeks. On this day, however, the sun was out and the snow was starting to melt. I figured this was the best riding weather I'd seen in a while, so I drove home on my lunch break to get my motorcycle. My wife warned me that this wasn't a smart decision, but, of course, I didn't listen. I knew I'd be home before the sun went down and the temperatures dropped again.

As luck would have it, a meeting at work kept me tied up until 6 p.m. I knew the roads would be freezing over, meaning I would have to ride slowly to avoid an accident. I could have asked someone to take me home and picked up my motorcycle the next day, but, being hard headed, I decided against it. Besides, I'd ridden in wintery conditions before, so I knew I could handle them again. I went outside, started the motorcycle and let it warm up while I put on my personal protective equipment, which included a two-piece leather suit, heated gloves, winter boots and a helmet. I then hopped on and twisted the throttle.

As I rode, I thought to myself that I only needed to make a right, a left and then another right before I was home-free. I made the first right, but as I started my left turn, the rear tire began to slide out from under me. I released the throttle and downshifted in hopes of keeping the bike upright. Suddenly, the tire gripped the road again and I lost control. I was thrown to the ground, landing on my right shoulder before hitting my head on the road. The motorcycle then landed on my right ankle. Embarrassed, I tried to get up and walk it off, but I was dazed, confused and in a lot of pain. To make a long story short, I lost a motorcycle that night and, for my troubles, got a day of bed rest and 30 days of light duty.

So where did I go wrong? I had started out responsibly by taking the Motorcycle Safety Foundation's Basic RiderCourse two months before even purchasing my motorcycle. When I did buy a bike, I took a friend with several years of riding experience with me to ensure I didn't end up with something that was too advanced for my skill level. Unfortunately, as I got more comfortable with the bike, my confidence level soared out of control. I soon began to think there wasn't a situation I couldn't handle. Obviously, I was wrong.

I was lucky. I should have asked someone for a ride home. Better yet, I shouldn't have even gone home to get my bike that day. I knew the weather conditions wouldn't be favorable for riding if I didn't leave before sundown, but I let my ego cloud my judgment. As riders, we have enough to worry about on the road. Let's not add to it by making dumb decisions.

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JUST BECAUSE YOU CAN …

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U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Lately, I have been watching a cyclist on Fort Rucker engage in what I would consider peculiar behavior. He rides a route that leads out a main gate during rush hour on a road that doesn't have a shoulder, never mind a bike lane. Every day, traffic backs up behind him, drivers dart back and forth over the double-yellow lines trying to see what is blocking the lane and the cyclist keeps pedaling as if he's completely alone on the road.

Since we have several bicycle enthusiasts here at the U.S. Army Combat Readiness/Safety Center, I asked if they would ride that route at that time of day. I got a resounding, "No!" from all of them. So, my question is, "What is this guy thinking?" While I realize the cyclist is well within his rights to be there — he's not doing anything illegal or breaking any rules — it just doesn't make good sense. He is creating a hazardous situation for himself and the people around him with potentially devastating consequences, especially for him.

I'm betting that rider doesn't know that nearly 700 cyclists are killed, and tens of thousands injured, every year in the U.S., with the majority of those deaths occurring between 4 and 7:59 p.m. I know what you may be thinking, but you're wrong. These aren't kids riding their bikes after school who are being hit by cars. Less than 10 percent of bicycle versus motor vehicle accidents involve persons who are 16 and younger. Based on national statistics, the cyclists most likely to be killed in a bicycle/motor vehicle collision are 20- to 40-year-old males. Hello! Over the years, most — if not all — of the people that I have seen leaving post during rush hour on a bicycle fall into this group.

Over the past decade, more than 200 bicycle accidents have been reported to the USACR/Safety Center. The National Highway Traffic Safety Administration estimates that only 10 percent of all bicycle accidents are reported. So, for the sake of argument, if our reporting rate is similar, that means we've actually had closer to 200 bicycle accidents each year for 10 years rather than 200 total for the decade.

Pouring through accident reports day after day, I've begun to notice a just-because-I-can mindset creeping into more and more of them. We have had Soldiers killed, permanently paralyzed or left comatose while doing something reckless, just because they could. I am not sure if we are an Army becoming indifferent to risk, or if, like the civilian sector, we are adopting a sense of entitlement — a sense that we can do what we want, when we want.

Sure, motor vehicles and bicycles have to share the road, but cyclists should remember that not all drivers are focused and attentive, especially at rush hour. Everyone who works on or near a military installation, large factory or school zone knows what time traffic gets a bit crazy. If, as a cyclist, you just have to get on the road during rush hour, you should at least maximize your visibility to drivers by wearing fluorescent or brightly colored clothing. And you should never get on a bicycle without putting on a helmet first.

I am not suggesting riders put hooks in the garage and hang up their bicycles for good. I am asking, however, that cyclists reevaluate the risks of riding on main traffic routes at certain times of the day. Just because you can doesn't always mean you should. Engage your brain.

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RED ILLUM

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Author's note: The following is a real-world example of how risk management was implemented in Kuwait in support of Operation New Dawn 2011-2012. I believe risk management saved my life and the lives of about 81 fellow Soldiers serving our nation. In this article, I'm leaving out some specifics, decisions and courses of action involved in our training mission.

This mission was for six UH-60s to insert troops into the open, isolated desert of Kuwait under zero percent illumination, zero contrast (or ground references), also known as "Red Illum." It was one of the most challenging landings any one of us has ever accomplished to date.

As the assigned flight lead, one of my first pre-mission checks was to determine the level of illumination for the 0000 local time on target (H-hour). Not only was the weather forecast to be dust and haze, but it was to be zero illumination as well. Having been in country for about six months, we conducted several multi-ship night vision goggle dust landings, but never with less than 30 percent illumination. Given that this was not a mission we would conduct in a combat theater without some sort of artificial illumination, the landing phase was identified as the greatest hazard.

A secondary issue we identified was that the ground force commander requested simultaneous two-ship infiltrations of three separate landing zones. Now we had to distribute the crew experience even further for there to be three separate flight leads from release point inbound.

Our first solution was to voice our concerns and ask if the mission could be conducted at sunrise, which would significantly reduce the risk for the mission. To meet the ground force commander's intent, it was decided that the mission had to be conducted at the original H-hour.

The initial risk management worksheet involving all of the hazards assessed suggested the mission was extremely high, meaning it was likely a catastrophic event would occur. So now we had to adopt the think-outside-of-the-box mentality.

The first mitigation item thought of (since this was not a combat mission) was to send at least myself and another senior instructor pilot to conduct a day LZ reconnoiter and physically land in all LZs. The second was to remove the cockpit doors, which significantly increases the visibility of a dust landing during the most critical 10 feet. The third was the most creative yet, thought of by one of our most seasoned IPs: to mark the LZs with vehicles in the forward and aft corners with lights on and place infrared strobes on the edge to add situational awareness and contrast to the empty desert floor.

To assist in our commander accepting the risk, we decided to attempt a dry run of this newly adopted tactic at about the same time (and illumination) with our highest flight hour IPs. Although the dry run was still extremely challenging to land safely, all of the risk management measures (and out-of-the-box thinking) did lower the risk of Red Illum landings.

With the mitigation drilled, in place and rehearsed, the mission was now a high risk and deemed a "go." On mission day, the vehicles were to leave the camp and drive through the open desert to stage in accordance with our risk management mitigation plan. The two vehicles that were supposed to mark my LZ got stuck (due to a sand dune blocking the passage) and were unable to posture on my LZ. So one of the new techniques to reduce the risk was not going to be in place for my own LZ!

Proving that risk management is an ongoing process, we could not give up that easily. As a last-minute audible, we brought IR chemical lights and water bottles that we decided we would drop on the LZ if we were unable to make the ground. The commander approved us to launch, and both of my ships were able to land safely on the first attempt due to the other mitigating factors (crew mix, doors off, etc.). The other four ships that had their LZs marked with vehicles said that it allowed for a noteworthy improvement in SA with the distance to the ground.

The lessons learned were that even though a mission risk is readily accepted in combat, an imminent danger zone, which is by default an operational training environment, can be far more dangerous than a battle. Ground force commanders expect to train

with aviation in identical scenarios as in combat. Spending additional time thinking through the most dangerous risks assessed and using risk management thoroughly will allow for total mission success with zero casualties or incidents.

There is no quantifiable way to measure how much implementing risk management reduced the risk for my mission, but it did enable us to stay safe in an austere environment. Engaging all of the aircrew members allowed for the most pertinent of mitigation to be implemented. Using risk management every day, in every mission, with every crewmember, will greatly decrease your risk of an accident, incident or, at the very least, a significant emotional event.

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WINTER RIDING TIPS

CHIEF WARRANT OFFICER 5 ROBERT REYNOLDS

Depending on where you live, the winter months can range from a minor drop in daytime highs to five feet of snow and temperatures in the single digits. As a result, preparing to ride a motorcycle during the winter can be as simple as throwing on an extra base layer of clothing or as difficult as negotiating ice on the roadway. Here are some tips to help keep you safe while riding during the winter season.

Your Body

There's a good reason veteran cold-weather riders wear multiple layers of clothing, leather outerwear and even electrically heated riding suits to help insulate them against the cold. The combination keeps you warm and protected from the elements, creating a more enjoyable riding experience. Also, most heat loss occurs at the extremities, especially your head, so a full-face helmet will keep you warmer and less susceptible to wind chill.

Your Bike

- A windshield will greatly reduce wind chill, keeping you warmer and more comfortable.
- It's critical to check your tire pressure before each ride during the colder months, as tires can lose upward of 5 psi every day.
- Cold-weather riding puts even more strain on the battery. Use a battery charger to keep it properly charged.
- Use the appropriate weight engine oil for the temperature range you will be operating your motorcycle.
- In extremely cold weather, it can take up to 15-20 minutes of riding before your tires reach their ideal operating temperature.

Your Ride

- Winter riding usually means ever-changing road conditions and hazards, including ice, salt, gravel, wet leaves and pressure ridges. Maintain vigilance and adjust your speeds accordingly.
- Wet leaves are as slippery as an oil slick and just as dangerous. Be aware that moisture trapped under seemingly dry leaves can freeze, creating a hazard in your path.
- When you encounter areas of reduced traction, decrease your speed and lean angle while maintaining equal braking pressure between the front and rear brakes.
- Certain species of trees will release sap during the winter that can form a slippery film when combined with rain.
- Ice can be the single most treacherous aspect of winter riding and often lies in wait in low or shaded areas, bridges and overpasses. Your tires make almost no sound when they are running on the ice. If you notice your tires suddenly get quieter on that back country road, take heed. You might be on ice.

For some of us, the riding season doesn't end when winter begins. If you plan to ride this winter, keep the tips above in mind. Riding smart will help ensure you're around to enjoy all of the seasons.

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WRESTLING WITH SAFETY

STAFF SGT. STEPHEN ROBERTS
Georgia Air National Guard
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Thousands of recruits enter basic training and advanced individual training each year. Most graduate without any problems. Others, however, are injured or involved in incidents during training that result in the dreaded "hold over" status, which means they don't earn the title of Soldier with their peers.

I was injured during AIT; however, my injury went unreported and unnoticed. Fresh out of high school and straight to basic training, I was away from home for the first time. While some things were the same, like making your bed and being respectful, many things were different.

It was the 90s at Fort Leonard Wood, Mo., and after training hard for weeks, I graduated from basic. Before going to AIT, my battle buddies and I were granted a three-day pass. After two months of lockdown, we were allowed to go off post. Everyone was looking forward to some freedom, and a bunch of us rented hotel rooms, as our plan was to hang out and enjoy some much-needed rest. We spent a majority of our time by the pool, just swimming and having a good time.

Late Saturday afternoon, about 24 hours before we had to report back, a few of us started wrestling by the pool. We pushed each other back and forth across the slippery pool deck, trying to throw each other in the water. Trying to be tough, I scooped my buddy up over my shoulders. As I released him toward the pool, my feet shot out from under me and we both fell in the water. On the way in, though, my head slammed into the side of the pool. I was dazed and in a lot of pain. With so many people around, I tried to pretend I was OK, but I wasn't. I dragged myself out of the pool and sat in a chair. I said, "That's it. I'm tired of playing."

What I didn't mention was I noticed blood trickling from my split scalp. I played it off and blotted my wound with a towel until it stopped bleeding. I thought everything was fine — until I got back to my room. There, my head began to throb and swell. I was assessing my wound in the mirror when my buddy walked in and noticed the cut. We both agreed we couldn't say anything because we didn't want to get into trouble, and I didn't want to get held back from my class.

Rather than going to the doctor, we did the next best thing (at least in our minds).We went to the store, grabbed a package of gauze and performed first aid like we'd just learned in basic. We took the gauze, put it on the swollen gash and tied it tight with a bandana to apply pressure. By the next morning, the swelling had subsided and I could barely see the cut. I graduated AIT and didn't give another thought to my head injury.

Less than a year later, I noticed some scar tissue and an unusual wrinkling pattern on my scalp. Concerned, I went to the doctor and was told I had cracked my skull! The doctor said he'd seen injuries like mine before with baseball catchers not wearing helmets, leaning too close toward the plate and getting smacked in the head with a bat. He also said the fracture had healed nicely (not bad for a newbie in the Army), but there wasn't anything he could do about the scar tissue.

Older and wiser, I realize now how dangerous our behavior was that day. At the time, we were more interested in having a good time and weren't thinking about our actions. For the past 15 years, that scar has served as a reminder of all the unnecessary risk I took when I was younger. I realize how lucky I am to be here today.

I take my role as an NCO seriously and share lessons learned — both good and bad — with my Soldiers. Hey, no one's perfect. But if we learn from our mistakes and educate others, we're on the path to reducing unnecessary risk and saving lives.

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DON'T PUT OFF TILL TOMORROW …

CHIEF WARRANT OFFICER 3 JULIO LEON
1st Armored Brigade Combat Team, 2nd Infantry Division
Camp Casey/Hovey, Korea

It was a very long and exhausting week in which I had been working about 16 hours a day. During the time of the first successful election in Iraq, our higher headquarters had requested constant intelligence surveillance and reconnaissance coverage for the week. As we planned for flight after flight, revising all risk assessments, conducting pre-combat checks for every flight to make sure everything went smoothly for the mission and UAS operators, "it" happened. The launcher for the RQ-7B Shadow malfunctioned — on my last duty-day shift in Iraq.

But there was some good news too. Earlier that week, I was told the platoon would receive a new warrant officer in the next few days. He arrived by the end of the week, and it was a major relief for me to have another officer in the platoon. Rapidly, we trained him to standards and then divided the schedule: 12 hours on and 12 hours off. The mission was going great, and with the new schedule, we were able to have an officer at the site for 24/7 coverage.

As usual, the new warrant and I would conduct back-briefs at the end of each duty day to update one another. I briefed him that the launcher catch handle bolt had broken and the contractor's field service representative said it would be an easy fix. Since it was going to be done quickly, I didn't worry too much. I reminded him to follow up and if it was not done within that hour, to let me know so I could inform the commander since it would be a commander's critical information requirement. Because he was the new guy, I emphasized the importance of getting it repaired within the hour. He assured me that it would get done and he wouldn't fail me or the mission.

I finished my duty day very worried and exhausted, so I went directly to my containerized housing unit, got cleaned up and went straight to sleep because the day prior I only slept four hours. Tossing back and forth while thinking about the launcher and wondering if was repaired, I finally fell asleep.

The next day, I woke up earlier than usual and decided to go for a run to the airfield to check on our operations. As I was arrived at the airfield, I saw the ground data terminals were in the stowed position, which indicated no unmanned aircraft were being flown. When I saw that, I sprinted to the flight line to find out what was going on. The only thing I was thinking of was that the launcher did not get repaired, but I still had faith that the commander had been informed of the situation.

When I arrived at the flight line, the first person I saw was my co-worker. I asked him why we weren't flying and if the launcher had been repaired. He said the reason we weren't flying was because the launcher was still down, but not to worry because the part was on order and it would arrive later that day. My next question to him was if he informed the commander. He replied that since I was the platoon leader, it was my job and responsibility, so he did not make the phone call.

You can imagine how furious I got and how I questioned his trust. I ran to the phone and called the commander to tell him about the situation, which I should have done as soon as that launcher went down the day prior. I placed the call on speaker to provide an update of the situation between me and the other officer. As soon as he recognized my voice, he was furious. He asked me why we hadn't been flying for the past 12 hours and why nobody called him to inform him of the situation. My co-worker did not say a word as I talked to the commander and I took all the responsibility.

Later that week, I met face to face with the commander and he realized the misunderstanding. He had a talk with the other officer and found out that he was at fault. However, he pointed out that it was my responsibility to inform him since I was the platoon leader. This experience taught me to never leave for tomorrow what you can do at the moment, always keep all of the chain of command informed of all possible CCIRs and always assume responsibilities for your own actions.

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ASLEEP AT THE WHEEL

COMPILED BY THE KNOWLEDGE STAFF

Being stationed at Fort Rucker, Ala., means you'll usually have to drive no less than an hour to find certain recreational activities. Whether you're heading to the sugar-white sands of Panama City Beach, trekking to Lake Eufaula to fish or going to see an SEC college football game, you'll have to drive, sometimes for multiple hours. I'm sure a lot of flight school students — or, for that matter, anyone who's ever been stationed at Fort Rucker — can relate to following story.

As a flight student living on a second lieutenant's paycheck, spending way too much cash on extracurricular activities, I searched endlessly for ways to save money. One way I tried to save was by booking the cheapest flights I could find for trips back home for special occasions. During a time when I was "in a bubble" in flight school, meaning I was waiting for the next phase to start, I put in for a four-day pass to fly home and surprise my mom for Mother's Day. After a quick search, I found the cheapest flight was a 6:30 a.m. Friday departure out of Atlanta.

Any safety-conscious Soldier with such an early flight knows the smart move is to drive to Atlanta the night before and stay in a hotel. But that would involve spending more money, so I opted for a different course of action. My plan was to go to bed as early as possible Thursday night and wake up super early Friday morning and head for Atlanta. With my mind set, I then did a little backward planning to determine what time I'd need to leave Fort Rucker to make my flight. Here's what I figured: For a 6:30 a.m. flight, I'd need to arrive at the airport no later than an hour prior. It would be a 3½-hour drive to the airport, but I also needed to factor in the hour I'd lose due to the change in time zones. In the end, I figured I need to leave Fort Rucker no later than 1:30 a.m. to make the flight. No problem, I thought.

As a man who loves sleep and puts a lot of value in the Army fighter management system, I wanted to ensure I got a minimum of seven to eight hours of sleep prior to driving. This meant I needed to be in bed about 6 p.m. Thursday night. I don't know if you've ever tried to go to sleep at 6 p.m. when your circadian rhythm is set for 10 p.m., but I can tell you it's hard. On top of that, I was excited about going home for the first time in several months. So, while I was in bed at 6 p.m., I certainly wasn't sleeping. In fact, I was wide awake.

For the next few hours, I tossed and turned and stared at the clock. Before I knew it, it was midnight. Realizing sleep was not going to come, I made a decision. I'd just get out of bed and start preparing to leave. Once the car was packed, I hoped in and left for Atlanta a half-hour earlier than planned — on no sleep.

The drive from Fort Rucker to Atlanta isn't the most entertaining of rides, especially in the middle of the night on back country roads. The first hour of the trip actually went swimmingly. I was still excited to see my family and didn't feel that tired. The second hour, however, started getting dicey when I felt a wave of exhaustion taking over my body. Being a bit of a health nut, energy drinks were not an option for me. Instead, I had packed some snacks I thought would help combat fatigue. I ate my almonds, which helped, but not much. I figured I would be OK if I could just keep myself from thinking about being tired.

About 30 minutes later, while driving through Phenix City, Ala., my drowsiness was replaced with fear and anxiety when I noticed police sirens and lights behind me. I didn't realize I was driving 10 miles over the speed limit. One $200 ticket later, I continued my journey. Paranoid about getting pulled over again, I flipped on the cruise control.

A half-hour from the airport, I realized I was finally in the home stretch. By now, total exhaustion had kicked in, and the cruise control was making the trip even more boring. I caught myself starting to doze off. I thought, "OK, I'll drive five more minutes before I eat the PB&J sandwich I packed." Then my eyes closed.

I felt the rumble strips under the right-side tires, followed immediately by the left-side tires. My eyes popped open and I realized I was completely off the road, in the grass and heading directly for a speed limit sign. With no time to correct, I slammed into the sign and then swerved to the left. Doing so caused me to temporarily lose control of the vehicle. Before I knew it, I was heading across I-85 North aimed straight at the median. Again, I swerved, this time to the right. Now I was fishtailing in the middle of the interstate.

I am not sure how, but I managed to regain control of the vehicle and continue driving north. With my heart pounding and sweat pouring off my forehead, I quickly glanced in the rearview mirror and saw three lanes of traffic slowly following to ensure I wasn't going to continue my highway antics. I then pulled off onto the side of the road to regain my composure and check the vehicle for damage.

As I put my car in park, the reality of what had just happened hit me like a ton of bricks. One, replace that speed limit sign with a telephone pole or tree and I would have been dead. Two, had I swerved back onto the road and hit an oncoming vehicle, I might have been dead — and possibly killed an innocent family in the other vehicle. Three, had I successfully made it across the interstate and stuck the T-barriers, I'd be dead. As all these scenarios ran through my head, I thought, "For what? All of this because happened because I wanted to save a few dollars?" With the money I lost on the speeding ticket in Phenix City, I could have booked a great hotel room 10 minutes from the airport. What's more, I could have still been in bed at the time of the accident.

Lessons Learned

There's no point in telling this story if I don't share my lessons learned. While I still pinch pennies and try to save money wherever I can, I now refuse to do it at the expense of safety. Sure, I still book early flights. But if it involves a multiple-hour car ride to the airport, I take advantage of the "park-sleep-fly" programs that exist today. Hotels that participate in these programs allow you to park your vehicle for the duration of your trip, stay the night before your flight and then provide transportation to and from the airport for a nominal fee. And if I am not able to get the appropriate amount of rest before a trip, I change my plans accordingly.

As Soldiers, we know we may be deployed to dangerous situations. We have to be diligent about not putting ourselves into dangerous situations while off duty too. My near-death experience that day changed my way of thinking when planning trips, but it shouldn't have come to that. Driving while sleep deprived can be as deadly as driving intoxicated. Don't risk it.

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FLYING BLIND

CHIEF WARRANT OFFICER 2 CHRIS SPRUNG
C Company, 3-227, 1 ACB, 1 CAV
Fort Hood, Texas

It was my first deployment to Afghanistan, and I was involved in a nighttime mixed-aircraft, six-ship air assault to insert troops for a cordon and search for a high-value target. It was also my first air assault of the deployment.

Flight lead and Chalk 4 were CH-47s, while Chalks 2, 3, 5 and 6 were all UH-60s. I was the 700-hour pilot in the Chalk 2 UH-60 with a 2,000-hour pilot in command in the left seat. The conditions were virtually perfect, with unlimited visibility and not a cloud in the sky, combined with about 50 percent illumination. It was not my first air assault, but as I stated earlier, it was my first in Afghanistan. I was a little anxious, but with a PC check ride in the near future, I was also more than a little confident that I had things under control.

We took off and had a one-hour flight to our refuel destination before the insertion. Everything was going as planned, and we were all ready to complete the insertion and get back home to put the finishing touches on the preparation for the exfil the following night. All six ships would be landing in a large landing zone that looked well suited, according to the imagery we had.

As we neared the LZ, it was confirmed that it was going to be more than large enough and well suited for all of the aircraft. The lead CH-47 announced the winds were calm and lined up for final. I had never flown behind a CH-47 before, but I knew how much rotor wash they were capable of creating. Because of this, I was going to be sure to give them more than enough room since the LZ was so large. What I wasn't ready for was the amount of dust that was kicked up and hadn't anticipated the moon dust that covered the entire LZ.

The lead CH-47 literally browned out the entire LZ. I immediately called a go-around because we were engulfed. We couldn't see in any direction and were pretty much inadvertent instrument meteorological conditions. My mistake was I was so busy searching for the other five aircraft that were also doing a go-around that I didn't look inside at my instruments to see what I was doing.

I had absolutely no frame of reference to use outside the aircraft, and, by this time, the dust was well above 100 feet into the air. Unrecognized spatial disorientation happened. By the time the PC took the controls, I had so much forward cyclic input that the vertical speed indicator was entirely black. I had no idea this was happening and was entirely consumed with trying to avoid a mid-air collision. We eventually cleared the dust cloud and managed to avoid all of the other aircraft. Now the problem remained of having to do it all again. The wind was calm and the dust was just hanging there over our LZ. Eventually, all troops were inserted and we made it back safely.

There were many lessons learned that night. My confidence as a pilot was badly shaken, being that I could have easily killed everyone onboard my aircraft. It was by far the most humbling experience of my life. Looking back, I can honestly say that I'm glad that it happened. I believe that I am a better pilot today having lived through that experience.

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ACCIDENT BRIEFS

AVIATION

MQ-1C
Class A
The controller lost link with the system as it was descending to land on the runway. The aircraft crashed, resulting in damage.

UH-60M
Class B
The aircraft landed hard on approach to an unimproved landing zone in dust conditions and sustained airframe damage to the undercarriage.

GROUND

ARMY MOTOR VEHICLE
Class A
A Soldier died when his M998 HMMWV overturned. The Soldier was driving the vehicle when he lost control due to a washout on the trail. As the vehicle overturned, the driver's door opened. The Soldier fell out and was pinned underneath.

PERSONNEL INJURY
Class A
A Soldier died after he fell from a third-story window.

A Soldier died during airborne training. After the Soldier jumped from an aircraft, he descended upon another jumper's parachute. The Soldier's parachute collapsed and he fell about 150 feet.

DRIVING

PMV-4
Class A
A Soldier was struck and killed by a vehicle while rendering assistance to a stranded motorist on the shoulder of the highway. The stranded motorist was also killed.

PMV-2
Class A
A Soldier's leg was amputated after his motorcycle collided with a vehicle that entered his lane.

A Soldier was killed when he was struck head-on by a motorist driving the wrong way. The driver was also killed.

A Soldier died after he lost control of his motorcycle in a curve. Alcohol was reported as a factor in the accident.

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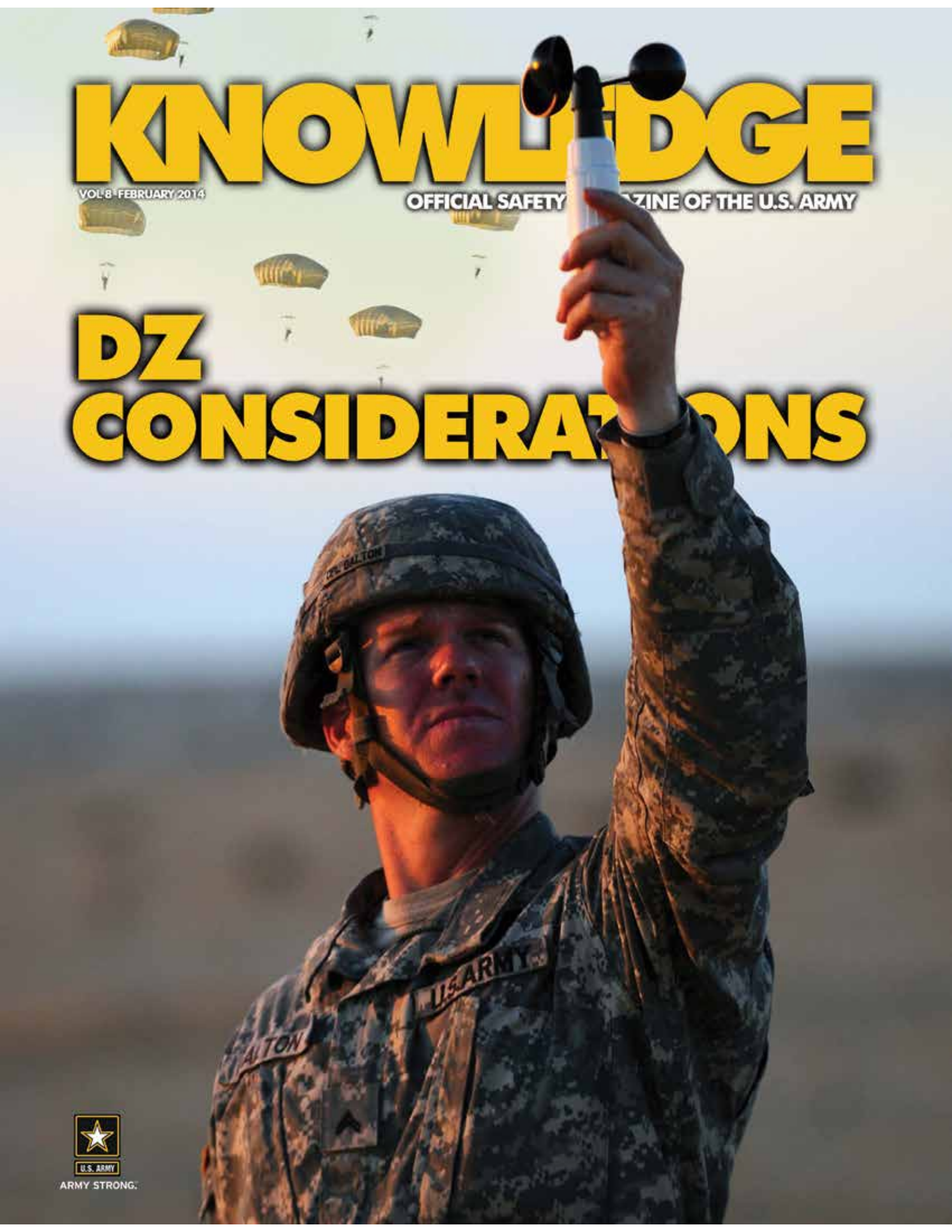
VOL 8 FEBRUARY 2014

OFFICIAL SAFETY ZINE OF THE U.S. ARMY

DZ CONSIDERATIONS



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FROM THE DASAF
GO FOR THE GREEN

For many years, the green-amber-red model has been a staple of military planning. It's the way we express readiness – both visually and verbally – for everything from budgets to training to real-time operations. And, in describing our status on risk management and safety, it's also very useful.

As of late January, the Army was green regarding overall fatalities. Accidental deaths were 10 percent below last year's figures, setting the stage for a hopeful second quarter. Ironically, our "greenest" area currently is private motor vehicle losses: Sedan and motorcycle deaths are down nearly 50 percent and 13 percent, respectively, and PMV-other fatalities, which were on the rise last year, have fallen nearly 70 percent thus far in fiscal 2014. That doesn't mean the fight is over, but it does indicate we're making progress in off-duty safety. Leaders and Soldiers at all levels are doing a tremendous job and deserve credit for these successes.

The picture is different on duty, where we're red in most categories. We've seen notable upticks in Army motor vehicle and personnel injury-other fatalities since October. While it's too early to call anything a trend, these two areas warrant increased attention immediately. Every Soldier who's died in an on-duty accident so far this fiscal year was at home station. Is our training up to snuff? Have we assumed away risk/hazards based on our combat experience? We need to ensure our Soldiers aren't letting down their guard simply because they're no longer engaged in combat. The "I'm finally home, so I don't need to be as cautious" mentality is a deadly fallacy, and we must emphasize that in all we do. Whether Soldiers are outside the wire, in garrison or out on the town, you never leave a fallen comrade — the principle isn't exclusive to war.

Applying this model across your formations, some Soldiers will be green, some amber and some red. Some are obviously at risk, while others play by the rules on duty and lead a completely different life off post. Whatever the case, you and your first-line leaders must assess every Soldier's status. This applies to leaders as well; with five of our seven motorcycle losses this year being NCOs, we must be actively involved in their development, emphasizing safety and mentoring programs.

I plan to talk in my next column about messaging. What we say and how it resonates with Soldiers is critical in reaching them about personal risk, and I welcome your feedback for ways the USACR/Safety Center can better communicate the "safety is a readiness imperative" message. We don't have a monopoly on ideas, and outside perspective is always a good thing. Please let me know how we're doing and what we can do better.

Finally, although we're still deep in winter, remember that spring is just around the corner. After months of abysmally low temperatures and record snowfalls, Soldiers will be anxious for some sun and fun. We'll kick off the Army Safe Spring Campaign March 1, so use those tools to augment your existing programs.

Green, amber or red, we're all in the fight together. Make honest assessments, set green as the goal, and don't stop even after we're there. Thank you for working toward it every day.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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DZ CONSIDERATIONS

GROUND SAFETY OFFICER COURSE STUDENT SUBMISSION
WITH INPUT FROM
MASTER SGT. MICHAEL SMITH AND LT. COL. JAMES SMITH
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

(Editor's note: This article is an individual's experience as a drop zone safety officer. While the information contained in this article is correct, it's not a complete compilation of duties and requirements as prescribed in Field Manual 3-21.220, Static Line Parachuting Techniques and Training. Before participating in an airborne mission, refer to FM 3-21.220 for all of the requirements.)

During my 20 years as a jumpmaster, the situation often arose where a drop zone safety officer assignment was made at the last minute. In a reserve component unit, there were many reasons last-minute assignments were made, such as someone was attending an Army school instead of drill, there were other priorities and the list goes on. Regardless, airborne operations still needed to happen. While all jumpmasters strive to maintain currency, some are more proficient at DZ operations. I hope to provide some of my observations and concerns. The following narrative assumes an airborne mission occurs in an Army-run DZ.

Planning and Deploying

A DZ survey, AF IMT 3823, is required for airborne operations. Once you're tapped to be the DZSO, get a copy of the airborne operation order and DZ survey as soon as possible. Be sure to attend the airborne mission brief. When you know the plan, gather the support personnel and equipment outlined in Field Manual 3-21.220, Static Line Parachuting Techniques and Training. It's important to get a sufficient number of support personnel assigned to the DZ party. Ensure all personnel know the timeline for operations. Make sure you read and understand the DZSO duties and responsibilities. Take copies of FM 3-21.220, unit standard operating procedures, after-action review forms and any other reference materials with you on the day of the mission. Be sure to conduct a risk assessment and ensure coordination with the airborne commander is completed.

The medic and medevac vehicle driver need to take care of the medical equipment and vehicle. They should also have a map of the route from the DZ to the nearest treatment facility, and it's imperative they have a solid medevac plan. If time is available before the jump, the ground medevac plan should be rehearsed and timed. The rehearsal should occur during the same time window of the jump to gauge traffic density and other conditions.

The radio-telephone operator needs to gather the radios and spare batteries. The radio requirements will be Mission, Enemy, Terrain and Weather, Troops and Support Available, Time Available Civil Consideration, or METT-TC, dependant, but I recommend at least three radios. The RTO should test the radios, using all the frequencies assigned to the airborne mission. There needs to be a primary and alternate means of communication — internal and external — facilitating communication between the DZSO, the malfunction control officer, range operations, medics, departing airfield control officer, emergency services, life flight, the local power company (if power lines are present) and other local agencies as needed.

I suggest having at least two additional personnel for DZ support. These personnel can help you inventory and inspect the DZ kit. The kit should have an inventory list. If it doesn't, refer to FM 3-21.220 for the required items. Perform preventive maintenance checks and services on all equipment. Inspect the helium gas bottle using the gas valve with pressure meter. The gas bottle needs to be at least half full. You need enough gas to release at least two balloons from the DZ. In FM 3-21.220, there's a list of approved anemometers to be used for measuring winds. Leave home station so you arrive at the DZ four hours prior to time on target of the first pass.

Activities on the DZ

Upon arrival at the DZ, walk or drive around to inspect the terrain surface, checking for hazards on and near the DZ as prescribed in FM 3-21.220. Compare what you observe during your inspection with the information listed in block 11 of the DZ diagram on the DZ survey. You need to verify the information and contact the DACO to report any information not listed on the survey. Place a radio with the medics in the medevac vehicle location. Place another radio at the center of the DZ. During your DZ walk around, you can conduct radio checks.

The next step is to release a pilot balloon, or PI BAL, to determine the mean effective winds. Take the time to train inexperienced

support personnel; teach them how to inflate the balloon, run the stopwatch, take the balloon direction, measure the balloon elevation angle and observe the balloon. Release the PI BAL and determine the MEW. Use this information to calculate the wind drift using the D = KAV formula. [D = distance in meters. K = constant (drift in meters per 1,000-foot loss of altitude in a 1-knot wind). A = altitude in thousands of feet. V = average wind speed (velocity)]. Normally, it's best to use the PI listed on the DZ survey. However, you need to check FM 3-21.220 for specific PI location for the type of aircraft flying and the DZ.

Train one of the support personnel to take surface wind readings and wind direction, and then transcribe the readings into a logbook. This Soldier can act as a recorder of information during the drop. Walk off the wind drift distance and the forward throw distance to determine the release point. This will be a temporary RP location. Also train the support personnel how to lay out the code letter using the VS-17 signal panel.

Ninety minutes prior to the first drop TOT, release a second PI BAL and determine the MEW. Recalculate wind drift for the RP location and move to the new RP location. Lay out the code letter using the signal panels. The DZ must be established no later than one hour prior to TOT. The RTO needs to begin constant monitoring of the aircraft primary and secondary frequencies. Once communication is established with the aircraft, the drop can begin. Contact the pilot to state drop altitude, drop speed, number jumpers on board and the drop heading. Advise the pilot of the DZ wind speed and direction. After each pass, let the pilot know how many parachutists exited the aircraft.

Post Activities

Give the aircraft crew a strike report in accordance with FM 3-21.220 for each pass. Once the drop is complete, contact the aircraft via radio and thank the aircrew. This simple act will build a good relationship for later airborne missions. Don't begin to tear down until all personnel and equipment are accounted for. Ensure the RTO collects the radios and tears them down. The medics need to pack up any medical equipment and prepare for follow-on tasks. The support personnel can tear down and pack up the signal panels. You will need this information for the airborne AAR you'll send to higher headquarters. Complete the AAR form using the notes taken during the mission. The final task of the mission will be to send the AAR to higher headquarters.

It's important to take your job seriously when performing the duties of a DZSO. Don't take the responsibility lightly. Lives depend upon you doing your job thoroughly, by the books and attentively.

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THE LAST TIME I DIDN'T WEAR A SEAT BELT

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Madison, Wisc.

I grew up during a time when most states didn't have laws requiring vehicle occupants to wear a seat belt. As a teenager, I wore a seat belt when I was riding in the car with my parents. Riding with my friends, however, was a different story. For some strange reason, it was uncool to wear a seat belt, especially when riding in a cool car. We knew it was wrong, but what teenager wants to look uncool?

One friend had an early 80s Mercury Lynx with automatic shoulder belts. As soon as you closed the car door, the shoulder belt would ride up a track that ran above the window. The lap belt, however, had to be fastened manually. Being young and naïve, we figured the shoulder belt would be good enough. Little did we know that we'd soon get to test the importance of those shoulder belts.

One evening, as we returned from visiting our girlfriends who lived in a neighboring town, my friend decided to pass a tractor-trailer that was going too slow for us. The highway we were traveling on was flat and we were out in the middle of nowhere, so my friend started to make his move. As the front bumper of our vehicle reached the rear bumper of the semi, my friend saw a car up ahead coming around a slight bend in the road. He hit the brakes and quickly moved back to the right. In his haste to avoid the oncoming vehicle, he overshot the road and our right tires rode over the gravel shoulder. He then hit the brakes again as he tried to move the tires back onto the road. This time, though, the brakes locked up and we went into a skid.

As we slid toward a ditch, the right-rear tire blew out and the rim dug into the soft dirt beyond the gravel, causing us to overturn two and half times. We ended up straddling the ditch upside down, the roof of the car saved from being smashed by resting in the void. As we hung there, I remember thinking just how lucky we were to have had those automatic shoulder belts. Because the passenger door window did not break, I was unable to get out on that side. After we took off our shoulder belts, we were both able to crawl out the back door windows. Of course, nobody stopped to help.

As we inspected the damage to the vehicle and the path we'd taken to end up inverted in a ditch, I realized how easily things could have turned out differently. Fortunately, somebody did call an ambulance for us (this was before widespread cellphone use), and we were taken to the hospital. In the end, I walked away with a couple of bruises. My buddy just needed a few stitches from where he grabbed the windshield as it came in on him. I decided that night I would never ride in a car again without my seat belt, and I wouldn't let anyone else go without one either.

Today, we almost have universal seat belt laws in the United States, and I have a hard time understanding why so many people still refuse to wear them. According to the Department of Transportation in my home state of Wisconsin, of the occupants in passenger cars involved in accidents in 2011, the fatality rate when seat belts were used was .08 percent (137 out of 159,604). Conversely, in accidents where seat belts were not used, the fatality rate was 3.04 percent (138 out of 4,535). That means vehicle occupants were 38 times more likely to die in an accident if they were not wearing seat belts. The numbers also showed that there is a 97.2 percent seat belt compliance rate among those accidents used in the report. That means that 2.8 percent of the drivers and passengers in the state account for half of the fatalities.

We need to watch out for those Soldiers in our formations who choose to not wear their seat belts. I would guess that probably isn't the only risky behavior in which they are partaking. Be actively engaged with your Soldiers and watch their safety attitudes in all their activities. Pay attention when they enter or leave the area to see if they are doing what is right. They all know what right looks like, but if they notice you watching, they'll realize that you care about their well being. Accidents may still happen, but it is senseless to lose people simply because they didn't wear a seat belt.

Did You Know?
New Hampshire is the only state that doesn't require drivers to wear seat belts when operating a motor vehicle.

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BEWARE OF SUCKER HOLES

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Fort Riley, Kan.

For those not familiar with the term, a sucker hole refers to an opening in a cloud layer through which an aviator may descend below the layer. I've heard of sucker holes throughout my relatively short time in Army aviation and always wondered why someone would fall for it. But on one flight, I nearly ended up falling for one myself.

My unit was departing Fort Polk, La., after a month-long Joint Readiness Training Center rotation. I was co-pilot of the lead aircraft in a four-ship formation of UH-60Ms. I had 1,100 hours flight time, and the pilot in command had 800 hours. Our first leg would take the flight from Self Army Airfield to Texarkana Regional Airport in Arkansas. Takeoff was delayed for nearly an hour and a half as we waited for a low cloud layer to burn off at Fort Polk. The weather briefing that morning forecasted a broken layer about 7,000 feet above ground level and a bottom layer at 1,000 feet at points en route to our location. The flight was scheduled to take one hour and 40 minutes.

After departing about 10 a.m., the flight leveled off at 1,000 feet AGL. Everything was going well, and we were on our way home. I was on the controls for the entire first leg. About 30 miles north of Fort Polk, we began to encounter a very sparse, low-level cloud layer at about 700-800 feet, so we climbed to maintain clearance. As the flight continued north, the cloud layer below us slowly increased from few to scattered and finally to broken. We were talking about the increase in clouds throughout the flight, and no sooner than I realized we should start to make a decision about what action to take, the radio came to life.

The company standardization pilot was in Chalk 2, and the company commander, who was also the air mission commander for the flight, was in Chalk 3. When we were about 20 miles southeast of Barksdale Air Force Base, the decision was made to contact approach and proceed to the base. The radios in my aircraft were sketchy at best. We had trouble contacting approach control despite attempts on both the VHF and UHF radios. After several minutes of no contact, Chalk 2 was able to reach air traffic control. At this point, we heard half the radio transmissions (Chalk 2), which only added confusion in the cockpit.

As we a turned west toward Barksdale, my PC established communication with approach, but I had pulled up my pin switch on COM 2 to try to better hear Chalk 2 talking to approach. My PC was unaware of this, and I should have announced the fact to the crew that I had pulled up the pin switch. The flight was closing in on BAFB airspace, and with the confusion due to the lack of communication, I considered descending through a sizable break in the cloud layer that I spotted in front of the flight.

I started to slow and lower the collective. At the same time, I announced this to my PC. No sooner had I started when my PC basically said, "Don't descend." I realized it was a terrible move and quickly readjusted the flight controls to maintain the previous parameters. I noted I had slowed nearly 20 knots indicated air speed during the deceleration, which is a serious hazard to all aircraft in the flight.

The flight continued and every aircraft safely completed an instrument landing into BAFB. I realize that if we had actually been in the clouds instead of between the cloud layers, I would have handled everything per the standards. We always practice inadvertent instrument meteorological conditions procedures, but I had never actually flown in between layers.

The factors that led me to attempt to descend below the layer are no excuse for actually trying it. I was trusted with the duties of flight lead and nearly let my commander and unit down in those duties. When confronted with IIMC, the key is to commit and stay committed, regardless if you are "in the clouds" or "over the top." And beware of sucker holes.

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A SLIP AWAY

CHIEF WARRANT OFFICER 3 JOSEPH S. VALLEROY
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When the commander needs an aircraft, you can bet a Soldier from the maintenance shop will be eagerly standing by to ensure he or she gets it. Unfortunately, sometimes this on-demand convenience leads to Soldiers moving around aircraft quicker than they usually would.

A piece of ground support equipment that crew chiefs frequently rely on is the low-level maintenance platform. Measuring just one-sixteenth of an inch over four feet, this piece of equipment is ideal for working on aircraft. Employing it eliminates the need for the cumbersome B1 maintenance stand. So if maintenance is easier, it's always safer too, right? Not necessarily.

There isn't a general maintenance manual for the low-level maintenance platform, and this has created a problem with the serviceability of the equipment. The only reference material for the stand is located on the Aviation Ground Support Equipment website. Without guidance and enforcement, the platforms sometimes go without preventive maintenance checks and services and end up a safety hazard.

As the production control officer in charge, I've seen some stands with excessively corroded wheel assemblies, rendering the universal brake mechanisms unserviceable. In this condition, it's difficult to secure and position a stand in the work area safely. When a maintenance platform is used in a double-stacked position (which is common practice), it is unstable and an accident waiting to happen. I've seen a Soldier fall from a maintenance platform and end up with stitches.

The low-level maintenance platform meets the requirements of the Occupational Safety and Health Administration as a mobile work platform (OSHA 29 CFR 1910.29 (e) and (f)). It is crucial, however, that supervisors ensure their Soldiers are trained on the use, care and maintenance of this equipment. When the platform is in the open position, there needs to be eight stable feet on the floor, which will keep the stand from rolling when weight is applied.

An alternate to a low-level maintenance platform is a mobile ladder stand that Soldiers who need the height to work around engine cowlings can easily put in place and use safely. Using a mobile ladder stand that complies with the 29 CFR 1910 is a safer and less expensive alternative to the low-level maintenance platform. These ladders have caster wheels and footpads that lock into place when weight is applied for use in the hangars.

It is important that aviation maintenance technicians stay engaged in hangar and shop operations. Tools that our Soldiers use may be unsafe and unserviceable; we'll never know until we check or if there's a mishap. Our commanders are relying on us to be the eyes and ears of safety for our organizations. Engaged leadership leads to productive maintenance units, thus preventing unnecessary injuries that reduce morale, quality and combat effectiveness.

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VEHICLE MAINTENANCE

CHIEF WARRANT OFFICER 3 ROBERT MORRIS

As the company safety officer for my unit, I was sometimes asked if vehicle inspections were completed. Usually, my response was, "Yes and no." On paper, you could clearly see the inspections were done; however, I knew in the back of my mind that many had been pencil whipped by a buddy.

At the time, I was fortunate to have been in a unit where we'd gone three years without a private motor vehicle fatality. Because of that, though, I believed many in the unit had a false sense of security. So, as the safety officer, I did my best to provide reason and applicability as to why we were required to do the things we did.

The first step in proper vehicle maintenance is to have it serviced according to the schedule in your owner's manual. At different mileage intervals, certain maintenance actions should be performed on your car by trained technicians. In addition, should you be stationed in a foreign country like my unit was, there may be other inspections your vehicle must pass before it can be registered or driven.

Beyond these things, however, there are simple checks you can do to help keep your vehicle safe on the road. By simply using your senses, you can often detect common vehicle problems. For example, look at the area beneath your vehicle. Small stains or an occasional drop of fluid under your car may not mean much, but wet spots or puddles deserve attention. You may be losing coolant, engine oil or transmission or brake fluid.

Some problems just smell like trouble, so it's also a good idea to keep your nose in tune with your vehicle. Here are some odors that sometimes accompany an issue with the vehicle:

- A burnt toast smell — a light, sharp odor — often signals an electrical short and burning insulation. To be safe, do not drive the vehicle until the problem is diagnosed.

- A rotten egg odor — a continuous, burning-sulfur smell — usually indicates a problem in the catalytic converter or other emission-control device. Do not delay diagnosis or repair if you suspect such a problem.

- The smell of gasoline vapors after a failed start could mean you have flooded the engine. If the odor persists, chances are there is a leak in the fuel system, a potentially dangerous problem that requires immediate attention.

- A sweet, steamy smell indicates a coolant leak. If the odor is accompanied by a hot metallic scent and steam is coming from under the hood, your engine has overheated. Pull over immediately; continued driving could cause severe engine damage.

Your vehicle can also "sound" like trouble. Here are some common noises and what they could mean:

- Squeals — shrill, sharp noises usually related to engine speed — can indicate loose or worn power steering, fan or air conditioning belts.

- Screeches — high-pitched, piercing metallic sounds that usually occur while the vehicle is in motion — are often caused by brake wear indicators letting you know it's time to have your brakes serviced. Some brake systems are designed to make a clicking or chirping sound as the brakes get to the point of needing maintenance.

- Rumbles — low-pitched, rhythmic sounds — could point to a defective exhaust pipe, catalytic converter or muffler, or could indicate a worn universal joint or other driveline component.

- Heavy knocks — rhythmic, pounding sounds — can indicate a worn crankshaft, connecting rod bearing(s) or a loose transmission torque converter.

- Clunks — random thumping sounds — could indicate a loose shock absorber or other suspension component. Clunks may also indicate a loose exhaust pipe or muffler.

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Not all of us are mechanically inclined, but there are some things anyone can do to ensure their vehicle remains in good operating order. Some of the most important things to monitor and check regularly include:

• Engine oil level and cleanliness under the hood

• Antifreeze/ coolant level

• Brake and power steering fluid levels

• Transmission fluid

• Belts

When checking fluid levels, the engine usually has containers and canisters with fill level lines marked on them. Ensure the fluid levels are not below the minimum line or above the maximum line. You should always keep an eye out for any leaks or worn tubes and hoses. Before servicing any of the above items, however, first consult your vehicle owner's manual for guidance.

Other things to be watchful for in and around the engine include loose electrical connections, worn or exposed wires, warped belts and clamps for hoses that may be damaged or loose. You should also keep an eye on your vehicle battery from time to time. Check for corrosion, as well as the age of the battery. Batteries should be replaced every five years or so. Most batteries also come with comprehensive warranties.

As you can see, you don't have to be a mechanic to ensure your vehicle remains in good condition. A little routine maintenance can go a long way. And if you ever notice a problem, take it to a reputable mechanic to have it checked out. Remember, a healthy car is a safer car on the open road.

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IF YOU AREN'T SURE, ASK

CHIEF WARRANT OFFICER 2 FERNAND MUFFOLETTO
10th Combat Aviation Brigade
Fort Drum, N.Y.

Every year, the 10th Mountain Division celebrates its history and heritage with an event called Mountain Fest. The event features organized sports and a division run and culminates with a festival with games, food and a live concert. The military portion of the festival is a salute to the nation, followed by a mock tactical assault. The assault is our way of showing the 10th Mountain's ability at conducting asymmetrical operations and the division's ability to perform ground and air integration to fight our nation's wars.

Before this assault took place, part of the risk mitigation was to conduct several rehearsals. Kiowa Warriors conducted close-combat attack in support of two Chinooks delivering two howitzers to support four Black Hawks as they inserted a platoon of infantry to raid a mock village. My part of this operation was being the pilot in command of the lead Kiowa. We conducted the first of two rehearsals with no issues and departed the objective for refueling. As flight lead, we called tower and requested a right base for Buffalo (which is our hot refuel location). We landed at Hot Pad 1 and conducted our after-landing checks and then hot refuel checks. When the checks were complete, I gave the petroleum supply specialists the go-ahead to start refueling.

As they connected the nozzle to our fuel port, I gave the hand and arm signal that we were taking fuel, and the petroleum supply specialist acknowledged. Shortly after, I looked over my right shoulder and saw fuel spraying from the area where the nozzle would be connected to the fuel port, so I immediately conducted an emergency shutdown. When the emergency procedure was complete, I told the co-pilot I was getting out of the aircraft to see how much fuel sprayed on the aircraft. After assessing the situation, I then asked the petroleum supply specialist to get the spill kit so we could wipe down the aircraft. Knowing that we still had one more rehearsal to complete, I helped the petroleum supply specialist wipe down the aircraft. After the specialist gave me the thumbs up and we couldn't do any more cleanup at the refuel point, I decided to start the aircraft and continue the mission. Following engine start, I called the air mission commander and rejoined them for the second iteration of the rehearsal. It went off with no issues and we landed when the mission was complete.

Back at the hangar, our company maintenance test pilot asked me if I received clearance to take off after the aircraft was splashed with fuel. I said I had not, but I made the call as the PC to finish the mission. We then conducted a hot wash to talk about what we could have done better.

The battalion safety officer told me there was no standard operating procedure explaining follow-up actions for fuel splashes. He said the smart thing to do would have been to contact a safety officer and ask for guidance. As the PC, I should have called and talked to my company safety representative about the who, what, when, where and why of the incident.

Upon being further educated on why we need to get the aircraft back to the hangar immediately after an incident involving spilled fuel, it was brought to my attention that the fuel will corrode the fiberglass and sheet metal of the aircraft, weakening it. The aircraft needs to be washed as soon as possible following the incident. I learned an important lesson that day: If you aren't sure, ask.

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READY, SET — DON'T GO

1ST LT. JOHHNY L. HUBBS III
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A few years ago, I was a young platoon leader deployed to Mosul, Iraq. One afternoon, after completing a round of checkpoint missions, I heard about a track meet that the forward operating base was hosting. As a hard-charging PL, I took my job seriously, but I also believed in personal downtime.

I've always loved competitive running, so I was eager to participate in the meet. However, the meet was that day, and I wasn't in my best shape because of my unit's operating tempo. Nevertheless, I felt I could still compete because I'd been a good runner in high school. I arrived at the venue and signed up for two events: the 100- and 200-meter dashes. I had won first place in both of these events at the Mississippi High School Athletics Association Championship track meet state finals a few years prior (cue Bruce Springsteen's 80s hit "Glory Days").

The temperature that day was well over 120 F. I think the heat must have got to me because I neglected to stretch and go through my normal warm-up ritual before reporting for my first event, the 100-meter dash. As we waited at the starting line, the official gave the commands, "Runners to your mark. Runners set," and then blew the whistle. Just like the old days, I started with a commanding lead and blazed down the track. About the 80-meter mark, however, I felt the most excruciating pain I had ever experienced in my life! I knew I'd tweaked my hamstring, but I was able to compose myself enough to limp across the finish line in third place.

I thought I'd only pulled my hamstring, but was I ever wrong! The medics told me I'd suffered a Grade III pull, which meant I tore one of the three muscles in my hamstring. The pain was agonizing. My leg hurt badly just resting it — and even worse when I moved. Before long, I had difficulty walking without assistance, and there was noticeable swelling and bruising. This was devastating to not only me, but also the rest of my platoon. I was out of the fight with a profile restricting me to minimal duty. Because of my selfish behavior and failure to prepare, I left the men I'd been charged to lead without a platoon leader.

With hindsight being 20/20, there were several things I could've done to prevent my injury. I should've stretched and gone through a proper warm-up ritual. I also should have realized my physical limitations. The bottom line is I shouldn't have competed. By doing so, I didn't place the mission and my men first. As good leaders, that's what we are taught to do.

Now, as a battalion safety officer, I believe I'm in a better position to have a positive influence on athletic events. Implementation of certain control measures can prevent injuries and help avoid mission degradation. Soldiers of all ranks need to understand the risk to mission readiness when participating in sports. Applying the steps of risk management before an event keeps us fit to fight for another day!

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TRUTH AND CONSEQUENCES

CHIEF WARRANT OFFICER 2 CHRISTOPHER K. MEAD
Fairbanks, Alaska

I never gave much thought to off-duty safety. For me, it was just something I always had to hear about before being released for a long weekend. The message was always the same: Have a plan, wear your PPE, take a buddy and on and on and on. Fortunately, I eventually got the message — but it nearly cost me my life.

I'd owned my Polaris Ranger RZR (a side-by-side all-terrain vehicle) for about six months and ridden it almost daily. On this particular day, I told my wife where I was planning on riding and grabbed my helmet and cellphone. As far as I was concerned, I'd just met my off-duty safety requirements. I was having a good time riding by myself when I found a trail that branched off my normal route. I decided it would be fun to see what this new trail had to offer.

Man, that was a great idea, as this trail was so much more fun than my normal route. I was flying, at times reaching about 70 mph. And just when I thought it couldn't get any better, the trail got muddy. I mean, who doesn't like to get a little mud on the tires? Then it happened: I got stuck.

When I say I got stuck, I really mean it. In fact, I was so stuck that I broke my winch cable trying to get out. I then had to tie it off with a synthetic cable, get a snatch block and try again. Once I was finally out, the ATV promptly got stuck again. So I winched. Then I got stuck. And then I winched some more. And then I got stuck yet again. Eventually, I made it past the mud and the trail opened back up. With nothing in my way, I took off … fast. Then I saw a turn.

The ATV rolled, landing on the driver's side. My helmet, which I wasn't wearing, flew past my head and out of the ATV. I decided that this was a sign that it was time to go home. A little while later, I arrived back at the house without any further incidents.

So let's analyze what happened here. First, I had a plan when I left the house, riding a trail I was familiar with. Second, I had my PPE. Third, while I didn't take a buddy with me, I did let someone know what I was going and the trail that I was going to use. I also brought my cellphone in case of an emergency. On top of all this, the Polaris RZR is equipped with a roll cage and seat belts. I was wearing my seat belt (which is the reason I didn't get ejected from the ATV). Based on all that, it sounds like I did a pretty good job ensuring my safety, right?

Let's be honest, though. I did very little right that day. Yes, I had a plan, but it changed when I found that new trail, and nobody knew about it. But, hey, that's OK because if something were to go wrong, at least I had my cellphone. Did I mention that I knew I didn't get a signal on that trail, so the phone was virtually worthless? And what about my helmet? I brought it but never bothered to put it on. What good does PPE do if you don't even wear it? What's more, the helmet almost took me out when I rolled the ATV, just missing my head by inches. How ironic would it have been if the gear that was supposed to protect my noggin would have caused a head injury?

I made a lot of poor decisions that day. I'm lucky those decisions didn't lead to an injury or, even worse, my death. As an Army, I believe we do a good job of being safety conscious at work. However, we must remember to bring those safe practices home. Whether the accident happens at work or in the woods behind your house while riding your ATV, the result is the same — the loss of a Soldier.

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UNDER PRESSURE

CHIEF WARRANT OFFICER 2 JASON MAIREL
C Company, 1-52 MEDEVAC
Fort Wainwright, Alaska

Many times in a deployed environment, things that were once high on the priority list are moved toward the bottom. This can be broken down to two simple reasons: time and threat. We hurry due to whatever the circumstances. Whether it is an urgent medevac, a time on target or unexpected passengers arriving early, we, as an aircrew, have all felt the squeeze of time. This brings to mind a couple of personal experiences that could have ended very differently. Both were near misses when considering the potential for catastrophic outcomes. Each demonstrates our clouded judgment and jumbled priorities when feeling pressures that are so common in our field.

As a young crew chief, I found myself based in Camp Udari, Kuwait, serving as VIP support for Third Army. We had a mission requiring three ships to pick up passengers at Arifjan and shuttle them to several different locations throughout Kuwait. Pretty routine stuff, considering we had already supported similar missions for several months. Due to the high profile of this specific mission and the number of passengers we were transporting, we had two crew chiefs per airframe. In Chalk 1, it was me and another crew chief. Our platoon flight instructor and a readiness-level 2 crew chief were in Chalk 2, and two experienced crew chiefs were in Chalk 3.

We landed early in Arifjan for refueling and to hopefully grab some breakfast. Our FI volunteered to stay behind with the aircraft while we all got chow. This gave him time to get some valuable systems training done with the new guy.

As we were on our way back from the chow hall, we saw three Suburbans pulling up to the aircraft. We all started running to the pads, throwing on our vests and blasting through checklists. It was just a matter of a few minutes until we were all lined up and making the call for takeoff. The entire sequence was not unfamiliar, but it was not the way we usually did business. We departed without issue as a flight of three and were operating normally.

After a couple minutes, I announced that I would be coming inside to start a fuel check. I quickly copied my numbers, started my clock and returned outside. About that time, Chalk 2 announced they would be sliding staggered right due to some towers on the left side of the route. As the aircraft came into sight, I announced I had them at about five rotor disks. Then I noticed something was wrong. It appeared as if the aircraft had two wings on top of it, flapping rapidly. Clearly not normal! I realized it was the auxiliary power unit doors. Apparently, when they were going over the systems back at Arifjan, they failed to secure the doors on their way down from on top of the aircraft, most likely a result of passengers arriving early. I announced what I saw and immediately the pilots contacted Chalks 2 and 3 to make a decision as to what would be done to resolve this.

We were just a couple of minutes from the embassy, and being over the city meant we would be hard pressed to find a place to land and shut down three UH-60s. We decided to press on. Upon arrival, the three aircraft quickly shut down, passengers exited and the crew of the damaged aircraft climbed up to assess the situation. The door's latches had punched holes in the No. 1 engine hover infrared suppression system, the beam supporting the center of the compartment had been damaged and two rotor blades were badly gouged. Obviously, the doors themselves were destroyed.

Feeling the pressure of senior officers waiting on you as a young enlisted Soldier is stressful. But considering the stress and fear brought on by that situation, taking the extra 10 seconds to ensure we have done things by the book would have been well worth it. The poor RL-2 crew chief clearly felt terrible about the situation. He learned from this mistake and moved on to become a very solid member of the team.

Another situation I remember happened as we were taxiing out for takeoff in a flight of four. I was sitting in the left seat, facing the runway, and noticed an aircraft about to take off with its driveshaft covers open. I told the pilots and they quickly relayed the information on the advisory frequency. Perhaps this situation was caused by the urgency of their mission or the fact there were several aircraft waiting for them to take off. I am not quite sure, but what I saw next blew my mind. A crewmember exited the aircraft on the number one side and reached over the moving driveshaft to secure the cover. We all gasped when we saw this. Fortunately for him, it ended without incident, but the outcome could have been horrific if his flight uniform or gear had simply brushed against the driveshaft.

People have near misses and sometimes learn from the fear they felt once they realized what it was they were doing. Other times, unfortunately, it just reinforces that kind of behavior. This gives the person a sense of invincibility or superiority in their job.

A certain level of confidence and willingness to take risks is important in our profession. However, there are risks that make sense and risks that are stupid and should not be repeated. We have all taken unnecessary risks. Whether at work or at home, the fact is it happens. The important takeaway from all of this is that we need to be able to recognize these decisions as what they are and correct the behavior before we end up learning the hard way. Or even worse, a young Soldier or one of our children see this behavior and adopts it as their own.

Don't fall into the trap that claims lives of too many Soldiers and family members both on and off duty. Take the time to follow the prescribed methods and procedures. They are most often written in blood and published to keep history from repeating.

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RESPECT THE ROAD

CHIEF WARRANT OFFICER 2 KEVIN CEDERQUIST
A Company, 168th Aviation Battalion
Idaho National Guard
Boise, Idaho

They say there are only two kinds of motorcycle riders — those who have crashed and those who are going to crash. While I do not take pride in this fact, I must admit that I am a rider who has crashed … twice.

I don't consider myself to be rash. And in all the years I've ridden motorcycles, I don't think anyone would call me reckless. But, like most people, I do suffer from an occasional lapse in judgment. More on that later.

As I mentioned earlier, I have crashed twice, but I should clarify. The first accident occurred on a street bike when I was 18. I had been riding off-road bikes since I was 10 and was very comfortable in the dirt. The road, however, was a whole new ballgame. I was cautious, but I lacked street experience. The primary contributing factor to the accident was mechanical failure, and due to my discomfort with a heavier motorcycle and higher speeds — not to mention an unforgiving paved surface — I lost control and found myself on my back in the middle of the highway. There wasn't any serious damage to me or the bike, and I was able to limp it home. No harm, no foul, drive on.

Fast forward five years to early spring in the high deserts of the northwest. I'm now 23, married, in the National Guard and attending college. I own a house, two cars and, once again, a street bike. This one is a bit newer and bigger — and a lot faster. It's an air-cooled, high-speed/low-drag, sport-touring, all-around-fun bike with a lot of low-end torque. It's the perfect bike for a responsible guy who doesn't race on the weekends, run away from cops or ride like he's got something to prove. That was me, and life was good.

The craziest thing I had done on that bike was dent the gas tank while pushing it into the garage. I wore all my protective gear every time I rode, including a helmet, riding jacket, riding pants, boots and gloves. It was cumbersome and hot at times, but it felt right (and it won me brownie points with the wife). It also saved my life. Here's how:

My best friend growing up was AJ. We did everything together. In fact, I consider him more like a brother than a friend (except we actually get along). I called his parents Mom and Dad and practically lived at his house when I was a teenager. In early spring of 2007, AJ moved to the same town I lived in and, of course, brought his motorcycle. He never rode motorcycles when were growing up and only had this bike for a couple of months. However, he did have all the proper gear, a level head and a learner's permit. There was a long riding season just around the corner and some sweet "twisties" we would be able to hit up. Our state of mind could probably have been summed up as, "Four wheels move the body, but two wheels move the soul." Neither of us rode reckless or illegally; we just rode to enjoy the ride. Perhaps our folly was we didn't think we were dangerous.

The same day AJ got to town, before he even unpacked his toothbrush, he had his bike off the trailer and I had mine out of the garage. The sun was shining, the snow was gone and the roads were dry. It was a perfect day to kick off the dust and twist the throttle. We were only going to be gone about 15-20 minutes because we needed to unload the trailer. AJ's bike was about 100cc smaller than mine and geared for less low-end torque, but it would get you moving if you wanted it to. It was also a sport-touring-style bike — perfect for a novice rider, yet one that would not leave you disappointed as you gained confidence.

We took off about 9 a.m. Since I knew the area, I was in the lead. I got caught at a stop light about a quarter-mile from the house, but it turned green just as I hit first gear, and AJ shot past me. Here's the lapse in judgment. I rocked the throttle back and popped the clutch like I was being chased by an angry sergeant major. There was no way that smaller bike was going to out-strip me. I'm sure AJ could see me gaining in his mirror and he didn't let up. There was a curve left and then right up ahead, and I was ready for them. AJ, however, didn't know they were there. As he hit the edge of the first corner, there was no hope. The loose gravel and sand on the side of the road from winter sanding was pretty unforgiving, and he went straight into the ditch. Enter folly No. 2: I got tunnel vision. I watched him go off the road in slow motion. I'm not sure if I even started the turn, but I do know I went right off the road after him.

I pitched over the handle bars and did a sort of dive roll, then another, and another and another. Each time I tumbled over, I caught a glimpse of my bike doing summersaults in the air, following me at an uncomfortably close distance. Eventually, I skidded to a stop, made a quick inventory of all my limbs and jumped to my feet to find my partner in crime. He was laying about 50 feet back, his bike in several pathetic pieces, just like mine. I helped him get his helmet off and sat him up. He was white as a ghost and clutching his wrist. "I think I broke my arm," he said kind of distantly. When he let go of his wrist, his arm, from about five inches below his elbow, flopped strait down. Yep, it was nasty.

A minute later, I made the call of shame to my wife. We had crashed not even a mile from my house, so she was there in less than two minutes. When all was said and done, I think that ride turned out to be well over $20,000 per mile.

I haven't given up riding and neither has AJ, but we do it with more respect for the road. We still ride because we enjoy it. We still obey the laws, wear all our gear and we like to glide through curves. I have almost been smashed by inattentive drivers, run over by tailgaters and blown away by strong crosswinds. I'm a safe rider, but I never let my guard down, not even once. I guess that's the price to pay to stay alive and still get out there to enjoy the sport. I gained some priceless insight on the day we crashed. So did AJ … along with two metal plates in his arm.

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SAFETY: A COMBAT MULTIPLIER

JOHN HANSON AND MAJ. THOMAS CAMPBELL
1st Theater Sustainment Command
Afghanistan

In Afghanistan, coalition forces continue to focus on the train, advise and assist mission of their Afghan counterparts. For the 1st Theater Sustainment Command and its subordinate units, the effort continues to be on sustaining U.S. forces to ensure they can perform their mission. As the Afghans continue to take the lead for security in their country, the 1st TSC is conducting the historic retrograde mission to posture U.S. forces for the Resolute Support Mission while bringing needed military capability back to our forces at home to prepare them for future operations.

In the last 16 months, the 1st TSC and its more than 20,000 Soldiers, civilians and contractors, in conjunction with its strategic partners, has reduced more than 20,000 U.S. military vehicles, 25,000 containers and 8,000 containers worth of equipment. Everything — from pens and paper to night vision goggles and Mine Resistant Ambush Protected vehicles — is being retrograded.

Safety is the crux of this operation, and for that reason, the 1st TSC has accomplished all of this with no loss of life or serious injury. This is quite the feat considering that the 1st TSC and its subordinate units have conducted thousands of convoys to move an incalculable number of vehicles, containers and equipment for thousands of miles; used forklifts and rough terrain container handlers to move, sift through and sort countless pieces of equipment; and demilitarized a myriad of HMMWVs, MRAPs and other military vehicles. Additionally, these operations were conducted in the extremes of both cold and heat, on treacherous road networks, in conditions of limited visibility and under the unceasing threat of enemy attacks.

Challenges of the 1st TSC

The 1st TSC faces three unique challenges that impact its safety program. First, the 1st TSC is not a battle space owner in Afghanistan; consequently, all accident investigations and reports for its subordinate units are the responsibility of the regional commanders. Second, all 1st TSC subordinate units in Afghanistan are either under the operational, tactical or administrative control of the 1st TSC and are not organic to the two-star headquarters. This introduces another challenge to the safety program, as units do not fall under the 1st TSC until they are in a deployed environment. Finally, force manning caps in Afghanistan have led to the 1st TSC safety team managing the program from its forward command post in Kuwait and the main command post at Fort Bragg, N.C.

Overcoming Challenges – Leadership, Training, Empowerment

Leader involvement, training and empowering subordinates are essential to the success of the 1st TSC safety program. Leaders at all levels must be engaged in order to make the mission successful. With the challenges of the 1st TSC, the emphasis has to start at the top with Maj. Gen. Kurt Stein, 1st TSC commanding general.

First, Stein ensures his commanders recognize it is their program. He wants them to understand that a well-managed safety program, with command emphasis and a fully integrated risk management process across the range of military operations, is truly a combat multiplier. For those times he is unable to be physically co-located with his commanders, video teleconferencing allows him to always be connected to the quarterly executive safety council meetings. Staying connected tells his subordinate commanders that no matter where he is in the world, the safety program is always a top priority for him. Additionally, it keeps the lines of communication open, which is absolutely essential to the 1st TSC's ability to overcome the challenges it faces.

While the 1st TSC subordinate units do not fall under the control of the 1st TSC until they have boots on the ground in the area of responsibility, they do go through a series of training events prior to deployment. The 1st TSC has a staff presence at all of these training events. Early engagement during pre-mobilization training is one of Stein's priorities for all staff sections. It is essential to mission success, as it is one of the first opportunities for the 1st TSC safety team to engage with the unit leadership and safety personnel. During these training events, the safety team is able to brief the command and staff on the CG's safety priorities, concerns, goals and objectives.

The safety team must be empowered to manage the safety program. Aside from the 1st TSC's "Strategic Safety Goals and

Objectives," the 1st TSC safety team conducts safety officer huddles through online forums. This allows subordinate units to discuss safety challenges and concerns within their respective unit, review trends and statistics, and share best business practices by each unit. These meetings enable the 1st TSC safety team to engage each unit, provide guidance to address their concerns, develop and distribute safety alerts and document best business practices to share across the command and with units that will eventually rotate into theater as a part of the 1st TSC.

1st TSC Commanding General's Top Five Safety Priorities

- Safety is a commander's program. Commanders must take ownership of and promote safety as a command priority; it is not a check-the-block program.

- Strategic safety planning must involve the entire staff. Priorities and goals must be set, routine azimuth checks need to be accomplished and evaluation of achievement toward goals must be discussed.

- Conduct quarterly safety meetings. Commanders must brief their program and share lessons learned. Councils must be an open discussion and forum for cultural safety change.

- Accident investigations must take priority over collateral investigations. An investigation must be conducted for every accident; reporting itself is not enough. Information gained from accident investigations must be shared throughout the command to prevent future accidents.

- Appoint and empower the right safety team. They must be educated in all aspects of safety and occupational health. They must be engaged, motivated, physically capable and medically qualified to deploy with the force to serve as the commander's eyes and ears in accident prevention efforts.

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BREEDING OVERCONFIDENCE

CHIEF WARRANT OFFICER 4 JONATHAN CASE

I was told by a sage instructor pilot early in my career to be careful when I go on an extended training cycle, operation or deployment. He told me it had been his experience that when pilots had a lot of meaningful repetition, they got really good. "Be careful, because you are going to get good," he said. "Being good is one thing, but you have to be careful because it can breed overconfidence and complacency."

I always worked arduously about making sure I — and when I became an IP, my guys — was not taking shortcuts. Something new to train or think about was what I tried to keep fresh in the troop. I never really gave much thought that overconfidence could be a bad thing. This aspect was pointed out in an after-action review one dark, rainy night in Mosul.

On a January night mission, two AH-64As were flying as a convoy escort from Kirkuk to Mosul. The weather had been overcast for about three days with an almost continuous light drizzle. We launched from Tikrit and refueled on arrival at Kirkuk. Our link up with the convoy was uneventful and, initially, relatively smooth. About midway to Mosul, the rain increased from a drizzle to heavy downpour. Visibility began to drop at a constant rate, but our focus was on completing the mission and getting back home. We had a couple of maintenance issues with both aircraft, and the troop needed ours back for follow-on missions the next day. We were confident we could get it all completed.

Despite our lead ship's best effort, and due to the deteriorating weather, the convoy's lead Stryker took a wrong turn on a road that ran parallel to the military supply route. This road became one lane onto a bridge that was under repair and did not reach across the river. This chain of events led to about an hour-and-a-half delay to get all the vehicles that went on the bridge turned around, back tracked to the MSR and on our way once they were back in chalk order.

About five kilometers from Mosul Airfield, a Stryker broke an axle. The ground commander determined the ground convoy would continue while two Strykers and the air team would stay on station until a wrecker could get back to the broken vehicle.

We were mission first, so we stayed on station and delayed our mission about another hour. By the time we escorted the remainder of the convoy to Mosul and refueled, we were pushing a three-hour delay from our original time table and the weather was deteriorating. We knew we could stay in the transient aircrew containerized housing units and talked about that option before moving to the forward arming and refueling point. We were confident we could get home because we were getting good at this, after all.

After refueling, the radio conversation was brief. If we were going to make it home, we'd have to go now. And with that, we pulled pitch.

Since the weather was getting so bad, we came up with an IFR (I fly roads) plan. We set out to follow the MSR from Mosul to Tikrit. Our initial 300-foot altitude turned into 200 feet and then below 100 feet. Both our pilot night vision system pictures were subpar to say the least. I instructed my co-pilot gunner to put on his goggles to see if it improved our situation.

It is a funny thing about the space/time continuum: the exact point that Chalk 2 went inadvertent IMC was exactly two seconds after Chalk 1 realized they were IIMC and announced, "We just punched in!" I was looking down and left toward the MSR when I heard the IIMC call and shifted my focus to see if I could locate the lead aircraft. Anything other than the green blob in my eye would have been nice. Just to be sure, I checked with my CPG, and by the time he goggled up, he was seeing the same as me. Our troop had a policy of keeping the road between us while traveling and whenever the tactical situation allowed. It always reduced the workload of deconflicting the aircraft. This night, that tactic worked out well for us. Lead turned left and started to climb, and I turned right.

I was out after about two minutes; lead was only in it a few minutes longer. Both aircrews came to their senses and we decided to head back to Mosul for the night. We also determined that trying an in-flight link up was a risk that was not worth taking. We split our altitudes by 1,000 feet and contacted Mosul approach. As we approached the airfield, we were able to pick up the ground lights and preceded VMC back to the airfield. During our AAR of the flight, we realized there was not any reason to press to get home other than it would have been an inconvenience to stay in the CHUs.

At the end of the day, we thought that getting the convoy escort in bad weather and all the setbacks completed was something to build on, but the overconfidence that led to the decision to launch for home was something we all took with us as something to watch out for in the future. We ended up sleeping in the same transient CHU we had hoped to avoid, and it only took two ships going IIMC — and our confidence in our skills — to get there.

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ACCIDENT BRIEFS

AVIATION

AH-64D
Class A
The aircraft crashed just after takeoff from the airfield and came to rest on its left side. One crewmember suffered abrasions in the impact.

During aircraft qualification training, the crew reported uncommanded cyclic input. The aircraft contacted the ground and was damaged.

AH-64E
Class A
The crew was participating in night operations when they detected a smoke odor in the cockpit. While conducting an emergency landing, the crew experienced an electric power outage in the cockpit and impacted the ground. The crew was able to egress.

MQ-5B
Class A
The system initiated an uncommanded descent and impacted the runway. The aircraft was deemed a total loss.

RQ-7B
Class A
The crew experienced RPM fluctuations while the system was in flight, followed by full engine failure at 300 feet AGL during TALS acquisition. The system landed with damage.

The crew experienced engine failure during flight and deployed the recovery chute. The system crashed on impact, sustaining significant damage.

GROUND

Army Motor Vehicle
Class A
Two Soldiers died when their M1165 IAP/armor-ready HMMWV took on water while fording a river during a live-fire reconnaissance mission.

DRIVING

PMV-4
Class A
A Soldier died after his vehicle struck a telephone pole and caught fire.

A Soldier was killed when his vehicle ran off the road and hit a tractor-trailer parked in the emergency lane. It is believed fatigue was a factor in the accident.

A Soldier was killed when his vehicle collided with another vehicle at an intersection.

PMV-2
Class A
A Soldier died after his motorcycle struck a deer. The Soldier was licensed and wearing full PPE at the time of the crash.

A Soldier was killed when a van crossed the center line and struck his motorcycle. The Soldier was licensed, properly trained and wearing full PPE.

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VOL 8 MARCH 2014

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

HASTE MAKES WASTE




U.S. ARMY

ARMY STRONG.

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FROM THE CSM
Leading From Experience

A little more than two months into my time here at the USACR/Safety Center, I'm still wrapping my head around just how much safety means to our Soldiers and our Army. I've spent most of my career in the field, and while I treasure those experiences, it's incredibly humbling to come here and see firsthand how hard Soldiers work to keep their battle buddies safe. It's also inspired me to rethink my own approach to safety, especially as a leader with influence on younger Soldiers.

Many great leaders have said that one of the necessities of effective leadership is the ability to admit mistakes. We all know that's not easy; doesn't the very fact that we're leaders mean we know how to follow the rules and play it smart? After all, the Army has enough confidence in us to entrust Soldiers to our care. But just because we play it smart doesn't mean we always play it safe — sometimes there's a big difference.

I'm fortunate to be living proof of that. I say fortunate because, of all the unwise decisions I've ever made (and there have been many), one in particular could've easily killed me or someone else. Ironically, it happened at exactly the time the Army showed its greatest faith in me, as I was on my way to Fort Bliss, Texas, to attend the U.S. Army Sergeants Major Academy.

I decided to set out early from my hometown of Tampa, Fla., and drive the 1,600 miles to El Paso nonstop. Focus on "nonstop" for a second; that was my first mistake. Then mission creep set in while tying up loose ends at home, and before I knew it, it was almost lunch. Undeterred, I set out anyway, still focused on driving straight through. That was my second mistake, and they compounded quickly from there. Traffic delays, weather, you name it, it happened on that trip. By hour 17, it was nearly impossible to concentrate or stay awake. I pulled over at a hotel in San Antonio just before dusk and got some much-needed rest before making it to Fort Bliss later that day.

It didn't take long for me to realize it was neither wise nor responsible to undertake such a task without thinking things through. I was alone except for my suitcases, I'd never driven that route before, and I'm not a superhero who can function without sleep. Foolishly, I let my confidence in my presumed capabilities cloud the realities of my very human limitations. I learned that day you can't defy logic forever, and physiology will catch up with you sooner or later.

Even now, after nearly 10 years, that's not an easy story to tell. But I share it with you because I believe every leader should be sharing their safety stories with their Soldiers. We have an inherent responsibility to do the right thing and get the message to the men and women who look to us for counsel. Nothing sells a message like a personal story, and your experiences can help a Soldier make a better decision than you did in the same situation.

I'm excited to start this journey at the USACR/Safety Center and meet as many of you as possible. I hope I can be of help, and I encourage you to use every available tool to mitigate risk and preserve life in your formations. We have some awesome programs available at https://safety.army.mil, and I learn a little something from them every day. My mistake-laden trip to El Paso occurred during the earliest days of TRiPS, and had I had access to it then, I would've approached things very differently. Sometimes, we all need a wake-up call to make safer choices.

Please let me know how I can be of help, and until next time, remember to play it smart and safe!

Army Safe is Army Strong!

LEEFORD C. CAIN
Command Sergeant Major
U.S. Army Combat Readiness/Safety Center

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HASTE MAKES WASTE

CHIEF WARRANT OFFICER 4 DAN KIRBY

As aviation professionals, we all try our very best to accomplish the mission. Sometimes, this desire to produce the best results in the minimal amount of time works against us. This article highlights an instance where my desire to get the job done in the least amount of time turned into a Class C accident.

I was assigned to the 1-159th Aviation Regiment as a Black Hawk maintenance test pilot. We were about three months into a nine-month Bosnia rotation, flying a pretty heavy schedule supporting the peace-keeping efforts. Having flyable aircraft was a priority, so anytime a helicopter was in maintenance it detracted from my unit's ability to complete the mission. On this particular day, I was performing a track and balance. This procedure involved flying the aircraft with a piece of test equipment called a RADS (Rotor Analysis and Diagnostic System) attached to it.

When performing a track and balance, the pilot flies the aircraft at different airspeeds while the RADS measures vibrations and relative blade height. At the end of the flight, the RADS provides an adjustment solution that requires adjusting weights and control rods to bring the aircraft into an acceptable vibration limit. After the adjustments, the pilot flies the aircraft again to verify the amount of vibrations. If the vibrations are not within limits, the RADS will give another solution and the process is repeated. Once the aircraft is within limits, the pilot takes it out for one more flight to check the autorotational capabilities, which could have been affected during the adjustment of the control rods.

We were having problems getting the vibrations within limits and had already flown the aircraft and made adjustments five times. I really wanted to get the aircraft to a fully mission capable status so it could fly a mission later that afternoon. On the sixth flight, I started the helicopter and began to turn on the avionics. I inadvertently placed the transponder control in a position that caused the Mode 4 code to be dumped. This one act was the first mistake in a chain that resulted in the accident.

At that time, all aircraft in Bosnia were required to transmit a Mode 4 code while in flight. To reload the Mode 4 code, the nose door of the aircraft had to be opened. I asked the crew chief to get out of the aircraft and reload the Mode 4 for me rather than doing it myself, which would have involved me shutting down the aircraft, taking off my safety harness and getting out of the helicopter. If I did it myself, it would have taken about an additional 15 minutes. I saw this as an effective measure to reduce the amount of time required to correct this problem.

The crew chief exited the aircraft, opened the nose door, loaded the Mode 4 and closed the nose door. When he was finished, he gave me the thumbs up and got back into the helicopter. I immediately called for clearance to take off and began the procedure to get the RADS readings. The flight was going well and all the readings were within limits. The final reading was taken at 145 knots and it was good.

I was happy that the track and balance was finished and wanted to go right into the autorotational check without landing the aircraft and removing the RADS. I asked the crew if anyone objected. The co-pilot and the crew chief had no objections and were as glad as I was to get the job done as quickly as possible. So, I gave a safety brief to the crew and proceeded to an area that would be safe to perform the check.

An autorotation check involves bringing both engines to idle and allowing the aircraft to descend without engine power. This is done to ensure the rotor system will slow the decent of the aircraft and allow it to land safely if the engines fail in flight. When I was established in the autorotational area, I began the autorotational check by lowering the collective and bringing the engine power control levers to idle. The aircraft began to descend at about 2,000 feet per minute. This changed the flow of air over the nose door from downward, which acted to keep it closed, to upward, which asserted pressure upward.

None of us realized the nose door of the aircraft had not been latched closed. It is usually held shut by two latches and a lock assembly. The lock assembly is there primarily to secure the avionics equipment located in the nose of the aircraft. It is not designed to keep the door closed while the aircraft is in flight. When the crew chief closed the nose door after loading the Mode 4, he locked it with the key but did not secure the two latches. After just a few seconds of establishing a descent, the nose door flew open, sending the RADS camera, which was mounted on the nose door, through the center windshield. This caused the nose door to jam fully open, completely blocking my forward field of view.

I recovered from the autorotation by bringing the power control levers back to the normal fly position and arresting the descent. I had to fly the aircraft back to the airfield by looking out the side door windows because the nose door remained jammed open. Luckily, the nose door did not become detached from the aircraft or it could have possibly been sent through the main rotor and further complicated matters.

After landing, we got out to assess the damage. The fiberglass nose door was cracked and punctured, the RADS camera was broken and the prop rod used to hold the door open during maintenance broke off at one end and was driven into the ADF receiver as the nose door slammed shut on landing. As we already knew, the center windshield was broken. A technical inspection/report of survey revealed more than $12,000 in damage. Luckily, none of us were injured, but it could have easily gone the other way.

So, who was at fault for this accident? Ultimately, I was because I was the pilot in command. Does it really matter? Not really. The whole crew was put into a position of danger because of the mistakes that were made. How could this have been avoided? We could have slowed our pace and double-checked instead of taking every opportunity to save a few more seconds. Like the old saying goes: Haste makes waste.

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CAUGHT IN THE SUN

CHIEF WARRANT OFFICER 3 BRIAN MCUMBER
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As a motorcycle rider with more than 26 years of experience, I consider myself fairly seasoned. Seasoned, however, doesn't always equal smart. As human beings, we are still susceptible to simple mistakes, overconfidence and errors in judgment. I'd like to share with you one particular experience I had recently in which all of these mistakes almost played into a serious accident.

It was a beautiful Saturday afternoon in Tennessee — the kind of day that riders hate to pass up. The sun was shining and there was slight breeze keeping the temperature about 70 F. I had spent the day catching up on some cleaning and maintenance on my vehicles, and my 2007 Triumph Speed Triple was now all shined up and begging to be ridden. When my wife mentioned she needed something from the store, I figured that was the excuse I needed to go for a quick ride.

The trip to the store was uneventful enough. I picked up what my wife needed, threw it in my backpack and set off for home. About two miles from the house, I stopped at a traffic light and was faced with a decision. I could either go straight and head back home, or I could turn left and take a three-mile detour onto a nice, twisty back road that ran behind my house. Like every self-respecting motorcycle rider, I took the left turn and headed toward the twisty road.

Up ahead, I knew the road made a slow sweep to the left and then doubled back to the right before entering a wooded area with ditches on either side. I was very familiar with this road, which ran through a sparsely populated area, because I frequently took it on my way home from work. As I started down the road, I passed two gas stations, one on my left and one on my right. At the gas station on my right, there was a family out front, and I could see one of the kids pointing and admiring my bike as I passed by.

Lost in the moment, I figured I would demonstrate my assumed riding skill and rolled on the throttle. By now, it was late afternoon and the sun was beginning to set. I started into the left-hand turn and was blinded as the sun shined directly in my face. At the time, I wasn't too concerned because I knew I would soon turn back to the right and the sun would be out of my face. What I didn't know and what I couldn't see was that they had started to repave the road and had laid down fresh tar and loose gravel.

My first indication that I was in a bad situation was when the rear of the bike started to slide out. By now I was out of the blinding sun and had spotted the gravel. I reduced the throttle a little and slowly raised the bike enough to keep it in the turn, regain some traction and get the rear tire back behind the bike. I continued to slow and coasted through the right-hand turn and began to silently chastise myself for being so stupid.

The one thing that saved me from scraping pebbles out of my butt — and possibly wrapping my bike around a tree — was experience. Over my many years of riding, I have been lucky enough to ride all-terrain vehicles, dirt bikes and street bikes. I've also ridden several open track days at race courses. Needless to say, this was not the first time I had found myself unintentionally sliding through a turn. Luckily, this time it didn't land me in the hospital like it had once in the past.

At the end of the day, this close call was caused by indiscipline and was easily preventable. I was riding too fast for the conditions (blinding sun) and assumed the road was in good condition because I had ridden on the road a few days before (overconfidence). This is a prime example of no matter how much experience you have, you are still susceptible to simple mistakes. Hopefully, your experience will also save your bacon when you get into a bad situation.

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UNDERSTANDING WEAPONS SAFETY

MASTER SGT. JAMES H. DOUGLAS
Regional Training Site – Maintenance
Fort Stewart, Ga.

Soldiers depend on leaders to have the knowledge, skills and ability to lead and instruct classes that deal with all forms of safety. When it comes to weapons safety, we have to be the subject matter experts. Attentive leadership and an effective weapon safety program are pivotal components to reducing accidents.

In my opinion, the accidental discharge of a weapon does not exist. A firearm is only as safe as the person handling it. For a weapon to fire, one must load rounds into it and, at some point, pull the trigger. An accidental discharge is the result of poor weapons handling, inattention to detail and lack of training and discipline. It's important that Soldiers do not take weapon safety lightly. And it's just as important that leaders lead by example and enforce the standards.

Soldiers should know and understand the characteristics of the weapon (privately owned or assigned) they're using. Unless you're a licensed gunsmith or if it's within your military duties to perform direct support maintenance, don't modify or try to change the configuration of a weapon. Doing so could result in major malfunctions and possibly render your weapon useless. When handling any weapon, make sure you know its safety features and capabilities. It's a good idea to read the owner's manual or sign up for a safety class.

Even though your firearm may have a safety device, don't assume it will always work. I've often heard the misconception, "It won't fire. The safety is on." Another phrase that makes me cringe is, "It's not loaded." How many unloaded firearms have resulted in the death or serious injury of someone? As a cardinal rule, don't load your weapon until you're ready to use it and always treat it as loaded.

A good way for leaders to ensure Soldiers understand firearms safety is to have them explain their weapon's safety features, its loading and unloading procedures and how to perform immediate action on it should it malfunction. Once Soldiers understand and successfully execute these simple tasks, the likelihood of an accidental discharge will decrease.

When storing weapons, keep them in a lockable container, inaccessible to others. It's also a good idea to use a locking device on your weapon. For those residing on an installation, it's mandatory to register privately owned weapons with the provost marshal's office. Soldiers can keep weapons in their living quarters; however, if they live in the barracks, their weapons need to be stored in the arms room. Refer to Army Regulation 190-11, Chapter 4, for more guidance on storage.

So what are the chances of an accidental discharge occurring at home? What happens when a child finds a firearm? Parents have the responsibility to practice weapons safety at home. A good time to introduce weapons safety to children is if they show an interest in toy guns. Children watch television and may be inclined to know what a firearm would really do or how it works. Don't just tell your child guns are dangerous. This alone may excite their curiosity. Sadly, this exact situation happened a few months ago at my neighbor's house and resulted in the accidental death of a teenager.

Parents who take the time out to teach, practice and demonstrate the functional use of a firearm will ensure the safety of their children to a greater extent than those who don't. Children need to know what to do if they find a firearm. Constantly reinforce that firearms are not toys and at no time should be treated as such.

A leader's (and parent's) role never stops when it comes to firearm safety. You don't ever want to be in the situation where you say to yourself, "If only I provided more training or talked to my Soldier or child about the use of firearms."

Remember to always **THINK** when dealing with firearms:

Treat every weapon as if it's loaded.
Handle every weapon with care.
Identify the target before you fire.
Never point a weapon at someone unless you intend to use it.
Keep the weapon on safe and your finger off the trigger until you're ready to fire it.

To learn more about weapons safety, check out the U.S. Army Combat Readiness/Safety Center's Range & Weapons Safety toolbox at https://safety.army.mil/rangeweaponssafety.

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SPACE AND TIME

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While conducting daily maintenance on an AH-64D, a crew chief discovered a two-inch hole in the No. 5 driveshaft cover (tail rotor driveshaft). Upon opening the cover, he found a 30 mm round lodged underneath the driveshaft. He notified production control, his commander and the safety officer, and an investigation started immediately.

The investigation revealed the aircraft had been flown the previous night on a two-ship live-fire exercise. The team of two Apaches had conducted multiple engagements during the exercise in day and night vision device conditions. The hole was not seen during the post-flight inspection.

This incident could have been much worse. Luckily, the round, although it was under the No. 5 driveshaft, was not in direct contact with it. We don't know if the round was from gun No. 1 or gun No. 2. It is possible the round was a ricochet from either aircraft. It definitely did not hit the aircraft in free flight or there would have been significantly more damage. The end result was replacement of a tail rotor push-pull tube and sheet metal repair on the driveshaft cover.

As a safety officer, the incident brought to light some serious issues, including team tactics and post-flight procedures. The basis of our Apache pilot training is working in a team of two while engaging targets. We do this constantly. One thing that is often overlooked, though, is the spacing and timing between aircraft and not overflying the target.

Aircraft spacing and timing in a real engagement varies depending on the tactical situation. This is a broad and general statement, but it's true. Timing, in this sense, is defined as gun No. 2 firing as gun No.1 is breaking. It is possible that gun No. 2 may have fired too soon and a ricochet hit gun No. 1. It is also possible that gun No. 1 overflew the target while engaging a target and received a ricochet from his gun. The fact is we will never know.

Post-flight procedures are critical. In the above incident, if the aircraft was going out with another crew that night, the new crew may not have seen the hole in the driveshaft cover and ultimately would not have known about the round bouncing around under their No. 5 driveshaft. Do a thorough post-flight inspection and check the fuselage.

This incident could have been prevented by not overflying the target and using proper timing of ordnance between aircraft in the team of two. After the aircraft was on the ground, a proper post-flight would have at least prevented the possibility of another crew taking the aircraft that same night with potentially catastrophic results.

Brief and rehearse your team tactics and remember that ricochet potential is real. It could bring your aircraft down long before the enemy does. A thorough post-flight gets maintenance on the job quickly and also prevents another crew from taking a malfunctioning aircraft.

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EXPECT THE UNEXPECTED

DAVID NEEDHAM
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A few years ago, my girlfriend, Allison, and I decided to take a trip during spring break to a nice costal town in Oregon named Seaside. We made the arrangements, checked the weather and packed accordingly. Little did we know that this trip would teach us the importance of always planning for the unexpected.

We left Boise, Idaho, about 8 a.m. and, after an overnight stop in Hood River, Ore., arrived in Seaside late the following afternoon. We were surprised to see and feel how the weather had changed from the original forecast, but we weren't going to let the cold ruin our trip. During our week there, we toured the towns along the Oregon coast before heading up to Astoria to see the house where the movie "The Goonies" was filmed. It was there that it started to snow.

The locals seemed surprised and excited to see the fluffy white flakes. I, however, was a little perturbed, knowing I was now going to have to pay extra attention to the slick roads and other motorists. Seeing the snow also made me regret that we'd taken my father's two-wheel-drive automatic Toyota truck instead of my four-wheel-drive pickup. Once back at the hotel, we checked the weather and saw there would be a break in the snow the next day. We decided we'd need to get an early start to beat the weather.

The next morning, we grabbed some coffee and hit the road. I'd placed all our luggage over the back wheels in hopes the weight to help provide traction if we ran into any snow-covered roads. At the moment, the roads were wet and free of snow, so I was feeling good about our decision to leave early. Those good feelings wouldn't last long, though.

As we got farther into the mountains, there were a few heavily shaded canyons and curves that were still covered in snow. Once again, I cursed myself for not bringing my four-wheel-drive truck. I'd grown up in a small mountain town, so I was no stranger to winter driving — but that doesn't mean I enjoy it.

As we continued to travel the snow-covered roads, I slowed our speed to about 40 mph and turned on my hazard flashers. Others, however, weren't being so cautious. I was amazed how fast these folks were driving in such treacherous conditions.

As we started up a small shaded hill, I could feel the rear-drive tire begin to spin and slip on the icy road. Unfortunately, our luggage was not nearly heavy enough to provide the weight needed for increased traction. I slowed to about 25 mph and placed the automatic transmission into second gear so the truck would not automatically down shift, which would increase our RPM and cause the back tire to spin faster and possibly slip and lose control. We debated pulling off the side of the road to let some air out of the tires to increase the surface area and get more traction but decided not to because we were still driving up that icy hill.

Once we reached the top of the hill, the sun and glare from the ice was blinding. I slowed down to about 10-15 mph and slowly proceeded down the hill. As we got farther down the hill, Allie pointed out that there was a gasoline tanker truck stopped in the opposite lane. The driver was putting on chains to help him make it up the icy hill. Directly behind the gasoline tanker were two trucks trying to pass him. One lost control and slid sideways in the middle of the road, blocking our lane. Then we hit an icy patch and began sliding sideways. Luckily, I was able to maintain control, and the truck regained traction. Frustrated, I decided to pull off the road and wait for the trucks to move and the ice to melt.

I had just adjusted the rearview mirror so I could see everything approaching from behind when a small passenger car came racing over the hill. We watched in stunned silence as the car slid down the hill and directly into the gasoline tanker truck. I thought for sure the car was going to strike the gasoline tank and explode just like in the movies. Fortunately, it hit a tire and bounced off before striking the other truck that was still in the middle of the road. Shortly after the accident, the police and ambulance arrived. Thankfully, no one was seriously injured.

Once the accident scene was cleared, the sanding trucks came in and covered the hill. The police allowed traffic to resume, but Allie and I were in no hurry. We decided to hang out on the side of the road for awhile and let all the other cars to go ahead. The rest of the drive home was uneventful.

When traveling in the mountains during the fall through spring months, I recommend you always take the proper precautions. The weather can change in a hurry, and conditions can be drastically different in the upper elevations. Make sure your vehicle can handle changing weather conditions. It's also a good idea to tell someone your travel plans so they can assist you in the event of an emergency.

Ultimately, we had an enjoyable trip to Oregon. But it could have easily ended badly. In the mountains, wintery road conditions can last into spring, so expect the unexpected. If you encounter a hazardous situation, listen to your gut feeling and always err on the side of safety. If something doesn't feel right, then it probably isn't.

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SUNRISE SURPRISE

CHIEF WARRANT OFFICER 2 K. ROSS THOMMAN
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Conroe, Texas

It was 3 a.m. on a Friday — time to roll out of bed to get our weekly long run started. We were into week seven of our marathon training. Each week, we'd complete one long run to push our endurance just a little bit further. Today, we were tackling 13 miles. Long runs were usually on Saturdays, but this week we decided to push it up a day because it was my drill weekend. And because my wife had to be at work before 8 a.m., we decided to get up and just get it over with instead of skipping training or doing it individually.

Our run route was through our neighborhood, down some dark thru-roads, around the local university campus and back down some major streets in town. Everything started uneventfully, just a normal humid morning with an outside temperature of about 85 F. However, as we continued, things got a bit hairy. Only about 60 percent of the streets we were using had enough room to run on. The other 40 percent had us running along a major highway as close to the outer white line as we could on the narrow shoulder. If we left the highway, we risked injuring an ankle or knee if we stepped in a hole we couldn't see.

We wore clothes that would help increase our contrast and visibility against the night sky, and most of the streets we were running on were lit with streetlights. But as it turns out, streetlights don't exactly make you visible to weary and sleepy drivers who are ready to get home and get to sleep. At this time of morning, and our proximity to the campus, I knew our risk of encountering a drunk driver was also significantly increased. Thankfully, we didn't notice any drivers who seemed to be driving erratically. However, a few people were late to react when they finally saw us along the road from behind. (Studies have shown that tired drivers behind the wheel react the same as a person that has just finished several alcoholic drinks.)

Also, there were some just plain weird people out there that must enjoy antagonizing people on the streets. I noticed one vehicle that would pass us and then turn around just to drive by us again. This made us extremely uncomfortable. I practiced memorizing the license plates of cars that would drive by, just in case, saying them over and over in my head. Then the pain of running would kick in and I would quickly forget the plate number. Ugh! Thankfully, throughout the campus there were emergency telephones that dial directly to the police or emergency services department. This gave us a small feeling of security.

The last dangerous thing I remember was the high beams of oncoming cars blinding us to the point that we had to look away. Not being able to see a car as it drove by made me uneasy. I wouldn't have enough time to react should it make a sudden move toward us. All these factors combined gave us a running experience I don't think we'll repeat. Now we just adjust other things in our schedule to fit in our running.

Some of the things we could have done better would include increasing our visibility. The Army's policy to wear a reflective belt during hours of darkness would have been smart addition to our clothing. It would have increased the distance at which drivers could have noticed us. Since then, I've seen different options, such as lights you can clip onto your clothes, to make runners more visible in the dark. The next time my wife and I run in the dark, you can bet that we will be wearing them.

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WEATHERING THE STORM

CHIEF WARRANT OFFICER 3 BRUCE SAFFORD JR.
B Company, 2-3 GSAB, 3rd Combat Aviation Brigade
Hunter Army Airfield, Ga.

Day of Notification

On July 26, 2012, I received a call from the commander and was informed I had been tasked to be the pilot in command to assist 2-6 Cavalry in completing their requirement to move seven M113 armored personnel carriers into the Fort Stewart artillery impact area. Two days prior, I had completed the CH-47F transition. One would think I would have been a little nervous so soon after being introduced to a new aircraft, but I had done this type of mission many times. Additionally, my crew consisted of my standards pilot with 2,500 hours of flight time, a standards instructor with 3,000 hours and a 1,000-hour flight examiner. I was one of the low-time guys with 1,100 hours. I was notified on Friday that the mission would take place the following Monday.

Mission Day

I arrived to the hangar that Monday to prep for the flight. I checked the aircraft status, NOTAMS, flight plan, preflight time and weather. Everything was OK, except for the weather (strike one). It was 5:30 a.m., and the ceiling was forecasted broken at 600 feet at our departure/destination location and was scheduled to lift about 11 a.m. I called the unit we were supporting to tell them about the delay and that we would not arrive there at 9 a.m. as originally planned.

At this time, there was another bird/crew scheduled to fly a training flight, but they canceled due to the weather. We decided we would crank at 9:45 a.m. and take off as soon as the weather conditions improved. During the startup, we ran into some maintenance issues and had to jump another aircraft (strike two).

After moving to the other aircraft, we started engines and waited for Metro and tower to report favorable conditions. At 10:30 a.m., we received a call from Metro informing us the weather was broken at 1,200 and at 2,300 feet altitude, with rain showers forecast to arrive about 3 p.m. We were OK with that because we knew we would be back before then, so we took off.

Upon arrival at the pickup site, the weather was beautiful, not a cloud in the sky. We completed the work and the customer was pleased. After takeoff to return to base, it began to rain. Flying in rain isn't a big issue. In Savannah, it rains quite often, so we were accustomed to flying in this type of weather.

As we flew farther east toward Hunter, I noticed the raindrops had become progressively larger, about the size of grapes (strike three). As the drops grew larger, the ceiling became lower. Weather that was 1000/3 quickly became 500/1. We immediately set up for an inadvertent instrument meteorological conditions scenario. Shortly afterward, the ceiling went to 200/½. I was familiar with the area and remembered there was a tower in our flight path ahead. Then the ceiling and visibility went to zero. We punched in. I told the other pilot to start climbing to avoid the tower. I immediately called Marne radio, then Hunter GCA to setup for a PAR.

I told GCA that I wanted to do the PAR into Hunter. GCA asked me if I saw my forward path. Confused, I realized why he asked the question. He thought I was a special ops aircraft and had weather radar onboard. I told him again my aircraft type and that I needed radar vectors for the PAR. He guided us around the storm and handed us off to the final controller whose voice I recognized. I'd trained with her many times, and her voice calmed the storm that had been building inside of me since we punched in.

On short final, she called us with, "On glide slope, on course, three miles from touchdown." I controlled our heading while the other pilot controlled our rate of descent. Our radar altimeter read 500, 400 and then 380 feet when we punched out. Suddenly, the combining transmission caution light illuminated. We remained calm and continued down to decision height and called to say that we had the runway in sight. We thanked her, changed frequencies to Hunter tower and landed the aircraft.

Lessons Learned

The outcome of this flight could have been different had there been a different crew. It was a good thing that we had the SP and the SI on the mission. Additionally, we were forced to rely on the CAAS system of the CH-47F, which allowed me to see how well the system works in a real-life scenario. On a different note, I'll think twice about trying to push into weather, especially when there isn't a real need to do so. We could have pushed the mission to the next day, or the supported unit could have found another way to get the M113s moved. In all, I am glad to have experienced flying in that type of situation, but I hope to never have to go through it again.

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CRASH COURSE IN DRIVING

COMPILED BY THE KNOWLEDGE STAFF

So there I was, only 18 years old and driving in my first car. It was an old hand-me-down Volvo wagon borrowed from my stepmother. It was ugly but built like a tank. I was in the suburbs of Santa Clarita, Calif., a busy city in Los Angeles County. The weather was nasty that day, with rain drenching the streets and hindering visibility as I searched for a ramp onto the freeway. I realized I was a risky situation because: 1) I was slightly lost; and 2) most Californians are pretty crappy drivers in bad weather. But there was third thing I didn't realize — I, too, was a pretty crappy driver in bad weather.

Red brake lights reflected off the wet road as the cars in front of me came to a stop at an intersection. While waiting at the red light, I tried to look around, hoping to catch a glimpse of a freeway entry sign. Unfortunately, the hilly area and dark skies made it hard to see anything, and before I knew it, the cars were moving again. I returned my focus to the road and the car in front of me, which I was probably following a little too closely in my inexperience. Traffic was moving slowly, though, so I felt secure about my short following distance.

As the cars in front of me crossed through the intersection under the green light, I stepped on the gas pedal to match the speed of the vehicle in front of me. While passing through the intersection, I noticed an opening up ahead that would allow me to search for that elusive onramp. My eyes left the car in front of me and wandered to the left while my pressure on the gas pedal remained steady. The light was green after all, so the cars would keep moving, right? Wrong!

Upon finding no freeway entry signs, my eyes moved back forward to the shocking sight of red brake lights and a very small gap between me and the stopped car in front of me. I immediately slammed on the brakes, which engaged but didn't stop my car. The wheels slid on the slick street, carrying me and my heavy, well-built Volvo into the rear of the hapless sedan in front of me. WHAM! But that wasn't the end of it. My car kept going forward, its weight shoving the sedan into the lowered tailgate of a pickup truck.

Trying to calm my pounding heart, I took a few breaths and pulled over to the side of the road like I saw the drivers of the truck and sedan doing. Once we were all there, I hesitantly exited my vehicle, my head hung low. There to meet me were a middle-aged man and a young man, and neither looked very happy. The three of us turned to inspect our vehicles. The tailgate of the truck was pretty bent — its formerly straight edge visibly crimped. The hood of the sedan looked like wrinkled paper. It had been rammed into the tailgate of the truck so hard that the metal of the hood was peeled back to reveal the engine. And then there was my car, which looked … untouched. The old, ugly Volvo didn't seem to have sustained any damage beyond a small scratch on the front bumper. The police were called and paperwork was filled out. Two angry drivers and three lectures from my dad later, I found my insurance had been raised and my pride in my driving skills — or lack thereof — lowered.

I learned a lot from that day and so can any driver. First and foremost, keep your eyes on the road! Wet conditions and short following distances aside, I would have been able to stop my car had I immediately reacted to the driver in front of me stopping. Secondly, keep a safe following distance even in slow traffic conditions. The National Safety Council recommends drivers use a three-second following distance to give them time to react should something happen on the road ahead. That distance should increase as road and weather conditions get worse. Third, reduce your speed and allow for longer stopping distances in adverse weather. It doesn't take much water on the road for you to hydroplane, and chances are you will if you slam on your brakes. Save yourself from having to do that by driving slowly and giving yourself plenty of extra room.

In the end, I paid a lot of extra money and lost some respect from my dad, but this experience had positive aspects as well. I'm glad I learned to be a safer driver in a small multi-car crash in which no one was hurt. If I hadn't gained some maturity, I likely would have eventually been involved in a worse accident that could have cost someone their life. However, because I started to take driving more seriously, I have not been involved in a single accident since that day. I can only hope that you will learn from my mistakes (or at least your own) and not place yourself and others in danger with reckless driving.

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THE GREAT OUTDOORS

CHIEF WARRANT OFFICER 5 ROBERT B. REYNOLDS
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Vicenza, Italy

If you're like me, you enjoy the smell of fresh air and nature. With warmer weather on its way, many of us can't wait to head into the great outdoors for some rest, relaxation, adventure and restoration. Camping is one of my favorite ways to connect with nature. If that sounds like something you want to do, just remember that proper planning and preparation can help keep you and your family safe on that outdoor adventure. No matter what level of camping comfort you enjoy, there are always risks and hazards. According to www.campsafe.org, on average, there are more than 30,000 camping-related injuries treated in emergency rooms each year, and doctors treat an additional 75,000. For a safer camping experience, here are some suggestions.

Before leaving the house

A safe and enjoyable camping trip begins with proper planning. Always be prepared for the unexpected. Before you leave the driveway, check the weather report and learn about security issues at your camp site. Be sure to bring along a supply kit that includes a first aid kit, compass or GPS, map, flashlight, blankets, batteries, food, clothes and medications. Make sure you know who to contact at the camp to report issues that may come up. Also tell family and friends what your plans are for your outing.

When it comes to communications, keep in mind that your cellphone may not get a signal in the woods. Because of this, some people carry a satellite phone while camping. Another useful communication tool is a personal locator beacon, which, when activated, sends out a personalized distress signal alerting rescue authorities in the event of an emergency. While these electronic devices are useful in an emergency, they are no substitute for proper preparation.

Another major area of preparedness consideration is packing the proper gear for the trip. The Centers for Disease Control and Prevention provides the following checklist to help you pack for success:

- Adequate bedding/sleeping bag and extra blankets
- Light-weight, light-colored clothing, including long sleeves and pants
- Tent and plastic ground cloth
- Insect repellent containing DEET for skin
- Permethrin insect repellent for clothing
- Broad-spectrum sunscreen and lipscreen with SPF 15 or higher
- Wide-brimmed hat and sunglasses
- Healthy on-the-go snacks and other food
- Water and other alcohol-free and sugar-free fluids
- Insulated cooler
- Alcohol-based hand sanitizer
- Life jacket, helmet, and other protective gear
- First-aid kit
- Compass or GPS

• Map

• Flashlights

• Extra batteries

• Sturdy shoes

• Extra set of clothes

• Medical records, including vaccinations; insect, food, plant and other allergies; diseases and conditions; medicines, dosing schedules and storage instructions; emergency contacts; and activities your doctor or nurse says to avoid

At the campsite
Before setting up your camp, do a survey of your site. Look for hazards such as poison ivy, bees and ant mounds. There may be sharp objects in the area such as broken glass, sharp sticks and stones that may need to be moved. If you decide to build a campfire, do it safely. Follow these tips to ensure you enjoy those s'mores safely.

• Build or use a campfire pit away from overhanging tree branches.

• Make sure the fire has a metal fire ring or is encircled with rocks.

• Keep a bucket of water and shovel nearby.

• Never leave a campfire unattended and be sure to put out your campfire completely before you leave.

• Use fireproof cooking equipment.

Be sure to pack healthy and nutritious food and snacks on your camping trip. Following a few easy and necessary precautions will keep your food safe. Pack foods in tight, waterproof bags or containers. Keep foods in an insulated cooler. When handling any food, ensure everyone washes their hands, and clean preparation and eating surfaces often. Use hand sanitizer if water is not available. Separating raw foods from cooked foods will reduce the possibility of cross contamination. Cook all foods to proper temperatures (e.g., ground beef should be cooked to an internal temperature of 160 F) and chill foods promptly when storing leftovers. To help prevent a heat-related illness during hot days, drink plenty of alcohol-free and sugar-free fluids. Remember, don't wait until you're thirsty to drink.

Also be aware of carbon monoxide poisoning. Carbon monoxide is odorless and colorless and can cause illness or death in people and pets. Never use fuel-burning equipment such as gas stoves, heaters, lanterns and charcoal grills inside a tent, camper or other enclosed shelter. Using fuel-burning equipment in enclosures can cause dangerous levels of carbon monoxide to build up. Everyone should bring adequate bedding and clothing and should consume extra calories and fluids during the outing to prevent hypothermia (a dangerous loss of body warmth that can cause death) which is a safe alternative to fuel-burning appliances to supply heat. Using a plastic ground cloth under your tent will help keep you dry.

Avoid water-related illness and injury
A camping experience often includes playing in and around the water. To help protect yourself and your fellow campers from illness, don't swim if you have diarrhea and don't swallow the water you swim in. Never swim alone and, if feasible, take a shower before and after swimming. If you plan to ride in a boat, canoe or other water vehicle, be sure to wear a life jacket. Always avoid alcohol when participating in water sports.

On the trail
Camping is a great opportunity to get some physical activity. Do things to keep you active during your trip such as walking, hiking, biking or swimming. Be sure to bring protective gear, including helmets, sturdy shoes and life jackets. Avoid poison ivy, poison oak and poison sumac. Know your limits, and take steps to avoid injury during activities. Never hike alone and watch kids closely. Ultraviolet rays from the sun can cause skin cancer, premature aging and cataracts, even on cloudy days. Use a broad-spectrum

(against UVA and UVB rays) sunscreen and lipscreen with at least SPF 15. Cover up with layers of light-weight, light-colored and loose-fitting clothing, a wide-brimmed hat and sunglasses, and seek shade when the sun's rays are strongest. Take regular rest breaks in shady areas, which can protect you from getting too much sun.

Even if you only intend on being out for a short time, plan your trip carefully and take along some basic supplies. Know what type of terrain you will be traversing and the day's weather report. If you do get lost, keep calm. Take out your map and find some landmarks to reference your location. Stay put after dark or if you happen to get injured or become fatigued. Follow streams or drainages as a last option, as they often lead to a trail or road.

Wildlife
Some wild animals carry diseases that are dangerous to people, including rabies. Keep a safe distance and avoid touching, feeding and getting near wild animals. Instead, enjoy watching them from a safe distance in their natural surroundings. Keep foods stored in sealed containers and out of the reach of animals. Make sure your family pets are vaccinated and watch them closely. Also ensure they have plenty of water, food and shelter, and don't let them interact with wildlife.

Mosquitoes, ticks and other biting insects can cause certain diseases such as West Nile Virus and Lyme disease. To help fight the bite, apply insect repellent containing DEET to clothes and exposed skin. Apply the insect repellent permethrin to clothes to help keep ticks from attaching to them. Be sure to follow directions on the package. Wear long sleeves, pants and other light-colored clothing to help prevent and spot ticks more easily. Check both people and animals for ticks daily, and remove them promptly.

Packing up to go home
After you have packed up, look where you have camped and cooked. Make sure that the area is clean. Look at it as if you are staying in someone's house. How would you want that bedroom to look? Treat nature the same way and leave it for the next family to enjoy.

Arriving back at home
The trip is not a success until you all get home safe and sound in good health. Make a plan for when you return to check for ticks, poison ivy and other problems that may have cropped up during the trip. Keep the fun in camping. Be sure to take the necessary safety precautions and enjoy the adventure.

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THE RISKS ARE STILL REAL

RETIRED CHIEF WARRANT OFFICER 3 RODNEY KEY
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It was a standard Wednesday morning training flight. We planned, did the preflight and prepared to fly. After run-up, we took off and rerouted to the training areas where we did some low-level training (i.e., land navigation and tactical landings). We completed the flight without thinking about the risks we felt when we started our flying careers.

While we operate on these ranges to learn how to stay alive on the battlefield, why, as experienced aviators, do we not fear these activities? I recall that I was scared to death the first time I had to fly low level or punch into the clouds at 400 feet. Now, with experience, I have no issues taking the new W1 out on a training flight and showing him these maneuvers. Have the risks really changed?

There is a psychological term called "risk homeostasis," first researched by Gerald Wilde. Wilde said, "Humans behave in such a way that if risk is identified in a given system, and is reduced by design, then a compensatory increase in risk-taking will occur somewhere else in the system." I interpret this is as: If we teach aviators to fly to the limits of the aircraft, while staying inside their standards, the aviator will find a way to create the feeling of "that was fun."

The best example of risk homeostasis is the most risky thing we do every single day — driving. Most people believe they live safe lives and may not worry about getting into a car to drive. In this day and age, we drive everywhere. Unfortunately, many of us are unable to see why it is so dangerous.

The Army has put so many controls on aviators through aircrew training manuals, risk matrixes and briefing procedures that it might give a pilot a false sense of security that this is a low-risk mission or a "I have done this a hundred times, so I will be just fine" mentality. The scared feeling you experience the first time is a natural reaction to a dangerous situation. While we may become desensitized to these situations, the risk is still very real.

As aviators, we need to continue to evaluate our surroundings and look for additional hazards. These hazards can be major changes like thunderstorms approaching or minor and more difficult to see like a new set of wires on the ridge line. While we are very good at most of this, there is one area I believe we need more work — training the up-and-coming aviators to see those changes so they can pass these valuable skills down the line. Real-world operations push the limits of people and equipment. It is a tragedy to lose aviation professionals to needless and preventable accidents.

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UP THE CREEK

CHIEF WARRANT OFFICER 3 JAMES J. MCDEVITT
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Although it's been many years since I nearly killed myself and my best friend, I remember it like it was yesterday. I often reflect on that day, wondering how we ever made it across that flooded low water crossing while on our way to one of our favorite turkey hunting spots.

We worked for a concrete construction company that usually gave us the day off during inclement weather. On this particular spring day, it was pouring rain and had been since the previous night. We were anticipating the boss letting us off for the day and were eager to be released because it was the height of Missouri's turkey season and we wanted to go hunting. Eventually, the boss gave the words we all wanted to hear —"No work today."

My buddy and I always prepared for these moments, especially during any hunting season, and had all necessary equipment ready for an expeditious move out. We jumped into my Toyota Tacoma pickup and took off like a shot.

It was getting close to daylight, so we were in a hurry to beat the turkeys off the roost. We wanted to be set up in position before the turkeys flew down out of the trees where they'd slept during the night. This was a crucial time because it set the pace and gave either the hunter or the hunted the upper hand. Once the male, or "Tom" turkey, gets together with a hen, it's tough to call him to you because he already has what he wants.

On our way to the hunting spot, we crossed a bridge over a very swollen creek. We were surprised how high the water was compared to normal. We traversed this road often, so we knew the water was sure to be amazing at the low water crossing. We knew crossing it was sure to be just as amazing. Little did we know!

When we arrived at the crossing, it was unbelievable — like something out of the movie "Deliverance." I hesitated as I eased the front tires into the water. As I did, I thought about how the hunting spot was only 100 meters on the other side and how long it would take to go around. "Screw it," I thought, as I drove a little farther, testing the depth as we went. My friend, who often taunted others to "go for it" — especially when it wasn't his vehicle — wasn't saying a word.

By the time we made it halfway across, the rushing water was three-quarters the way up my door. We were now committed — there was no turning back. We'd almost made it to the other side when the truck began shifting and sliding. My friend yelled, "Hit the gas!" I yelled back, "I've got it floored!" However, the truck couldn't move any faster because the rear tires were floating.

At the last possible moment, the tires grabbed and we made it to the other side. After we both let out a sigh of relief, my friend said, "We made it … but don't ever do that again!" Relieved that we'd just dodge disaster, we decided we'd take the long way home and never chance crossing that water again.

I share this story because I don't want others to make the same mistakes we did that day. Life is too short and too many people care about you. Always do at least a mental risk assessment on everything you do — even the routine things you do daily. And beware any time you hear someone say, "Screw it!" Someone is about to get hurt or killed. Try not to be either one!

Did You Know?
According to the National Weather Service, nearly half of all flash flood fatalities are vehicle-related.

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STICKER SHOCK

VICTOR WOOTEN
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Who doesn't like a good bargain? I'm sure most of us have perused a local flea market or street-side vendor, searching for a knockoff that provides the same functions as a more expensive item but at a significantly lower price. Finding a good deal makes us feel wise and savvy, two valuable characteristics of the avid consumer. When searching for these values, however, one must remember to weigh the proposed savings against the potential risk. I found this out first hand.

Upon arrival at a temporary duty station, I decided to explore the local area. While out, I figured I would pick up a few things that would add a bit of convenience to my hotel room, my new home away from home. I came across a street vendor who had what appeared to be some amazing values. As I browsed the trinkets and inexpensive items that lay spread across the 40-foot span of parking lot, I found one useful tool or novelty after another. Once I had narrowed my selection down to several items, I approached the vendor to begin bargaining. After about two minutes of offers and counter offers, I left with my newly purchased treasures, feeling quite confident that my wisdom and shopping savvy had prevailed.

Back at my hotel, I looked over my purchases, intent on getting as much use out of them as possible. I was particularly excited by what I thought was an extraordinary find — a surge protector. I excitedly unplugged some of my most cherished possessions from the wall outlets and plugged them into my new discounted electrical safeguard. Immediately afterward, I suffered a significant emotional event. When I plugged the surge protector into the wall outlet and turned it on, I received an electrical shock and suffered minor burns. I also blew a circuit in the room. Stunned and injured, I sat there in the dark. Thankfully, I was not severely injured, but I certainly could have been.

In retrospect, I realize electrical safety and the safeguards that support it are far more important and worth the added expense. In the future, I will continue to seek out bargains, but I will be sure to weigh the potential risks to my safety against the rewards of saving a few dollars.

ACCIDENT BRIEFS

AVIATION

OH-58DR
Class A
The crew was en route for range training when they experienced a low-rotor RPM warning while in low-level flight. The crew initiated an autorotation, and the aircraft descended into a tree line. The crew was able to egress with minor injuries, and the aircraft was destroyed in a post-crash fire.

RQ-7B
Class B
The crew experienced an autopilot failure and initiated the flight termination system recovery parachute deployment. The aircraft is presumed to have crash landed, but it has not been recovered to date.

GROUND

Army Motor Vehicle
Class A
A Soldier died when he was run over by the HEMTT/HIPPO he was ground guiding.

Personnel Injury
Class A
A Soldier died during a class run after informing his battle buddy he was experiencing a rapid heart rate.

DRIVING

PMV-4
Class A
A Soldier died when his vehicle left the roadway and struck a concrete bridge pillar. The Soldier was reportedly not wearing his seat belt.

A Soldier was killed when he lost control of his vehicle and overturned while exiting a freeway off ramp.

A Soldier died when his vehicle left the road and crashed into a shallow creek.

PMV-2
Class A
A Soldier was killed when he apparently lost control of his motorcycle as he was approaching a bridge. The Soldier was thrown from the bike and slid into a stop sign. He was wearing proper personal protective equipment but had not completed safety training.

A Soldier died when his motorcycle struck a roadside pole. The Soldier was wearing full PPE, including a DOT-approved helmet.

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VOL 8 APRIL 2014

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

MORE THAN A GOOD IDEA

U.S. ARMY

ARMY STRONG.

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COMMUNICATION: A TWO-WAY STREET

In my last column, I promised to talk about messaging and how we can effectively convey the safety message to our Soldiers. I've pondered that a lot since then, and I'd like to share some thoughts with you now. Keep in mind I don't have a perfect solution for everyone, but this can at least serve as a conversation starter — after all, it's about communication!

First, and perhaps most importantly, neither I nor many of you talk the way Soldiers communicate with one another today. That's not a slam on anyone's age, it's just a fact. We're older, and instead of relating to young Soldiers as peers, we might come across as parental. Numerous men and women in our ranks are just a few short months or years removed from their Family homes, and they often view this communication style as equal parts frustrating and condescending. Obviously, that's not effective.

This is already a rules-based Army, and if you ask random young privates on the street what safety is about, they'll probably describe the pains of reflective belts and boring safety briefs. One idea to help us move past that mindset is to start utilizing the "great communicators" in our formations. You know who they are: the unofficial leaders of a platoon or battle buddy group. They know how to talk and make people listen; we need them to buy into and convey the safety message for us. They can be invaluable assets, but we have to let them have a role and voice first.

We must also frame our messages in a way that resonates within the ranks. Soldiers talking to Soldiers is the best method for actually communicating the message, but formulating what's to be said is a little more nuanced. Soldiers need to understand safety isn't just personal, that it's also part of the big picture of operational readiness. The trick is getting the individual Soldier to understand that by doing his or her part in thinking through risk and applying mitigation strategies, whether for on- or off-duty activities, they impact unit readiness. Soldiers aren't just a number filling a needed slot; our people make this Army great, and everyone, regardless of rank, plays an important part in the organization. We need to make them feel needed and necessary, because the simple fact is, they are.

The communication issue is one we've been trying to solve for many years, not just in safety but in all important areas in our Army. There isn't a perfect answer, and we shouldn't waste time chasing a magic bullet that doesn't exist. The art of communication is constantly evolving, and with the science of technology, it's changing faster than ever. I couldn't imagine text speak as a young twenty-something, just as many Soldiers today can't imagine party lines or rotary phones. But we ought to take the opportunity to learn from one another to determine the best means of communicating the critical message of safety as a personal and unit readiness imperative, i.e., a combat multiplier.

As leaders, we all acknowledge safety is relevant in everything we do. Getting Soldiers to understand that is the challenging part, and if nothing else, I hope I've given you some ideas to think about. With spring already here and summer just around the corner, we need to start communicating our messages now. Ask your Soldiers what they think and take their answers seriously. Communication can be effective only if it's two way.

Enjoy these first days of spring, and remember, to really play hard, we must always play it safe.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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MORE THAN A GOOD IDEA

CHIEF WARRANT OFFICER 3 MICHAEL R. HEDGPETH
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It seems like Soldiers are mandated to attend thousands of safety briefings a year. Don't drink and drive. Don't go out without a plan. Wear your personal protective equipment. Don't speed. Each briefing resembles the last, and before one even begins, the elevator music starts playing in my head.

The task of keeping our troops safe is daunting. And the task of passing concern and ownership of safety from safety officers to Soldiers (a group that engages in relatively unsafe behavior as an occupation) is almost impossible. I believe what we need is something that makes safety real.

Soldiers believe we are immune to "Murphy." Those ankle biters that catch up with the average Joe don't apply to us because we are better than that. Helmets are for people who crash, not us. Super-fantastic safety yellow is a fashion statement for a third-grade teacher, not a borderline superhuman. In reality, we lose more Soldiers due to oversights in our own safety than to enemy gunfire. Although many of us know that to be true, it still doesn't change our perceptions about personal safety.

If the "I-won't-get-hurt-because-I-won't-allow-it-to-happen" mentality sounds familiar, keep reading. I was that type of person. It took an event out of my control to change my mind. I hope after reading this that you, too, will be persuaded to consider doing some of the little things that can make a big difference in your safety.

It was July 1, 2004, and I was a bright-eyed, bushy-tailed private on my first deployment. Back then, I was a 15T (Black Hawk mechanic) assigned to C/10 AVN. We had entered Iraq in the latter parts of 2003, and after moving between Anaconda, Tikrit and Mosul, my part of the task force settled in at Q-West. I was qualified on more weapons than I knew the Army even had. Depending on the day, I could be doing scheduled maintenance on an aircraft or pulling security on a convoy running supplies up and down Main Supply Route 1.

All in all, I enjoyed getting outside the wire. The sights and sounds I saw while traveling around Iraq aren't something one sees on a normal day in the U.S. Then, on a seemingly ordinary day, I learned that safety is more than a good idea.

We were running resupplies to a small retrans site between Mosul and Q-West, just off of MSR 1. I was on the back of a two-seat up-armored HMMWV. This wasn't one of the fancy enclosed two-seaters, but the kind where the back was open to the world. In the back of the HMMWV, my unit had welded a mount for an M249 with a small shield of steel on the front and a ratchet strap that would retain the poor soul (me) clinging to the SAW from being thrown from the vehicle.

Up to this point, the trip had been uneventful. My vehicle, which was fourth in line, was to stop at the point where the convoy departed the road and pull security with two other vehicles until the resupply mission was complete. As we left the road to turn around, our HMMWV followed the tire tracks of the vehicles ahead of us, which was the TTP at the time. Unfortunately, that would work against us on this day.

Under the sand, insurgents had stacked four anti-tank mines on top of one another, waiting for something to set off their pressure triggers. Two HMWWVs, a Light Medium Tactical Vehicle and my truck's front-right tire all made it over the mines. Then BOOM!

You know in the movies how Tom Cruise or some other action star sees the explosion coming and has time to run to the edge of a bridge or roof and jump to safety? Well, I can tell you with certainty that it's not like that in real life. Anyone who has had the unfortunate experience of being involved in an explosion knows that it happens so much faster than your brain can process. Even though time really does seem to slow down, it still doesn't allow for the cognitive process to take place and manifest into a physical reaction.

My HMMWV was lifted from the ground, turned almost 180 degrees and then brutally slammed back to earth. Miraculously, I was able to hang on to the SAW for my first "flight" in an Army vehicle. But as we reconnected with the ground, I was flung out the side of the truck, showing the inadequacy of the ratchet straps that were supposed to keep me in place. The chain retaining the chock blocks to the HMWWV wrapped around my leg and partially stopped my exit, leaving me hanging upside down off the side of the

vehicle, my head dangling just above the sand. I remember my face feeling extremely wet and having the overwhelming need to spit. That is when I began to process what had just happened.

When I did spit, a mixture of blood and sand spewed from my mouth. I knew shrapnel had torn my face to shreds, leaving my lips looking much like the alien's mouth in the movie "Predator." As cliché as it sounds, as soon as I realized I still had all my fingers, my mind immediately turned to whether or not "I" was intact. Fortunately, I was still whole (believe me, you would check too). So there I was, hanging upside down with 50 pounds of gear on my back, waiting for the enemy to finish me off. Thankfully, the next person I saw was a battle buddy from the truck behind, who helped me down.

As the adrenaline wore off, my face pounded with every heart beat. I repeatedly asked my friend how bad it was, but he wouldn't tell me. My tenacity finally won out, though, and he began to describe the damage. To make a long story short, he said my face had basically been blown off. Given the extent of my injuries, I was surprised I could still see him so well. But there he was, clear as day, standing in front of me. How was I not blind? Well, the answer was simple. I had been wearing ballistic sunglasses.

To be perfectly honest, I didn't wear those sunglasses that day because of their ballistic protection properties. I wore them because it was bright outside. I just figured if I was going to wear sunglasses anyway, it might as well be a pair that were also ballistic resistant. They never found those sunglasses. They were disintegrated by the shrapnel — but only after serving the purpose for which they'd been designed.

After my surgeries in Mosul, I was flown to Germany and then back to the U.S. I had a two-by-four-inch hole in my arm, and the doctors were worried about infection. I asked them all if I could still apply for flight school. They told me I could, but I don't think any of them actually believed it. Understandably, none of them wanted to crush my dreams. Had I not been wearing those ballistic glasses, their doubts might have proved true. Fortunately, with time and a lot of hard work, I was able to classify for my Class I flight physical without waivers. I applied for and was accepted to Warrant Officer Candidate School with flight school to follow.

Looking back after nearly a decade, the decision I made that day not only saved my life, but also my future in the Army. The joy I have flying and the honor I have in serving my country would have taken a drastically different path had I not worn my PPE. But while things eventually worked out for me, this story will never have a truly happy ending. My truck commander took the majority of the impact that day and was killed, saving both me and my driver's life in the process. One reason I decided to write this article was to honor him. I hope his sacrifice will live on in other Soldiers' making good decisions. Remember, PPE saves lives — but only if you wear it.

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DRIVING DOWN DISTRACTIONS

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Outside of combat (and Thanksgiving with the in-laws), few endeavors are as fraught with danger as driving. Each year, there are more than 30,000 traffic fatalities in America. It almost makes the run to Kabul look sane. And yet, every day we see people behind the wheel eating, texting, reading — doing just about anything but watching the road.

Ever heard of situational awareness? You know, it's what makes you take that second look at a pile of rocks along the convoy route or notice the locals suddenly disappearing from your foot patrol zone. Bring it back home and situational awareness is looking at the kid playing with his dog and wondering if he might rush out into the street. It's watching that car about to enter from a side street to see if the driver has looked your way and knows you're coming. Basically, it's staying alert for the hazards around you.

Some motorists rarely, if ever, practice situational awareness. I'm stationed in the Washington, D.C., area and dread my afternoon and weekend commutes. Here are a few examples of why.

I once witnessed an Army spouse (identified by the numerous "I ♥ MY SOLDIER" stickers on her vehicle) texting while operating in heavy traffic on Interstate 495. My wife and I watched as she got closer to the car ahead of her every time traffic stopped. When traffic suddenly halted after reaching about 30 mph, she panicked and threw her device against the windshield, trying to regain control of her vehicle. Fortunately, she stopped in time. The next time she passed us, she had both hands on the wheel.

One afternoon I noticed a Soldier having an animated conversation on his cellphone. He was using the cross-handed (right hand to left ear) method to hold the phone as we crept along Highway 1. When traffic stopped, he only missed hitting me by going onto the shoulder. He recovered his phone, gave me an annoyed look, pulled back onto the road and continued the same cross-handed cellphone conversation.

It's not just that distracted drivers disrupt the flow of traffic or using hand-held devices while driving on post is prohibited by regulation. The real issue is these drivers pose a dangerous threat to everyone else on the road. I once had to send my first sergeant and a platoon leader to the chapel where the wife of a staff sergeant worked. Their duty was to tell this young mother of three that her Soldier had gotten distracted on the road and wouldn't be coming home — ever. What about you? Is a phone call or text message worth your life?

Although it may be hard for many to believe, it is possible to drive without having a cellphone grafted to your ear. Instead, try using a little common sense. If you're giving someone a heads up that you're coming, call before you get on the road. It won't delay you that much and you'll improve your chances of actually arriving. Got an incoming text message? Wait until you can stop to send back a reply.

Summer is on its way, and many of us will be hitting the roads with family and friends for a well-deserved vacation. Just make sure you bring them — and yourself — back in one piece.

April is Distracted Driving Awareness Month, and the National Safety Council encourages motorists to take a pledge to drive cell-free.

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GUT CHECK

DAN HEMPE
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Six months out of flight school, I was assigned to a VIP/Lift unit flying UH-1Hs in Germany. Working hard to listen to my unit instructor pilots and taking any mission that would get me in the air, I quickly made the transition from wannabe to pilot in command. Lots of long days, willingness to sit for hours in the ops section waiting on a mission, working support and maintenance issues or flying as a co-pilot for a VIP flight had put me on the fast track to success. I had even gone so far as to be trained as a single PC, pretty heady stuff for a newbie and something I thought I could handle with ease.

My commander was a former CW3 AH-1 Cobra pilot who was a veteran of Vietnam, as were the majority of the unit's instructor pilots. He had received a direct commission to lieutenant and moved up the ranks to major. As the unit commander, he insisted on flying with every new instructor and PC, which I took as a commitment to ensure the quality of his unit personnel.

I had been given the day's mission personally by the commander. The unit had a field training exercise coming up in support of an air assault battalion and this was to be a field site reconnaissance to ensure the site would be adequate for deployment of the personnel and aircraft. The commander and I would fly to the site — I as the PC and he as my co-pilot — recon it, refuel, have lunch at a nearby air base and return. It seemed like an easy flight and a good way for me to get some face time with the "old man." It would also knock out his process of flying with the "new guy." All in all, I looked forward to the flight and showing him what I could do. I was one of the more mature guys in the unit and extremely confident in my abilities to handle any situation that presented itself.

It was a typical spring day in Germany, and my flight planning weather reflected the same. We would have early morning fog burning off later in the flight and eventually becoming a scattered layer with plenty of visibility. My pre-mission planning completed and aircraft pre-flight accomplished, I waited at the aircraft for the commander to appear. I would do the flying and he was to be my navigator, keeper of the map and assume co-pilot duties as necessary.

When he arrived, I gave him a comprehensive brief, cranked the aircraft and proceeded according to his guidance in the direction of the field site. I asked him to accomplish a fuel check once we climbed to our cruise altitude of 1,000 feet above ground level. The site was due north and outside of our regular operating area, but I recognized some familiar terrain features and towns and became comfortable with our position.

The commander was doing a pretty good job of navigating, and I was making our requisite radio calls and at ease with the flight. After about 20 minutes, I realized the fog was rising and becoming a thick, overcast layer below us with very few sucker holes to descend through. Still confident with our position, I quickly noted our heading and asked the commander to jot it down. I then asked for the fuel check numbers. He glanced at me with a glazed-over look, as if I had asked him for some kind of answer to an abstract calculus problem.

As the fog continued to rise, I adjusted our altitude to maintain a manageable separation level over the layer and started to think about what Army Regulation 95-1 said about over-the-top flight. It seemed as if we had been over the top for about 10 minutes, so I quickly started my clock, knowing I didn't have much longer to maintain this position.

About this time, I was shocked to see the commander no longer following our position on the map at a rate commensurate with our speed over the ground. Instead he was busy trying to peer through the fog layer to see if he could find our field site. He said he thought it was around there somewhere. At this point he told me, "I have the controls," and threw me the map. He started to circle the area in a right descending turn over the spot he thought might be the location without any solid view of the ground.

I started to get a little flustered and put out over the turn of events. I had the map but no idea of where we were. He then straightened out the aircraft and started to fly 90 degrees from our original heading. As I vainly tried to figure out our position over the ground, I began to feel a sinking feeling in my stomach and got a coppery taste in my mouth. The commander said that he knew the site was "around here somewhere" and insisted that we fly around until we could find a hole to descend through and get a look at the terrain. At this point, I'd had quite enough. I announced that I was taking the controls and getting us "the hell out of here."

I thought to myself, "Well, that was a short career," but I was determined to get us out of this rapidly declining situation. I flew a reciprocal heading back to where I thought he had made the 90 degree course correction and then picked up another reciprocal of our original heading. I also tuned in a nondirectional beacon to an airfield that we had passed some time back.

After about 30 minutes, I started to pick up a familiar landmark through the lessening foggy ground cover and flew a direct course for our home base. It was a chilly and silent flight back to base, but I was determined to defend my actions, if needed.

After we landed, the commander assisted with the post-flight. All he said was, "Well, guess I'll try to get out there tomorrow." I never heard anymore about it and never discussed the flight with anyone until many months later after he had left command.

I made many stupid rookie errors during the flight. I should have been on the map and let my co-pilot fly. I also should have done the fuel check and thought about over-the-top flight as part of the planning process. I eventually did what the "gut check" dictated and got us out of a bad situation.

What if I had been less persistent with my insistence to terminate the mission or had been a younger pilot afraid to question the commander's wishes? Don't give in to command peer pressure. You may have to answer for it later. Make the big boy decisions and stick to them. It will buy you another day and flight.

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DEADLY CONSEQUENCES

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Unit leaders face difficult decisions during combat conditions that sometimes force them to alter established orders and operating procedures. However, simulated combat scenarios, such as those that occur during training exercises, should not be an excuse to ignore technical manual instructions. Doing so could have deadly consequences, like what occurred in the incident described below.

The Marines departed their release point about 10 a.m. While en route to their first checkpoint, the convoy suffered a simulated improvised explosive device attack. In accordance with the rules of the exercise, the IED disabled a Medium Tactical Vehicle Replacement, so the Marines attached it to another MTVR in the convoy. The Marines from the disabled MTVR moved to the troop compartment of the towing vehicle, and the convoy continued on its route until they reached a 30-35 percent grade with a slight left turn.

As the vehicles descended the grade, the towed MTVR gained speed. The operator applied the brakes to the towing MTVR; however, the inter-vehicular airlines were not attached, which prevented him from slowing the towed vehicle. The mishap MTVR driver pumped the brakes in an effort to slow the vehicles' descent. This caused a variation of momentum between the two vehicles, increasing the inability to maintain control.

The towing MTVR skidded slightly to the right toward an embankment as the towed vehicle continued on a straight path, which caused both to jackknife. The towing vehicle, having the most momentum, began a driver-side-to-passenger-side roll, eventually landing upside down on the embankment, killing one Marine and injuring four others in the troop compartment.

So how did this accident occur? Unfortunately, the Marines who attached the tow bar to the disabled vehicle failed to attach the MTVR inter-vehicular airlines and safety chains between the two, which was a common practice in Iraq. Some Marines in Iraq adopted a towing method where the tow bar was initially attached to the front towing shackles of MTVRs and HMMWVs and then fastened to the hood of the vehicle using cargo straps. This allowed for quick recovery procedures because the disabled vehicle only had to unfasten the cargo straps, connect to another vehicle's pintle hook and continue on its route.

However, the MTVR tow bar technical manual requires that the inter-vehicular airlines and safety chains be used during all towing operations. Without the inter-vehicular airlines, the MTVR can't brake evenly across all six axles of the towing and towed vehicles. Without this braking ability, momentum can cause the towed vehicle to speed past the towing vehicle and flip both. If the tow bar connection were to break, the safety chains are the final failsafe to ensure the coupled vehicles stay together. Unlike the 5-ton vehicle, the MTVR tow bar is a separate table of equipment item with its own SL-3. Unit leaders must ensure all SL-3 items for the tow bar are on hand for operations.

Furthermore, the operator committed two errors that contributed to this mishap. The post-mishap investigation indicated that the mishap vehicle was being operated in the Highway 0-2 central tire inflation system terrain setting rather than the required Cross-Country CTIS setting. The Cross-Country CTIS setting would have provided the operator with more traction and perhaps lessened the possibility of the vehicle losing control. Future convoy commanders must consider the type of terrain they will traverse and include CTIS settings in the convoy checklist.

The operator also made post-mishap statements that he focused his attention on the scenario-driven events happening in front of his vehicle rather than on the towed vehicle. This momentary loss of situational awareness led the operator to attempt to travel the decline at too great of a speed. Operators involved in towing operations need to understand the impact that a towed vehicle has on their maneuverability. It is recommended that all motor transport operators receive training on towing procedures with practical application that allows Marines to experience the difficulties involved in towing operations.

Towing presents a challenge for unit leaders and individual operators. Both need to be aware of the convoy speed, tow bar SL-3 and CTIS settings during all movements. Failure to follow the technical manual creates the possibility for mishaps such as this one.

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WHEN NATURE CALLS

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It was just after noon on a beautiful Saturday, and I was bored. Looking to get out of the house, I called a few riding buddies and asked if they wanted to enjoy the sun on our bikes. Of course, they were up for it, so we linked up and took off on what would be an all-day ride through the upstate New York countryside.

We left Watertown about 1 p.m. and headed south in search of roads untraveled. We'd been riding for hours when the lead rider spotted a parking lot barbeque and decided this was a good place to pull over and enjoy some dinner. After the grub, we checked the map and decided we would go a little farther and then make the turn back toward home. Unfortunately, we got lost and ended up in a small town just north of Albany, so we stopped at a local bar to ask for directions.

Some bikers at the bar told us the road out front would take us where we wanted to go, but we should be careful because it had plenty of switchback turns and could be dangerous. We thanked them for their help and headed out for home. Just as the bikers had said, the road home was very curvy (and fun to ride, without a doubt). I had been riding in the first position for a while, but one of the other guys was riding a smaller bike, so I decided to move to the third position to ensure our spacing was better since it was getting late and the sun was setting. This would be a decision I'd later regret.

As we rode through the curves, everything seemed great until a deer suddenly darted from the side of the road and right into my bike. The collision caused my front wheel to jerk to the right. I attempted to swerve and keep the bike upright, but the gravel on the small, two-lane mountain road caused me to lose control and head straight toward a guardrail.

I realized I had two options: go over the top or lay down the bike and jump for safety. I chose the latter. As I attempted to clear the bike, my engine guards — which are designed to protect the bike from damage during an accident — caught the guardrail. As my bike flipped upward, it caught my leg, breaking it in several places.

I was lucky. Because I was wearing all the proper personal protective equipment that day, my injuries were limited to a broken leg and clavicle. While there is no substitute for good PPE, it cannot and will not replace practice and experience. I recommend every rider — no matter how experienced — take a Motorcycle Safety Foundation course to brush up on their riding techniques. When nature calls, you'll be thankful that you've done everything possible to keep yourself protected.

FYI

SHARING THE ROAD

Deer are unpredictable. Here are some tips from motorcyclecruiser.com to help you avoid a collision on the open road.

- Deer travel in groups. One deer means there probably are more, so slow down immediately even if the one you see is off the road and running away.

- Heed deer crossing signs, particularly in the seasons and times of day when deer are active. Slow down, use your high beams and cover the brakes.

- The Wisconsin Department of Transportation says deer collisions peak in October and November, with a smaller peak in May and June. Such crashes between April and August are most likely to occur between 8 p.m. and midnight. Between November and January, 5 p.m. to 10 p.m. is the danger time.

- Additional good, powerful driving lights are worth their weight in gold on a deserted road at night. Alternatively, fit a headlamp with a 100-watt high beam.

- Noise — a horn, revving your engine, etc. — might drive deer away.

- Flashing your headlights can break the spell that seems to cause deer to freeze.

- Don't challenge large animals by approaching them. A buffalo, moose, elk, mountain lion, bear or large deer might attack to drive you off. Stay back and consider turning and riding farther away.

- Stay away from an injured animal. It might attack or injure you unintentionally if it comes to and tries to escape.

- Don't swerve if a collision appears imminent. Braking hard right up to the point of impact is good, but you want to be stabilized if you do collide, which will give you the greatest chance of remaining upright.

- Spread out if riding in a group. This pattern will keep a rider who hits a deer from taking down other riders with him.

- Wear protective gear. As with other crashes, no one plans to hit an animal. The only way to be ready when it happens is to be ready on every ride.

Did You Know?
According to the Insurance Institute for Highway Safety, more than 1.5 million deer-vehicle accidents occur annually in the United States, killing about 150 people and causing at least $1 billion in vehicle damage. Motorcycle riders account for about half of the deaths in vehicle-animal crashes despite the fact that cars, trucks and SUVs outnumber motorcycles on the road 40 to 1.

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SECONDS COUNT

CHIEF WARRANT OFFICER 3 RAY ILLMAN
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As a pilot, I know that helicopters have vibrations. Heck, every vehicle has vibrations — some good, some bad. In an aircraft, there is the shudder of effective translational lift; the wind hitting your tail rotor just so, causing a bit of a shake; and the rotors just a "little" out of balance, causing another vibration. We all have experienced vibrations, some that trigger a little voice in the back of our minds, saying, "What the heck is that?" The point is you have to be able to determine if you should continue the mission, return to base or, in our case, just land!

The Fourth of July is my favorite day of the year. In 2009, I was lucky enough to find myself in Jalalabad, Afghanistan. Even luckier (I thought), I was going to fly and hopefully get an opportunity to find some bad guys. Little did I know that about an hour after I took off on my flight, my fellow pilot and I would be standing next to our destroyed aircraft.

The seconds you take when deciding what to do can be the difference between a normal landing and a very forced landing. Evaluating each situation using risk management can be an easy, common-sense process. However, it can also be an immediate necessity to determine the risk of continuing or calling it a day right there and then. A bad feeling in the pit of your stomach is also something you have to take into account (relying on your experience level).

If a situation doesn't feel right, it very likely isn't, and that can be incorporated into the RM process as well. Experience is what gives us the ability to weigh probability and severity and determine a course of action for whatever risk level we come up with. Principally, the step of continuous evaluation is where you focus during a mission. The hazards for the mission profile will have been identified before takeoff.

For us, this was an emergency procedure. Every pilot knows it can happen; therefore, we train for EPs so we can respond instinctively. For this particular emergency, I knew the procedure. However, we had never before felt the vibration we did that day. I knew it was a drivetrain component, but my first guess was something to do with the tail rotor. I never guessed that it would be my main driveshaft that was in the process of failing, as I had no indications in the cockpit for such a case.

So now we come to the continuous evaluation aspect. In hindsight, deciding to land 30 seconds earlier would have been a great idea. Evaluating a vibration that neither of us had felt before, and the 'vibe' in the pit of both our stomachs saying, "This is not good," did not take long. Immediately, we turned back toward the airfield, which, thankfully, was only about 10 miles away.

It was the seconds from when the vibration got worse to when the decision was made to land that counted — just a few seconds too late to get a Broken Wing Award. Instead, what we got for a Fourth of July present was a Class A accident in an Afghani farmer's field.

Hindsight is 20/20, as the saying goes. My point is when something is wrong, seriously without-a-doubt wrong, and the pit of your stomach — combined with your experience — is telling you it's wrong, seconds count to make your decision.

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OUT OF DARKNESS

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The city of Tucson, Ariz., rests in a valley surrounded by four separate mountain ranges. I've spent the better part of my adult life exploring those ranges, inside and out. One of my favorite activities is caving. It's as easy or difficult as you want to make it, and you generally have to drive quite a while to find a cave, so there aren't a lot of crowds when you get there.

In the spring of 2005, while looking for a new cave to explore, I lucked upon a locked cavern that was far enough into the Santa Rita Mountains that you had to take a sturdy off-road vehicle to get there. The ranger station maintained the keys at its office in the city. I thought this would be the perfect cave to explore with my two friends, George and David, who were in Tucson for their initial flight training with the Air Force.

I signed out the key from the ranger station on a Thursday. The rangers had a four-day weekend, so I wouldn't be returning the key until their office opened again the following Tuesday. I normally told people when I was going caving, although it was usually just for conversation or bragging purposes rather than safety reasons. This time, however, I didn't do that. George and David hadn't told anyone else where they were going either. That was our first mistake.

When we reached the cave, it was night. At this point, I discovered that neither of my companions had headlamps, although one of them had brought a flashlight. They also failed to bring food and water. Unfortunately, I had made certain assumptions about their preparation based on their military experience and wild stories. I had also made assumptions based on what I believed was common sense. In my cave pack, I'd brought two extra headlamps and a flashlight. I also had two bottles of water and some munchies. We decided we wouldn't stay in the cave long enough to need anything other than what I'd brought. Besides, we'd driven a few hours to get to this place. We didn't want to drive back, failing in our mission to explore a new cave.

The rangers had told me this cave required ropes beyond a certain point. I didn't know my friends' skill levels, and none of us really wanted to lug the extra gear, so we decided we would not go beyond that point. We dropped into the cavern and, after about an hour of crawling around and admiring Mother Nature, called it a night.

We had gone over a few short ledges to get to an area where we could view an underground lake. The lake sat below another 10-foot ledge. On our way back out, George lost his footing and slipped off the ledge into the lake below, taking one headlamp and the cave pack with him. The headlamp and flashlight in the cave pack were now non-operational, and the food and water were contaminated. To make matters worse, by the time we got George out of the water, we were all soaked.

As we started to make our way back out, nothing looked right. We were lost. We kept coming back to the lake but could not find the path to the entrance. After another hour of futile searching, a second headlamp went out. We were now down to one light source. I turned off the remaining lamp to conserve it. We were all pretty exhausted. As it turned out, George had been up for 36 hours straight. As soon as we stopped to rest, he passed out. As we sat there, the cold set in.

The darkness was very disorienting, even while we were seated. By this point we had been in the cave for five hours. The cave temperature is always 71 F, and it had never occurred to me that a person could get hypothermia in that temperature. We were definitely starting to feel the effects, and, combined with the absolute darkness, David and I were bordering on hallucinating. We knew we needed to get out of there soon, so we woke up George and continued our search for the entrance.

After another hour, our last light source started to fade. We stopped immediately. The cave had many chasms, ledges and bodies of water, so trying to make our way in the dark was not an option. We were in a locked cave, so nobody would just happen to come exploring while we were there. And because we were in a remote area of the Santa Ritas, even our attempts to yell for help would be lost on the outside world. The only people who knew we were in the cave were the rangers, and they wouldn't come looking for us until 24 hours after we failed to return the keys. By then, six days would have passed. We had no food and water, a dying light source and our clothes were soaking wet.

After a couple of days, we accepted the fact that we were going to die in that cave. But some bodily functions continue without regard to impending doom. I couldn't hold it in any longer, so I took our sketchy headlamp to a place a short distance from the guys so I could relieve myself. As soon as I dropped my pants, I felt a very light breeze. I excitedly called George and David over, and we followed the breeze to the entrance. Because we'd been in the dark for so long, the sunlight was incredibly painful. But

that didn't matter because we were alive!

I think the lessons to be learned from this experience are obvious, but I also believed that certain caving preparations were obvious, so I will list them anyway.

- Bring three light sources per person when you go caving. If you encounter trouble as we did, at least you'll have extra light.
- Know the abilities and limitations of your companions. Had we known George had been awake for so long, we probably wouldn't have gone that day.
- Bring enough liquid and sustenance to get you through at least a day of isolation. It doesn't have to be much. Beef jerky and power bars would have made a huge difference in our physical states.
- Finally, always tell someone where you are going and when you plan to return. That way, if you don't come back, they'll know when and where to start looking for you.

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NO DO-OVERS

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In late 1992, a young staff sergeant named Johnson died in a motorcycle accident. He had owned the motorcycle only four days. If we knew then what we know today, could this Soldier's death have been prevented?

Johnson joined the National Guard unit I was in shortly after he left active duty. We worked together in the S-2 office, and through the short time I knew him, he impressed me with his knowledge and leadership abilities. He was an excellent NCO who had everything going for him. A Desert Storm veteran, Johnson was married, enrolled in college and had a good job on the side. He was enjoying life and had a bright future. All of that would change in a matter of days.

One Friday night during a drill weekend, Johnson mentioned he had bought a motorcycle two days prior. He was truly excited about the purchase and wanted to bring it in the following day for all of us to see. The next day, as we were looking at the motorcycle, he mentioned how fast it would go. This alarmed me. I remember telling him it was a cool bike, but to please be careful on it. And that was it. That was all I said or did.

A day later, Johnson was dead. He had been traveling home from drill on a two-lane road and was in the process of passing a car when another vehicle pulled onto the road in front of him. Johnson collided with the car and was thrown from the motorcycle. He initially survived the accident, but died from his injuries shortly afterward. It was a tragic loss for his family, as well as the Army.

So, is there anything we could have done differently back then to prevent this accident? Honestly, I don't know. I can't attribute the accident to a poor safety culture. The unit we belonged to had a strong safety program and good leadership. I feel like we were well trained in the safety programs and hazards that were known at that time. I don't recall an emphasis being placed on motorcycle safety as it is today. Regardless, if I remember correctly, Johnson was wearing a helmet and estimated to be traveling only slightly above the speed limit, so I don't think anyone would say he was riding recklessly.

As for me, did I fail by not doing more? When I look back, I certainly wish things would have turned out differently and that I could have done something to prevent the accident. But I think I reacted in the way I was trained for that period. Let me explain. The Army Safety Program has changed since 1992. I believe that we, as an organization, now do a much better job identifying hazards and developing controls than we did back then. The technology afforded to us today through computers and the Internet allows the Army to capture accident data, track trends, disseminate accident data and develop controls much better than we did in 1992. For example, we all know today that accidents involving motorcycles are a leading cause of off-duty deaths of Soldiers.

Nowadays, we also have better safety training, such as the Motorcycle Safety Foundation's Basic RiderCourse, as well as Motorcycle Mentorship Programs. These programs were developed for a reason. Additionally, changes to regulations that make MSF training and PPE mandatory for riders both make a difference in keeping Soldiers safe. The Army deserves kudos for looking for trends, developing controls and implementing risk management programs.

If we could go back to that day in 1992 with all the knowledge and programs we have today, Johnson might still be alive. Somewhere through the process of completing all of the mandatory training and safety briefings, he may have become a better rider. We will never know.

As for me, I think I am better today at recognizing hazards through risk management training. I would definitely do things differently if I could go back in time. Unfortunately, neither Johnson nor I will have a chance to do things over.

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JUST SAY NO

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Author's note: The following event took place during my recent deployment to RC South in Kandahar, Afghanistan. It taught me a valuable lesson about compliancy and fatigue.

In August 2010, I was the pilot in command of a CH-47F, accompanied by a UH-60 for a general support mission in the local area of operation. The day started out normally with the regular prefight, permission brief and crew brief on a mission to conduct general support to local forward operating bases that included supplies and personal. The mission and duty day were scheduled for about 12 hours for duty and six hours of flight time.

About 4:30 p.m., we were approaching our duty day and flight time limit; however, we still had not completed the last leg of our mission. I radioed the tactical operations center and requested a duty-day and one-hour flight extension so we could complete the mission. Upon completion of the last leg, we returned to Kandahar Airfield. Upon arriving, the TOC radioed and told us to standby for a follow-on mission. I explained we were already operating on a duty-day and flight extension, which they acknowledged that they were fully aware of.

The follow-on mission was to transport 30 personnel and their gear to a FOB about seven miles northwest of Kandahar Airfield. The Soldiers had been stuck at Kandahar for more than a week due to weather, so I agreed to take the mission. Shortly after takeoff, I made contact with the landing zone and reported we were inbound for landing from the east. The controller requested we land on a 090 heading. I replied, "Roger 090." I then proceeded to the north and started an approach from the west to land 090.

The FOB was small and on the side of a mountain. It had a very small LZ in a bowl in the hillside. In Kandahar, the winds are generally from the west, and this day was no different (winds 280/8). When the controller made the request for 090, I thought for a moment that the landing direction was 275, but disregarded the thought after looking at the clock and saying, "Man, it's been a long day."

As we approached the LZ, I began to notice the reason the controller wanted us to approach from the west. The already confined LZ was even more confined because of several vehicles parked on it. As I continued the approach, I noticed a large tower that had been erected since the last time I had landed there. This tower had not been reported and was another reason for the request to land to the east. At this point, I had seen three different red flags and twice thought about aborting the landing. However, I was tired and ready to complete the mission, so I continued on.

The approach was going fine until about 150 feet, when turbulence and a strong updraft violently disrupted the aircraft. With the tower at my direct left front and the mountain on my right front, a go-around was not an option. The helicopter nose pitched up and then immediately down, and the aircraft began a rapid descent toward the ground. I remember telling the crew to hold on because we were going to hit hard. The helicopter finally stabilized at about 30 feet. I landed and checked on the crew and then off-loaded the passengers and supplies.

My co-pilot and left-door gunner were shaken up by the event. I had my flight engineer check the outside of the helicopter and asked if everyone was OK to return to KAF. In about 10 minutes, we were ready to depart. Once at KAF, I debriefed the TOC and spoke with our battalion TACOPs, explaining what had happened. I told him the details of the LZ at that FOB. I also filled out the close-call database report.

This incident could have very easily ended differently and with deadly consequences. I allowed myself to let compliancy and fatigue interfere with my decision-making process. Already on a duty-day and flight extension, I accepted a follow-on mission, thinking it would be quick and easy. By doing this, I found myself disregarding red flags that posed a great threat to me and my crew. I placed everyone on the aircraft in a situation that had unnecessary risk. Because I was tried, I found myself in a "let's-just-get-it-done" mindset.

This incident taught me that although I was trying to help, sometimes you just have to say no. We know ourselves better than anyone, and when we are tired, we often make mistakes we wouldn't normally make. In this instance, I would not have landed had that been my first stop of the day. But because it was my last stop, I did land. I am thankful my crew and passengers are safe and will use this lesson for the rest of my career.

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THE HARD WAY

NAME WITHHELD BY REQUEST

Working around large factory equipment is inherently dangerous. Mix in losing situational awareness and you have an accident waiting to happen. Here's my story.

I was working nine-hour shifts six days a week in a stifling paper processing plant, manipulating 600-pound rolls onto large, dangerous industrial machinery. Doing my job well and fast meant that those who used what I processed could do their jobs. The work was arduous, and at the end of most days I would sleep 10 to 12 hours.

On this particular day, I'd only been at work for an hour and a half. I hadn't had my usual couple cups of coffee, so I wasn't awake as I normally might have been. (This was during a time when some scientists or health industry people said coffee was bad for us, which led me to switch to tea. Apparently, tea isn't as good as coffee at keeping us alert.) My first break was coming up, but I first wanted to check a fan belt on one of the machines. It had been squeaking a lot over the past few months and needed to be tightened regularly.

I turned off the machine, went to the toolbox to get a wrench and then walked to the area where the fan belt was located. I thought everything had finished winding down and didn't hear or see anything on my walk toward the fan belt to suggest it was still spinning. I knew I should move two inches to the left so I could see the sandpaper rougher roll inside the machine that was turned by the fan belt, but for some reason, I just didn't do that. So there I was, wanting to do the best job I could while not at my 100 percent best.

I reached in to test the tautness of the belt with my left ring and middle fingers, like one would do when working on a car. To my surprise, I found the belt hadn't finished winding down! In fact, it was still going fast enough to pull my fingers with it. The belt was tight enough on the pulley to cut through the bone of the first joint of my ring finger and lacerate the top tendon of my middle finger.

Unfortunately, the doctor said the joint couldn't be reattached due to the lack of bone left, so I now have a stubby ring finger. The nerves that went to the tip of my finger are now bundled into an annoying ball inside the second portion of my finger. Had I just moved two inches to the left before checking the fan belt I might still have my finger and could have continued playing bass guitar at a professional level. Instead, I feel like a complete idiot.

To this day, I don't know why I didn't fully check to see whether the fan belt had wound down before sticking my fingers in harm's way. Talk about learning a lesson the hard way! There is one consolation, though. The plant has since instituted safety measures to protect others from similar injuries. The fan belt guard has been fully reworked so the operator has to take considerable time to get it off before being able to touch any portion of the mechanism. The rest of the plant has also been reworked to provide more safety to the employees. While I'm happy others won't have to go through a similar ordeal, I wish it didn't come at the expense of my finger.

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LOST IN ALABAMA

DAVID BECKER

The thought of getting lost in your home country with GPS and cellphone technology readily available may seem far-fetched and ridiculous. I'm here with real-world experience to tell you that it is indeed possible — and could happen to you.

There I was, a new CP-12 intern in Alabama for the first time in my life. After taking about a week to get acclimated at Fort Rucker, I slowly began venturing out to nearby towns. Dothan and Enterprise were both close and offered several restaurant and entertainment options, and navigation to both cities was fairly easy. As I became more comfortable navigating the area, I decided to venture a little farther to see what else Alabama had to offer. Never did I expect what happened next.

It was a Saturday night, and I was wrapping up what had seemed like an endless amount of CP-12 homework. I needed a break, so I left the solitude of my hotel room to recon the area. I wasn't really paying attention to where I was going because I knew I had my GPS to guide me home. What could go wrong?

I passed through a few more small towns with nothing of real interest before stopping at a locally owned restaurant for dinner. By the time I finished, it was dark, but I decided to continue my expedition. I didn't think to ask the people at the restaurant what town I was in because I didn't care. After all, I had my GPS.

After about another hour of driving up and down back roads that seemed to lead to nowhere, I decided it was time to head back to the hotel. I turned on my GPS and waited for it guide me back to civilization. Much to my surprise, the GPS didn't know where I was either. At this point, though, I wasn't terribly concerned. As a former service member, I'd navigated out of places worse than this. No problem, right? Wrong!

After hours of trying to retrace my path, I was even more lost than before. In addition, I was also running low on gas because I didn't bother to fill the tank before I left. It was nearly 11 p.m., so everything in sight was closed. (I use the term "in sight" loosely because the streets I was on had no lighting and patches of fog were developing.) It was at this point that it finally hit me that I was in trouble. I hadn't told anyone where I was going. In fact, no one even knew I'd left. To make matters worse, I was now having trouble getting a cellphone signal.

It was about midnight before I got a signal strong enough to call my wife in Texas so she could Google the area and help me get back to the hotel. (I had to call her because, like most of the other interns, I'd shoved the contact numbers the instructors gave us the first day of class in a folder and forgot about them.) I finally made it back to Daleville about 1 a.m. with only fumes left in my gas tank.

I tell this incredibly embarrassing story in hopes that others can learn from my mistakes. I should've never left the hotel that evening without a plan. My overconfidence in my abilities led to a potentially dangerous situation. I also should have told an instructor or classmate what I intended to do that night and ensured I had their contact numbers handy in case of an emergency. Additionally, a map of the area would have come in handy when my expedition took me off the highway and onto rural back roads. Had I completed a Travel Risk Planning System, or TRiPS, risk assessment on the U.S. Army Combat Readiness/Safety Center website (https://safety.army.mil/), the maps would have been created for me and ready to print. It also would have been a good idea to top off my gas tank before I left post to explore an unfamiliar area.

Probably the worst thing I did that night was rely too heavily on my GPS. I was so confident that it would guide me home from anywhere that I failed to pay attention to where I was actually going. When I finally realized I was lost, I made the situation worse by trying to backtrack with only my rusty navigation skills and memory to guide me. I hate to think of what could've happened had I not regained cellphone service or I'd run out of gas in that unpopulated area.

Since that night, I don't take even the smallest trip for granted. It only takes a couple minutes to step back, do a quick risk assessment and develop and implement simple controls that could mean the difference between a leisurely drive and a nail-biting adventure.

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SO MANY GADGETS, SO MUCH DISTRACTION

CHIEF WARRANT OFFICER 4 JAY BOURGEOIS

Most of my flying for the past 30 years as a reservist and civilian pilot has been under visual meteorological conditions. Therefore, I am accustomed to flying with most of my attention focused outside the cockpit. The civilian flight department I work for supports workers in the oil fields in the Gulf of Mexico. Flying in the Gulf is not too much different from flying helicopters in other places, except for the traffic congestion that occasionally comes into play — and all the water.

Most pilots look at the Gulf as a big emergency landing area since the helicopters are equipped with emergency floats that will support the aircraft in the water. But, when the seas are too high, it is not such a comforting prospect to ditch. In 2010, three helicopters were forced to land in the Gulf; however, all three were landed well enough so as not to be classified as an accident by the Federal Aviation Administration. (Two had power issues and one a tail-rotor issue.)

Several years ago, my company purchased new aircraft to replace our older twin-engine helicopters. The new aircraft were technologically advanced and equipped with numerous computers. The instrument panel has all the gadgets we dream of as pilots. This gear includes auto-pilot, dual VOR receivers, dual GPS receivers, weather radar and a SkyWatch traffic avoidance system that sounds a warning when another aircraft is within one-half mile. The new rides are also certified for single-pilot instrument flight rules flight. After flying for so many years in VFR aircraft without much instrumentation, these new aircraft were a welcome change. But they were still a change.

I have read in the FAA's Airman's Information Manual how to scan for other aircraft: dividing attention between looking at the instrument panel and scanning outside for traffic. I have read about what's called empty field myopia, how to not just stare, but to focus on something as you scan. I have always tried in the past to think about these things as I am flying, looking for traffic. It had become my standing procedure every day. On hazier days, I would reference the artificial horizon more often, but still keep my traffic scan going.

The new aircraft have more items inside that can suck your attention. The company has us still flying VFR, but plans to eventually get us into a single-pilot IFR program. So, occasionally we will fly an approach in VFR conditions as we return to base at the end of the day. The auto-pilot does it all; we just have to program the machine.

One day not long ago, I was flying out-bound, doing a crew change. I had climbed to a higher altitude since it was a clear day, the visibility was excellent and the winds were good. I had programmed the auto-pilot for a descent to our platform and was just playing with the electronics and relying on the SkyWatch system to alert me of any traffic, as I have been doing more and more since I have all these new gadgets to play with. You know what happens next.

My front-seat passenger and I hear, "TRAFFIC! TRAFFIC!" (It was the SkyWatch system telling me, "Look outside, stupid!") We looked up to see a good, close view of a Sikorsky S-92 (a very large helicopter) pass over us. The S-92 was north-bound at 3,000 feet since they usually fly IFR. We missed each other by about 750 feet. It was mostly the fact that we came close without my seeing him that got to me. I still gladly fly our new helicopters, but I have re-doubled my efforts to not get so distracted with all the new toys. Now, I just look outside more!

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ACCIDENT BRIEFS

AVIATION

HH-60L
Class A
The aircraft was damaged when it struck the wing of a parked privately owned plane while ground taxiing. The aircraft was shut down without further incident.

KA 300
Class A
All crewmembers were killed when the aircraft crashed 1.8 nautical miles from the runway.

MH-60M
Class A
One crewmember was killed and another injured when their aircraft struck the ground during routine advanced traffic management training.

UAS

MQ-1C
Class A
The system sustained internal structural damage to the brake area and possibly the payload bracket assembly when it touched down hard during a Tactical Automated Landing System approach to the runway.

GROUND

PERSONNEL INJURY
Class A
A Soldier died when he fell over the railing of his fourth-floor hotel room balcony.

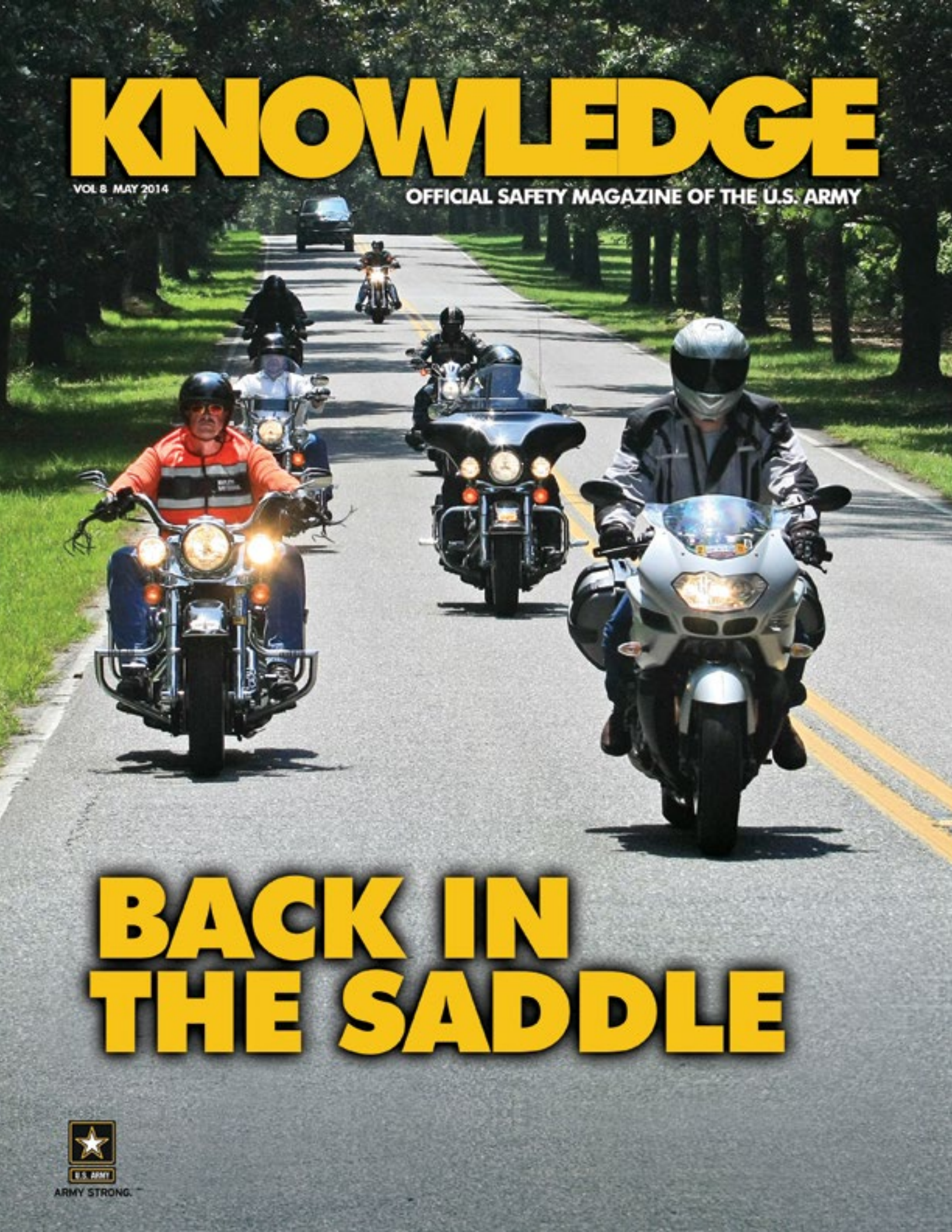
FIRE AND EXPLOSIVE
Class A
A Soldier was killed, another suffered the amputation of his leg and possibly his hand, and another received massive injuries to his face when a 155 mm HE round detonated while in the breach of a M777A2. Five other Soldiers suffered minor injuries. The accident is under investigation.

DRIVING

PMV-4
Class A
A Soldier was killed when his vehicle was struck head-on by a hydroplaning vehicle that crossed the centerline. The Soldier was wearing his seat belt.

A Soldier died after she was struck by a vehicle as she walked along a road with another Soldier.

PMV-2
Class A
A Soldier died when his motorcycle collided with a civilian-operated truck.



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VOL 8 MAY 2014

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BACK IN THE SADDLE

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FROM THE DASAF
THE REALITIES OF ARMY MOTORCYCLE ACCIDENTS

I don't like to start these columns, or any of my correspondence to the field, with bad news. Truthfully, our Army is still doing very well overall with regard to safety; as of April 28, total accidental fatalities were down four percent from fiscal 2013. That's a great accomplishment, and I don't want to take away from it by focusing on the negative. But, I think it would be a disservice to you and our Soldiers to gloss over the fact that motorcycle fatalities are up sharply from this time last year, that indiscipline is still their leading cause, and that NCOs continue to make up a disproportionate share of the deaths.

Obviously, that kind of news begs immediate consideration. With May being National Motorcycle Safety Awareness Month, let's take advantage and give this problem the attention it deserves. We have the entire month to make our Soldiers aware just as riding season gets into full swing for many of our installations. We can't let unseasonably cold temperatures lull us into complacency about our motorcycle riders; the longer they go without riding, the more eager they'll be to hit the road when the days finally stay warm.

The Army does a tremendous job in training Soldiers on motorcycle safety. Civilians in the general population don't have nearly the same training opportunities as our riders, especially progressive training courses that build upon basic skills. There's simply no excuse for Soldiers killing themselves via indiscipline on their bikes, and while it's true leaders can't be with their subordinates 24/7, they can set the example and follow the standards themselves. Honestly, that seems to be where we're falling most short, given that 10 of the 14 motorcycle fatalities reported this year have been leaders.

Command Sgt. Maj. Leeford Cain, USACR/Safety Center, last month published a note to the field addressing this issue (https://safety.army.mil/ShrinkLink/475), and I'd like to reiterate a couple of his points. First, what's the status of your unit's motorcycle mentorship program, and are the right people leading it? If you can't answer that question, perhaps it's time to revisit your training and mentor selection. Check out the new "Leader's Guide for Selecting a Motorcycle Mentor" at https://safety.army.mil for tips on forming the best team possible. Second, are your leaders disciplined? The leaders we've lost to indiscipline-based motorcycle accidents aren't the only ones out there, but their poor example can have an irreversible impact on our formations if left unchecked or written off as "we can't fix stupid."

Between training, mentorship and disciplined, engaged and accountable leadership, we have the tools we need to reduce motorcycle losses. Each works, and each saves lives. I encourage you to widely share a letter we recently received from a junior leader and motorcycle rider who had a close call with a reckless driver just after finishing required safety training. It's very powerful and speaks to the lifesaving effects of training, if the trainee takes what he or she learns seriously. The letter is available at https://safety.army.mil/ShrinkLink/476.

While not directly related to Motorcycle Safety Awareness Month, we have important update coming soon: a major overhaul to the Travel Risk Planning System, or TRiPS. Beginning May 5, the system will offer users a wide variety of functionality and upgrades, including better travel planning options, improved user email compatibility, and freestanding applications for smartphones (coming soon). Please make leaders aware of these changes and encourage them to use the upgrades as a means to improved communication with their Soldiers. TRiPS attached to a DA31 will never make Soldiers safe, but it has proven effective when used by first-line leaders to force dialogue with their Soldiers and actually assess and mitigate the risk posed by their travel plans.

Thank you all for the hard work you do every day in safety that directly impacts readiness — I know your jobs aren't easy. It's not my intent to be negative here, but I know you want to face the harsh realities head on. Our Soldiers' lives are simply too important to sugar coat facts, especially when far too many are dying for no good reason. Please let me know what more I can do to help.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

ARMY STRONG.
U.S. ARMY COMBAT READINESS/SAFETY CENTER

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BACK IN THE SADDLE

LT. COL. MIKE MORGAN
Asymmetric Warfare Group
Colorado Springs, Colo.

Just get back from a deployment? How about a mid-tour leave? If you're like me, you're probably itching to take your bike out for a long-overdue ride along some back country roads. A couple of years ago, while home from Afghanistan, I got back in the saddle again, enjoying the freedom only a motorcycle provides. During my leave, I covered nearly 900 miles without a scratch — something to consider when you think about how many Soldiers die on their bikes soon after returning home. Here are some tips to help keep you safe.

Use Your Head

The most important thing you can do is a good risk assessment. This doesn't necessarily have to be difficult. It's mainly using common sense and good judgment to blunt some of your eagerness to do things you shouldn't when you first get back. The things I considered in my personal risk assessment included the condition of my bike, length of my rides and time when I rode. I also considered whether to carry passengers and where I would ride.

Is Your Bike Ready?

You hated putting your bike into storage before you left. I'm certain you did all the right things like changed the oil, connected the battery to a trickle charger and put stabilizer in the fuel. Now that you have returned, it's time to be just as meticulous about your bike's maintenance before riding it on the road. Check the pressure in your tires because it will have gone down. Check your cables to see if they need adjustment. Ensure the nuts and bolts that were tight when you left are still tight now. Dust off your Motorcycle Safety Foundation training and use TCLOCS — tires, controls, lights, oil, chassis and stands — as a guide as you check your bike.

Plan a Reasonable Ride

When I first got back, I wanted to take a 600-plus-mile ride from Fayetteville, N.C., to Fort Campbell, Ky. However, that would have been a high-risk trip because of the hot weather, my need for rest, the length of the ride and the unfamiliar terrain. Instead, I took short rides — none of which lasted much longer than an hour — to brush up my skills. To reduce my risks, I began by riding on back country roads, where I would encounter less traffic. Also, I didn't carry any passengers at first because that dramatically changes a bike's handling. Additionally, I avoided riding at night because of the reduced visibility and huge bugs, which make things less enjoyable. When I did ride after dark, I kept to routes that had bright street lights.

The downside to riding mainly during the day, however, was afternoon temperatures often topped 100 F. As my rides got longer, I needed to make sure I kept myself hydrated. One afternoon, as I was riding back from Myrtle Beach, S.C. (about a 3½-hour ride), I had to take a 30-minute break to drink some Gatorade and sit in the shade. When you're riding and enjoying the breeze, it's sometimes hard to realize just how hot it is.

I also avoided riding in metropolitan areas at all costs. I'm convinced it's a high risk for bikers anytime they ride around a city's shopping district. The worst thing a biker can see in their rearview mirror is a minivan full of out-of-control kids with a driver talking on a cellphone. There are a lot of vehicles that fit that profile in congested urban areas.

Adjust Your Attitude

Even though I've been riding for quite a while, I still think of myself as a novice. I keep that attitude because I still want to be riding in my 90s. If you start thinking you're good, you're likely to get overconfident and turn into an accident waiting to happen. That's why I broke myself in slowly when I first got back, treating every ride as a training session so I could get used to cornering, braking, scanning and positioning in traffic. These are all skills that require constant refinement regardless a rider's experience level.

The Intersection of Safety

When I'm sitting at a red light, before the light turns green, I try to make eye contact with as many drivers as I can. You can never tell what type of effect this has — it's just something I like to do. The key, however, is realizing you'll always come out the loser in a right-of-way confrontation with a car or truck at an intersection, regardless what the traffic light says.

Dress for the Ride
I wear the required personal protective equipment whenever I ride. Most PPE is reactive, being designed to help you survive a crash. However, one piece of PPE that can help prevent a crash is good protective eyewear. While I was home, I bought a fitted pair of Wiley-X goggles with foam cups designed to keep the wind out of my eyes. They cost way more than I would have ever expected to pay for glasses, but it was worth it to see clearly and keep my eyes from drying out.

Drinking and Riding
I saved this one for last. The bottom line is that I just didn't do it. This is an area of personal responsibility that, despite countless safety briefings, counseling and policy letters, ultimately rests on your shoulders. If you're redeploying from an alcohol-restricted tour, I can understand your desire to imbibe. However, for your sake and that of your friends, family and unit, please don't drink and ride.

Conclusion
Riding is a sport that befits a band of brothers. If you're an experienced, safety-conscious rider, mentor a Soldier who is new to the sport. If you're a leader with Soldiers who ride, show them their safety is your concern. As Soldiers, we are responsible to keep each other safe. As a band of brothers, how can we do anything less?

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END OF THE ROAD

CAPT. NATHANIEL A. SAPP
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West Virginia Army National Guard
Fairmont, W.V.

Back in the fall of 2004, I was one of several convoy commanders providing security in Iraq between Camp Cedar II and Camp Scania. Our mission routine was five days of moving military transportation or third-country national truck convoys up to Camp Scania and then another convoy back to Camp Cedar II, about 150 miles each way. On the sixth day, we went out as the quick reaction force, patrolling up and down the road until the last convoy in our battalion returned from Scania. The seventh day was for rest and recovery.

At this point in our mission, we traversed Main Supply Route Tampa, which still had about 40 miles of unpaved surface. However, the route was under construction, with about a quarter-mile being paved each day. With the construction, jersey barriers were placed out to separate the active traffic from construction vehicles. To say that our unit knew those 150 miles of road is an understatement. The only changes that ever occurred were within the construction area.

On this day, my squad, consisting of three trucks with three Soldiers per vehicle, was the QRF just north of the paved section of road (closer to Scania).We started our vehicles and headed south on Tampa just after the last convoy in our battalion rolled past. During the return trip, I lined up as the last vehicle. As usual, within several feet of hitting the unpaved part of the road, dust kicked up, limiting visibility between our trucks to about 10-15 meters. We increased the distance between the trucks and maintained our speed per our usual standard operating procedures.

About 30 miles into the unpaved area, a familiar line of jersey barriers appeared just to the left of our vehicle. I heard the lead vehicle announce over the radio that one of the barriers had been knocked over and was in our lane. Immediately afterward, I felt our vehicle slam to a sudden halt as my driver quickly applied the brakes. As I put my arm forward to brace my momentum, I noticed the middle truck's rear lights just two or three feet in front of us. My first thought was to get out of the truck and have a word with my second-squad NCO for stopping so suddenly in the middle of the road. With the limited visibility, there was a high risk of being rear-ended by another unit. When I got up to the truck commander's door, I noticed the entire front end of the vehicle is off the ground. I quickly called out for help as I opened the TC's door to check on him, the driver and gunner.

Fortunately, the driver and TC were wearing their seat belts, and the gunner had on his safety strap. The gunner suffered the worst injuries, breaking his arm upon striking it against his mounted weapon. As we treated the gunner and checked the vehicle, I noticed the entire front axle was smashed in and sitting on an overturned jersey barrier in the middle of the southbound lane.

On this day, I let complacency cause one of our Soldiers to be injured. Because we'd traveled that same stretch of road countless times before without issue, we continued the maneuver at the same speed and vehicle spacing even though we had limited visibility. I should have adjusted our movement to the visibility and ordered my lead vehicle to limit our convoy speed. It was an important lesson learned that we carried with us the rest of our deployment.

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FROM GOOD TO BAD

CHIEF WARRANT OFFICER 2 RYAN TAGGART
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Camp Ripley, Minn.

Near mid-air collisions are a danger aviators and air traffic controllers must work together to avoid. There are a number of policies and procedures that assist both in avoiding near misses; however, if the controller or an aviator does not understand the local procedures established at a designated airfield, the consequences can be dangerous. The following addresses issues that should be avoided as well as procedures that should be followed to help prevent a similar situation from occurring.

The night was going as any other while I was signed on as ATC shift leader, behind the local controller, who was doing very well. But what happened next shows just how quickly things can go from good to bad if proper procedures aren't followed.

A C-23 Sherpa called at the 20-mile fixed-wing reporting point. The controller responded with the standard phraseology and instructed the C-23 to report the five-mile ring that represented the controlled airspace. About two minutes later, a flight of UH-60s called at the required point that was one mile outside the controlled airspace. The controller again gave proper phraseology to the flight and instructed the UH-60s to report entering the controlled airspace.

After giving the initial control instructions, I asked the controller what he planned on doing and if he could foresee any problems with what was about to happen. Since the C-23 was about 10 miles from the field and the UH-60s were about six miles out, I knew the helicopters were going to be first in the pattern. But with the speed of the C-23, it was going to be first to the runway.

With that piece of advice, I let the ATC trainee make a control decision. He decided to have the flight of UH-60s make a straight-in approach to the parallel taxiway (Golf) to ensure proper separation and provide the most expeditious flow of air traffic. When the flight called, the controller instructed them to report short final for Golf taxiway and gave a traffic call on the inbound fixed-wing traffic. The flight read back the instructions and acknowledged the traffic call. Almost simultaneously, the C-23 called at five miles inbound. The controller gave them a standard traffic call on the UH-60 flight and informed the C-23 pilot that he would be number one to the runway, with the rotary-wing traffic landing to the parallel taxiway. The C-23 pilot then entered a right base for runway 31 as instructed and acknowledged the rotary-wing traffic and confirmed he was number one to the active runway.

As the situation began to develop, I realized if the rotary-wing flight was not prepared to move to a designated location other than the taxiway after landing, the C-23 would not be able to move down that taxiway to its designated off-load point. I told the trainee to instruct the UH-60s to land north of taxiway Foxtrot on taxiway Golf to not block the only usable portion of Golf. However, the UH-60 flight did not understand the clearance.

The trainee then gave supplemental instructions that Foxtrot was the taxiway closest to the forward arming and refueling point. They were to land on the parallel taxiway north of that taxiway and the FARP to ensure separation with the inbound C-23. I then made sure the UH-60s understood the instructions and located them with the night vision device to ensure they were on course for where they were instructed to land, which they were. They were coming in slowly just north of the tower. The C-23 then called on short final for 31, and I scanned the runway to ensure the landing surface was clear. After I gave the trainee the go-ahead, he issued the landing clearance.

The C-23 was only seconds from touchdown when I refocused my attention on the UH-60 flight and realized they had overflown the parallel taxiway and were headed for a circling left base approach to 13. It was at this point where a split-second decision would make the difference between a lesson learned or the catastrophic loss of coalition aircraft and personnel. I quickly grabbed the handset and instructed the UH-60s to immediately side-step off the active and set down due to C-23 traffic over the approach end of runway 31. The helicopters were able to clear the runway and avoid a collision with the inbound aircraft.

There were many lessons learned during this experience and the problems we encountered can assist any aviation company in the future. Two of the biggest lessons learned pertained to airfield orientation and local control procedures. The pilots were unfamiliar with the airfield, and the controllers were not aware of this because the flight had the same call sign as the medevac flight that was stationed out of this particular airfield. Another problem that arose from this situation was the controllers used local control procedures with a flight that was not a local flight. If these two issues had been addressed prior to this incident, this near miss could have been avoided.

The procedures that were taken included requiring the flight to perform closed and local traffic patterns until they were familiar with the airfield. The controllers would use more precise phraseology for approaches to Golf taxiway and, if feasible, land all transient traffic on the active runway. These procedures should be taken into account, especially when performing aviation operations in unfamiliar areas, which is a frequent occurrence with the rapid deployment of aviation assets throughout the world.

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A LIFE SAVED

SGT. STACY NORMAN
A Company, Warrior Transition Battalion
Fort Bliss, Texas

Editor's note: On April 1, 2014, Sgt. Stacy Norman wrote the following letter to her Motorcycle Safety Foundation training instructors after being involved in a close call while riding her Kawasaki ZX-6R on I-10 East near Lee Trevino Drive in El Paso, Texas. Norman gave permission to Knowledge to reprint the letter in hopes it will show other Soldiers the benefits of rider training. "A vast majority of publicity that surrounds military motorcycle riders is negative," Norman said. "Hopefully, this might encourage some riders to either take the class for the first time or go back for beneficial refresher training."

To the instructors of the Basic RiderCourse and Sportbike RiderCourse,

Last night, as I was riding home on 10E at Lee Trevino, I had a near-death experience. It is only due to the skills and exercises I was taught while attending your class that I am unharmed today. A reckless driver, probably under the influence, was weaving in and out of traffic, driving erratically, and going at least 90 mph in front of me around 7 p.m. while I rode in the far-left lane. This person lost control of their vehicle in the idle lane when they cut off another car, came over left through my lane, smashed into the median and bounced back across two lanes directly in front of me. I was immediately able to brake from 60 mph, coming to a stop no more than three feet behind the car, which was now sideways in my lane. I then attempted to go onto the shoulder to avoid being rear-ended, but this person cut me off, almost hitting me and forcing me to swerve to the right just like we learned in the second exercise. I was able to avoid hitting debris from the wreck, brake safely and swerve out of danger, all thanks to the skills I was taught in your courses. Thankfully, no other vehicles or riders were hit, but it really drove home the point that the biggest dangers on the road to riders are other people. I know most students who come through your classes are there because they have to be and they may not see the benefit of what the classes are meant to teach, but I want you all to know that, at least in this case, I sincerely believe I'm sitting here today thanks to you, and I wanted you to know that. Please keep doing what you do.

Respectfully,

SGT Stacy Norman
A Company, WTB
Fort Bliss, Texas

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PEACETIME VS. WARTIME ACCIDENTS: A QUICK ANALYSIS

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Our Army is quickly transitioning to a predominantly peacetime force, and for a generation of younger Soldiers, it will be their first opportunity to spend extended time at home with family and friends. There has been some concern among leadership and within the safety community that this transition could lead to an increase in accidental fatalities. As the repository for Army accident data going back to 1972, the U.S. Army Combat Readiness/Safety Center recently studied the question of peacetime versus wartime accidents, and the results were revealing.

To start the analysis, data were consolidated from two distinct time periods: Sept. 11, 1991, to Sept. 10, 2001 (relative "peacetime"), and Sept. 11, 2001, to Sept. 10, 2012 ("wartime"), with both periods comprising exactly 3,599 days each. USACR/Safety Center statisticians grouped accidents by which month they occurred for each time period and ran appropriate analyses to check for significance and proportionality between the measured variables. (Editor's note: The accident information was retrieved from the Army Safety Management Information System on Nov. 8, 2012.)

Off duty

Analysis of off-duty private motor vehicle and personnel injury-other mishaps indicated no statistical significance in the number of accidents and fatalities between the peacetime and wartime periods. There were slightly more off-duty PI-O accidents and fatalities during peacetime than wartime, but numbers were small. Conversely, there were only slightly more off-duty POV accidents and fatalities during wartime than peacetime, but again, numbers remained statistically insignificant for testing methodologies.

On duty: Class A ground accidents

Unsurprisingly, significantly more Class A ground accidents and fatalities occurred on duty during wartime than peacetime: 812 Class A accidents and 637 fatalities versus 474 Class A accidents and 405 fatalities. This finding was consistent for Army combat vehicle, Army motor vehicle and fire/explosives Class A accidents and fatalities. Additionally, more Class A property damage accidents were reported during wartime, but the difference in personnel injury-other fatalities was not statistically significant between the two periods.

A preponderance of Class A AMV accidents and fatalities during wartime were attributed to vehicle rollovers, with a margin of 78.6 percent versus 58.1 for peacetime. While specific factors leading to this increase were not studied, issues with equipment (particularly up-armoring) and training were widely documented during the early and middle years of Operation Iraqi Freedom. Fortunately, those trends have reversed in recent years through quick materiel fixes and aggressive improvements in driver training.

Aviation

Similar to on-duty ground accidents, more Class A aviation accidents and fatalities occurred during wartime than peacetime: 245 Class A accidents and 219 fatalities versus 152 Class A accidents and 135 fatalities. (These numbers do not reflect UAS accidents, which were not considered during this assessment.) A couple of notable differences in primary events leading to these accidents were revealed during analysis, as explained below.

Fuel starvation occurred twice as often during peacetime than wartime (10 occurrences versus five). Four of the wartime incidents occurred CONUS, one occurred in Iraq, and only one was attributed to improper fuel management. The Iraq incident resulted from the crew failing to place fuel pump switches in the proper position; although they conducted proper fuel management, the engines failed as predicted by their fuel burn rate calculations after the single tank they were drawing from emptied (the crew incorrectly assumed the aircraft was drawing fuel from multiple tanks). None of the fuel starvation accidents during peacetime

were a result of fuel management procedures; while some were due to human error, most resulted from materiel failure. There were twice as many engine overtorque/overload events during peacetime than wartime (eight versus four). Additionally, the same number of multiple-aircraft events occurred during both periods (six).

Other than the cases noted above, there were no significant differences in the types of aviation accidents occurring during either peacetime or wartime.

Conclusions

While the number of accidents is fewer, the types of accidents that occur during peacetime are similar to wartime accidents. This finding might seem counterintuitive, but in retrospect it is not unexpected. The Army has espoused the doctrine of "train how you fight" for years. Our findings indicate that, for the most part, accidents that occur in war are similar to accidents that occur in training. Also, off-duty accidents during both peacetime and wartime are nearly identical in number and type. Therefore, should historical precedents hold, we can expect on-duty accidents to decline while off-duty accidents remain roughly the same after the war in Afghanistan draws to an end.

While this might not seem like an exciting conclusion, it does quash a couple of pervasive myths: first, that accidents are inevitable in wartime; and second, that off-duty accidents will inevitably increase after combat. Simply taking "inevitable" out of the conversation is a victory in itself, but we did not do it without turning the tide of history. Accidents almost always rose during and after past conflicts, but this Army — today's Army — reduced fatal accidents in the midst of the combat cycle. That is truly remarkable, and it should be celebrated as a legacy for the future.

Although it is difficult to quantify "why," there is absolutely no question the change occurred in the years after top leadership started focusing on engagement in safety. The initial push began in 2003, and since then, strong, engaged leaders who enforce standards and foster a proactive safety culture, assisted by Soldiers who buy in to safety, have made this monumental shift happen. We reached a historic low in accidental fatalities in fiscal 2013, and we are on track to maintain or surpass that this fiscal year. By continuing to do what we know works, we will remain on this downward trajectory. In peace or at war, there are no better goals than saving Soldiers' lives and preserving combat readiness.

For Army Aviation to maintain readiness, live up to our obligations to ground commanders and sustain the sacred trust earned in battle, we must maintain and improve our momentum in safety and risk reduction, especially during these times of shrinking resources. It is my fervent wish to better assist aviation leaders in achieving that goal by expanding this "first look" at peacetime versus wartime accidental losses and carefully studying further with our Aviation Enterprise partners.

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HANDLE WITH CARE

CHIEF WARRANT OFFICER 3 MICHAEL RUTLEDGE
4th Battalion, 160th Special Operations Aviation Regiment (Airborne)
Joint Base Lewis-McChord, Wash.

Weapons are designed to disable designated enemy personnel and, in the hands of properly trained Soldiers, accomplish this task exceptionally well. We must remember, however, a weapon is the instrument of its operator. It will dutifully shoot in the direction the operator points it. Therein lies the problem of negligent discharges, which are always unacceptable and tragic when a Soldier is injured or killed.

Soldiers in sustained combat operations must handle their weapons frequently. Before deployment, they must undergo repetitive, intensive training at home to prepare for the increased weapons exposure in theater. Manipulating both personal and vehicle-mounted weapon systems is pretty routine for most Soldiers, regardless their occupational specialty.

Perhaps what's most heartbreaking about negligent discharge incidents is, almost without fail, they are all preventable. Weapons safety is taught and emphasized on a daily basis from the beginning of a Soldier's career. How, then, are these negligent discharges occurring? One possibility is weapons handling has become an everyday occurrence for most Soldiers.

Another possibility for these incidents is some first-level leaders have become complacent in the repetitive nature of training their troops on weapons handling procedures. It's incumbent on leaders at every level to ensure the basics of correct weapons handling are taught and enforced throughout their formations. Noncommissioned officers have an even greater responsibility since they're usually present during critical phases of weapons operations such as loading and clearing.

Several safety procedures and mechanisms exist to prevent negligent discharges. One that's often overlooked, however, is also almost 100 percent effective — basic muzzle awareness! If a Soldier should bypass every other procedural and mechanical safety measure other than making sure his weapon is always pointed in a safe direction, it's unlikely anyone will get hurt if the weapon fires. Of course, simply being careful about muzzle direction doesn't give a Soldier permission to skip the other steps of proper weapons handling. Leaders must also constantly reinforce muzzle awareness to the point it becomes habit for their Soldiers.

Likewise, Soldiers must get in the mindset that any weapon, whether it's firmly locked in an armory, has its magazine out, is lying with its chamber open on a bunk or is being carried on a combat patrol, is capable of killing them. Soldiers must be trained to be skeptical no matter how benign a weapon looks. A weapon is a killing machine that's waiting for an opportunity to do so.

These principles apply to those working around weapons as well. Bystanders losing situational awareness or taking proper handling procedures for granted could unexpectedly find themselves on the wrong end of a weapon. By remaining cognizant of their surroundings, other personnel will allow Soldiers to avoid potentially dangerous situations and also provide the opportunity for corrective training.

Current training and deployment requirements dictate Soldiers develop and maintain weapons proficiency. The law of averages indicates that as realistic training and combat deployments continue, so, too, will the relative occurrence of negligent discharges. It's unlikely we'll ever be able to prevent all negligent discharges, but proper training and reinforcement can limit the damage and injury they cause.

FYI

To combat negligent discharges, leaders must change the way Soldiers think about and handle weapons. Both leaders and Soldiers have a responsibility to set the example for others and make on-the-spot corrections. Drill home that your Soldiers must **THINK** weapons safety!

Treat every weapon as if it's loaded.
Handle every weapon with care.
Identify the target before you fire.
Never point the muzzle at anything you don't intend to shoot.
Keep the weapon on SAFE and your finger off the trigger until you intend to fire

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FLYING BLIND

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Fort Campbell, Ky.

"We're kickin' up dust, sir!" is what I heard from my crew chief as I lost sight of the ground. It was about 10 p.m. local in Farah Province in western Afghanistan. I was the pilot in command of Chalk 1, an assault UH-60L, tasked to provide a medevac escort. At that point I had about 300 hours of PC time, 1,000 hours of total time and about 200 hours in country. This was our second mission of the day to the same outpost.

About 6 p.m., we got the call, "Medevac, medevac, medevac!" My crew and I jumped into our uniforms and began the launch process that we had cut down to about 15 minutes. I headed to the tactical operations center with the air mission commander to get the mission specifics, and our crews headed to the aircraft to prepare for launch. The 9-line/mission brief was pretty standard and the weather looked good, so the AMC and I covered the necessary brief items for multi-ship ops and headed on our way.

The landing zone was on a friendly forward operating base about a 20-minute flight from where we were based. About 10 minutes into the flight, the visibility started coming down. We took appropriate action and slowed the flight to about 110 knots ground speed. The visibility continued to decrease to about 1½ miles at the time we landed at the LZ. The AMC and I discussed the situation and decided I would lead back to our base because his GPS was malfunctioning. We also decided to take an alternate route that was free of rising terrain.

As we made our way back to our base with the casualties aboard Chalk 2, the visibility continued to deteriorate to about 400 meters. I made the decision to slow to 40 knots and follow a paved road that led directly to our base. Going was slow and stressful, but we managed to make it home safely. We reported the unforecasted weather conditions to higher and returned to our rooms.

About 9:30 p.m., another 9-line dropped for us to return to the same FOB. Having survived the unforecasted weather earlier in a day environment, the AMC and I voiced our resignations to higher about accepting this mission. We were told to execute based on a "legal" weather brief.

Having experienced the dust storm earlier in the day, the AMC and I covered inadvertent instrument meteorological conditions procedures in our brief. Once again, we decided I would lead because of the malfunctioning GPS. Our plan was to use the same ingress route we had flown earlier and away we went.

As we departed Farah, everything was going well. Visibility was excellent and we had plenty of illumination. At almost the exact point as earlier in the day, however, we ran into the same visibility issues (an unforecasted dust storm). As before, we slowed and pressed on. After all, we are on a medevac mission.

So, the visibility was decreasing and my PI said he was having trouble keeping sight of the ground. I took over on the flight controls and we proceeded on our way. As I was flying, I started querying the rest of the crew for information regarding altitude, terrain clearance and any signs of visibility decreasing further. About five minutes after I had assumed the flight controls, I radioed the AMC and recommended we abort the mission and return to base. He concurred with my assessment. I replied I would be executing a 180-degree right-hand turn and heading back to Farah.

While executing the turn, I slowed below 40 knots indicated airspeed and descended to about 60 feet above ground level. It was at that point I heard my crew chief say, "We're kickin' up dust, sir!" A split-second after his call, I lost sight of the ground. I immediately increased my collective, leveled the wings and placed the aircraft in an accelerative attitude. Once the aircraft was under control, I made a call to the AMC, per the tactical standing operating procedure, informing him I was IIMC. He came back and said he was still visual flight rules and called out his heading and altitude. I deconflicted with him by adjusting my heading so we wouldn't converge. At 900 feet AGL, I came out of the dust cloud and the visibility was clear. Chalk 2 and I performed an in-flight linkup and returned to Farah.

I learned several things from this experience. First, IIMC is an emotional event which is mitigated through training. Second, it is very hard to choose not to go on a mission even though all of the indicators are present. Most importantly, never let anyone pressure you into doing something you know is unsafe. Fortunately, everything worked out for me and my crew, but it could just have easily gone the other way.

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LIFE OR DEATH?

RETIRED COMMAND SGT. MAJ. CLYDE GLENN

I woke up and looked outside at the beautiful August morning in Watertown, N.Y. I was excited because this meant I would be able to ride my motorcycle to work. The riding season in upstate New York is short, so you have to take advantage of the nice days.

I showered, shaved, dressed and then went downstairs and put on all my personal protective equipment, including a long-sleeve shirt, long pants, boots, gloves, reflective vest and helmet. I had the promotion board that morning, so my plan was to ride to a fellow Soldier's house, where I'd change clothes and ride to work with him in his car.

I left my house just after sunrise. The traffic light at the end of my street was green, and I made a left turn to head for the highway. I was now on a four-lane road with a turn lane in the center, heading west at about 40 mph in the far-right lane. There was no traffic in front of me, but I did notice an eastbound car getting off the highway on the other side of the road. All of a sudden, the driver swerved across all four lanes, cutting me off. I had little to no time to react, but I managed to pull in the clutch, try to downshift and start hitting the breaks.

It was no sooner than I hit the brakes that I struck the car between the front tire and bumper. The next thing I knew, I was flying through the air while clinched up tight, just waiting to land. I hit head first with my stomach toward the ground. Fortunately, I was wearing a full-face helmet when my head bounced off the pavement.

I finally came to a rest in a gas station parking lot and almost immediately heard people running toward me to see if I was all right. As I wiggled my fingers and toes to ensure everything was working properly, I could feel the blood running down my face. I wanted to jump up and start yelling at the driver, but I knew I should probably stay put to avoid further injuring myself. Instead, I just laid there and waited for the ambulance to arrive.

So how did this accident happen? It turns out that when I made the left turn onto the four-lane road, the traffic light changed shortly afterward. This meant that the westbound traffic that was stopped at the light had resumed and was about 100 yards behind me. The driver that cut me off was attempting to pull in to the gas station. Instead of getting into the turn lane, she tried to speed across the road and beat the oncoming traffic. To make matters worse, the rising sun was shining directly into her eyes. She never saw me coming and turned right in front of me.

I learned a valuable lesson that day. No matter how safe you think you are on your motorcycle, you're still at risk of other drivers not seeing you. I did everything right that day and still ended up in the hospital. Fortunately, I was wearing all of my protective gear and only suffered minor injuries. My helmet had some deep scratches on the forehead area and down the left side of the face. I am sure it was the difference between life and death.

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OUT WITH THE TIDE

CHIEF WARRANT OFFICER 3 REX E. SWETNAM
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As avid Jet Skiers, my wife and I have been riding on the water for nearly 20 years. We each have our own Jet Ski and consider ourselves to be very skilled riders. We learned, however, that complacency and overconfidence in your abilities can trump experience.

It was a beautiful Fourth of July weekend, and we'd brought our Jet Skis and some friends to Myrtle Beach, S.C., for some fun in the sun. Because of the holiday weekend, it was very crowded and hot. I was unfamiliar with the local area but felt we were experienced enough to overcome any issues we might encounter. I was wrong.

We dropped the Jet Skis in the water and made our way through a creek to a local beach. My friend and I dropped off our wives at the beach and then headed out to open water. We spent a couple of hours racing around the ocean before returning to the beach to eat lunch with our wives. Sufficiently recharged and rehydrated, we then headed back out for more playtime.

Once we were worn out, we went back to the beach, unaware how long we'd been gone. By now, the tide was going out, so we needed to hurry back to the boat ramp. Our friends rode one watercraft, and my wife and I were on the other. As we proceeded back to the boat ramp, we took a wrong turn in the creek and grounded both Jet Skis. My friend's wife jumped off theirs and sank in the mud, slicing her leg open on oyster shells. I knew we were in trouble, as we were about to lose all of the water underneath us due to the outgoing tide. I told our friends to get back on the Jet Ski and gave it a push so they could get moving and find help.

Fortunately, they were able to get back to the boat ramp, but my wife and I were stranded on the oyster bed. So there we were — no water, no sunscreen and no phone or other means of communication. Lucky for us, a man who had been watching us from his house was able to paddle close enough to give us some bottled water. Dehydrated and on the verge of passing out, the water was exactly what we needed. It would be about six hours before the tide came back and gave us enough water to make it to the boat ramp safely.

This experience taught us an important lesson. No matter how skilled you might be in a particular field or activity, complacency and overconfidence can cause more issues than inexperience. We now always travel with extra water, a marine radio/cellphone and have sunscreen on each Jet Ski. We were lucky that day and are determined to never be caught in a similar situation again.

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CHECK YOUR PUBS

CHIEF WARRANT OFFICER 3 JOSHUA ROBERTS
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Illinois Army National Guard
Peoria, Ill.

After completing more than four years of service, which included a 15-month combat tour in Operation Enduring Freedom as a flight engineer on the CH-47D, and the whole world in front of me, I decided to take up flying. (My journey through initial entry rotary-wing training wouldn't take place for another three years, but that is another story.)

The university I was attending offered a degree in aviation human factors, which is where I learned about a whole new world. Fixed-wing flying is a different animal than what we have grown accustomed to in our Army helicopters. Once you acquire your private pilot's license and are working toward your instrument ticket or commercial rating, there are new dangers that present themselves in the form of boredom and complacency. In many cases you find yourself on a solo cross-country flight, building time with no one next to you to keep you in line and entertained. I was fortunate enough to learn at a young aviation age the need to have all of the necessary publications prior to taking off. Here is that story.

I arrived at Willard Airport in Champaign, Ill., on a Wednesday evening as the sun was setting. My task was to knock out a solo instrument flight rule cross-country flight at night. With the remaining sunlight available, I climbed over the Piper Archer, giving it a detailed pre-flight. I then headed into the operations area to get an updated weather brief before filing my flight plan. It was going to be an easy night with a hop across the state border to do an approach into Lafayette, Ind., back across to Illinois for an approach into Kankakee, and then finally return to the house with an approach back into Willard.

Willard Airport sits in Class C airspace, which makes it relatively easy to depart with an IFR flight plan. After opening the plan with ground and a short conversation with tower, I found myself in no time flying through the air with my handoff to departure. Once I checked in with Chicago Center, I allowed my brain to space off and just enjoy the flight at cruise. What an amazingly dark night it was to be out flying.

It was obvious Chicago Center was not too busy this night because I was caught off guard, and a little early, with them requesting what approach I would like to do at Lafayette. I informed them I would check the automated terminal information system and let them know. I reached over to my pubs pack and starting pulling out approach plates. "This can't be right," I thought. I looked through them again, and then a third time. "You have got to be kidding me," I told myself. I had forgotten to bring the approach plates for the state of Indiana. I felt like an idiot.

Fortunately, I had a little luck on my side. I thumbed through the aircraft's GPS and found that Lafayette had a 09 approach. I informed center that I had picked my approach and was told to switch over to advisory. When I was close to 10 miles out, I was able to pick up local traffic in the pattern landing on 27. "This is just working out perfect," I said to myself with as much sarcasm as I could afford. I decided not to descend below 3,000 feet and, after I flew over the runway, I quickly contacted center to let them know I was on the miss and ready to head to Kankakee.

The remainder of the flight worked out just fine with no more excitement. As I was putting the aircraft to bed, I spent a little extra time thinking about what I was going to take away from this experience. The No. 1 lesson I had that evening was to double-check that you have not only the correct pubs for the mission, but also any you might need for the "what-if" category.

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LESSONS LEARNED

CHIEF WARRANT OFFICER 3 GREG M. KOYLE
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Riverton, Utah

It was a sunny weekday afternoon as we arrived at the hospital. My wife was pregnant with our second child, and I was ready to witness the miracle of a new baby boy. My son was born healthy and strong and came into this world on the ticket of trust that we, as his parents, would do our best to protect him until he is willing and able to go on his own. It started with car seats and child safety locks and then moved on to training wheels, bike helmets and knee pads. The next thing I knew, it was, "Dad, can I borrow the car?" It seemed like he went from infant to young man in such a short time.

As a father, there were many life lessons I wanted to pass along to my children. Little did I know that some lessons were already being taught — and not the way I'd intended. I learned that on a wet December evening, about 10 days before Christmas, when we received the phone call every parent dreads.

"Mom and Dad, I've been in an accident."

When I arrived at the scene, all I saw was red and blue lights and fire trucks. There was no sign of my boy. A police officer told me he had placed my son in the back of a squad car to keep warm because of the snow. When I got to him, it was so good hug him and hear his voice. His truck had been totaled in the accident, and I realized how lucky I was to find him unharmed. It could have been so much worse.

Witnesses told police that my son had run a red light and another driver making a left turn had turned into him. He told me he was going almost 40 mph at the time of the accident. "Dad, the light changed from green to yellow and the roads were wet and I did not want to slide," he said. "I knew that I could make the light."

As I sat there and listened to him, surrounded by all of the commotion of first responders, it dawned on me where he got his aggressive driving habits. I'm ashamed to say he learned them from me. He spent years watching me drive too fast for the road conditions, slamming on the brakes because I was following too closely and weaving through traffic. He was watching when my speed would increase after passing a cop, joking about how lucky I was to have avoided a ticket. He heard me yell at other drivers when they cut me off. And I, too, always thought I could beat the light. Without realizing it, I had passed my bad driving habits on to my son.

My son's accident served as a wakeup call for us both. We've since changed our driving habits. For me, I'd prefer to pass on lessons about how to be a safe, responsible driver. What about you? What lessons — knowingly or unknowingly — are you teaching your children? Is it time for a change?

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SHOCK TO THE SYSTEM

CHIEF WARRANT OFFICER 3 CHRISTOPHER M. O'BRIEN
F Company, 2-135th Aviation Battalion
Camp Beauregard, La.

I don't claim to be a "man's man," but I'm not scared of anything — well, except electricity. There's something about knowing that electricity is all around me that is unnerving. I can't see it and it can kill me at any time if I'm not careful. Nowadays, just about everything requires electricity, and sometimes I am required to (reluctantly) work closely with it.

Electricity shouldn't be a big deal, should it? I mean everything is safely wrapped in protective sleeves and neatly tucked inside the walls and behind electrical outlet covers. Neat and tidy — that's what I had at my house. But I also have a teenage son, and he managed to destroy the entire face of an electrical outlet in our carport. I'm not talking about just part of the outlet being destroyed. Everything plastic was in pieces on the ground, exposing all of the electrically charged guts inside.

I was traveling to Fort Rucker, Ala., the next day to attend the Aviation Safety Officer Course and couldn't leave that outlet exposed for six weeks. I also didn't want to pay an electrician $150 for a house call that would require only 15 minutes of work. So, against my better judgment, I decided to suppress my fear of electricity and do the work myself. While at it, I figured I would also replace the other old outlet cover in the carport. Easy, right? Wrong!

I know the basics of electricity. I don't poke metal objects into the little slots and I try not to be around water when I'm plugging and unplugging electrical appliances and tools. I also know there's an electric breaker box in the house. If I could figure out which breaker controlled that outlet, I could flip it off so I could safely make the repairs. So that's what I did.

I thought I was smart. I plugged a drop light into the undamaged outlet I'd also planned to replace and told my son to tell me when it went out as I flipped breaker switches. I didn't have to wait long, as the light went out when the first switch was flipped. I then released my son to go destroy other things around the house while I went back into the carport to replace the two outlets.

I chose to replace the undamaged outlet first. I took the drop light out of the outlet, removed the retaining screw from the cover plate and took it off. I then took a deep breath, reached in with my fingers and pulled out the outlet hardware. I didn't get shocked! I was extremely relieved. The rest was easy, only taking about seven minutes to replace the outlet. I figured I had just saved myself $75 in electrician fees.

Next, I moved to the damaged outlet. Because I'm so nervous around electricity, I decided to plug in the drop light to reassure myself it wasn't live. I reached down, very nonchalantly, and started to plug in the light. When I got about a quarter-inch away from the outlet, there was a huge spark and loud pop. The outlet was still hot! I jumped back, dropped the light and invented 56 new curse words in 10 seconds flat! The pop was loud enough that my wife came running to the carport, where she had a front-row seat to my cursing barrage.

It was obvious what I had to do now — call my dad! After he belittled and laughed at me for a little while, he explained what had happened and a passed on few electrical facts I believe everyone should know. First, just because one outlet is dead doesn't mean the one next to it is too. I guess that should be obvious, but I didn't consider it. Yeah, I bet you already knew that, right? OK, well how about this? Say there are two plug-ins on the same outlet. Did you know that you can put the top plug-in on a different breaker from the bottom plug-in? Sure you did. Well, what about this? You can have a fan light switch and the fan on/off switch on two different breakers. That was news to me. And here's the final thing I learned: Even though you flipped off the breaker to a particular light switch (or outlet), and the light turned off when you flipped that breaker, there is a way electricians can wire it so there is still electricity flowing to the light and not to the switch. All you need to do is touch the live wire and you complete the circuit. Nice, huh!

So what are you supposed to do? Calling an electrician is definitely the safest way to go. Or, you could buy a voltage tester pen, which, when placed near an energized object, will give both an audible and visual signal of an electrically charged danger. This lets you know that there is still a step to be completed before you can safely touch the object without fear of electrical shock. I bought one of these pens with the money I saved by repairing the two previously mentioned outlets on my own. In the future, though, I'll probably just leave the electricity to the professionals.

ARMY STRONG.
U.S. ARMY COMBAT READINESS/SAFETY CENTER

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WRONG NUMBER

CHIEF WARRANT OFFICER 2 NATALIE D. MILLER
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Greenville, S.C.

The flight was my first as a new pilot in command, so I was excited and a little nervous. I planned for an uneventful flight, taking off from our Army base (co-located with a Class D airspace civilian airport), through our unit's training area and then entering into a neighboring Class C civilian airport before returning home.

Overall, the two-hour flight was designed to familiarize a new Readiness Level 1 pilot to a broader section of the local flying area. Since my pilot had achieved RL1 status, he was familiar with the home airfield and local entrance and exit procedures. The intention today was to familiarize him with entering/exiting procedures of the Class C airspace in which we operated.

Throughout our flight he seemed comfortable navigating around our unit's home station and within our training area, about 200 square miles located 20 miles from the base. I was pleased with the flow of our flight. Our preflight had gone well and we had divvied up the duties, filed all the appropriate paperwork and briefed our route and procedures.

Bob (his name has been changed to protect his identity) understood the intent for today's training and expressed enthusiasm to be flying with someone other than an instructor pilot. During the flight, Bob seemed at ease and was competent in his duties on the controls. We used standard terminology, proper clearing procedures, backup navigation techniques and verifying radio traffic. For the majority of the time, Bob remained on the controls and I managed the radios, which included changing the frequencies, setting the GPS to follow-on points and tuning navigational equipment.

During the training area portion of the flight, our transponder read 1200 for general visual flight rules traffic. Upon completion of training within the training area, I requested a northern route toward the Class C airspace. In accordance with our standard operating procedures, air traffic control advised we were under "radar contact" and gave us a squawk, or transponder code, highlighting our position in the sky.

I was on the radios and my PI on the controls. I reached down and pushed in the plugs that corresponded to the numbers into the four-digit window on our transponder. With our attention once again outside, we continued on our flight. I occasionally pointed out good ground reference points on our common northern entrance into the Class C airspace. In accordance with ATC's instructions, we continued our path toward a visual flight rules checkpoint.

About five minutes after ATC gave us our specific transponder code, my pilot was flying straight and level at a heading of approximately 330 degrees. I double-checked the radios and our navigation and continued my cross-check to outside the aircraft. I turned to look at Bob in the right seat and noticed a dark shape floating immediately above and to the right of his helmet. As the realization dawned on me that we were not alone in this little patch of sky, I heard myself say, "I have the controls," and initiated a descending left turn. Bob released his grip on the controls, sat back and took a look at the small white Cessna flying 200 feet above us within ten rotor disks. "I never even saw it," he exclaimed.

So where was the disconnect here? Was our cross-check procedure off? Maybe. Were there blind spots in our scan? Definitely. As my heart rate slowed and I replayed the events leading up to the close call, I couldn't help but think, "Why didn't ATC let us know the proximity of this traffic?"

As I leaned forward to double-check the code in the transponder, I realized I was one number off. I was floored. I'd placed us in danger by not verifying one number! Bob felt responsible for not catching the aircraft in his scan, but there was also a crew chief sitting on that side of the helicopter in the crew seat. Nevertheless, I failed to follow ATC instructions and utilize ATC's safety system, placing the lives of my crew in danger.

Since that day, there is not one assigned squawk code in my aircraft that does not get verified by the other pilot. As my pre-flight briefing clearly states: my co-pilot will cross-check systems and instruments and, in accordance with the aircrew training manual, I shall ask for assistance.

ACCIDENT BRIEFS

AVIATION

AH-64D
Class A
The crew of aircraft No. 1 was conducting assault training with a sister ship when it collided with aircraft No. 2, whose crew was conducting aerial recon of an objective in the vicinity. Both aircraft crash landed, but the crewmembers suffered no significant injuries.

MQ-1C
Class A
The unmanned aircraft had uncommanded movement during taxi. The ground crew pulled the ground data terminal and the local ground data terminal circuit breakers, but the vehicle continued forward until striking a hangar.

GROUND

PERSONNEL INJURY
Class A
A Soldier died when he lost control of his boat and was thrown overboard into a lake. A friend who was with the Soldier was also thrown overboard but rescued by another boater.

DRIVING

PMV-4
Class A
A Soldier died when he lost control of his vehicle and struck a tree.

A Soldier died after his pickup, which was towing another vehicle, was struck from behind by a lumber truck. The Soldier's vehicle subsequently caught fire and he was trapped inside.

A Soldier was ejected and killed when his vehicle left the roadway, stuck numerous objects and overturned. He was not wearing a seat belt.

PMV-2
Class A
A Soldier was killed when he lost control of his motorcycle and crashed. He was wearing personal protective equipment and was trained and licensed to operate a motorcycle.

A Soldier died when he lost control of his motorcycle in a curve and struck a sign post on the side of the road.

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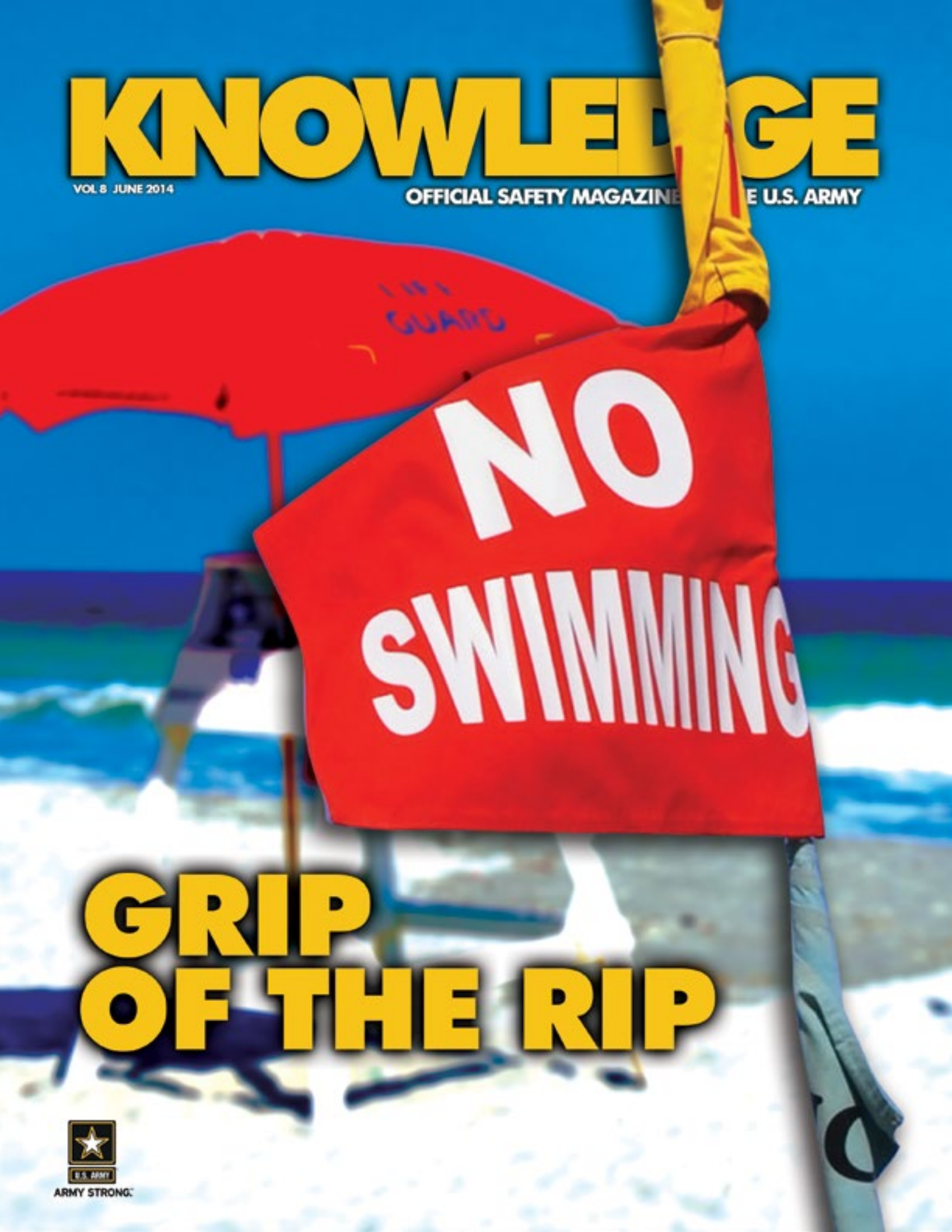
VOL 8 JUNE 2014
OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY



GRIP OF THE RIP

U.S. ARMY
ARMY STRONG.

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FROM THE CSM

Moments Matter, Seconds Count

You never know what Mother Nature has in store: After what seemed like an endless winter, it appears we've skipped over spring and plunged straight into summer! I'm sure it's a welcome change for our Soldiers, but the short seasonal transition has put many of us leaders at a disadvantage. Since we haven't had the opportunity to ease our Soldiers into the summer mindset, we have to do like the weather and jump headfirst into our seasonal safety programs. With motorcycle and water fatalities already on the rise this year, we can't afford to delay — Soldiers are eager to get outside, and some of them may not be ready for the usual challenges summer brings.

I thought about this a lot during a recent trip to my hometown in Florida. Several local children drowned in swimming pools in just the few short weeks I was there, reminding me that tragedy can strike in mere moments. As adults, we have a tendency to turn our backs when it's "only" three feet of water or we're distracted by any number of things when we should be watching our kids. I should know, because it's happened to me. When my youngest daughter was about 5 years old, we were lounging by the pool at Shades of Green at Walt Disney World when she suddenly jumped into the water in front of us, knowing she couldn't swim. It still gives me chills to think about what could've happened if we hadn't been right there or weren't paying closer attention to what she was doing. Moments matter, and in safety, seconds count more than you know.

That's what I'd like to see our leaders emphasize this summer: Bad things can happen to good people, so take time to reflect before you execute. It takes just a second for a car to pull in front of a Soldier riding his motorcycle; one beer is one too many when you're boating or skiing at the lake. Seemingly insignificant decisions can turn a life upside down or end it completely, so we owe it to ourselves and each other to think through our plans before we act on them. By staying safe, we make our own luck instead of relying on the very bad gamble that fate will see us through.

June is National Safety Month, and I encourage all of you to take this time to prepare your Soldiers for the summer ahead. It's no coincidence our Army observes this month just as summer kicks off, since this is historically one of the deadliest times of year for Soldiers off duty. And this year, impatience could take an even greater toll if we don't get ahead of the curve. The USACRC/Safety Center has already released its annual Army Safe Summer Campaign and will post a separate effort just for National Safety Month June 1 at https://safety.army.mil. These campaigns provide good information based on Armywide trends, but you know specifically what's happening in your formations. Use our materials and your knowledge as starting points to build safety programs that meet your Soldiers' needs and will see them through summer safely.

If we think positively and act responsibly, our Soldiers will too, adding up to a fun summer for both them and us. No one wants to see a preventable fatality, and putting in the time now helps ensure your unit won't be touched by tragedy. Remember, it takes only a moment for everything to change, so commit to safety from this moment forward. There's nothing wrong with play, as long as you always play it safe.

Army Safe is Army Strong!

LEEFORD C. CAIN
Command Sergeant Major
U.S. Army Combat Readiness/Safety Center

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GRIP OF THE RIP

CHIEF WARRANT OFFICER 2 SCOTT SPECHT
B Company, 3rd Battalion, 142nd Aviation Regiment (Air Assault)
New York Army National Guard
Ronkonkoma, N.Y.

Taking an early morning swim in the ocean is a great way to start your day. If you're not careful, however, that great start could come to an abrupt and tragic end. It almost happened to me.

One morning several years ago, some of my flight school buddies and I decided to leave Fort Rucker, Ala., and spend the weekend at a friend's house in Destin, Fla. As was common for us on Saturday nights in the Florida Panhandle, we contributed pretty heavily to the local economy, spending our hard-earned W-1 pay at the local clubs and taverns. After a long night out, Sunday morning came early, and the bright Florida sun shined on my face through the living room blinds. The couch I'd crashed on suddenly didn't seem as comfortable as the night before, and more sleep was likely out of the question. What I needed now was a quick cure for my dry mouth and pounding headache.

I didn't want to disturb anyone, so I slipped out of the house unnoticed and walked down to the beach. There weren't too many people out, and I remember seeing a high-flying yellow flag with a sign next to it that stated there was no lifeguard on duty. I've always been a strong swimmer, so I thought nothing about the flag and sign.

I figured the cool water would be a quick and invigorating cure to my ailments. Without thought, I slipped off my sandals and T-shirt, leaving them in a pile on the sugar-white sand. I stepped into the pristine emerald water and dove into the first decent-sized wave that came my way. The winds were calm, the water was beautiful and I instantly felt better.

The water was shallow, and since I stand more than 6 feet tall, I could easily venture out a good distance before the bottom was out of reach. The high salt concentration in the Gulf of Mexico made swimming feel nearly effortless, and each wave of cool ocean water that broke over my face brought a little more relief to my ailment. Before long, the calming effect of the waves put me into a trance-like state. When I finally opened my eyes again, I was shocked back to reality. The beach was now several hundred feet away!

I immediately realized I was in a dangerous situation. I was alone in the water, caught in a rip current and nobody even knew I had left the house. With my heart rate and anxiety level rising, I did exactly what you're not supposed to do when in a rip current — I frantically made a beeline for the shore. I quickly realized that fighting the rip current was not going to work. It seemed like the harder I swam, the farther out I was pulled. I put down my foot in hopes of finding the bottom, but there was nothing there.

Panic was starting to set in, and I knew I needed to think quickly if I wanted to survive. I'd have to rely on my instincts, experiences as a scuba diver and the little knowledge I had about rip currents to get myself back to shore safely. I forced myself to relax and used the advantage of the salty water to gain buoyancy. I then rolled onto my back and alternated between floating (to conserve energy) and backstroking parallel with the shore. Eventually, I escaped the grasp of the current and found myself in water shallow enough that I could finally touch the bottom.

Once I was back on shore, I headed to the spot where I entered the water. I had no idea how far the rip current had pulled me until it took nearly 15 minutes of walking to get back to my shirt and sandals I'd left in the sand. As I walked back toward my friend's house, I passed the same flagpole that had been flying the yellow warning flag. The flag had since been changed to red, indicating high surf and/or strong currents. Had that flag been flying earlier, I doubt I would have risked going into the water.

I was extremely lucky that morning. I very easily could have drowned, and it may have taken a long time for anyone to realize I was missing. I learned some valuable lessons that I feel fortunate to have the opportunity to share with others:

- Never swim alone.

- Always tell someone where you are going — especially if entering any body of water.

- If you consumed alcohol, remember that a few hours of sleep will likely not be enough time for the effects to wear off. Just because the sun is up doesn't mean you're sober.

- If you get caught in a rip current, never fight it. Remain calm and swim parallel with the shore until you are out of the current.

Rip currents are a threat to everyone who enters the ocean, especially weak or non-swimmers. According to the National Weather Service, rip currents are responsible for more than 100 drownings every year in the United States and account for over 80 percent of water rescues on surf beaches. Before swimming in the ocean, make sure you know what to do if caught in the grip of a rip current. Failure to properly prepare could leave you sleeping with the fishes!

FYI
For more information on how to protect yourself from rip currents, visit the National Weather Service's website at http://oceanservice.noaa.gov/education/yos/resource/JetStream/ocean/rip_safety.htm.

Did You Know?
Florida has a statewide warning flag system to alert beachgoers of the water conditions. Here's an explanation to what each flag means:

Double Red – Water closed to the public

Red – High hazard (high surf and/or strong currents)

Yellow – Medium hazard (moderate surf and/or currents)

Green – Low hazard (calm conditions, exercise caution)

Purple – Dangerous marine life present

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RAINY-DAY RIDING

DAVID L. HOUGH
www.soundrider.com

After a million miles of motorcycling, you'd think I would know how to ride in the rain. It was only going to be a 250-mile ride over two days. The weather report mentioned a storm blowing in from the coast; but after a warm and dry summer, I was lulled into complacency.

About an hour from the start, we smashed into the approaching storm front. Torrential rain was coming down in buckets and blowing sideways. The air was filled with blowing leaves. Tree branches were snapping off and blowing across the road. The pavement was quickly coated with layers of slippery leaves. It didn't take long for me to realize I wasn't prepared for serious rain. Let me share with you several secrets I should have remembered.

Choose riding gear that's weatherproof

Riding in soggy gear is a bigger deal than just feeling miserable. Riding soggy is an invitation to hypothermia. At highway speeds, the evaporative cooling of wet riding gear can quickly chill you to the core, and your thinking and muscle control will be slower. Staying dry and warm is a big part of keeping your brain and muscles functioning.

One reliable approach to weatherproof riding gear is a fabric shell with a breathable membrane bonded to the inside. It's very helpful to have a removable insulated liner. An electric liner or vest can provide additional heat. Waterproof glove and boot covers help keep your hands and feet dry, and don't take up much space to pack. If you've been wearing open weave or mesh gear for summer rides, remember to bring along your waterproofs — either an insulated waterproof liner to wear under the shell or separate raingear to wear over the shell.

Read the surface

After my bike did the moonwalk through a puddle filled with slippery leaves, I started reading the surface more carefully. The secret is that clean wet pavement has something like 80 percent of the friction of clean dry pavement. It's those slippery areas you need to avoid — like those wet leaves in the puddle, or a dribble of diesel oil or a slippery white arrow glued to the surface.

You can assume that painted or plastic lines and markings will be slick, including crosswalks and directional arrows. Brick surfaces will be slick when wet. Railroad or streetcar crossings will be slippery, especially the plastic or wooden aprons on both sides of the shiny rails. Oil and grease on the pavement will cause water to bead or streak and may have a rainbow sheen. When you see a change in the color or texture of the surface, ride more conservatively until you can feel what's happening.

Practice smooth control inputs

The key to avoiding a slideout on a wet surface is to make all control inputs smoothly. To maintain steady front tire traction when approaching a curve, transition smoothly from throttle to brake and then ease off the brake as you lean in. As you lean the bike in, smoothly sneak on the throttle as you steer into the curve to help balance traction between the front and rear tires. An "outside-inside-outside" line will maximize the radius of turn and minimize slip. Even if you feel your tires let go for a moment, avoid that sudden disastrous instinct to snap off the throttle or jam on the brakes. If the bike can recover, it will.

Brake early

When approaching a situation where you must decelerate, brake early. It's difficult to comprehend how much braking force can be applied on the wet surface. Braking early gets the bike slowed sooner and more gradually, reducing the need to suddenly brake harder toward the end of the stop. To give yourself more time for evasive maneuvers, drop back farther behind other vehicles. The minimum following distance in the rain should be four seconds.

Take a break when it first starts to rain

High-mileage commercial vehicles tend to dribble engine oil, grease and diesel fuel on the surface. A little moisture mixed with those contaminants can create a slippery goo that really reduces traction. That's why the road seems so treacherous after just a light rain or morning dew. It takes about a half hour of steady downpour to wash the pavement clean. The clever rider takes a half-hour break when it first starts to rain, to avoid sliding out and collisions with less-than-astute drivers.

Be Smart About Lightning

A motorcyclist is very much exposed to lightning. A motorcycle's rubber tires won't insulate it from the pavement. Lightning is so high voltage that it can travel on the surface of objects, including rubber. Enclosed vehicles such as automobiles and airplanes are seldom penetrated by lightning strikes. A motorcyclist, however, is exposed to serious injury.

If you are caught in a mountainous area during an afternoon thunderstorm, the best tactic is to get inside a building until the lightning passes. If there's no building available and strikes are getting closer (the thunderclap is less than three seconds after the flash) avoid standing under a tree. Get off the bike and lay down in a low ditch.

Editor's note: David L. Hough has authored several popular books on riding safety and served as a columnist for Motorcycle Consumer News, BMW Owners News and Sound RIDER! magazines. To support Soldier riders, Hough and Sound RIDER! Publisher Tom Mehren have granted reprint permission to Knowledge.

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WRONG SWITCH, WRONG TIME

CHIEF WARRANT OFFICER 3 SHANE BOUCHER
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Soto Cano Air Base, Honduras

Ask any Soldier that has been deployed about the inherent stresses caused by the theater of war and you will surely hear the near-miss and there-I-was stories. The multitude of things that can go wrong during any deployment cause a state of constant and heightened situational awareness. The problem with this is that over long periods of time, this can lead to chronic fatigue of both mind and body. This fatigue, coupled with the dangers from the enemy and environment, can lead to disaster.

My aviation unit was about four months into a 12-month deployment, and the operations tempo was raging. It was not uncommon for our aircrews to be flying the max amount of hours our crew endurance policy would allow. Often these long flights would start during daylight hours and carry over into the evenings. The night vision goggle mode of flight during the hours of darkness required full vigilance and awareness due to limited visibility and certain illusions associated with night system flight.

This particular significant emotional event took place on a frigid February evening deep in the bowels of Iraq. Our aircrew was finishing a full day of flying and had one final stop before heading back to our own forward operating base. The FOB we were approaching was notorious for how dark and dusty it was at night. We were given clearance by the control tower to land and started our approach to what we thought was the runway. Due to the zero illumination that night, we strained to make out the landing area through our goggles.

The dust started to form around the aircraft at about 20 feet above the ground, and the landing area we were approaching disappeared. The PC was on the flight controls and called a go-around through the internal communications system and pulled in power to start a climb out of the dust. As we cleared the dust cloud during our ascent, the crew chief announced we had actually made our approach to a UAS runway that had been built parallel to the landing area to which we were supposed to land. The UAS landing area did not have the support structure to hold the weight of our helicopter. If damaged, the landing area may not have been usable for the much lighter unmanned systems.

We entered the traffic pattern again and informed the control tower of our go-around and intent to make another approach. We were cleared for the approach and started our descent. On short final, the PC asked me to turn off the heater. The intensity of the situation, coupled with fatigue and the environmental conditions, had made it extremely hot and uncomfortable in the cockpit.

The heater switch is located on the upper console above and between the heads of the two pilots. Focused outside due to the gravity of the situation and the fact we had already aborted one landing, I reached up and turned off what I thought was the heater switch. Nothing happened. The heater was still on. I thought I had accidentally turned off the vent blower, which is co-located with the heater switch, so I flipped the switch that was immediately beside the one I had just turned off. The cockpit then went black!

The aircraft started to shudder and there was beeping in our helmets. The PC landed the aircraft safely. Luckily, we were merely 10 feet from the landing area when I had inadvertently shut off both of our main generators. That's right — the first switch was generator No. 1. Nothing happened because the other generator picked up the load. The second switch was generator No. 2. We lost all lights, causing a blacked-out cockpit. The beeping was caused by the power interruption and radios being knocked offline. The generator switches were inches away from the heater and vent blower switches and identical in shape and size.

Safely on the ground and our hearts about to explode through our chests because of the near-death experience, the PC reached up and turned both generator switches back on, restoring power to the aircraft. Keeping his composure, the PC reminded me that we need to identify switches before turning anything on or off during NVG flight because of the low light levels.

Now, many years later, as a PC, I have used this experience to mentor my younger pilots. I teach them the importance of keeping their composure in high-stress situations even when exhausted. They learn that it is critical to know your equipment even in the dark. Most importantly, they learn from my mistake so they hopefully will never make the same one.

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THE BIG BANG

JAMES HAMMONDS
McAlester Army Ammunition Plant
McAlester, Okla.

For many Americans, fireworks are a summer tradition. Fourth of July celebrations seem incomplete without the rockets' red glare and bombs bursting in air. Unfortunately, some of these celebrations will end with another, less enjoyable tradition — a trip to the emergency room. By taking the proper precautions before handling fireworks, you can help ensure your personal tribute to Independence Day is a blast.

It may surprise some to learn the only difference between military explosives and fireworks is the amount of explosives filler. In the explosives community, we handle ammunition and explosives using the cardinal principle: Expose the fewest people to the smallest amount of explosives for the shortest time possible. It's also a great rule for handling fireworks.

Before even thinking about lighting your first fuse, make sure fireworks are legal to possess and use in your city and state. The National Council on Fireworks Safety's website is a good source of information on state fireworks laws. You should also always ask your local fire or police department if fireworks are legal in your area. Although fireworks may be legal in your state, there may be reasons, such as a burn ban due to dry weather, why their use is prohibited in some areas.

Once you've established that you can legally shoot fireworks in your city, make sure you buy legal fireworks. Fireworks are classified as a hazardous material and will always have a label with the manufacturer's name and directions for use. Illegal fireworks such as M-80s, M-100s and blockbusters usually aren't labeled and don't have directions. Even though banned since 1966, illegal fireworks are responsible for one-third of all Fourth of July injuries. If you know of anyone selling illegal fireworks, contact your local police department.

Unfortunately, even legal fireworks that are considered a safe choice for younger children, such as sparklers, can be dangerous. Sparklers can reach 1,800 F — hot enough to melt gold — and account for more than half the fireworks injuries to children under the age of 14. If children aren't mature enough to understand the rules regarding fireworks, they shouldn't handle them. Also, if your pets are afraid of noise or get excited and stressed easily, consider keeping them indoors or in pet crates until the fireworks celebration is over.

If someone gets hurt using fireworks, immediately go to your family doctor or a hospital. If the injury involves the eyes, do not rub or touch them. You should also never attempt to flush the eyes because some fireworks material can be activated by water. Eye injuries from fireworks are a no-wait medical decision.

Fireworks are meant to be enjoyed and help celebrate an important event in American history. If used properly, they can be safe for everyone. Teach your children the right way to handle fireworks and they'll pass it on to their children. The last place anyone wants to celebrate America's independence is a hospital waiting room.

FYI

To help you safely celebrate the Fourth of July, the Consumer Product Safety Commission and the National Council on Fireworks Safety offer the following tips:

- Always read and follow label directions.
- Have an adult present.
- Buy from reliable sellers.
- Only use fireworks outdoors.
- Always have water handy (a garden hose and a bucket).
- Never experiment or make your own fireworks.

• Light only one firework at a time.

• Never relight a "dud" firework. Wait 15 to 20 minutes, soak it in a bucket of water and then dispose of it in your trash can.

• Never give fireworks to small children.

• Store fireworks in a cool, dry place.

• Never throw or point fireworks at other people.

• Never carry fireworks in your pocket.

• Never shoot fireworks in metal or glass containers.

• The shooter should always wear eye protection and never have any part of the body over the firework.

• Stay away from illegal explosives.

For more information about fireworks safety, statistics and state laws, visit the National Council on Fireworks Safety Web site at www.fireworksafety.com

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BOTH SIDES

CHIEF WARRANT OFFICER 3 RYAN LADD
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Hunter Army Airfield, Ga.

People are unpredictable. How many times have you darted across a street where there was no crosswalk? Did you look both ways first? Do you know if vehicle drivers saw you? As a pedestrian, you can't assume every driver knows your intentions. That's a lesson I learned at young age.

I was 9 years old, walking home from the last day of fourth grade with my 6-year-old sister. I was so excited about summer break and in a hurry to get home. To save time, I decided to cross the street before reaching the corner where we always crossed. Traffic was lined up at the stop sign, so the cars in the lane I was next to were stopped. I walked behind the last car and looked to the right. It was clear. I turned to tell my sister to follow me and then started running for the other side of the road without checking for traffic again. I almost made it — almost.

I heard the screech of tires and felt the bumper hit my right knee, followed by the grill and hood against my right thigh and hip. As I was propelled into the air, I hit my forearm on the top of passenger-side quarter panel. I continued to flip through the air, breaking off the antenna and mirror with my back before landing in the street.

I never even saw the Cadillac coming. The driver didn't see me either. She had just turned the corner and accelerated to 30 mph in the 15-mph school zone. She was in a hurry, too, as she raced to the school to pick up her daughter. Everything happened so fast that she didn't even apply her brakes until six feet before impact.

When all was said and done, I'd suffered a concussion and received a few cuts and scrapes. My entire body ached, but I didn't have any broken bones. I was fortunate to be alive — and even more fortunate my sister didn't listen to me when I told her to follow me. Wisely, she had stayed on the sidewalk.

After this accident, I had a new respect for cars. While the driver was in the wrong for speeding, I had to share the blame because I didn't use the crosswalk like I had every time before that day. Since then, I always look both ways three or four times before stepping into the road and constantly monitor traffic as I am crossing. When I am at a crosswalk in front of a stopped vehicle, I always make eye contact with the driver before I continue. In most states, I likely have the right of way in a crosswalk, but I never assume that a driver sees me and is going to stop. Also, when running for PT, I always face oncoming traffic and never wear headphones. If I need to answer my phone, make a call or send a text, I first step off to the side of the road. Some may call me overly cautious, but I'm determined to never be hit by a car again.

I wish this was the end of my story, but, unfortunately, several years later, the roles were reversed.

As I mentioned before, people are unpredictable. For example, how many times have you approached an intersection in your vehicle and seen pedestrians crossing even though you have a green light? How many people do you see walking or jogging in the street, oblivious to the traffic around them? How many people have walked out in front of you in a parking lot? How many kids have you seen blindly run into the street to retrieve a ball? As a driver, you can't assume a pedestrian sees your vehicle, even when you have the right of way. And in a battle of car versus pedestrian, I know all too well that the car always wins. Here's what happened.

Once again, it was summertime. I was now 16 and I had just gotten off work. Driving my mother's car, I was on my way to pick up a buddy who lived on the other side of the river. I was traveling in the right lane of a four-lane road at about 55 mph. The posted speed limit was 50 mph, so I was speeding, but not by much.

About a half-mile after crossing the long bridge that spanned the river, there was a traffic light, which was red. I had slowed to about 35 mph when the light turned green. The left lane had about six cars in it, but my lane was clear, so I started accelerating. As I began to pass the cars at the traffic light, they began to accelerate too. Just as my front bumper was even with the lead vehicle, a dark figure came across its headlights and then into mine.

I immediately slammed on the brakes. My tires screeched and I felt a large thud. The feeling and sound of the impact sent a shiver down my spine. My bumper had hit the man's right leg and sent him tumbling through the air, landing on his head. He'd almost made it across — almost.

I stopped the car and ran back toward the point of impact. I found the man 20 feet from where we'd collided. He was a mess. Although he was laying face up, his legs were folded underneath him. But he was alive. In addition to two broken legs, his knees were shattered. He also had a broken arm and cracked ribs. He spent the next 18 months in a hospital, undergoing more than 20 surgeries to fix his legs and knees. He spent another two years in physical therapy learning how to walk again.

Although I blamed myself for the accident, the state troopers who worked the scene determined I was not at fault. The man had been drunk and was attempting to cross the poorly lit intersection despite having the "Don't Walk" signal. He was also wearing dark blue jeans and a black t-shirt and hat. Regardless, he spent eight years in legal actions against my parents in an attempt to recover damages for lost work and hospital bills. Fortunately, a judge later determined the same thing as the troopers and dismissed the lawsuit.

After this accident, I had a new respect for pedestrians. Since then, I always slow down at night when approaching an intersection, looking for pedestrians near the crosswalks. When I am at a stop sign, I always try to make eye contact with a pedestrian before they cross in front of me. Even if I have the right of way, I'll never just assume a pedestrian is paying attention. And when I see kids playing in a yard, I always slow down well below the posted speed limit. Some may call me overly cautious, but I'm determined to never hit someone with my car again.

Pedestrians and drivers must have a mutual respect for one another. After all, every day most of us are either one or the other. Whether it is texting while walking or fiddling with the GPS or radio while driving, limit the distractions when you are on the move and pay attention to the task at hand. As someone who's been on both sides, I can tell you neither one is much fun. Either one of these accidents could have ruined my life at a very young age. Don't let one ruin yours.

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DON'T RUSH ME

CHIEF WARRANT OFFICER 3 STEPHEN GONIFAS
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Shortly after graduating flight school, I was tasked with assisting in ferrying two of our OH-58As from Nebraska to Fort Rucker, Ala. I was excited by the prospect of a cross-country flight with a pilot in command who was not an instructor pilot. I had recently made Readiness Level 2 and was eager to prove myself to the PCs in the unit.

To prepare for the trip, I brushed up on my emergency procedures, limits, airspace and aerodynamics, including dynamic rollover. The crew brief was as normal. I was paired with a PC who was one of the lowest-time PCs in the company, but I knew he was a safe pilot and looked forward to learning from him. I let him know this was one of my first flights without an IP. This did not seem to bother him, and I was encouraged by his faith in my abilities.

The first leg went by without any problems. I flew most of the way while the PC handled the navigation and radio calls. After getting a good lunch and stretching our legs, we headed out to the aircraft. The other crew had already untied their blade and was getting strapped in by the time we got out to our aircraft. I began to hurry so we would not be too far behind them after we cranked. I didn't want the other more experienced pilots to think the warrant officer junior grade was holding them back.

We went through the checklist quickly, but did not rush it. By the time we were at 100 percent rotor revolutions per minute, the other crew was already hovering out to the runway. The PC did the before-takeoff check and made the radio calls while I started to pick up the aircraft.

At this point, I began to move more quickly than normal. Instead of taking my time, letting the aircraft get light on the skids and smoothly picking it up, I pulled in an armful of collective. I did not anticipate the change in center of gravity from the fuel we had brought on. The right skid picked up before the left and the aircraft surged to the left. I managed to get the aircraft airborne under control at a hover. The PC simply and calmly said, "Let's not do that again!"

Although this incident did not end as a mishap, it very easily could have. We were on a pad at an airport with no other aircraft around us. Had there been another aircraft close to us, we could easily have run into it. Also, because we were on flat terrain, the left skid did not get stuck. The wind was relatively calm and from the 12 o'clock position. Had any of these conditions been different, we could have easily rolled over and destroyed the aircraft and possibly lost our lives.

I learned some valuable lessons from this experience. I never pick up an aircraft faster than I feel comfortable. This is especially true if the CG has changed for any reason such as taking on fuel or a passenger. As an infantryman, we had a saying that was drummed into our heads during Expert Infantry Badge testing: "Slow is smooth and smooth is fast." I would rather be embarrassed by taking too long than because I destroyed an aircraft. I do not go into any flight believing the IP or PC will bail me out if I can't handle something. When I am at the controls, the aircraft is my responsibility. If I don't feel comfortable, I go around or set the aircraft back down.

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WHAT WOULD YOU DO?

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4th Battalion, 160th Special Operations Aviation Regiment
Fort Campbell, Ky.

What do more than 900 combat flight hours, four deployments, over 30 presidential protective details and 22 improvised explosive devices disabled have in common? The answer is none of those experiences gave me the kind of angst as a decision I had to make in the summer of 1998. Sound strange? Read on and I'll explain.

Every unit has an NCO that stands out as a role model. In my unit, Staff Sgt. Smith* was that NCO. He was a great explosive ordnance disposal technician and I respected him a great deal. He had been my instructor in EOD school and I trusted his judgment completely. He was well liked by all and a good friend of mine.

In 1998, Smith and I were on one of those six-month peacetime deployments to Kuwait that we only dream about now. He was my supervisor, which I was happy about because he was experienced and knew what he was doing. Part of our job in Kuwait was to help the local government clean up unexploded ordnance and bulk ammunition left by Saddam's army during their hasty retreat from that country. We really enjoyed the work, and there was plenty of it to go around for everyone. On one such mission, Smith and I were working together when something happened that I'll never forget.

We'd been working all day to help clear an area around a former Iraqi ammunition holding area that had blown up as a result of the summer heat and poor storage techniques. All types of UXO littered the area. The ammunition that was safe to move was being transported by truck to a disposal location. The UXO that was unsafe to transport was destroyed in place.

It was late in the afternoon and we were all feeling tired. I don't know if it was complacency or just plain exhaustion that caused Smith to think it was OK to pick up an unexploded rocket-propelled grenade and carry it by hand to the disposal point. I was dumbfounded because a slick-badge tech right out of EOD school wouldn't think about doing something like that. It was a clear-cut unsafe act.

My mind raced as I grappled with the responsibility I had just been handed. Do I say something? Do I risk losing his respect and shattering our friendship? What if word gets out and his career is put in jeopardy? Do I want to be responsible for that? This guy was my friend and a heck of a good EOD technician. Do I want to jeopardize that for a onetime event?

The unfortunate thing about failing to speak up when you see an unsafe act is that it is usually rewarded with nothing bad happening. If you don't think so, let me ask this question. What happened the last time you saw someone doing something unsafe and you said nothing? Were they injured or killed? Odds are they weren't. I saw a study that suggested more than 600 near misses occur for every catastrophic accident. That means someone could potentially observe more than 600 unsafe acts without speaking up and never have to suffer the consequences for their lack of moral courage. Sound like a safe bet? Many people prefer to roll the dice instead of make waves. Do you?

What is not obvious from a study like this is the cumulative effect one person can have on how fast his or her unit reaches that magic number of 600. Here's how it works: Individual A sees an unsafe act and says nothing. Individual B learns by example and passes it on to Individual C, who passes it on to D and so on. If 600 really is the magic number and not just a statistical likelihood, do you think Individual A bears any responsibility what happens when his unit reaches that number?

Fortunately, the reverse can also be true. What if Individual A had done what he knew was right and made that on-the-spot correction? It's possible he could help change the culture of his unit. At the very least, he will sleep better at night. So, what did I do about Smith and the RPG? I did what we all should do — the right thing.

**Author's note: The name of the EOD technician mentioned in this article has been changed to protect his privacy.*

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TWO-UP OR TWO DOWN

CHIEF WARRANT OFFICER 4 ROBERT HAMMON
1/180th Aviation
Kansas National Guard
Topeka, Kansas

I was raised in the country, where the lack of immediate entertainment left most of us kids looking for hobbies. Mine was motorcycles. I started riding at the young age of 5, and by the time I was 8, I'd worked myself up to the Honda XR75.

We were fortunate to live where we did. The area had a lot of wide-open space and a neighbor who owned a bunch of land. Lucky for me, he also loved motocross and built a professional track on his back 40 acres. That would become my practice track, allowing me to progress my skills through daily rides.

As I grew older, I still enjoyed motocross, but I liked girls even more. And what do teenage girls like? That's right, motorcycles! So, at 17, I purchased a GSXR 750. I knew the GSXR's capabilities, so when I first got my hands on the bike, I told myself that I was just going to cruise it. That was short lived, though. As I became more familiar with the bike, my respect for it faded. I was soon curbing the bike every chance I got, doing wheelies on the interstate and bouncing through intersections on my front wheel. Believe it or not, I never laid down the bike, which only added to my lack of respect.

One beautiful summer evening, I decided to go to a party with friends. I knew there would be girls there, so I rode my motorcycle. At the time, the movie Top Gun had set the standard for personal protective equipment when riding a bike. According to Tom Cruise, all you needed was sunglasses. So that's what I wore.

I hadn't been at the party very long when one of my friends said she needed to go to the store a few miles away. Rather than have everyone move their vehicles so she could get out of the driveway, I agreed to give her a ride on my motorcycle. I never asked if she had ever been on a bike. In fact, I really didn't give it any thought. (I later discovered she'd never been a passenger on a bike. That will soon play an important part of this tale.)

We left the party and headed toward the store. We were in no hurry, so the ride there was pretty uneventful. The ride back, however, was a different story. As we rode down the road at 40 mph, she whispered into my ear, "What does this thing got?" At that exact moment, a little devil appeared on my shoulder and said, "Let's show her!"

I didn't roll the throttle — I hammered it to the full open position. The GSXR didn't let me down either, giving me all she had. Caught up in the moment, I didn't realize I had already made several mistakes such as failing to account for the additional weight on the back of the bike. I was quickly reminded when the GSXR's front wheel left the ground. Fortunately, I quickly regained control of the bike. That misstep should have been a sign that bad things were to come, but I ignored it.

The speedometer shot up the dial as we flew down the road. Despite the fact that it was dark outside, I was still wearing my Top Gun PPE, which is probably why I couldn't see the approaching curve in the road. When I realized what was ahead, I went into a lean. I thought I had enough to make the curve, but this is where my passenger's lack of motorcycle passenger knowledge and my failure to brief her comes into play.

As I leaned the bike into the curve, she did the exact opposite, leaning hard to the outside. This caused my bike to respond in a manner that wasn't consistent with the hundreds of curves I had taken in the past. It quickly became obvious we weren't going to make it, so I rolled the bike up straight so no one went top side. With limited options, the ditch was going to be our next destination.

As the bike shot into the ditch, my motocross experience helped but didn't completely save the day. We entered the ditch to the sound of dual hydraulic brakes locking up and were immediately surrounded by a dust cloud. The rest is just of blur of sights and sounds as the bike made its way through the ditch. When we finally came to a stop, we were scared to death and thankful to be alive. I must have looked real cool standing there in that dust cloud, still wearing my sunglasses. Fortunately, no one was injured.

I learned some important lessons that day. Obviously, my thoughts on PPE and safe riding have changed drastically since my teenage years. I also gained a better understanding of how important it is that both operator and passenger are knowledgeable

and comfortable with two-up riding. Had I worried more about safety than trying to impress a girl, I might have avoided an incident that could have seriously injured us both.

FYI

Before putting a passenger on the back of your bike, consider the following guidelines from the Motorcycle Safety Foundation:

Legal Considerations

1. All state laws and requirements for carrying a passenger must be followed.
2. Some states have specific equipment requirements. Examples: the motorcycle must have passenger footrests, passengers must be able to reach the footrests, and a motorcycle must have a separate seating area for a passenger.
3. The decision to carry a child, assuming all safety and legal factors have been considered, is left to the parent or guardian. Ensure that the child is mature enough to handle the responsibilities, tall enough to reach the footrests, wears a properly fitted helmet and other protective gear, and holds onto you or the passenger hand-holds. Check your state's laws; a few states have set minimum ages for motorcycle passengers.

Operator Preparation

1. Passengers should be considered as a second "active" rider so they can help ensure that safety and procedural operations are correctly followed.
2. A passenger will affect the handling characteristics of a motorcycle due to the extra weight and independent motion.
3. A passenger tends to move forward in quick stops and may "bump" your helmet with theirs.
4. Starting from a stop may require more throttle and clutch finesse.
5. Braking procedures may be affected. Braking sooner and/or with greater pressure may be required.
6. More weight over the rear tire may increase the usefulness and stopping power of the rear brake, especially in quick stop situations.
7. Riding on a downgrade will cause braking distance to increase compared to a flat surface.
8. Extra caution is called for in a corner because of the extra weight. Cornering clearances may be affected.
9. More time and space will be needed for passing.
10. The effects of wind, especially side wind, may be more pronounced.

Motorcycle Preparation

1. The motorcycle must be designed to accommodate a passenger.
2. The motorcycle owner's manual should be reviewed for manufacturer's tips about motorcycle setup as well as any related operational recommendations.
3. The motorcycle's suspension and tire pressure may need adjustment.
4. Care should be taken to not exceed the weight limitations specified in the owner's manual.

Passenger Preparation

1. Passengers should be tall enough to reach the footrests and mature enough to handle the responsibilities.
2. Passengers should wear proper protective gear.
3. Passengers should receive a safety briefing (see No. 7 below).
4. Passengers should consider themselves a second operator and share responsibility for safety.

General Safety Considerations

1. You need to be experienced in the motorcycle's operation and have a safety-oriented attitude before taking on the added responsibility of carrying a passenger.
2. Practice low-speed clutch/throttle control as well as normal and emergency braking in a low-risk area like an open parking lot, with a passenger.
3. Use caution in cornering and develop cornering skills over time to ensure passenger comfort and safety.
4. Use caution in corners as clearance may be affected.
5. Use MSF's Search, Evaluate, Execute strategy (SEESM) to increase time and space safety margins.
6. Allow time for a passenger to adjust to the sense of speed and the sensation of leaning; speeds should be conservatively safe and reasonable until a passenger acclimates to the proper riding techniques.

7. Ensure passengers follow safety procedures:
   a. Complete personal protective gear is properly in use.
   b. Hold operator's waist or hips, or motorcycle's passenger hand-holds.
   c. Keep feet on footrests at all times, including while stopped.
   d. Keep hands and feet away from hot or moving parts.
   e. When in a corner, look over the operator's shoulder in the direction of the corner.
   f. Avoid turning around or making sudden moves that might affect operation.
   g. If crossing an obstacle, stand on the pegs with the knees slightly bent and allow the legs to absorb the shock upon impact.
8. Allow more time for passing.
9. Be ready to counter the effects of wind.
10. Avoid extreme speeds and dramatic lean angles.
11. Be ready for a passenger "bump" with their helmet or with their whole body sliding forward during hard braking.
12. Have the passenger mount after the motorcycle's stand is raised and the motorcycle is securely braced. Hold the front brake lever if the surface isn't level.
13. Have the passenger dismount first.
14. Annually complete a Basic RiderCourse 2 – Skills Practice with a passenger.
15. Have frequent passengers complete a Basic RiderCourse so they can better understand the operator's task.

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KNOW YOUR COMFORT LEVEL

CHIEF WARRANT OFFICER 2 BENJAMINE KAY

All Army aviators, at one point or another, have used the term "comfort level" during a crew or team brief. This so when a crewmember has reached a point where they feel uneasy or uncomfortable about weather, an approach, an engagement or anything else, they will speak up and possibly prevent a mishap. We have all reached the point in which our comfort level was exceeded; however, rarely does one say something until later. It must be that Type A personality we get accused of having. There was one night, while flying one of two AH-64Ds over one of the largest cities in Iraq, that I reached my comfort level and said something about it.

I was in the back seat of the lead aircraft, flying in support of a ground element clearing a small neighborhood. After a couple of hours circling the area, I noticed that to the west the sky appeared cloudy. It was difficult to tell under FLIR exactly what it was, but I knew it wasn't normal.

We contacted the local weather briefers via radio and they assured us there was nothing expected to come in and affect us. But 15 minutes later, we could see it was getting closer. At that point, we called the weather briefer at another airfield west of our location. They reported one-quarter mile visibility due to a sandstorm. We then reported this to the other crew so they would expect to possibly land sooner than planned.

Once we could see the ground start to disappear under the wall of dirt a few miles away, I made the call. I had reached my comfort level. The front-seater reached his point just after I did. There was no way to tell the density of the dust cloud, nor did we know how fast the winds were moving. Rather than become a liability, it was time to land.

Of course, trying to convince the company commander in the other aircraft took some work. He wanted to stay and support the ground unit's move back to their combat ourpost. As much as I wanted to do the same, everything told me we needed to get on the ground — and fast. Otherwise, their road march back to the COP might turn into a search and rescue for us.

As we turned final for landing, the west side of the FOB was no longer visible. No time for fuel, just take it to parking. By the time we shut down the engines, we were engulfed in the dust cloud. Staying out just a few more minutes could have put us into an emergency situation. Even the crew chief who recovered us mentioned he was worried we weren't going to make it back soon enough.

We all have limits, and often times those limits are pushed, especially in combat. I had to weigh the risk of the oncoming weather against continuing our support mission. Fortunately, we made the correct decision. With the conditions encountered, we would have not been able to function as needed for the ground element. Not only that, but we would have put ourselves in an emergency situation that could have been catastrophic. Instead, we were able to continue supporting those who rely on us, and returned back to the states with everyone we left with.

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ROAD TO RUIN

HAROLD HUCKABAA
U.S. Marine Corps
Ladera Ranch, Calif.

It was a midsummer afternoon. I had been in the Marine Corps about seven years and was a field artilleryman serving with India Battery, 3rd Battalion, 11th Marines at Camp Pendleton. My unit had just completed a hugely successful three-week trip to the field at Marine Corps Air Ground Combat Center in Twentynine Palms. All of the Marines were ready to get back to our base in sunny Southern California, which was a lot different from the desert living we'd experienced over the past few weeks. The final step was to drive our vehicles home safely. The trip would take about six hours to complete with a couple of rest stops along the way.

Before departing, we had a thorough safety brief for all drivers and assistant drivers. We all knew our first stop would be at the two-hour mark so we could stretch and conduct a vehicle check and walk-around for about 15 minutes. That stop went off without a hitch, and we were back on our way. The next rest stop would be at a raceway in Fontana, Calif. We were all looking forward to this one because the raceway snack bar was going to open for us so we could purchase hotdogs, hamburgers and sodas. Once again, the rest stop went smoothly.

With our break time now over, we had another safety brief to notify all drivers and assistant drivers about the remainder of our trip. All was going well until we got on the section of freeway that led to the I-215 ramp en route to Camp Pendleton. Ahead of us, a 5-ton truck carrying an M198 howitzer got on the highway in traffic and moved over to the third lane of travel. We were able to remain in the slow lane, which was good because the ramp to I-215 was just ahead.

As the convoy ahead of us took the ramp, the 5-ton was still in the third lane. We'd always been told that if we were going to miss a ramp that we should go around and backtrack. The driver did not heed that warning and attempted to cross three lanes of traffic to make the ramp. Unfortunately, he did not take into account was that he was towing a 16,000-pound gun with tires that stuck out on both sides. The truck made the exit; the gun did not.

We watched helplessly as one of the tires hit the guardrail, causing the gun to become airborne. What happen next was unbelievable. The gun was hooked to the truck by a safety chain, which did not break. After the gun struck the ground, the truck began to flip over and over. In the back of the truck was gun gear, weapons, personal gear, a spare tire and, worst of all, nine Marines.

We pulled in behind the truck, which had come to rest upside down. Our primary concern was for the Marines. All had suffered varying injuries, including broken bones and deep gashes on their heads. One Marine was trapped under the spare tire bracket. We had to hook up the 5-ton to our truck and pull it far enough to free him. All were taken to local hospitals, where most were treated and released. In the end, six Marines were put out of the Corps due to the accident. I never again saw the Marine who'd been pinned under the truck.

The Marine Corps learned a valuable lesson this day. From that point forward, Marines were no longer allowed to ride in the back of a truck. They are now bused to and from training areas off base. Seeing firsthand the destruction caused by one unsafe act during a simple peacetime drive-back to base was an important reminder that we must be aware of our surroundings at all times.

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YOUNG AND DUMB

DUSTIN LEWIS
Redstone Arsenal, Ala.

There I was, young and dumb, riding a four-wheel all-terrain vehicle with no helmet, goggles, gloves or any other personal protective equipment. There were about eight of us that day, and we were out for a casual ride. Of course, we brought along girls, which meant there was no limit to our efforts to impress. We were out of control as we sped up and down the side of a mountain, never giving a second thought to the fact that we were endangering not only our lives, but also the girls' lives.

As you can imagine, the terrain on the side of the mountain was extremely rough and covered in ditches and boulders. What's more, just off the side of the trail we were riding was an extreme drop through trees and more boulders. We had ridden this trail several times, so we were confident in our abilities to handle whatever came our way. Maybe we were a little too confident, but more on that later.

We rode into the evening, doing tailspins, doughnuts and probably just about any other wild move you can imagine. Once satisfied we'd sufficiently burned up the trail, we decided to head back to the top of the mountain to continue our reckless riding. If you've ever ridden an ATV, you know it isn't very difficult to flip it over backward. Somehow, though, we made it back to the top safely, where the real "fun" began.

The top of the mountain offered tons of areas for playing in the mud, jumping hills and racing, and we were determined to do it all — still paying no mind to the dangers we were encountering. Eventually, we started a game of four-wheeler dare. The rules were simple: Someone dares another rider to do something challenging on their ATV. That person can either accept the dare or be ridiculed by the rest of the guys. With the girls there, turning down a dare wasn't an option. This is where I got in trouble.

There was one hill no one would jump because it was just too big. With everyone else passing on the challenge, I saw this as an opportunity to impress the girl that was with me. It was a bad idea, to say the least. I backed my ATV, lined up the jump and rolled the throttle. Everything was going smoothly until I reached the top of the hill for takeoff. At the last second, I noticed a root bulging out from the left side of the top of the hill. It was too late.

The root caused my four-wheeler to rotate as I flew 10 feet off the ground. I knew if I stayed on the ATV that the end product wasn't going to be good, so I made the split-second decision to bail. I dropped to the ground like a rock, the impact knocking me unconscious for three or four minutes. Fortunately, the only real injury I suffered was to my bruised ego. My four-wheeler wasn't as lucky. One of the front wheels had been bent underneath the ATV when it crashed to the ground. Needless to say, we had to pull it back to the truck.

That day, I was extremely fortunate. This was a first-class near miss. It was completely stupid to not wear any PPE when riding. All it would have taken is a small rock to have been lying in the spot where my head struck the ground and I wouldn't be here writing this today. What I want you to take away from this is life is very fragile; the least we can do is take the proper safety precautions for ourselves and others. While we can't prevent every bad thing from occurring, we can at least do our part to mitigate the risk and minimize the severity.

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WHAT NO-FLY ZONE?

CHIEF WARRANT OFFICER 3 JACOB M. ROE III
B Company, 4-227th Attack Reconnaissance Battalion
Fort Hood, Texas

During the fifth month in a 15-month deployment during Operation Iraqi Freedom 06-08, I was serving as a company instructor pilot in my attack reconnaissance battalion. We had been in country long enough to begin establishing a good battle rhythm. Our mission for the day was a two-ship armed reconnaissance patrol in our sector designed to prevent and identify insurgent activity at known hot spots. The crew mix had me in the trail aircraft. The lead crew consisted of a 1,700-hour pilot in command in the backseat on his second tour in country. He was paired with a 700-hour co-pilot gunner on his first tour in country.

We conducted our normal briefing at the tactical operations center followed by our team brief, where we collected weather, NOTAMS, discussed our scheme of maneuver and completed our individual crew briefs and then headed out for pre-flight of the aircraft. The only thing to note from our normal routine was that we briefed for a possible follow-on VIP escort mission and that weather was going to begin deteriorating after nightfall. We were scheduled to be down well before the weather, but we agreed to watch it closely in case our schedule unexpectedly was extended.

The normal mission set went as planned with no significant events until about two and a half hours in, when we got our mission change from the battalion for the VIP escort. Since it was already so late, we had assumed the escort had been scrubbed but knew we could complete it as long as the Black Hawks were on their timeline.

We verified our link-up point and headed toward an outlying forward operating base to pick up our Black Hawks. We had worked with this battalion, but I still opted to land and conduct a face-to-face multi-ship mission brief. We updated the weather, which was forecast to be good through ETA plus one hour after our mission timeline.

Our formation took off on time and we had about a 20-minute flight en route to our final destination. With the sun lowering on the horizon and a haze in the air, the visibility began to decrease to the minimum required for VFR flight. I called the formation air mission commander in the Black Hawk and asked if they still had good visibility to continue. He replied, “We can make it.”

Closing within 10 miles of our final destination, my front-seater noticed our approach path was going to take us through a marked no-fly area on our digital map. The no-fly was for a JLENS observation balloon which could be anywhere from 150 feet above ground level up to 800 feet AGL. It was definitely in our vertical path since we were currently holding 500 feet AGL. I told him to call the Black Hawk and verify they were aware of the hazard. After what seemed like 20 minutes, which was actually closer to 10 seconds, they radioed back that they had no visual on the JLENS and were not aware of the no-fly. I radioed and told them to make an immediate right turn of 20 degrees, which they promptly accomplished. We circumnavigated the no-fly and successfully completed the mission without further surprises.

With hindsight being 20/20, I now realize a couple of important things I should have considered to ensure we did not have such a close call. First, don’t allow your overconfidence to get yourself and team in a situation where you should just return to base and continue the mission another day with better visibility. Second, even if you are not the lead aircraft in a formation, remember that as a PC of your aircraft, you are ultimately responsible for where your aircraft flies.

ACCIDENT BRIEFS

AVIATION

OH-58DR
Class A
The crew was conducting takeoff during night vision goggle environmental training when they experienced dust conditions. The aircraft entered an uncontrolled descent and contacted the ground hard. The aircraft came to rest upright but sustained separation of the tail rotor and vertical fin.

AH-64D
Class B
The aircraft experienced rotor speed exceedance (132 percent) during descent for landing. The crew was able to land without further incident.

The aircraft lost altitude while on final approach and contacted the ground with the tail wheel. The aircraft sustained damage to the tail and left main landing struts, as well as to the gun turret and rear airframe mounts.

GROUND

Personnel Injury
Class A
A Soldier died from injuries after an apparent fall from a 200-foot incline. He was found unresponsive by a group of hikers.

A Soldier died after falling out during a foot march.

A Soldier was killed when a tree limb fell on top of him. Three other Soldiers were also injured.

A Soldier collapsed and died while participating in a two-mile unit run.

A Department of the Army Civilian was killed when the commercial mower he was using overturned on a downgrade, pinning him underneath.

DRIVING

PMV-4
Class A
A Soldier was killed when he apparently lost control of his vehicle, left the road and entered a wooded area.

A Soldier died in a vehicle collision while on PCS leave.

A Soldier died when he turned his vehicle in front of an oncoming SUV.

A Soldier was killed and another seriously injured when their vehicle crashed for unknown reasons.

PMV-2
Class A
A Soldier died after his motorcycle struck a telephone pole.

A Soldier was killed when he crashed his motorcycle in a curve and was ejected.

A Soldier was killed when he struck a barrier on an interstate access ramp.

A Soldier was killed when his motorcycle struck the rear wheel of the civilian motorcyclist he was following.

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VOL 8 JULY 2014

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WHETHER AT HOME OR THE HANGAR

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FROM THE DASAF
READINESS BEGINS WITH YOU

This month marks our nation's 238th birthday, and while that might seem like a long time, we're still young compared to many countries around the world. What's helped set us apart and make us a global power in just a couple centuries, however, has been the dedicated service and sacrifice of our military members. Thank you for what you do every day to ensure our freedoms endure!

Many of you will celebrate the Fourth of July with a long weekend and enjoy further getaways with Family and friends now through the end of summer. As you do, I ask that you reflect on your importance to the Army and the influence you have on your battle buddies, whether good or bad. While accidental fatalities are overall about on par with last year's figures, a worrying increase in personnel injury-other deaths and the continuing upward trend in fatal motorcycle mishaps threatens to derail the progress you've all worked hard for these past few years. I know you don't want that to happen, and you need to realize the power you have in making sure it doesn't.

Several Soldiers killed in this year's PI-O accidents (mishaps like drownings or falls during hikes or after a night of drinking) were not alone when they died. Usually, at least one other Soldier was with them during the accident. "Was there anything I could have done for my friend?" is a question that will probably haunt them for a very long time. Taking care of our battle buddies is a deeply engrained Army value that has saved Soldiers in conflicts throughout American history, especially so in Iraq and Afghanistan. Indeed, the roster of our most recent Medal of Honor recipients reflects the selflessness and dedication of leaders to their Soldiers and Soldiers to one another.

As a value, that feeling of obligation — our sense of duty — shouldn't end once we leave the war zone or post at the conclusion of the workday. Even when we're having fun, we still have a responsibility to never leave a fallen comrade, even if he or she is "fallen" in the sense of incapacitation by alcohol or taking unnecessary risks on the water. A Soldier lost to an accident is no less a tragedy than one killed by enemy action, and each loss affects unit readiness equally. All Soldiers are an integral part of their unit, which is an integral part of our Army, which is a critical part of our nation and the world as a whole. There is no such thing as "just one Soldier out of a million." Instead, we have a million unique reasons to play it safe in everything we do: our brothers and sisters in uniform, and by extension, their Families and the citizens we're sworn to defend. Safety equals readiness, and readiness equals you. It's really as simple as that.

Again, please take just a few moments to consider how you can make your holiday and the rest of summer safer for yourself and your battle buddies. Poor decisions can be corrected before they end in heartbreak, so give yourself credit for the impact you have on safety. Tragic outcomes aren't inevitable or a cruel twist of fate, and you can often prevent them with the most minor of words or actions. Whether what you do saves a battle buddy under fire, one who's too drunk to drive, or another who exhibits immature or even dangerous tendencies when operating a vehicle or motorcycle, you've done your duty.

Thank you again for all you do on behalf of this great nation, and please enjoy her birthday as you would your own. It's yours to celebrate, but remember to always play it safe.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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WHETHER AT HOME OR THE HANGAR

CHIEF WARRANT OFFICER 3 ARRON CHAMP
B Troop, 4-6 Attack Reconnaissance Squadron
Joint Base Lewis-McChord, Wash.

Although many years have passed, I distinctly recall the practical exercise on changing a tire as a young private just starting my military career. The reason why this memory stands out is due to a run-in with a particularly loud and brash drill instructor that happened to see me working without eye protection. The ensuing 15-minute PT session ensured I learned one thing — personal protective equipment is important.

About a decade later, just after flight school, I began to notice that I was now a bit more safety conscious about certain things than I had been in the past. I take flying seriously and have always incorporated safety into all of my duties. As I became more aware of the safety measures I was taking as a Soldier, I also started to incorporate those same measures at home. Those safety measures are what saved my vision. Here's how.

My unit was about 30 days away from our next deployment to Iraq, and the list of fix-it chores around the house was growing. One of the issues I was tackling was a leaky basement window. The wooden frame around the window was rotten, and when it rained, water from the driveway poured into our finished basement. My plan was to remove the window, tear out the old frame and then put it back together with treated lumber.

After spending the morning gathering the needed supplies and tools, I donned my eye protection and started the destruction process. One of the tools I was using that day was a 15-inch steel pry bar. It came in handy after I removed the window and started to pry loose the rotten wood around the frame. Most of the pieces came out without too much pressure, but, of course, there's always that one stubborn piece that refuses to budge. In this case, that stubborn piece was the 36-inch-long block of wood seated (firmly, I might add) horizontally across the bottom of the frame and fastened to the cement with sinker bolts.

I'd tried to remove the bolts with a ratchet, but they were so old that the heads of each one snapped off with any reasonable amount of force. I then moved on to Plan B, wedging the pry bar under the wood and forcing it free. Being that this was a basement window, the lowest point of the frame sat right at the six-foot mark from the floor. As I tried to get an angle that allowed me to use as much leverage as possible, I found myself directly under the tool with my foot braced against the wall. After a few minutes of applying steady pressure with no luck, I decided my next course of action was to yank on the pry bar in a bouncing motion to use my body weight. On the fourth or fifth bounce, it happened.

The wood gave way right as I was applying the maximum amount of pressure on the bar. I came crashing down on the floor with pieces of wood landing around me. Stunned disbelief quickly turned to shock when I realized the pry bar was still in my hands and the claw end firmly embedded in my nose!

I took off my safety glasses, gently removed the pry bar from my nose and applied pressure to the wound. I then made my way upstairs — rather calmly, I must say — and went to the bathroom to assess the damage to my face. My fears were confirmed when I looked into the mirror and saw my nose had shifted considerably to the left side of my face. To make matters worse, there was also an almost three-inch gash where my nose had once been.

I grabbed a clean hand towel and reapplied pressure as I pondered my next step. Obviously I needed medical aid, but since we lived in a fairly rural area, that meant I'd have to call 911 and then wait about 15 minutes for the volunteer fire department to arrive. Rather than wait for assistance, I just drove myself to an emergency room a short distance away. It took about an hour for the doctor to properly clean the wound and glue it shut. I was lucky. My nose was broken, but that and the large cut on my face was the extent of the damage.

Later that evening, when I recreated the accident to explain to my wife what had happened, I noticed the safety glasses. Dead center on the right lens was a two-inch gash that started just above the eye and ran down to the bottom, toward the bridge of my nose. The glasses worked as advertised and deflected the blow away from my eye. That's when it dawned on me that had it not been for the safety glasses, I probably would have lost my right eye, or worse.

I consider my incident as a lesson learned. I did contribute to national accident statistics due to my fall, injury and hospital visit, but it could have been much worse. Next time you decide to work around the house, remember this: PPE has its place during all jobs, whether at home or the hangar, no matter how trivial the work may seem.

Did You Know?

July is officially recognized as Eye Injury Prevention Month. For more information, visit the U.S. Department of Health and Human Services' Federal Occupational Health website at http://www.foh.dhhs.gov/public/nycu/eyeinjury.asp.

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THE INVISIBLE ENEMY

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Every year, the Army loses Soldiers during the summer months to an invisible opponent — heat. Fortunately, these needless losses and other heat-related injuries can be prevented by the application of risk management.

The nature of our business requires Soldiers to always be prepared to operate in severe weather conditions with extreme temperatures; however, heat injuries can occur even when temperatures aren't extreme. The cumulative effects of strenuous activity over time can result in a Soldier becoming a heat casualty during low-risk conditions. Leaders must remain engaged in order to provide the best protection for our Soldiers, and the best protection is prevention.

There are several control measures that will aid in heat-injury prevention, including monitoring wet bulb temperatures; paying closer attention when temperatures rise or when mission-oriented protective posture suits are worn; adjusting work and rest schedules; ensuring Soldiers are acclimated; conducting briefings on heat injury symptoms; checking Soldiers' activities throughout the day; taking into account earlier exposure to environmental heat and possible dehydration; and using the buddy system.

Another control measure several units have implemented is the use of a Soldier tracking system, which is capable of providing real-time tracking. The Soldiers' movements are monitored and displayed by a system that uses GPS information provided by the Soldiers' player unit radios and transmitted to a transportable relay radio. The position reports are then routed through computers to workstations that display the Soldiers' positions on an aerial overlay of the land navigation area. The system is contained and does not rely on a web-based interface.

In addition to prevention, it is critical leaders and Soldiers are able to identify and initiate the appropriate treatment measures for the different types of heat injuries. The most severe heat-induced illnesses are heat exhaustion and heat stroke. If action is not taken to treat heat exhaustion, the illness could progress to heat stroke and possibly death. To help avoid heat-related injuries, leaders and Soldiers should:

Drink plenty of fluids. In hot environments, it's possible for the body to lose one liter of fluids per hour. Thirst is not a good indicator of fluid loss. Don't wait until you're thirsty to drink.

- Be aware of their environment. If you work in the heat or around heat sources, take whatever steps are possible to control the heat externally. It's also recommended that ice sheets are readily available during high-risk activities to reduce the severity of a heat injury.

- Take frequent breaks. As the temperature increases, more frequent breaks are needed to stay cool.

- Wear proper clothing. Loose, lightweight fabrics encourage heat release.

- Acclimatize. It takes at least seven to 10 days to adjust to working in a hot environment.

- Stay in shape. A healthy heart and good muscle tone work more efficiently and generate less heat.

- Eat light during the workday. Hot, heavy meals add heat to the body and divert blood flow to aid with digestion. Normal dietary intake typically replaces all salt lost during the day, so there is no need to take salt supplements.

- Be aware of special heat stress risks. Caffeine, alcohol, diabetes or medications for high blood pressure and allergies can increase the risk of heat stress.

Risk management should be a continuous process applied across the full spectrum of Army training and operations. Through the engagement of our leaders, we can help ensure our Soldiers remain fit to fight.

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WHEN YOU'RE HOT, YOU'RE HOT

DAVID L. HOUGH
www.soundrider.com

The ride south over the Siskiyou Mountains from Oregon to California started out cool enough. Up at 4,000 feet, it was chilly enough that I was glad I had added the jacket liner and neck warmer. But 100 miles later, as I descend into the Sacramento Valley, the temperature begins to soar. By the time I reach Oroville, the temperature signs are flashing 118 F. It's another 150 miles to the rally site at Mariposa in triple-digit temperatures.

A rider passes by in the opposite lane, jacket bungeed on the back, bare chest exposed to the hot blast. I wave, but there is no response. His exposed skin is red, and he doesn't even appear to have noticed me, a bad sign that he's on the fringe of heat exhaustion. I don't wish any problems on a fellow motorcyclist, but there are lots of riders who have to contribute to the statistics before they crack the code.

To continue the ride, I go into hot weather survival mode. Full riding gear, including riding pants, leather boots and gloves and a knit neck "cooler" saturated with water. As quickly as the fabric dries out in the blast-furnace wind, I flip the face shield open, squeeze a gusher of water down my chin and slam the face shield shut again. The water dribbles down to wet the neck cooler and my shirt inside the jacket. About 10 seconds after the water penetrates the neck cooler, it cools from evaporation in the hot air and sucks some heat out of my neck.

I stop at a fast-food outlet every few miles to replenish the water bottle with ice and water. Whether riding or stopping for water, other people stare at me in disbelief. Peering out of their air-conditioned cars, or sitting in an air-conditioned restaurant, they just can't understand how anyone could tolerate being outside during a heat wave, bundled up in heavy riding gear.

Your body has automatic "thermostats" to protect the core organs from heat stress, including sweating, vasodilatation, increased heart rate and reduction of blood pressure. If these tactics don't keep core temperature within the redline, the body gives you warnings such as heat cramps. If you don't take care of the problem, it gets more serious, including heat exhaustion and heat stroke.

Sweating

The body has sweat glands to keep the skin damp. The evaporating sweat sucks heat from the skin and transfers it to the air. Of course, sweat is primarily water, so it's critical to keep replenishing the supply. That's one reason why we need to drink about a pint of water every hour during hot, dry conditions. One problem for motorcyclists is that at highway speed, the sweat glands may not keep up with the evaporation. Or, if the sweating uses up too much water, your body temperature regulating system goes on the fritz, like a dry battery.

Vasodilatation

To help cool down the core, blood vessels enlarge to circulate more blood (and therefore body heat) toward the skin. If ambient air temperature is lower than body temperature, excess heat can be absorbed by the air. But if the air gets hotter than the skin, the increased blood flow simply soaks up more heat from the air and pumps it back to the core.

Heart rate and blood pressure

The heart responds to increasing heat (hyperthermia) by increasing the heart rate to pump more blood into those enlarged blood vessels. As the air temperature rises, heart rate (pulse) can increase 50-70 percent faster than the normal resting rate. The increased flow causes blood pressure to drop, and blood flow is shunted away from muscles and brain, toward the skin. Consider the implications of those changes on a motorcyclist. The lowered blood pressure reduces muscle control and brain activity, and more blood is pumped toward the skin — where it is vulnerable to road rash

Symptoms of trouble

The human body won't take much of an increase in core temperature without complaining. The symptoms of overheating are leg cramps, tired muscles, headaches, dizziness and even fainting. The various symptoms are trying to tell you how overcooked you're getting.

Heat cramps
Muscle cramps caused by heat usually affect the legs and lower abdomen first, then the arms. Heat cramps are a symptom that the body's electrolytes are running low. It's not smart to ignore muscle cramps. Find some shade and take a break. Sip water or a sports drink. Exert firm pressure or massage the cramped muscles to relieve the spasms. If you're still in pain, the recommended first aid dose is one-half teaspoon of table salt per half glass of water every 15 minutes.

Heat exhaustion
Heat exhaustion occurs as the body continues to shunt blood away from the brain and muscles. Symptoms of heat exhaustion include:

• Headaches, dizziness, nausea, momentary fainting

• Cramps

• Tiredness, weakness

• Profuse sweating

• Pale, clammy skin

• Approximately normal body temperature

If you begin to feel these symptoms during a desert ride, take immediate action before you pass out.

• Get into some shade, preferably into an air-conditioned room.

• Loosen clothing and wet down your skin or undershirt to increase evaporative cooling.

• Slowly sip water or a salt water solution, the same dose as for heat cramps. Avoid alcohol or caffeine.

• If you feel faint, lie down and get your feet raised above head level.

• If you can't keep the salt water down, get emergency medical aid. You may need an intravenous salt solution.

Even after you begin to feel normal again, consider staying out of the heat for a day or two. Your body needs some time to recuperate. If you are on a long trip, consider a 24-hour layover in the next air-conditioned motel.

Heat stroke
If you experience heat exhaustion and just try to tough out the heat without getting cooled down and rehydrated, the body thermostats will begin to fail. Core temperature continues to rise (may go as high as 106 or 107 F), sweating stops, the heart beats even faster and you may pass out. If you are coherent enough to recognize the symptoms, immediately get medical aid while you are still mobile. And watch your riding buddies for any of the following heat stroke symptoms:

• Victim incoherent, staring vacantly, blanking out or unresponsive

• Skin hot, red, dry (no perspiration)

• Rapid pulse

• Body temperature elevated

Yes, heat stroke is life threatening. It's a medical emergency. Don't be bashful about calling 911 for assistance. In the meantime:

- Get the victim into some shade, out of riding gear and cooled down by any means available. If possible, get the victim into an air-conditioned room or use fans to help provide evaporative cooling.

- Repeatedly sponge skin with cool water or rubbing alcohol. Apply cold packs or ice cubes if you can get them. The goal is to get body temperature below 102 F.

- Don't give the victim any stimulants, especially not any alcoholic beverages.

- If the victim's temperature begins to rise again, repeat the cooling process.

- As soon as possible, get the victim to emergency treatment.

Avoiding the ugliness

Even after a heat stroke victim has been cooled down and rested, the ugliness isn't over. It's not uncommon to have intestinal upset for a week or so, with food coming out both ends of the pipe. I know you'd rather avoid that sort of ugliness.

People from cooler climates often react to hot weather by removing clothing. That helps cool the skin — providing air temperature is less than body temperature. Heat transfers from a hot object to a cold object. Pick up an ice cube and it feels cold. What's happening is that the ice is rapidly absorbing heat from your skin. Even if the air is 89 F, it will absorb heat from your skin (assuming your body is about 99 F). Now, consider what happens when you curl your fingers around a hot cup of coffee. Your skin rapidly absorbs heat from the cup, because the cup is hotter than your hand. The same thing occurs when the air temperature is hotter than your body temperature.

You may think your body is hot at 99 F, but it's cold compared to air at 118 F. If you expose your skin to air that's hotter than you are, your body just soaks up more heat. The lesson here is that if air temperature is in the 80s or 90s, it helps to open up the jacket vents, or wear a mesh jacket. But once air temperature climbs above 99 F, the best way to keep from getting cooked is to keep your insulation on and the vents closed. Desert nomads wear long, loose wool garments, both to keep the sweating skin in the shade, and to insulate the body from the hot air.

With the temperature in triple digits, I wear my leather gloves and insulated riding boots. My feet are down in the air stream that's first been heated up by the pavement, and then heated some more by the engine. Are my feet hot? Sure, but not as hot as if I were wearing thin boots or shoes that exposed my ankles.

Same for the helmet. Wouldn't it make sense to crack my visor when it's really hot, or at least open up the helmet vents? Nope. Any hot air allowed to reach my skin will heat up the skin, not cool it down. Inside my helmet at 118 F I'm sweltering, but the temperature is probably under 100 F. That crushable helmet liner inside the shell is there to cushion my brain against impacts, but it's the same expanded polystyrene foam they use to make insulated picnic coolers. So, the helmet actually provides insulation against the hot air.

One additional concern about exposed skin is sun and wind burn. Even if you wear heavy-duty sunscreen to protect against a nasty sunburn, the wind at motorcycling speeds can also irritate the skin. If you're riding more than a few miles, it's best to keep your skin covered.

Evaporative cooling

More physics now. When water evaporates, it cools down. Blow hot air through a wet bandana, and the bandana cools down. Cooling the skin cools the blood, which cools down the whole body. Evaporative cooling works best on areas of the body where there are large blood vessels close to the skin, such as the groin and neck. A motorcyclist's groin is too close to the engine and too far out of the air stream. That's why wearing something wet around your neck is so important.

The bad news is that evaporative cooling only works well in dry climates. When the humidity is already high, (you're 99/99 in Missouri in August — 99 F and 99 percent) neither perspiration nor the water in your neckband evaporate very well. Limited evaporation, limited cooling. But, of course, there is shade in Missouri, so the best tactic may be to simply take more breaks in

humid climates. Or, you can ride early in the morning when it's cool and rest in the shade in the afternoon.

For those of us riding in the deserts of Washington, Oregon and California, the air is relatively dry, so evaporative cooling works very well. A wet bandana around your chin will cool you for a few minutes, but the hot wind blast will quickly evaporate all the water. You need to keep replenishing the water every few minutes. Better yet, wear thicker fabric that holds a lot more water.

Keep your tank full

The other important tactic for hot weather is to drink lots of water, to replenish your electrolytes and refill your sweat glands. We're talking at least a pint per hour. Exercise drinks containing electrolytes (salts) are acceptable, unless you have high blood pressure. And flavored drinks may be very high in sugar. Carbonated soft drinks are better than nothing, although it would be best to get the water without large doses of salt, sugar and chemicals. Almost all grocery and convenience stores have chilled filtered water in plastic bottles, handy for both drinking and wetting down your bandana.

More than a few riders carry a water bladder, such as a Platypus carried on the back in a fabric holster or in a jacket pocket. Some water bladders can be pressurized with small pumps, and evaporative cooling wrappers are available to help chill the bladder. You can also find water bladders at some sporting goods stores.

In hot weather, avoid alcoholic drinks. Obviously, alcohol reduces judgment. What's not so obvious is that alcohol stimulates abnormal heartbeats, depresses the pump function of the heart and actually dehydrates the body. Alcohol does all the wrong things for a motorcyclist in the desert.

So, when it's really hot, keep on your jacket and soak down your T-shirt. Wear a wet neck cooler and keep dribbling water on it. If you're getting too hot or start feeling any hints of muscle cramps or heat exhaustion, don't just keep riding. Take steps to cool down while you're still thinking clearly. Take a break in the shade or stop at a convenience store and buy a bag of crushed ice to stuff inside your jacket. The melting ice water will soak your gear and provide evaporative cooling even after the ice is gone.

Route planning

In general, higher elevations are cooler. If it's really hot down on the valley floor, consider an alternate road with a higher (cooler) elevation. Sometimes you don't have any alternative other than crossing a desert, but you can adjust your schedule. One tactic is to hibernate at a cool motel during the heat of the day and head out after dark, when the temperature is lower.

Adjust your thinking

If you live in a temperate area where the thermometer seldom rises above 90 F, you need to readjust your thinking for those forays into hotter territory. Remember, insulate your skin from the sun and hot air, use evaporative cooling around your neck and drink lots of water. Oh yeah, and learn to ignore the stares of other motorists and dehydrated bikers who think you're crazy to wear heavy gear on a hot day.

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LUCK ISN'T A SAFETY PLAN

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To prevent accidents, we need to take a link out of the chain of events that lead to the mishap. The accident I discuss in this article could have easily ended differently. And while luck is not part of the Army Safety Program, this event happened to have some good fortune.

The event was an engine replacement on a UH-60A Black Hawk. After a test flight, the engine needed adjustment, and the mechanics found hardware that presented a foreign object damage threat lying under the engine inlet cowling. The FOD could have been ingested into the engine if a hard left bank had been initiated. Let's go over the series of events that led to this incident.

Originally, the engine was to be replaced. During the removal maintenance process, hardware that could be reused was supposed to be tagged to stay with the equipment it supported. Evidently, one bag of hardware was not properly attached to its part. Due to the number of new, inexperienced mechanics, this maintenance process was overlooked. Is it possible that the remaining senior mechanics got overloaded with work and did not shadow the new mechanics?

The next series of events occurred during the installation process. After the engine was replaced, the outer components and covers were installed. A seasoned mechanic would have questioned the engine inlet cover hardware not being attached to it. However, a less experienced mechanic did not question this and looked up the hardware in the parts manual. He then installed the cover with the new hardware.

The next link in the series of events took place when the mechanic's completed work was examined by a technical inspector. If a technical inspector looked at the work and saw all new hardware on a component being reinstalled, this should have caught their attention. However, it was not noticed during the process. The technical inspector then signed off the final inspection on the work completed. Was the technical inspector in a hurry or overloaded?

Then the final link in the chain of events happened. After the maintenance is completed, the pilots receive the log book with the maintenance records and complete the preflight process. The only problem with this incident was the inlet cover concealed the bag of hardware sitting on the upper pylon area. It would be difficult to see unless the cover was removed. The test flight was performed and the aircraft went to the next phase.

After the maintenance test flight was completed, other items needed adjusting. When the mechanics removed the covers, they discovered the hardware lying under the engine inlet cowling. This halted the maintenance process and grounded the aircraft. A FOD check was conducted on the entire aircraft before anything else was completed. This caused a work stoppage to account for all tools and hardware to ensure nothing else was overlooked. The deadline for the engine maintenance was pushed back until a safety check was completed, which caused problems in scheduling the aircraft. If the job had been performed correctly the first time, it would not need to be done a second time.

Let's review the items that led to this event: The new mechanic overlooked steps during the teardown process. Then, during the installation process, another mechanic overlooked the hardware not being attached to the part for reinstallation. The technical inspector did not question the new hardware on the component during inspection. The technical inspector did not look at the area before the part was installed. The pilots did not complete a thorough preflight.

If the engine did not need adjustments, how long would the hardware have remained on the deck? Since luck was a part of this chain of events, we won't have to wait and see. With this example, be sure you take the link out of the events and don't make your safety depend on luck.

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THE HUMAN CHOCK BLOCK

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I am a mechanic by trade, but I paid my dues and worked my way to floor chief as a sergeant at a headquarters battery. Experience has taught me to read the maintenance manual every time I work on my vehicle. It lists the dangers that can be involved with any of the components on which I may be working. This is also true for the maintenance manuals that deal with the items in the Marine Corps' — or any other branch of the armed forces — inventory. A close call while preparing for a field operation served as a reminder of just how important it is that we do our jobs by the book.

It was that time of year some Camp Lejeune Marines in artillery dread — Operation Rolling Thunder, a field op at Fort Bragg, North Carolina. It's not that Marines of different military occupational specialties can't prepare or operate in the field. Can't is not in a Marine's vocabulary. This operation was dreaded because it meant a lot of extra work behind the scenes (which no one up top seems to understand unless they are familiar with logistics and support). It also meant more road time for operators moving gear back and forth, and more miles on some of the equipment. At the time, we had various pieces of rolling stock, which included several of the infamous Dragon Wagons — the MK 48/16 Logistics Vehicle System and M870 trailers.

After a certain number of miles, the brakes on the M870 need slack adjustment per the maintenance manual at that time. The shop chief wanted these adjustments done after every drive to and from Fort Bragg, so two mechanics worked on either side of the trailer as it was pulled into the maintenance bay. At the same time, quality control personnel would inspect the vehicle for defects before loading it for the next day's run. This was also per the maintenance and operations manual preventive maintenance checks and services schedule.

As Mechanic A was finishing the work on his side of the trailer, and before QC could perform its inspection, a situation arose where an LVS was needed for another task. Since the other two LVSs were unavailable, the one in the bay had to be used. Mechanic A was tasked with unhooking the power unit and getting it over to the trailer that needed to be moved. Mechanic B was still conducting the slack adjustments under his side of the trailer when Mechanic A released the king pin and, on his way to the cab of the power unit, picked up the prescribed chock block and placed it on the fender. As Mechanic A was getting into the cab, he hit the trailer parking release button to push the air that was still left in the air tank system to the trailer brakes.

As the gooseneck of the M870 trailer slid down the skids, it came to rest on top of Mechanic B, who was lying between the tires on the driver's side of the LVS. I was tending to other concerns on the floor when I heard the expletives exploding from Mechanic B as the weight of the trailer was coming to rest on top of him.

Several of us ran to Mechanic B while Mechanic A raced back to the front of the vehicle in an attempt to start the engine to build up air to move the LVS. Mechanic A had forgotten he had unlocked the king pin from the fifth wheel. Mechanic C noticed the dog down chains were still looped into the tie down rings and brought this to the attention of the other mechanics attempting to push the trailer to release some of the pressure on Mechanic B's ribs. Mechanic D jumped up to make sure the chains were connected as Mechanic C quickly rushed to get to the overhead crane controls to move it over what would be the chain's apex point. With Mechanic C's calm thinking and observation and problem-solving skills, we hoisted the trailer off Mechanic B. He was escorted to the battalion aid station and the incident was reported.

This accident taught us the importance of getting back to the basics. First, communication is important between mechanics working on a piece of equipment. Second, chock blocks are required under any piece of equipment a Marine is working on, including a trailer. Third, make sure no one is lying beneath a piece of equipment you are connecting or disconnecting from a vehicle. Lastly, if you're working on a vehicle as a team, help the other mechanic finish their work unless you are reassigned. Until that time, continue to do what you can until both of you are finished.

So what happened to Mechanic B? Amazingly, he returned to us the same day with a diagnosis of bruised ribs. How can this be, you ask? Well, he was a big, corn-fed hoss from the Midwest. This accident might have been worse had he not been so stout or had a smaller build. In the end, we all learned an important lesson, and Mechanic B gained a new story to tell about how he became a human chock block.

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BREAKING THE CHAIN

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It was an average summer day in August 2008. I was halfway through my shift when the State Patrol Communications Center sent notice of a head-on collision involving injuries on a heavily traveled highway in northeastern Washington state. As a state trooper with the Washington State Patrol, I was quite familiar with the dangers associated with this two-lane road. I advised SPCC that I was en route and proceeded to the scene with my lights and siren going.

As I neared the scene, both north and southbound traffic was backed up nearly a quarter of a mile. Fire and emergency medical personnel preceded me to the scene and were working to extricate the driver of a small passenger car. The crash scene was like many I had seen before. Physical evidence showed the small passenger car was traveling north and then left the roadway to the right. The driver appeared to have overcorrected and crossed into the southbound lane, colliding with a full-size SUV. Fortunately, the SUV's driver and passenger were wearing their seat belts and their air bags deployed. Both suffered only minor injuries.

The relevance of this story begins when I approached the small passenger car. Fire personnel had used the Jaws of Life to open the driver-side door and were placing the driver onto a backboard. The driver appeared conscious and alert. His head was bleeding and he had a suspected broken wrist. The driver's hair was cut short and he displayed an obvious military bearing. I immediately knelt beside his head and asked, "Are you a Soldier?" He answered with a shaken, "Yes, sir." As I spoke to him, I noticed the telltale signs of impairment (bloodshot, watery eyes; slurred speech; and a strong odor of intoxicants). I asked the Soldier how much he had to drink. Before responding, he began to sob and said, "I'm sorry, sir."

As medics continued to prepare him for transport, the Soldier repeatedly inquired if the other people were OK. I reassured him of their status, trying to provide some relief. I continued my investigation, asking the Soldier questions about the vehicle he was driving, his license status and general inquiries as to what he remembered happening. All the while I was slipping in questions about his military service.

What I found out was deeply saddening. The Soldier was a National Guardsman recently back from a tour in Iraq. Prior to deploying, he was cited for a violation which involved a collision in a neighboring state. The Soldier failed to respond to the minor infraction, resulting in the suspension of his license. Even upon return from Iraq, the Soldier never contacted the court to adjudicate the matter. In the meantime, the Soldier stated he had resorted to alcohol as a means to escape some personal issues.

The car he was driving belonged his girlfriend's father. Upon talking with the owner, he stated he never gave permission for the Soldier to operate the car, which was not insured. As far as the collision details, the Soldier stated he dozed off, resulting in the vehicle leaving the roadway. As the vehicle rolled across the rumble strips, the Soldier said he woke up and overcorrected. The vehicle did not have air bags, and the force of the collision resulted in a breach of the occupant area. The steering wheel was forced into his chest as the left-front part of the vehicle crumpled inward. It was clear to me that wearing a seat belt saved his life.

The Soldier admitted he had been drinking most of the day and should not have driven the car. A portable breath test device indicated his blood alcohol concentration was twice the legal limit of .08. Based on all the facts, the Soldier was placed under arrest for driving under the influence, driving with a suspended license and operating a motor vehicle without liability insurance. A legal blood draw was performed in the back of the ambulance. Prior to leaving, the Soldier shook my hand and said, "I'm really sorry, sir."

This was not the first time I had to enforce serious traffic offenses on military personnel. But for some reason, this young Soldier made a lasting impression on me. My understanding of accidents is simple. Each one is a caused occurrence — a chain of events leading to an end result. From beginning to end, the events are connected like links in a chain. If, at any time, a link is broken, the accident is prevented. Just as in this case, if any of the sequence (links) of events had been broken, this Soldier would not be facing legal and medical problems.

As a graduate of the Aviation Safety Officer Course, I found myself applying the steps of risk management to this case. What if this Soldier had identified the hazards of driving drunk? What if he'd assessed the dangers he posed to himself and other motorists? What if he'd thought about the legal trouble he'd get into driving on a suspended license in an uninsured car? If he had, maybe he

wouldn't have found himself being cut out of a wreck while asking me if the people in the other car were all right.

Fortunately, no one died and the Soldier had plenty of time to do the final step of risk management — supervise and evaluate — while recovering from injuries and facing legal actions. What kind of grade do you think he gave himself?

How about you? What kind of grade will you get the next time you're drinking and thinking about getting behind the wheel? Why not avoid this Soldier's mistakes and manage the hazards with risk management before they end up managing you.

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BREAKING THE CHAIN

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It was an average summer day in August 2008. I was halfway through my shift when the State Patrol Communications Center sent notice of a head-on collision involving injuries on a heavily traveled highway in northeastern Washington state. As a state trooper with the Washington State Patrol, I was quite familiar with the dangers associated with this two-lane road. I advised SPCC that I was en route and proceeded to the scene with my lights and siren going.

As I neared the scene, both north and southbound traffic was backed up nearly a quarter of a mile. Fire and emergency medical personnel preceded me to the scene and were working to extricate the driver of a small passenger car. The crash scene was like many I had seen before. Physical evidence showed the small passenger car was traveling north and then left the roadway to the right. The driver appeared to have overcorrected and crossed into the southbound lane, colliding with a full-size SUV. Fortunately, the SUV's driver and passenger were wearing their seat belts and their air bags deployed. Both suffered only minor injuries.

The relevance of this story begins when I approached the small passenger car. Fire personnel had used the Jaws of Life to open the driver-side door and were placing the driver onto a backboard. The driver appeared conscious and alert. His head was bleeding and he had a suspected broken wrist. The driver's hair was cut short and he displayed an obvious military bearing. I immediately knelt beside his head and asked, "Are you a Soldier?" He answered with a shaken, "Yes, sir."As I spoke to him, I noticed the telltale signs of impairment (bloodshot, watery eyes; slurred speech; and a strong odor of intoxicants). I asked the Soldier how much he had to drink. Before responding, he began to sob and said, "I'm sorry, sir."

As medics continued to prepare him for transport, the Soldier repeatedly inquired if the other people were OK. I reassured him of their status, trying to provide some relief. I continued my investigation, asking the Soldier questions about the vehicle he was driving, his license status and general inquiries as to what he remembered happening. All the while I was slipping in questions about his military service.

What I found out was deeply saddening. The Soldier was a National Guardsman recently back from a tour in Iraq. Prior to deploying, he was cited for a violation which involved a collision in a neighboring state. The Soldier failed to respond to the minor infraction, resulting in the suspension of his license. Even upon return from Iraq, the Soldier never contacted the court to adjudicate the matter. In the meantime, the Soldier stated he had resorted to alcohol as a means to escape some personal issues.

The car he was driving belonged his girlfriend's father. Upon talking with the owner, he stated he never gave permission for the Soldier to operate the car, which was not insured. As far as the collision details, the Soldier stated he dozed off, resulting in the vehicle leaving the roadway. As the vehicle rolled across the rumble strips, the Soldier said he woke up and overcorrected. The vehicle did not have air bags, and the force of the collision resulted in a breach of the occupant area. The steering wheel was forced into his chest as the left-front part of the vehicle crumpled inward. It was clear to me that wearing a seat belt saved his life.

The Soldier admitted he had been drinking most of the day and should not have driven the car. A portable breath test device indicated his blood alcohol concentration was twice the legal limit of .08. Based on all the facts, the Soldier was placed under arrest for driving under the influence, driving with a suspended license and operating a motor vehicle without liability insurance. A legal blood draw was performed in the back of the ambulance. Prior to leaving, the Soldier shook my hand and said, "I'm really sorry, sir."

This was not the first time I had to enforce serious traffic offenses on military personnel. But for some reason, this young Soldier made a lasting impression on me. My understanding of accidents is simple. Each one is a caused occurrence — a chain of events leading to an end result. From beginning to end, the events are connected like links in a chain. If, at any time, a link is broken, the accident is prevented. Just as in this case, if any of the sequence (links) of events had been broken, this Soldier would not be facing legal and medical problems.

As a graduate of the Aviation Safety Officer Course, I found myself applying the steps of risk management to this case. What if this Soldier had identified the hazards of driving drunk? What if he'd assessed the dangers he posed to himself and other motorists? What if he'd thought about the legal trouble he'd get into driving on a suspended license in an uninsured car? If he had, maybe he

wouldn't have found himself being cut out of a wreck while asking me if the people in the other car were all right.

Fortunately, no one died and the Soldier had plenty of time to do the final step of risk management — supervise and evaluate — while recovering from injuries and facing legal actions. What kind of grade do you think he gave himself?

How about you? What kind of grade will you get the next time you're drinking and thinking about getting behind the wheel? Why not avoid this Soldier's mistakes and manage the hazards with risk management before they end up managing you.

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ONE CLEAR SPRING DAY

CHIEF WARRANT OFFICER 3 ANDRE LAVALLEE
Company B, 2/149 Aviation
Grand Prairie, Texas

The last thing you want to hear from the backseat while flying an instrument approach in an AH-64 is, "Oh, crap! I've got the controls!" But that's exactly what I heard just before a steep-diving left turn. I think my heart was in my throat.

I was assigned to fly an instrument training flight with a relatively new pilot in command. I think we had less than 1,000 hours of flight time combined. I was two years out of flight school, and he was less than three. As pilots in the National Guard, we don't get the flight hours full-time pilots get, but we make do.

Our flight plan took us to three airports with three different instrument approaches and then back home. Two of the three were uncontrolled airfields within our training area, so I was comfortable flying in and out of them. That, in hindsight, may have added a hint of complacency.

The flight started out great. It was a gorgeous spring day without a cloud in the sky. The air was smooth and it seemed like you could see forever. This probably added to our overly relaxed demeanor. As we flew at 3,000 feet mean sea level, I saw our first airport and set up the cockpit for a direct-entry nondirectional beacon approach followed by the published missed approach. This was the first of the two uncontrolled airfields we planned to visit on the mission.

We made our radio calls, and I shot the approached and the missed approach and held on the NDB for two turns. After a short debrief on the maneuver, I handed over the controls to the PC in the back seat to make the next approach. It was into a controlled airfield, and we received vectors to a precision approach radar approach.

I maintained my scan, but there was only one other aircraft in the pattern. We were under positive control, so I found myself inside on the instruments a few times during his approach. The PC executed the missed approach and we headed to our last airfield before heading home. I would be flying this last approach, so I set up the cockpit while he flew.

The NDB was on the uncontrolled field, so I decided to overfly the fix and fly outbound, conduct a right procedure turn and then fly back inbound for the approach. I took the controls and trimmed the helicopter for 3,000 feet MSL. At about 2,000 feet above ground level and 110 knots airspeed, I made my common tower advisory frequency call at 10 miles out, followed by another at five miles, then crossed the fix and turned left to track an outbound heading.

It seemed like only seconds passed before I heard the dreaded phrase from the backseat. I looked up immediately and saw the flash of a twin-engine airplane in a steep left bank. I swear to this day that I could see the pilot's eyes, which were probably as wide as mine at that exact same time.

Luckily, this was only a near miss; but on the flight home, there was absolute silence. During the debrief, we discussed what happened. We decided the pilot in the other aircraft was most likely not making the required radio calls or using the wrong frequency. More importantly, we discussed that I hadn't made my required radio call when I crossed the fix. The PC also admitted that he was inside monitoring my performance with the instruments. No one was maintaining visual flight rules separation with a visual scan.

It is very easy to be lulled into complacency when you are at a familiar airfield in great weather on your last approach. Unfortunately, all too often that is exactly when accidents occur.

Fortunately for us, the other pilot saw us about the same time we saw him, so this was only a near miss, but I still replay that scenario over and over in my mind. Hopefully you can learn from my experience.

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LAST RUN

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Marines, sailors, Soldiers and airmen have many things in common, one of which is running. Some run only when it is time for their physical fitness tests, while others may run as a hobby. Regardless the reason, running is a part of who we are as service members. I didn't realize how big a part of my life it was until it was taken away.

It was the day that would change my life forever. I had decided to relax with a run in the beautiful North Carolina weather, so I put on my PT gear — ensuring I was wearing lightly colored attire — tied my running shoes and took off out the door. I'd been taught as a child to walk and run facing traffic to ensure you have time to react in the event something comes toward you. On this day, however, the side of the road that I normally ran on was blocked off by the Department of Transportation for repair. This gave me a bad feeling, but I decided it was probably just due to my normal routine being disrupted.

I decided the safest place to run would be the grass adjacent to the road shoulder. That would give me a buffer zone from the traffic that would be coming from behind me. With my earbuds in and music cranked to block out the road noise, I took off. I was about a mile and a half into it when everything went black.

Four days later, I woke up in the hospital. I had no idea what had happened and why there were restraints on my wrists and legs. I began to panic. I wanted to know why I was there. A nurse entered my room and instructed me to remain still. It was then that I looked down and noticed my stomach was swollen like a basketball. I also had an 18-inch row of staples running down my mid-section.

The next several days were a blur. When I was finally more alert, a nurse explained what had happened to me. Based on witness reports, she said a car struck me from behind while I was running, leaving me with several crushed vertebrae in my spinal column. Had I not been in such good shape thanks to my military PT, the doctors believed I would have very likely spent the rest of my life in a wheelchair.

The road to recovery was excruciating, and at times I wanted to give up due to the intensity of the pain that radiated throughout my body. For the first several months, I was heavily medicated as I used a wheelchair and walker to assist me in walking laps around the floor. Eventually, I was placed in a brace that covered my entire back and most of the front portion of my body. Fortunately, my recuperation was faster than the doctors and surgeons expected. I attribute this to the warrior's ethos of never giving up and continuing to keep in the fight no matter what.

When I was released from the hospital, I was relieved that I could finally rejoin my loved ones and continue my rehabilitation at home. Getting adjusted to not being able work and lead my junior service members, however, was very difficult for me to accept. I loved serving my country and leading troops. I felt as though my entire identity had been stripped away from me. As you can imagine, I went through a period of sorrow. That sorrow turned to anger, though, when I was told the young man who struck me with his car had likely been texting while driving. All of this might have been avoided had he chosen to not drive distracted.

Running is a great sport and an excellent stress reliever — at least it was until the day of my accident. I learned some valuable lessons from this experience that will stick with me forever. First, if you are unable to run on a trail or sidewalk, pick a route or path that keeps you protected from traffic. Second — but equally important — be aware of your surroundings at all times. Third, make sure you wear a reflective belt and lightly colored clothing to make yourself more noticeable. Fourth, unless you are on a designated running trail, leave the earbuds at home. Had I not been wearing mine that day, I might have heard the vehicle approaching.

The final lesson I learned didn't come from my perspective as a runner, but as a driver. I now know, with certainty, that no one should ever text while driving. There are already enough distractions on the road, like pedestrians. Be proactive rather than reactive. You don't want your next run — or someone else's — to be the last.

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FYI

The Road Runners Club of America offers the following tips to help keep you safe when running:

- Don't wear headphones. Use your ears to be aware of your surroundings. Your ears may help you avoid dangers your eyes may miss during evening or early morning runs.
- Run against traffic so you can observe approaching automobiles. By facing oncoming traffic, you may be able to react quicker than if it is behind you.
- Look both ways before crossing. Be sure the driver of a car acknowledges your right-of-way before crossing in front of a vehicle. Obey traffic signals.
- Carry identification or write your name, phone number and blood type on the inside sole of your running shoe. Include any medical information.
- Always stay alert and aware of what's going on around you. The more aware you are, the less vulnerable you are.
- Carry a cellphone or change for a phone call. Know the locations of public phones along your regular route.
- Trust your intuition about a person or an area. Act on your intuition and avoid a person or situation if you're unsure. If something tells you a situation is not right, it isn't.
- Alter or vary your running route pattern, but run in familiar areas if possible. In unfamiliar areas, such as while traveling, contact a local RRCA club or running supplies store. Know where open businesses or stores are located in case of emergency.
- Run with a partner. Run with a dog.
- Write down or leave word of the direction of your run. Tell friends and family of your favorite running routes.
- Avoid unpopulated areas, deserted streets and overgrown trails. Avoid unlit areas, especially at night. Run clear of parked cars or bushes.
- Ignore verbal harassment and do not verbally harass others. Use discretion in acknowledging strangers. Look directly at others and be observant, but keep your distance and keep moving.
- Wear reflective material if you must run before dawn or after dark. Avoid running on the street when it is dark.
- Practice memorizing license tags or identifying characteristics of strangers.
- Carry a noisemaker. Get training in self defense.
- When using multi-use trails, follow the rules of the road. If you alter your direction, look over your should before crossing the trail to avoid a potential collision with an oncoming cyclist or passing runner.
- Call police immediately if something happens to you or someone else, or you notice anyone out of the ordinary. It is important to report incidents immediately.

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TRAVELING TIME BOMB

MATT TANNER

As Soldiers, time and again we hear about the dangers of drinking and driving. In an effort to combat it, some commanders have even set up programs to help pay for taxis and concierges in case their Soldiers' safe-ride plans fall through. While this is an excellent idea, I wonder why increased emphasis isn't placed on other dangerous driving situations. While I definitely agree drinking and driving is bad, I believe there is a more common activity that not only rivals it, but possibly surpasses it in danger — fatigued driving.

National Highway Traffic Safety Administration statistics indicate drowsy driving causes more than 100,000 vehicle crashes a year, resulting in about 71,000 injuries and 1,550 deaths. Those stats may be only the tip of the iceberg, however, because, according to NHTSA, drowsy driving is underreported as a cause of crashes. A National Sleep Foundation poll revealed that 60 percent of adult drivers say they have operated a motor vehicle while drowsy during the past year. I'll admit that I've been guilty of it too. Here's an example.

After being released from work one afternoon, I hopped in my already-packed car and started a 12-hour journey across this great nation. The trip started out easy enough, and the hours seemed to fly by. But as night approached, the drive got dreary and I was having problems focusing on the road. I tried all the classic techniques to stay alert like rolling down the window, turning up the music and chewing gum, but nothing worked. Eventually, I resorted to relying on the rumble strips to help me stay awake. Still, I could barely keep my eyes open and my reaction time was significantly delayed. I was showing the classic signs of fatigue. I'd become a traveling time bomb, just waiting to explode.

Fortunately, I was able to make it to my destination without causing an accident. But this trip could have easily ended differently. People like me, who work different shifts or are constantly traveling through numerous time zones, are at higher risk of a driving accident due to fatigue. It's important that we set up personal boundaries so we can avoid this dangerous situation. After all, driving drowsy is on par with driving drunk and has killed more people than it should.

According to the American Automobile Association, there are several warning signs to drowsy driving, including:

• The inability to recall the last few miles traveled

• Having disconnected or wandering thoughts

• Having difficulty focusing or keeping your eyes open

• Feeling as though your head is very heavy

• Drifting out of your driving lane, perhaps driving on the rumble strips

• Yawning repeatedly

• Accidentally tailgating other vehicles

• Missing traffic signs

• The NSF recommends motorists take the following countermeasures before hitting the road:

• Get adequate sleep. Most adults need seven to nine hours of sleep to maintain proper alertness during the day.

• Schedule proper breaks. Plan to stop about every 100 miles or two hours during long trips.

• Arrange for a travel companion. Bring someone along to talk with and share the driving.

- Avoid alcohol and sedating medications. Make sure you check the warning labels on medications or ask your doctor of potentially dangerous side effects.

Above all, if you find yourself getting sleepy behind the wheel, find a safe place to pull off the road and get some rest. I'm sure your friends and loved ones would much rather you arrive a little late than not at all.

Now that I'm older, I realize that if I fall asleep at the wheel, I'm not only endangering my life, but the lives of everyone I encounter on the road. Sadly, that's a lesson some will have to learn the hard way. We must keep an eye out for these individuals and educate them on the dangers of driving fatigued before it's too late. We are our brothers' and sisters' keepers. Let's do everything we can to keep them alive!

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RISK VS. REWARD

COMPILED BY THE KNOWLEDGE STAFF

It was a typical morning with the sun rising over the Iraqi horizon. My team finished the required briefs and, while walking back to the command post for our team brief, noticed weather approaching the field. Dust was building on the horizon to the west. We had seen this before and knew what was about to happen.

We went in the CP and conducted our team brief. We then called weather for the forecast. The briefer gave us no ceiling with unrestricted visibility. The crewmember that was getting the brief kept asking the weather personnel about the dust to the west. Just like many times in the past, we received this response: "No, it is good. Nothing developing."

We discussed the weather. We knew a dust storm was building and would move in, but the weather personnel seemed to have a problem with actually walking outside to take a look at conditions instead of just briefing a slide. That is when you have to make a decision on whether it is worth it to launch and possibly go instrument meteorological conditions. After deliberating a few minutes more, we decided to proceed so we didn't have to deal with the repercussions of not launching with a legal weather brief.

We made it out to the aircraft and conducted our preflight check. During our crew brief, we tracked the dust as it got closer and closer. The air mission commander decided we would crank and call weather. I told him I would contact weather as soon as we got up to 100 percent power.

When we were cranked and at 100 percent, the 2,000-foot wall of dust was about one mile from the airfield and headed our way. That's when the AMC called and said shutdown, we were done for the day. I told him I would call and make a pilot report to the weather office and let them know what was inbound.

When I called the weather office and told them what was about to hit, they started to tell me that the dust was not there and they were sticking by their original brief. When the briefer was reading it again to me, weather conditions dropped to zero/zero on the parking pad with high winds. I called weather back on the radio and told them that I was zero/zero at the north end of the airfield. The weather personnel then decided to walk out and look at the weather conditions.

My lesson learned is that I won't always believe what is being briefed versus what I am seeing. Sometimes, you have to use common sense when you see something that is not right. Remember, as a pilot in command of an aircraft, you have to determine the risk versus reward in everything you decide to do. Although it might be legal, is it smart? It will ultimately be your fault if something happens.

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PLAY IT SAFE

CHIEF WARRANT OFFICER 5 DIRK MARKESTEIN
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As Soldiers in Aviation, we are tasked to operate many pieces of equipment. We are trained, evaluated and licensed. We are taught how to assess risk, mitigate it and use the best courses of action to accomplish the mission. However, dozens of Soldiers are killed every year operating a common piece of equipment — their private motor vehicle.

Years ago, I was preparing to give our annual PMV training class. As I sat there reviewing prior lesson plans, I thought about my target audience (a headquarters and headquarters company with about 60 enlisted personnel and two companies with another 70 personnel, mostly warrant officers). The common theory is you lose your audience after 15-20 minutes, so I wanted a brief class with the most important information detailed up front. I turned to my safety background and began investigating. Here's what I discovered.

Aviation units, when compared to other units in the Army, fared better when it came to PMV accidents, meaning they had fewer incidents across the board. I contributed this to our consistent safety awareness and risk management training. (Hey, maybe people really did listen to those classes!) We are always doing risk assessments, even without thinking about it, so maybe being constantly educated about it means our process is a little more refined.

However, the same group as civilians, 18- to 25-year-old males, is more likely to be in a PMV accident. There are many possible reasons for this: maturity, experience, motivation, less risk adverse or more willing to take risk, etc. As a longtime motorcycle rider (40-plus years), I still think it is amazing that just about anyone with $12,000-15,000 can buy a motorcycle capable of racing a quarter mile in less than 10 seconds and a top speed of more than 180 mph. No special training is required for these civilians.

After identifying the groups that are involved in these accidents, I started looking for the root factors behind them. One source I used was the preliminary loss reports. After all, what better way is there to learn than from reading about other people's mistakes? What I learned was there is at least one of four factors present in every PMV accident. (I have since upgraded that to six factors, but more on that later.) I figured if we could avoid all these factors, we could almost eliminate our PMV accidents. I told the class they needed to always think SAFE:

Speed factor — traveling too fast for conditions, be they mechanical or environmental, or capabilities.

Alcohol factor — people still operate a vehicle with alcohol in their system; you are not at 100 percent!

Fatigue factor — you are too tired; reflexes and thought processes are not optimum.

Early morning hour factor — a large percentage of PMV accidents occur between midnight and 6 a.m., so beware!

As we identify the presence of these factors, we can adjust our situation and mitigate the effects for each as they relate to us. However, we must always be defensive because we know there are others we share the road with that have not identified or mitigated the effects of these factors. We must plan courses of action for how we can avoid or mitigate their irresponsibility.

Now, what about those additional two factors I mentioned earlier? They're talking and texting, or TT. Every day I see people going off the road, rear-ending cars and generally causing hazards because they insist on talking or, even worse, texting on their cellphones. Do the math here: traveling 45 mph equals 66 feet per second to come to a stop! That's four to six car lengths you travel in one second, depending on what is in front of you.

So that's it — SAFE-TT. Apply SAFE-TT to your PMV operations and you may save yourself from an accident. Also be aware of others that are violating the principles of SAFE-TT. Need more evidence? Well, here's a sad story about how ignoring SAFE-TT can affect you.

My unit administrator told me we had a new member reporting to our unit the following Monday and asked if I could schedule him for a newcomer's safety brief. A few days later, the UA came back to my office and notified me that the very same Soldier was

dead. So we had a Soldier who had never set foot in our unit area, but was assigned to us, dead. I started the Serious Incident Report after notifying all the required personnel.

Upon investigating the cause of his death, this is what I discovered: The Soldier had gone out with his friends to celebrate his 18th birthday. Afterward, he realized he was impaired, so he wisely chose to not drive home and stayed at his buddy's house. However, at 2 a.m., he decided he was now sober enough to drive. We had just experienced the first rains of spring, and the roads were a slick. As the Soldier took a turn at an intersection doing what the police determined was 55-plus mph on a 35-mph road, he lost control of the vehicle and slid sideways into a light pole. The report stated his "occupied living space was compromised." In other words, the driver's door was now in the passenger seat. He was killed instantly.

As I finished the report, I shook my head. Speeding, alcohol, fatigue and early morning hours — he had all four factors! Since that day, I've wondered if my PMV brief would have made a difference had I had a chance to give it this Soldier. Would he be aware of these factors and adjust his behavior? I don't know, but I am determined to learn by his mistakes. I hope all you are too. Be safe! Apply SAFE-TT to your lives!

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WHO AM I TO SAY ANYTHING?

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Back in flight school, they told us it would happen. They also said it would likely occur right away, before we had a chance to settle in to our new careers. Perhaps you also remember the scenario: you, the new warrant officer flying with the seasoned veteran and how you should recognize the links in a chain of events that build to what could be a calamity. I remember the instructors saying, "Don't be afraid to speak up — no matter who you're flying with." In my case, it turned out I wasn't even 10 hours into my first assignment when the scenario played out on a sunny fall afternoon.

While working on readiness level progression upon returning to my National Guard unit after flight school, I was scheduled to fly with a full-time instructor pilot who was also the battalion commander. I felt a little intimidated as we prepared for the flight, but I was confident in my abilities, and the battalion commander seemed cordial enough. The mission involved aircrew training manual activities in the morning followed by paradrop operations that afternoon at a drop zone about 10 miles west of the airfield. We would complete as many paradrops as possible on a single fuel load and return before the afternoon down time.

The weather was beautiful, but winds were forecast to increase later. We spent the morning at the airfield completing a number of base flight tasks without incident. Following lunch, we collected our crew chief and headed to the DZ. As we approached to land, we established radio contact with the DZ and were told the supported unit had about 30 parachutes and hoped to use them all. Risking some "public math," I confidently announced that, at four jumpers per lift, we should be able to complete the mission in eight trips around the pattern. Assuming 15 minutes per, I quietly concluded that fuel would be tight but not a showstopper.

Upon arrival at the pick-up zone, we shut down the Huey, completed our premission briefs and distributed the monkey harnesses that would become one of the links in the event chain that led to the problem later that afternoon. The training called for the jumpers to be dropped in groups of four from an altitude of 1,500 feet above ground level. The initial drops went off without a hitch as we refined our altitude and flight track to ensure the jumpers impacted the drop target. By the third drop, we had our timing down to the point that we were touching down just as the jumpers were landing on the DZ. Things continued to progress well as we departed for our eighth and, what I thought, final drop.

As we completed the drop and began our decent, the master caution flickered. I glanced down to see the low fuel light flickering as well. I remember thinking it was no big deal since we would be on the ground in a minute and home within 10.

As we touched down, the radio sprang to life. It was the jump controller, who said he had three more parachutes and asked if we would take the jumpmasters up for one final drop. The battalion commander pondered the fuel gage, and, to my surprise, said, "Sure, we'll take them."

As the jumpers piled on, I remember thinking this felt like one of those chain-of-events scenarios, but who was I to say anything? As we climbed out on takeoff, the master caution light illuminated again. However, this time it did not extinguish. I reached down and started the minute tracker on the dashboard clock.

As soon as I started the clock, a request from the rear came over the intercom. These guys wanted to go to 3,000 feet AGL rather than the briefed altitude. Again, I was surprised when the battalion commander agreed, but who was I to say anything? I saw he was doing his best, but it took extra minutes to reach the desired altitude. As we rolled out on our established ground track, I remember thinking that we probably should alter the drop point now that the altitude had changed, but who was I to say anything?

The jumpers departed on command and slowly drifted toward the DZ as we completed the run and began out decent. Halfway to the ground, the jumpmaster expressed concern that the jumpers appeared to be drifting toward the tree line that fringed the DZ. Without hesitation, the battalion commander offered to slow our decent and circle to monitor the situation. I noted that four minutes had elapsed since starting the clock and felt that another link had clearly been added to the chain, but who was I to say anything?

After what seemed an eternity, the jumpers cleared the tree line and we made a beeline for the DZ to drop off the jumpmaster and collect our harnesses. When we landed, I could clearly sense the concern in the crew chief's voice as he quickly chased out the jumpmaster and attempted to collect our gear. Nobody on the ground knew where it was, and those who did know were just now touching down some 500 meters away. As a frantic search ensued, I remember thinking we should just leave it, but who was I to say anything?

Suddenly, the crew chief entered the cabin and announced that he had the gear and the aircraft was clear. As we lifted off, I again glanced at the clock. I could clearly see that 12 minutes of our 20-minute low-fuel light had elapsed since it came on steady. Focusing my attention out the windscreen, I could see the large hangar that marked our destination was still about eight miles away. I also noted that a direct flight path would take us over a no-fly residential area and a mile or so of ocean. As the crew chief started mumbling over the intercom, I adjusted my water-wings, said a quick prayer and questioned why I didn't say anything.

During the next few minutes, we made it over the residential area, the open ocean and the large hangar that marked home. Once clear of it, we made a rapid descending decelerating turn to land directly to a parking pad. As the aircraft skids settled to the asphalt, I reached down and stopped the clock. It read 17 minutes. I remember feeling both relieved and angry as the rotor blades coasted down, but who was I to say anything?

The fuelers put 205 gallons of JP-8 into that aircraft that afternoon. I did some more mental math on my drive home and concluded that the so-called 20 minute fuel light was about right that day. I remember being upset and disappointed in myself for not saying anything. Clearly the links presented themselves one at a time. Stopping any one of them could have avoided a very stressful and dangerous situation.

Two years later, that same lieutenant colonel was part of a crew that ran an aircraft out of fuel. Fortunately, no one was hurt in the resultant Class C accident. I remember sitting through the post-accident briefing 20 years ago and recognizing the links as they strung together leading to that accident. Although the specifics were different, the thought process was eerily similar to my earlier flight. To this day, I am convinced that the later accident could have been avoided had I spoken up, but who was I to say anything?

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ACCIDENT BRIEFS

AVIATION

UH-60A
Class A
A flight of two UH-60As were ground taxing to the parking area when the lead aircraft contacted a fiberglass light pole with the main rotor system. The pole reportedly shattered, and flying debris damaged the trail aircraft, as well as other parked fixed-wing aircraft.

RQ-7B
Class B
The crew experienced a flap servo failure during flight training, and the system reportedly exceeded its roll tolerance during recovery. The aircraft descended to the ground inverted and was recovered with damage.

GROUND

Personnel Injury
Class A
A Soldier was found unresponsive under a 250-pound barbell in the barracks common area/improvised weight room.

A Soldier died after collapsing during the walk portion of his physical fitness test.

A Soldier died from injuries suffered during an airborne drop.

DRIVING

PMV-4
Class A
A Soldier riding as a passenger was killed when the driver lost control of the vehicle and struck a concrete barrier.

A Soldier died when the vehicle he was riding in overturned at an off-road area.

PMV-2
Class A
A Soldier was killed when, while operating his motorcycle at excessive speed, failed to negotiate a curve, ran off the road and was thrown from the bike. The Soldier was wearing his PPE.

A Soldier was killed when his motorcycle was struck by a vehicle. The Soldier was wearing a helmet.

A Solder died when he lost control of his motorcycle and was thrown to the ground and struck by an approaching vehicle.

A Soldier was killed when his motorcycle collided with a vehicle that turned into his path. He was wearing full PPE and was licensed and trained.

A Soldier died after he lost control of his motorcycle and struck a wooden post. He was wearing his PPE and was trained.

A Soldier died when he crashed his motorcycle into a guardrail.

A Soldier was killed when he lost control of his motorcycle on an unlit road and struck a stone wall.

KNOWLEDGE

VOL 8 AUGUST 2014

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

SCRATCHING THE SURFACE

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FROM THE DASAF
SAFETY: AT THE CORE OF ARMY VALUES

After 33 years in this great Army, I've had a lot of time to think about values and what they mean to our force. I'd like to share some of those thoughts with you now, specifically regarding how safety enhances the values we live by as Soldiers. I hope you'll see how seamlessly safety fits into each value, and how it can affect our Soldiers' decisions for the better when framed in the context of how we live as professional Soldiers.

Loyalty: By always thinking and acting with the safety of themselves and their battle buddies in mind, Soldiers ensure their continued service and reinforce loyalty to each other, our Army and our Nation. Making smart risk decisions is one of the most loyal actions a Soldier can take throughout his or her career because it demonstrates commitment to both leadership and one's brothers and sisters in arms.

Duty: Every Soldier, regardless of rank or branch, has a responsibility to fulfill his or her obligations safely. We have a duty to mitigate the hazards that threaten mission success and an obligation to bring everyone home, whether it's at the end of a tactical mission or the conclusion of a night out with friends.

Respect: Safety is a great indicator of respect, both for one's self and others. When Soldiers insist on operating as safely as possible, they not only demonstrate personal courage — they are letting their battle buddies and leaders know they respect them enough to do the right thing, all the time.

Selfless service: Because risk-informed and assessed actions strive to secure the common good, safety is inherently selfless. Soldiers who commit themselves to safety, both on and off duty, positively add to the Army's efforts.

Honor: Viewed in the context of this value, nothing is more honorable than efforts to preserve our Soldiers, Civilians and Family Member's lives. Not only does it keep them in the fight, it sets an honorable example for others to emulate.

Integrity: The very foundation of integrity is always doing what's right. By always working to achieve the harder ("safer") course of action, method or choice over shortcuts or temporary "fun," Soldiers build integrity into everything they do. The additional byproduct — essential to mission command — is trust.

Personal courage: It's not always easy to do the right thing, especially when a decision might prove unpopular. But, by standing up for safety as an imperative to how we do business, Soldiers show a tremendous amount of personal courage and respect for themselves and their battle buddies.

As I hope you can see, safety can be one of the core elements to our Army values. Engaged leadership has made it so during the past few years, and we've worked hard to meet the chief of staff's intent and focus in instilling risk management as an integral part of our warrior culture. As we move forward, we should keep driving safety as part and parcel of everything we do — operationalizing safety. When assessing your safety programs, planning missions or carrying out simple mundane tasks, measure them using values-based questions like what could happen and why. It's not lost on Soldiers that "mission accomplished" adds value to what they do — in fact, it validates their service and sacrifice. When they see safety as part of the Warrior Ethos, they'll treat it as an unimpeachable value as well.

I couldn't have asked to end my Army career on a better note than advocating for Soldier safety and working to assist you in one of our most noble efforts. Thank you all for your engaged leadership, and the work you do daily for our Soldiers, Family Members and Civilians. I know you'll welcome your new director of Army Safety, Brig. Gen. Jeffrey Farnsworth, with the same warmth and enthusiasm you've shown me. In his and your capable hands, the Army Safety Program is sure to flourish. Thank you again, and God bless you all.

Army Safe is Army Strong!

TIMOTHY J. EDENS
Brigadier General, USA
Director of Army Safety

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SCRATCHING THE SURFACE

MASTER SGT. BRYAN M. HINZMAN
Headquarters and Headquarters Company,
555th Engineer Brigade
Joint Base Lewis-McChord, Washington

It was 3 a.m. on a Sunday when I received a call from the brigade staff duty NCO. As a company first sergeant, you dread the middle-of-the-night phone call because the news is never good. This call wasn't an exception. One of our Soldiers had been involved in an accident just 200 meters away from the battalion and brigade headquarters. I hung up the phone, crawled out of bed and prepared for the worst.

Since I lived only a mile or so from the accident scene, I arrived within a few minutes to see a still-smoking car in the middle of the road with its right-front tire missing. Fortunately, the Soldier wasn't injured, and the military police had already taken him to the station. This is where our investigation began.

I learned that the day before the accident the Soldier and others in the squad had been invited to a party at the squad leader's house. The squad leader did the right thing and took the Soldier's keys when he said he would be drinking alcohol. As the party progressed, the Soldier drank heavily and ate very little, and it was obvious to the group that he was very intoxicated. Since he didn't have a ride home, at about 1 a.m., the Soldier was given a place to "sleep it off" in one of the adjoining rooms. Shortly after he went to bed, the party ended and the other guests went home.

At about 2:30 a.m., the Soldier woke up and started looking for his car keys. He found them exactly where the squad leader had left them — in a bowl on the kitchen counter. The Soldier got into his car and started to drive to home, which was only three miles away, on a road bordered by unit facilities and a housing area.

The Soldier was driving about 50 mph in a 25-mph zone when he failed to negotiate a curve. His car left the road, traveled up an embankment and crashed through a fence in the housing area. Once he passed through the fence, the Soldier's vehicle struck a porch on a family's home, severing the poles that held up the structure. He also ran over the family's lawn mower, BBQ grill and a play house before striking the back porch on another home. The Soldier then attempted to go back through the damaged fence and drive away. An MP said the Soldier was still trying to drive away when he arrived on the scene, but the car wouldn't move due to the front tire being ripped from the vehicle.

After I'd looked over the accident scene, I made some phone calls to the chain of command. I also phoned the platoon leader and platoon sergeant and asked them to meet me at the MP station. Once there, I was informed that the Soldier's blood alcohol concentration was .21, more than double the legal limit of .08. At that point, the Soldier was still in no condition to answer questions, so I told the platoon sergeant to take him to a temporary room in the barracks and ensure he was monitored.

The next day, I questioned the Soldier about his reasons for drinking and driving. His response was, "I thought I could make it home because it was so close." We then learned from the Soldier that the party had taken place at his squad leader's house. At that time, the platoon leadership called in the squad leader to get his story. He told me he'd taken the Soldier's keys to ensure he couldn't drive and placed them in a bowl in his kitchen. While the squad leader's intentions were good, his plan to keep the Soldier from driving drunk ultimately failed because he did not take into account all of the risk factors or implement true risk mitigation measures. Leaving the keys in plain sight made them too easy for the Soldier to find. Had they been secured out of sight, this incident may never have occurred.

Unfortunately, the squad leader did what is done all too often in our Army — perform a risk assessment that only scratches the surface of the hazard and fails to delve into the things that truly cause accidents. Had he taken time to use proper risk management, the Soldier never would have been able to gain access to his keys.

While the outcome of this accident was bad, it could have been much worse. The Soldier who lived in the first home that was struck told me he had almost let his children camp out in the backyard that night. Had he, the children's tent would have surely been hit by the intoxicated Soldier. It was also fortunate that there wasn't anyone else driving or walking on the street where the accident took place, and that the intoxicated Soldier was not injured.

In the end, the damage caused by this accident was limited to the monetary and disciplinary action taken on the Soldier and the squad leader who hosted the party. This accident could have been prevented with better risk management. I hope that this incident serves as a reminder that we can't just scratch the surface with our risk management measures. We must dig deeper to ensure we've done everything in our power to stop a preventable accident.

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SELF STORAGE

SGT. 1ST CLASS BENJAMIN BRADISH
Headquarters and Headquarters Troop
3rd Squadron, 61st Cavalry Regiment
4th Brigade Combat Team, 4th Infantry Division
Fort Carson, Colorado

While in Afghanistan on my fourth deployment, I was stationed at Forward Operating Base Findlay-Shields, which was one of the safest locations I'd been over the past 10 years. The FOB was just across the street from Jalalabad, and nothing much happened there during my entire stay — except for that one day.

FOB Findlay-Shields was primarily a base for National Guard Soldiers who worked as provincial reconstructive teams (PRT) and agricultural development teams (ADT). Their missions were more related to civilian assistance rather than combat. Our job as an active-duty cavalry squadron was to serve as the PRT's and ADT's force protection, as well as route security for the surrounding area.

On April 15, 2012, we were surprised by an enemy assault in which a vehicle-borne improvised explosive device was driven up against the back wall of our base and detonated. Immediately following the explosion, several insurgents armed with assault rifles and hand grenades made their way onto our FOB.

In an effort to encounter the least amount of resistance while inflicting the greatest amount of damage, the insurgents intentionally targeted the area where the PRTs and ADTs were housed in barracks huts, which are plywood structures about the size of a cabin that house 8-10 individuals. During the gun battle that ensued, the insurgents traveled from B-hut to B-hut, opening the doors and tossing one or more hand grenades inside. Due to the dry conditions and climate of the area, this caused several of the B-huts to catch fire. Because the Soldiers were focused on engaging the enemy and/or evacuating the area, the fires quickly spread.

My containerized housing unit was located about 50 meters from the breach point in the wall. Just after the explosion, I had quickly donned my protective equipment, grabbed my weapon and ran to where I could be of most help. While assisting an individual with a gunshot wound, I heard another loud explosion. My first thought was a second VBIED had detonated and this attack had just become much more complex and serious. A passing PRT Soldier told me their B-huts were burning and that the explosions were due to the C-4 some Soldiers had stored underneath their bunks. From the initial four B-huts that caught fire from the insurgents attack, another 22 buildings were on fire as the result of more than a dozen secondary C-4 explosions.

Once the insurgents had been defeated, the area was cordoned off. No one was allowed to get within 100 meters of the B-huts, and local national firefighters were called because there were no resident fire personnel on the FOB. The local Afghan firefighters arrived on the scene some 20 minutes later, but with the blazes out of control and the constant detonation of ammunition and hand grenades from Soldiers' personal caches, the decision was made to contain the fire and prevent it from spreading rather than fighting it directly. This involved intentionally burning several other B-huts to create a fire break.

As a result of this incident, the FOB's leadership was put under the microscope. The investigation focused on the lack of inspections of Soldiers' quarters, the failure to follow Army regulations and standard operating procedures regarding the storage of explosives, and explosives safety. There was one casualty, an Afghan security contractor, and a few severe injuries.

This incident could have been so much worse. Had these explosives been properly stored, a lot of damage to equipment could have been prevented that day. The enemy we face is dangerous enough. There's no need to make it worse for ourselves.

DID YOU KNOW?

The Range & Weapons Safety Toolbox is a centralized collection of online resources for managing range operations and safe weapons handling. The toolbox hosts various references and materials, including publications, training support packages, multimedia products, ammunition and explosives information, and safety messages and alerts. The toolbox also provides links to useful sites and tools like the Defense Ammunition Center's Explosives Safety Toolbox and the Ground Risk Assessment Tool. Check it out at https://safety.army.mil/rangeweaponssafety/.

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ATTENTION TO DETAIL

CHIEF WARRANT OFFICER 3 GEORGE PHILLIPS III
Aviation Safety Officer Course Class 09-003

It is something we have all heard stories about — taking off and forgetting something on preflight or throughflight until someone remembers because of a procedure or something being said. Well, it finally happened to our crew.

On the initial push into Iraq in 2003, there was a lot going on, to say the least. Everyone in the assault battalion was planning and looking for the next jump to some other dust- and sand-filled landing zone. Everything was fast-paced and very temporary, to include sleeping in the aircraft or on a cot beside it so you did not get run over or landed on in the night.

The dust was like talcum powder and was getting into everything. After torching several aircraft engines because of the sand, we did everything we could to keep it out of the engine inlets. We did not have inlet filters installed when we deployed, which would have helped. Every takeoff and landing for three months was in the dust. That meant every time we shut down, we had to immediately install the fly-away gear.

One morning after waking from a four-hour nap, we had a mission. Our pilot in command went to get briefed while the crew chief and I started the preflight. We were about halfway finished when the PC arrived and said, "Let's go! Just do the throughflight since we landed only four hours ago." I protested, to no avail. I was a new pilot still in progression, and he was a senior CW3 and the standardization instructor pilot!

Our problems started the night before when we lost the pitot cover. To keep the sand and dust out of it, the crew chief installed a homemade cover on the right-hand tube. It consisted of the outer wrapper of an MRE and some 100-mph tape. Yes, you can imagine how it looked. At least it was secure enough to resist a wind speed to 40 knots. You will hear how next.

Since the MRE wrapper had no streamer and was partially blocked by the hydraulic deck cover, I didn't notice it when I jumped into my right pilot seat. We completed our checklists and I was on the controls for a dusty takeoff. As we cleared the dust cloud, I pushed forward on the cyclic to transition to forward flight. Just as we were about to reach effective translational lift, there was a miscompare and the stabilator alarm sounded. After a power-on reset, the alarm went off again. It became quickly apparent what the problem was.

The pilot's airspeed indicator was reading zero knots while the co-pilot's airspeed indicator was reading 40 knots. About that time, our crew chief realized what had happened. I said we had a problem with the airspeed sensing system, and the crew chief asked me to look up through the green house. I saw the MRE cover on the pitot and said, "Yep, that could be the issue!"

We found a safe place to land and took care of the problem. It became obvious that taping the MRE bag to the tube wasn't a good idea. Had it come off in flight, it could have been pulled into the No. 2 engine inlet. Checklists are great, but attention to detail is just as important.

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PAVEMENT PROBLEMS

DAVID L. HOUGH
www.soundrider.com

On my cross-country trip last summer, I was surprised to see that highways in general have deteriorated over the past several years. One major hazard I encountered was deep ruts in paved roads. And they were surprisingly hazardous. Crossing North Dakota on U.S. Highway 2, I encountered four distinct ruts matching the wheel tracks of heavy trucks for mile after mile. The left lane also had ruts, but they weren't as bad as the right lane, so I'd move over into the left lane when traffic allowed. At one point, my front tire hooked on a rut and the bike headed for the right lane despite my attempts to hold it. One instant I was in the left lane — the next instant I was in the right lane. Fortunately, the right lane wasn't occupied at the moment. But the unplanned lane change really got my attention. It was pretty unnerving at highway speed.

Road ruts

I'd already encountered bad ruts north of Toronto in Canada and on I-75 in Michigan, and I would find more ruts passing through the Spokane area in eastern Washington. Apparently, both heavy trucks and studded tires create ruts in the pavement, and road crews just aren't able to repave as quickly as the ruts are generated. The ruts seem to be most prevalent in northern central states and Canadian provinces where the temperature varies widely between winter and summer.

Ruts are a special problem for motorcycles because of the steering dynamics. Ruts are also unnerving in a car, but they're easier to control with four wheels and power steering. If you haven't encountered serious road ruts yet, you may wonder what all the fuss is about. But once you've had the bike suddenly dart sideways in heavy traffic, you'll be motivated to understand what's happening and curious about managing such situations.

I've observed two different types of road ruts, which we'll refer to as "truck" and "studded tire." Truck ruts are four distinct grooves matching the location of the dual rear wheels on big commercial trucks. It appears that truck ruts are formed by heavy trucks gradually pounding and squeezing asphalt pavement into the rutted shape during the warm summer months rather than tires wearing away the surface. Studded tire ruts are more common near big cities where commuters regularly use studded tires during the winter months. The studs actually grind away the road surface in the tire track areas, creating two wider, more rounded ruts.

The problem for motorcyclists is that front-end geometry reacts in strange ways to the tire running in a rut. You may have the bike weaving from one side of the lane to the other, or suddenly steering itself in a new direction. And you'll also get some curious steering feedback, such as the feeling that the front end is momentarily resisting your pressure on the grips. Let's first think about why this occurs, and then we'll make some suggestions for maintaining control.

Imagine a tire riding in the center of a deep rut. So long as the tire contacts the pavement in the center of the tread, the bike will steer straight ahead. But remember that with a two-wheeler, the front wheel constantly steers itself from one side to the other as it maintains the bike in a balanced state. It's not much of a weave, but it's a natural phenomenon with single track vehicles. The point is the bike won't follow the center of a rut exactly. And when the bike drifts over toward the side of a rut, the contact ring also moves farther over to that side. As the contact ring moves toward the side of the tire, the tire will drag more and more on that side, steering the front wheel off center. For instance, the contact ring moving position to the right will tend to steer the front wheel to the right, out of the rut.

But remember that bikes tend to roll around the center of mass. So, the front wheel steering toward the right will actually countersteer the bike into a left lean. And in this situation, leaning left will point the machine back toward the rut. Now, with the bike steering itself back toward the rut, it probably won't just center in the rut and rebalance again. If the bike continues across toward the opposite side of the rut, tire drag will again steer the contact ring out of the rut (toward the left), and that will countersteer the bike back toward the rut again.

All this off-center tire drag and leaning causes the bike to swerve around in the lane. The feeling at the handlebars can be startling because you might be resisting the swerve, but the bike moves over anyway. And if there are two ruts side by side, as with truck ruts, balance can get very twitchy as the rider fights to keep the bike pointed more or less straight down the lane. As a general rule, the geometry of the front end will tend to stabilize the bike after negotiating uneven pavement. But with continuous pavement ruts, the bike may not restore itself to a balanced condition until the tires are out of the ruts.

Potholes
Potholes (also known as chuckholes) are formed when a small area of pavement begins to deteriorate and vehicle tires push the broken fragments out of the hole. The hole forms very quickly in wet conditions because tires slamming down into the hole force the water (and debris) out like a single shot from a powerful pressure washer. Potholes often form next to railroad tracks, creating a serious bike hazard. Potholes are dangerous for a motorcycle not only because the steep edge of a hole can push the tire sideways, but the sharp edge can bend or fracture a wheel rim.

Potholes are a fact of life every spring in and around northern cities. The road has to thaw before the maintenance crews can do any permanent repairs, and the only workable temporary fixes are to pack gravel into the holes or throw a steel plate over the hole, or both.

Frost heaves
Other road hazards in northern climates are frost heaves — big lumps of pavement pushed up into mounds by the freezing of the wet ground beneath the road. Frost heaves are common every spring on Canadian and Alaskan roads. Mounds up to a foot high can occur anywhere on the road, and you don't want to hit one of these lumps at highway speed. If you're heading for northern destinations in the spring, watch carefully and be prepared to swerve between the frost heaves.

As with potholes, the temporary fix for frost heaves is to scrape the pavement level, and apply a coat of gravel. On highways such as the Alcan, that means several gravel patches every mile, for thousands of miles. In rare instances, you'll even get a sign. Crossing a short gravel patch isn't a problem unless it happens to be in the middle of a turn, one reason to keep speed within sight distance when you're off on an adventure in the wilderness.

Negotiating surface hazards
If it isn't obvious, you need to maintain enough following distance behind other vehicles to be able to see surface hazards in time to change the bike's line. But you know that in aggressive city traffic, leaving some space ahead of you is simply an invitation for someone to dive into it. The clever motorcycle commuter learns to search more aggressively, but must also accept the probability of bike damage as part of the deal. That's why commuter bikes in northern climates tend to be beaters. The shiny bike stays home in the garage until the weather and roads settle down.

A big part of maintaining control when you encounter surface hazards such as ruts is to simply be aware of what's happening. Let's say you feel the bike start to waggle around, and you wonder whether it's a bike problem or pavement problem. Ruts are most obvious when the sun is low on the horizon, casting shadows. And even if you can't easily see the ruts, you know they are most likely to appear in the wheel track areas. Moving over to the center of the lane should confirm whether it's a pavement rut problem or a bike problem.

You'll find it easier to control the bike on a nasty surface if you're in the habit of countersteering rather than just thinking "lean." That is, to make the bike move left, force both grips toward the left. To make it move right, press both grips toward the right. Normally, it only takes a modest push on one grip to cause the bike to change direction. But when crossing a deep rut, or swerving between two potholes, it may require more powerful pushes and pulls on both grips. Focus on countersteering to make the bike hold its direction as the front wheel weaves its way into and out of the ruts.

Riding the ruts
Even on a severely rutted road, there are some areas of the lane that are typically smoother, including the center and the very edges of the lane. So, one option for riding badly rutted pavement is to stay in the center of the lane. Bear in mind that riding in the center of the lane isn't hazard free. Debris tends to get kicked out of the tire track areas toward the center or sides of the lane. And the center of the lane also collects more slippery stuff, such as oil or antifreeze drippings. It can be a big shock when a tangle of truck tire tread, an AWOL muffler or a dribble of diesel oil suddenly appears ahead of you in the center of the lane, so remember to increase your following distance to allow more maneuvering room. That also helps make you more visible to other drivers.

And what do you do when you come up behind a slow-moving vehicle? You'll have to slow down or pass. But passing on a deeply rutted road can be very unnerving, since the bike must wiggle its way through several different ruts, each causing some strange feedback. If you do decide to change lanes on a severely rutted road, try to cross the ruts at maximum angle, more like the tactics for crossing an edge trap or railroad track. Don't try to ease over. Rather, steer away from the ruts slightly, then swing back and attack them.

The best tactic for negotiating broken pavement and pothole-laced roads is to watch the surface carefully and dodge between the holes. Cars and trucks may not be able to swerve around potholes, but a single-track motorcycle can often fit between the holes, which tend to be worse in the wheel tracks of other vehicles. All you need is a couple inches of level pavement between the bad areas.

How about bike modifications?

There really isn't much you can do to improve the behavior of a motorcycle that's trying to maintain balance on strangely shaped pavement. One thing you can do to improve your odds is to ensure your bike is well maintained. You might not notice a minor glitch on a straight, level road, but in an abnormal situation, even a minor problem can contribute to loss of control. For instance, cruising down the superslab you might not notice loose steering head bearings; but when you suddenly encounter ruts, the bike may weave all over the road. Worn bearings, loose fasteners, sagging shock springs, dry forks and under-inflated tires will all reduce stability.

The message is to keep your bike maintained, not so much for the everyday ride, but for those abnormal situations in which you expect it to perform at its limits. You already know to check your tire pressures before every ride. Don't forget to check your wheel bearings, head bearings and swing arm bearings, and snug up critical fasteners such as the pinch bolts at the fork triple clamps and axles.

Once every year or two, drain and refill your front forks, or at least top off the fluid. Also, flush and bleed your brakes. And, if you've got more than 35,000 miles on your original shock absorbers, it's probably time to replace them.

Changing routes

One primary tactic for badly damaged pavement is simply to find a different road — preferably one less used by commercial truck traffic. For instance, I'd been following U.S. Highway 2 across Minnesota and North Dakota, and my original plan was to stay on U.S. 2 across Montana. But it turned out to be a major truck route, and the pavement wasn't tough enough for the job.

If I'd realized how bad the ruts would be on U.S. 2, I'd have turned off earlier. Finally, a few miles short of the Montana border, I diverted south to pick up U.S. 200, a delightful two-lane highway with only modest traffic. Since narrow U.S. 200 isn't a favorite of the long-haul truckers, it hasn't been pounded into ruts.

I wish I'd found an alternate route heading west from Spokane rather than staying on the interstate. I could have turned off onto U.S. 2 for a few miles then followed Washington 28 and 283, quiet little state highways with less traffic and less road damage. The state highways wouldn't have added more than an hour to the day's ride but would have been much more enjoyable on a motorcycle.

Aggressive traffic on interstates and major U.S. highways has already taken a lot of fun out of motorcycling. The older roads are looking better and better for motorcycling, not only because of less aggressive traffic, but also because of less pavement damage. If you encounter nasty traffic or road damage on your next trip, get the maps out and think about alternate routes.

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WATER WISE

CHIEF WARRANT OFFICER 5 PETER PANOS
Joint Force Headquarters
Minnesota Army National Guard
St. Paul, Minnesota

As we prepared to deploy to Iraq, my brigade was inundated with information stressing the importance of proper hydration. None of us wanted to be a noncombat casualty and, thereby, a hindrance to our fellow Soldiers and the mission, so we all took the message to heart. During our six-month train up, not one Soldier succumbed to dehydration.

Why Hydrate?

The human body is made up of about 60-70 percent water. Blood is mostly water, and your muscles, lungs and brain all contain a lot of water. We need water to regulate body temperature and provide the means for nutrients to travel to our organs. Water also transports oxygen to cells, removes waste and protects joints and organs. Therefore, allowing your body to become dehydrated has a more profound effect on your overall health than just causing thirst or a headache.

We lose water through urination and by sweating. If you're very active, you lose more water than if you're sedentary. Diuretics such as caffeine pills and alcohol result in the need to increase our fluid intake because they trick the body into thinking we have more water than we need.

Symptoms of mild dehydration include chronic pains in joints and muscles, lower back pain, headaches and constipation. A strong odor to your urine, along with a yellow or amber color, indicates you might not be getting enough water. Thirst is an obvious sign of dehydration. However, you need water long before you feel thirsty.

What's Your Daily Need?

So how much water or fluids do we need to take in each day? A good rule of thumb is to take your body weight in pounds and divide it in half. That gives you the number of ounces of water per day that you need to drink. For example, if you weigh 190 pounds, you should drink at least 95 ounces of water per day. If you exercise, you should drink another 8-ounce glass of water for every 20 minutes you're active.

If you drink alcohol, you should consume at least an equal amount of water. When you're traveling on an airplane, drink 8 ounces of water for every hour you're onboard. If you live in an arid climate, even temporarily, you should add another two 8-ounce glasses per day. As you can see, your daily need for fluids can add up to quite a lot.

If we eat a healthy diet, we can get as much as 20 percent of our fluid requirements from foods. The rest should come from the beverages we drink. Of course, water is the best choice. Sodas have a lot of sugar and most are caffeinated. Drinking soda may also cause us to take in unnecessary calories, while the diuretic effect of the caffeine will actually cause you to need more fluids. For coffee drinkers, decaf is the best choice if you don't need the caffeine to help stay alert.

Sports drinks containing electrolytes, such as Gatorade or PowerAid, may be beneficial. Just ensure you look out for added sugar and calories your body doesn't need. Juices are also good because they have vitamins and nutrients. If you're like me, plain water isn't very satisfying. I add raspberry, orange or lemon flavoring to my water, which makes consuming large amounts more tolerable.

Conclusion

You might find it difficult to drink enough fluids every day. But if you make it a habit to have a water bottle handy when you're working, traveling or exercising, you will avoid the headaches, vomiting, cramping and embarrassment of being a heat casualty.

Too Much of a Good Thing

Just as Soldiers can suffer a heat injury by not drinking enough fluids, they can also drink too much. Hyponatremia is a condition where the sodium concentration in human blood is lower than normal. Causes include overhydration, skipping meals or dieting, loss of body salt or misdiagnosis and treatment for dehydration.

Those suffering from hyponatremia can exhibit symptoms such as confusion, weakness, nausea or vomiting. If you suspect a Soldier is suffering from hyponatremia, help replace salt loss and follow the measures for heat exhaustion. If symptoms persist or become more severe, evacuate the Soldier to a medical facility. To prevent hyponatremia:

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

For more information, posters and tip cards about proper hydration, visit the U.S. Army Public Health Command website at http://phc.amedd.army.mil/Pages/default.aspx.

FYI

Excessive heat can be deadly. The Department of the Army Directorate of Mission Assurance recommends the following tips to help Soldiers stay safe as the temperature increases throughout the summer:

1. Avoid or reduce exposure to outdoor heat

- Postpone outdoor games and activities. If you must be outdoors, try to schedule activities or work during the morning and evening hours.
- Stay in air-conditioned buildings as much as possible. Air-conditioning is one of the most protective factors against heat-related illness.
- If you do not have air-conditioning at your home, seek a location that is air-conditioned, such as a mall, movie theater, library, etc.
- Wear lightweight, light colored, breathable clothing.
- Take cool showers or baths.

2. Stay hydrated

- Drink water often but in moderation.
- Don't wait until you are thirsty to drink liquids.
- Avoid sugary, caffeinated, or alcoholic beverages.

3. Monitor high-risk individuals:

- Keep a close eye on infants, children, and people over 65 years old. They are more susceptible to heat illness.
- Never leave children or pets in parked cars even if the windows are cracked open.

4. Stay alert to heat disorders:

- Symptoms of heat exhaustion include heavy sweating, pale complexion, clammy skin, nausea, vomiting, and fainting. If you encounter a person experiencing these symptoms, move the individual to a cooler location, tell them to lie down and loosen their clothing, apply cool cloths to the person's body, encourage the individual to sip water, and seek medical attention if symptoms do not get better.

- Symptoms of heat stroke include high body temperature, rapid pulse, possible loss of consciousness, and hot and dry or moist skin. If you meet a person with these symptoms, call 911 immediately and attempt to reduce the person's body temperature with cool cloths or a cool bath.

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ASLEEP AT THE WHEEL

GLENN JENSEN

I had just completed five years of active duty as an OH-58 pilot and headed off into the world of civilian aviation. I knew my 2,000-plus hours of helicopter time were going to open a lot doors to me. I was sure that within a week or two I would be driving 747s around the world.

Imagine my surprise when American Airlines informed me, rather rudely I thought, that my rotary-wing time was of no value to them. "OK," I though, "I'll move on to Plan B." I went to the local airport looking for a way to build fixed-wing time. The only requirement I placed on my instruction was that it had to financially conform to the budget of a newly unemployed CW2 with a wife, two kids and no real savings. In other words, it had to be free. This requirement limited my options.

I stumbled across a run-down hangar with open doors and two glistening Beech 18s sitting regally among toolboxes, old tires and junk that had obviously accumulated over years of service. Beneath one of the airplanes was a mechanic working diligently. After what seemed like an eternity, he finally recognized my existence and asked if he could help me. I explained my situation and asked if there was any way I could pirate some flight time, offering, of course, to earn my keep by mowing grass, waxing airplanes or cleaning up the hangar.

It turned out the mechanic, Al, was also the owner, pilot, janitor and a new father of an infant daughter, so his plate was full. After our conversation and an initial rebuff, Al had a change of heart. This gruff, intimidating old man of at least 38 or 40 told me to be back at 5:30 p.m. and I could fly with him. He went on to explain that he was a loner and did not really like people in his cockpit. That set the tone for the next week. He ran a night freight operation and I would be allowed to log flight time on any of the empty legs.

As 5:30 approached, I stood patiently by the hangar door. Al arrived late, as I learned would be his habit over my next week of flying with him. We quickly wheeled the Beech out and he fired up the two rumbling radials, taxied out and fire-walled the throttles. The next thing I knew we were sailing through the Midwestern skies, bound for Chicago's Midway Airport. It became apparent that flight plans, run-ups and checklists were optional in this strange world of the night freight dog.

We landed at Midway and enjoyed a strong cup of coffee in an operations center teeming with other freight dogs as ground personnel crammed package after package into the airplanes filling the ramp. As we returned to the Beech for our leg to Cleveland, we had to climb up the wing and enter the cockpit through the escape hatch because the cabin was jammed full. Off we went — no weight and balance, performance planning, run-up or flight plan.

Al was not much for conversation. In fact, he never said anything. His method of operation was quite unique. He would climb to cruise altitude, set a heading, match the props, trim the airplane and go to sleep. Being a 1940s-era machine, the 18 had no autopilot, so it would not hold its cruise setting. As we began a gradual descent, speed would increase and the props would come out of sync, causing that familiar "waaa waaa waaa" of the engines. It was this disturbing sound that doubled as Al's alarm clock. He would wake up, climb back up to altitude, retrim and go back to sleep. Aware of his lone wolf attitude, I sat like a statue, afraid of invading Al's space.

On the fifth night, I couldn't take it any longer. I made a conscious decision to take command of the airplane at the first opportunity. It was a dark, moonless night as we climbed westbound out of Flint, Michigan, and, true to form, Al was sound asleep as the eastern shore of Lake Michigan slid gently past 8,000 feet below. I silently reached up and firmly grasped the yoke, quite proud of myself, as I set a course for home. Somewhere about mid-crossing in the darkest, blackest place I have ever been, I was jarred from my smugness by a severe lurch to the left as the No. 1 engine came to a sudden stop. Before I could grasp what had happened, a hard lurch to the right followed as No. 2 followed suit.

To Al's credit, the professional in him came alive. He woke from his deep sleep and in an instant, as his new co-pilot sat in confused shock, began turning valves and manipulating mixture levers. In a matter of 30 seconds, both engines were purring like kittens and spitting blue flames from their stacks. No words were spoken for several minutes.

Al broke the uncomfortable silence by mentioning that someone had been flying his airplane. With only two of us on board, we both knew who that someone was. It seems that Al was burning off the auxiliary tank and planned on switching to mains after a

short rest. By flying the airplane, I had inadvertently canceled his alarm service and run the aux tank dry. His embarrassment was obvious. He went on to say, "I bet you think I am a real jerk. I do this all the time. I went to sleep in the pattern at Kenosha one night and woke up in Milwaukee."

The remainder of night, my last with Al, was uneventful. I never saw him again after that, but I walked away with many lessons. You get the quality of training you pay for. Never let your guard down because in the crowded skies we work in, the other guy may not be doing what he should be doing. And never, never do anything unannounced in a cockpit. You may be turning off someone's alarm clock.

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UP IN FLAMES

CHIEF WARRANT OFFICER 4 KELVIN L. MILLER
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I have always taken safety seriously. However, after 18 years of sitting through the same safety classes over and over again, they tend to become mundane. In fact, it had gotten to the point where I could predict what the presenter was going to say. So why continue to sit through these classes? I'm an old guy, I've been married most of my career and I do not fall into any of the high-risk categories. I've learned, however, that you're never too old or experienced to do something stupid.

It was a four-day weekend — and about two days after the customary holiday safety briefing. I was in my backyard, preparing my grill to barbeque some steaks and chicken. I arranged all of the charcoal into a little pyramid at the bottom of the grill, added lighter fluid and lit it with a lighter. The coals started to burn well and it looked like I had a good fire. I then placed the lighter and lighter fluid a safe distance from the grill and went into the house to check on the meat. When I returned, the coals were turning white and the needle on the grill's temperature sensor was rising. Pretty soon I'd be cooking … or so I thought.

I bounced back and forth between checking the grill and getting the meat ready. After about 20 minutes, though, I noticed the grill was losing heat. I checked the coals and they were not burning like they should. I decided they needed lighter fluid, so I gingerly added more. I thought the coals would immediately ignite the lighter fluid, but they didn't. For some unknown reason, I closed the top of the grill and reached for the grill lighter.

At first, I could not find the lighter, but then remembered I had placed it away from the grill. After about two minutes, I opened the cover on the grill and attempted to light the coals. But the lighter would not light. After a quick check, I tried again. I was about five feet away from the coals when the lighter ignited. What happened afterward reminded me why I should have paid more attention to those grill safety classes.

I could see the vapor from the evaporated lighter fluid in the air about a second before I started the lighter. Unfortunately, the conscious part of my brain did not send the, "Hey, stupid, don't do that!" signal to the rest of my body in time. The flame from the lighter immediately ignited the vapor, creating a huge fireball. Although the conscious part of my brain had failed me, the subconscious part did not. It was instinct that caused me to close my eyes, turn my head to the right and dive backward away from the fire.

Luckily, the fireball disappeared as fast as it appeared. I laid on the ground in shock over what had just happened. The lower part of my arms, my eyebrows and all of the hair on top of my head turned white. I looked liked a frostbitten old man. I quickly gathered my senses, checked the fire and called my wife outside to help (and give me a lecture).

I was lucky. Besides the temporary loss of hair, I received only mild first-degree burns similar to sunburn. I also learned that just because I've barbequed for more than 25 years (since I was 12) that I'm never too old or experienced to have an accident. Now, I actively participate in holiday safety briefings and fire-prevention classes. I share my story with both older and younger Soldiers.

Lessons Learned

I learned a valuable lesson that day: Never be complacent around flammables. The temperature from the coals, the outside air temperature, the elapsed time and the confined space caused a dangerous buildup of lighter fluid vapor. Once a spark was added, a fireball was almost a definite result.

It is best not to use lighter fluid to start your coals. There are cheap alternatives to lighter fluid that are safer for you and better for the environment. However, if you must use lighter fluid, wear the proper personal protective equipment. Goggles will help protect your eyes, and a long-sleeved, nonflammable shirt can shield your arms. Most importantly, always have respect for fire. Complacency is a sure-fire way to send your barbecue, and possibly more, up in flames.

Boost Your Barbeque IQ

Outdoor grilling can be fun, but there is a risk for serious injury and property damage for those who are careless. The following guidelines provided by the Home Safety Council can help you minimize your risk and ensure your grilling experiences are always fun, safe and successful.

- Stay by the grill and pay close attention the entire time food is cooking.
- Designate the grilling area a "No Play Zone" and keep kids and pets well away until grill equipment is completely cool.
- Before using, position your grill at least 10 feet away from other objects, including the house and any shrubs or bushes.
- Before using a gas grill, check the connection between the propane tank and fuel line to ensure it is working properly and not leaking.
- Never use a match to check for leaks. Instead, rub the hose line with a dishwashing liquid and water solution. If you see any bubbles or detect a leak, immediately turn off the gas and don't attempt to light the grill again until the leak is fixed.

When lighting a charcoal grill, do it right the first time. Choose pre-treated charcoal or carefully follow directions on the charcoal starter fluid can. Once you have lit the charcoal, never add more lighter fluid, as it may cause the can to explode. Use paper or kindling to help a slow-starting grill.

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ADDICTED TO THE RUSH

RICHARD DURAN

It was a cool October morning and I had recently returned from a nine-month stint in Iraq. Before I deployed, I sold my truck in hopes to buying a new one when I got back to the states. I hadn't had the opportunity to go car shopping yet and needed a means of transportation to and from work. Luckily, my father, who lived in Las Vegas, had the time and was willing to tow my 1998 Honda Shadow 1200 to me in Jacksonville, North Carolina, until I could find my dream truck.

My dad spent a week with me in North Carolina and, although I had my motorcycle, most of the time I just opted to ride with him. I must admit that it was a little nerve-racking to ride in a car after returning from Iraq. As any combat veteran who consistently went outside the wire will tell you, every pothole or pile of trash on the side of the road in Iraq was a threat. When you return home, it's your natural instinct to think the same.

It had been more than nine months since I'd driven a privately owned vehicle. I was used to driving fully armored Mine Resistant Ambush Protected vehicles, which are relatively slow and extremely hard to see out of while operating. Once I did get back behind the wheel, though, I found driving around North Carolina lacked excitement. For reasons I can't explain, I started having withdrawals from the adrenaline rush I was so used to while driving in Iraq. I figured the perfect way to get that rush was to hop on my motorcycle.

Riding a motorcycle gave me an incredible sense of freedom and excitement. The wind, the ability to go just about anywhere and the looks I got while riding gave me a feeling I cannot describe. You just have to ride to understand the fun of it all. The speed, acceleration and agility provided the adrenaline rush I craved. As I got more comfortable on my bike, I started pushing the limits, but I always got away clean. I felt invincible. After all, I survived combat. Nothing could hurt me, could it?

One afternoon while bored, I decided to take my motorcycle into town to go shopping. I grabbed my gear, laced up my boots and headed outside. To my surprise, there was a slight drizzle in the air, just enough to pepper vehicles with tiny droplets of water but not soak the road. Against my better judgment and everything I had learned in the Motorcycle Safety Foundation's Basic and Advanced *RiderCourses*, I decided to head out anyway.

I was traveling on Lejeune Boulevard, about two miles outside the main gate, when, out of the corner of my eye, I spotted a nice Dodge Ram SRT 12. I took my eyes off the road for what only seemed like a second — but in reality was probably several more — when I heard the sound of screeching tires. I looked back to the road and noticed the cars ahead were all slowing down, so I applied my brakes. Unfortunately, the drizzle and oil had made the roadway very slick. To make matters worse, I'd failed to replace the brake pads after I got my bike out of storage, which, coupled with the road conditions, meant I wasn't stopping as quickly as I'd hoped.

I had two decisions — swerve to the left and go into oncoming traffic or lay down the bike and hope to get out alive. I opted for the latter. As I laid down the bike, I kicked it away from me. I slid 30 feet and became wedged underneath a car. Because I had on my PPE, I only suffered road rash on my arm from my left wrist to my elbow. My bike wasn't so lucky, though, and cost me more than $4,000 to repair. The one bright spot was I didn't hit anyone or receive a ticket.

There are many factors that led to this mishap, which could have been prevented had I been more careful. First of all, I should have been paying attention to the road ahead instead of eyeing that Dodge Ram. Second, I knew my brakes needed replacing after being in storage for so long, but I never got around to doing it. Third, I should have been more patient and waited for the drizzling to stop before riding. Finally, I was riding entirely to fast on a surface I knew would be slippery when wet.

Today, I am a Motorcycle Safety Foundation Rider Coach. I make it a point to share the details of my accident with each class in hopes that no other rider makes the same mistakes. I want it to be an example of what not to do. Of course, I still love to ride; however, nowadays I always follow what I was taught and ride safe!

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ALONG FOR THE RIDE

CHIEF WARRANT OFFICER 3 HOWARD ESTERBROOK
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I was tasked for a mission to insert personnel into a landing zone at 7,000 feet pressure altitude and a temperature of 30 C. We conducted a reconnaissance of the landing zone and determined the size, wind direction and approach path. Everything looked normal. As I started the approach for landing, things were going good until about the last 30 feet.

I knew we were heavy and, as I progressively brought in the power to terminate our approach, we suddenly began to drop. As I applied all power available, the rotor RPM started to droop and nothing was happening. I pushed the cyclic forward in an attempt to shallow out our angle and subsequently bounced the aircraft twice and skidded about 20 feet before coming to a rest. Nobody was hurt and the aircraft made it without a scratch; however, it scared the heck out of all of us. The last stages of this approach and landing were accomplished solely by my aircraft with minimal input from me. My passengers and I were just going along for the ride.

When operating any type of vehicle — whether it be a helicopter, tactical vehicle or even your own private motor vehicle — the term "along for the ride" means just that. You are in a situation where you have little or no control of that vehicle. This condition is most often self-induced or can occasionally be brought on by circumstances beyond your control. It is within our safety culture to identify and eliminate as many hazards as possible within our control, especially ones we create. In vehicle operations, we sometimes choose to ignore or forget that our habits are subject to complacency and can have unintended consequences.

In the incident above, it was subsequently found that we had incorrectly figured our weight, which ultimately affected the performance of the helicopter. I, as the pilot in command, had calculated the total weight of the aircraft and passengers and cargo incorrectly. I also had the co-pilot calculate our total weight but neglected to compare his numbers against mine because we were in a hurry. Besides, both of us had done this a bunch of times before, so it should be OK. Our complacency set us up for a situation we are both not going to easily forget. In this instance, our complacency had set us up to be going along for the ride. Fortunately, nobody was hurt.

Another incident occurred while I was driving home after visiting a friend to help him work on a project. It was a rainy day with a lot of standing water on the road. When I entered a wide turn exiting the freeway off ramp, my car suddenly started to skid and I lost control. Once again, I was only along for the ride and ended up smacking the barrier. I'm a good driver (or so I thought), but why did this happen? I used this ramp many times in both dry and rainy weather and nothing ever happened. Over time, I had neglected the posted speed limit and gradually ignored it, thinking I could handle the situation. This was once again a wakeup call. Getting comfortable and lazy had cost me, again.

Sometimes our habits and attitudes about our vehicles and operating environment lead us to feel we are always in control in any and all situations. We forget that we are all human and subject to making mistakes. Complacency can set in when we choose to ignore or forget the fact that operating any type of vehicle or performing a task can be inherently risky. We should be ever vigilant in the operational environment, whether we are on or off duty, and take steps to reduce or eliminate risk through self-assessment. Ask yourself if you are getting too comfortable with the situation and the vehicle you are operating. By doing this you can help identify a situation where you may be setting up yourself to be complacent.

My experiences have taught me to never take things for granted when operating a vehicle, whether it is a helicopter, boat or PMV. Being aware of complacency will ultimately reduce the chances of you going along for the ride. The payoff is that you will live to fly another day and your co-workers, friends and loved ones will see you again.

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ARE YOU PREPARED?

DR. DAVID FOLK
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While in the Boy Scouts at a young age, I remember our scout master telling us to always be prepared. "For what," I would ask. "For anything," he'd respond.

As I grew older and a little wiser, I began to see the logic in the Boy Scout motto. Years ago, I had moved to Florida for my work and had my first experience with hurricanes. Yes, plural hurricanes. Three hurricanes passed through the area I was living over the summer. The first time, I was totally unprepared and learned a great lesson the hard way. Being raised in Ohio, I had experienced tornados, but nothing like this. We had no electricity for nine days, the roadways were blocked and homes were destroyed. Instead of the mile-wide path of destruction you might see from a tornado, this destruction was miles across. There was no driving to a nearby town to get supplies because adjacent towns were also destroyed.

When I bring up the topic of disaster preparation, many people call me a survivalist and doomsday prepper, to name just a few. To me, it makes good sense to take some basic precautions and ensure your family will be protected and prepared in the event of an emergency. My approach to preparing for a natural disaster is broken into categories so I can ensure I address all my possible needs. Some of the most important human reactions, and hardest to control, are panic and fear. When all methods of communication are lost — no television, radio or cellphone coverage — your emergency action plan must kick in so you can focus on survival.

Safe haven

The remainder of the precautions will matter little if you do not have a safe room, basement or other location strong enough to resist the forces of nature. An interior room in the home may work for an EF1 or EF2 tornado, but if the twister makes a direct hit on the structure, your safety may be in jeopardy. Tornadoes EF3 and higher will destroy homes even if they do not directly hit them. The winds generated by these storms can leave nothing behind but debris and bare concrete slabs.

Your first order of business should be to find your safe haven — a space or building that is structurally sound. This structure must be able to endure the forces of wind and strong enough to protect individuals inside from windblown debris traveling at high speeds. Storm bunkers can be installed in your garage and offer very good protection when there is a need to get below ground level.

You may have a basement under your home, which can offer good protection against flying debris. The key to safety when hunkering in a basement is to stay away from chimneys and try to find something structurally sound to get under in the event debris falls into the basement. As a child, my parents always told me to go to the southwestern side of the basement and get under something. It's a good idea to take a sleeping bag or blanket with you just in case you end up staying the night down there.

The third type of shelter is a storm bunker not attached to the home. A downside to this type of shelter is they are constructed at a distance away from the home. This requires the users to be exposed to inclement weather as they move from the home to the shelter. This shelter offers the maximum level of protection because, in addition to getting the occupants below ground, it also reduces the potential for home debris to fall and block safe operation of the door. On April 27, 2011, in Fyffe/Rainsville, Alabama, a storm shelter was partially sucked out of the ground from the force of the passing EF5 tornado.

If having a storm shelter put in, plan to use only licensed companies with experience installing them. Ensure your shelter door is structurally strong and offers a locking device on the inside to prevent an accidental opening of the door during high-wind situations. We've all seen the beginning of the movie "Twister" when the door was sucked open. Once inside the shelter, lock up and move away from the entrance.

Water

After you've worked out your safe shelter, the next item on the list is drinking water. We can live three weeks without food but only three to five days without water before the body begins to fail. Water is a very important element to our survival and needs to be No. 2 on your survival list. Anticipate a need to store a minimum of three to five days of drinking water. Add an additional 5 gallons for meal preparation and sanitation.

Many survivalists use bottled water or large plastic containers to store drinking water in the safe haven. The type of container is a personal choice. However, after my adventure in Florida with no electricity, I've taken some additional precautions in the event it becomes evident it will be a long time before drinking water becomes available from the tap. At little cost, I built a water filtration system by using stones, sand and activated filtration charcoal to purify collected water and convert it to drinking water. These units can purify hundreds of gallons of water taken from the rain, streams or ponds.

If interested, there are good instructional videos available on building water filtration systems on YouTube. The Mayo Clinic recommends 13 cups of water a day for a male and nine cups for a female. Temperature, activity, your gender and body structure are just a few of the factors used when calculating your needed water intake. The easiest way to plan for drinking water storage is to place at least one gallon per day for each individual in the safe haven.

Weather radio/radio

After water, it is imperative you make connection to the outside world to determine what is going on in your area. Have at least one radio with several extra packs of batteries. You will have no outside communication during the time when electrical systems are down, and alerts and advisories from the local radio stations could be essential to your survival. Try to purchase a survival radio that has the hand-charging feature in the event your battery supply becomes exhausted. The American Red Cross offers an emergency radio system that can recharge by either solar cells or hand cranking. The radio costs about $60 and also provides a port to recharge a cellphone. For more information, see the American Red Cross website.

Food

When stocking your shelter, in addition to items such as power and granola types of bars, take into consideration the food group categories when planning. Three to five days of eating these products can provide sufficient nutrition to keep you alive but offer little additional extra calories. Unheated cans of soup, pasta products and meat can help fill in the gaps. Attempt to stay away from canned food products containing high levels of sodium. Canned fruit and vegetables will also help ensure you're receiving a stable diet during the event. My emergency food supply not only includes items in the meat, vegetable and fruit categories, but also includes some purchased packaged food items from survival food suppliers. Many of these products do require that water to be added to their product, but the meal offers nutrients and vitamins needed to keep the body functioning.

Sanitation

This is one area where I am currently researching to upgrade in my shelter. One person I know has a 5-gallon bucket in his shelter and just inserts a plastic trash bag in it for his sanitation needs. Another option is a marine chemical type of toilet that is commonly used on a boat. During my research, I even found a disposable cardboard type of toilet device that uses disposable bags. When the emergency event is over, you properly dispose of the toilet and used bags. The Internet offers several options to address your shelter's sanitation needs. Take the time to review them all and select what best fits your situation and the number of individuals staying in your save haven.

Emergency lighting

Some safe havens have windows or skylights that will offer some illumination during the daylight hours, but planning needs to be in place for evening hours. Small LED lanterns powered by batteries are a better choice over petroleum-based powered lanterns, which produce carbon monoxide and could present a fire hazard. Ensure your safe haven has at least two handheld flashlights, along with several packs of new batteries. If kerosene lamps and petroleum-based lanterns are used, make sure there is adequate air movement in the safe haven space. An incoming fresh air duct, along with a strategically located exhaust duct, is very important when these carbon monoxide-producing devices are used in enclosed spaces. Included are propane or petroleum-based cook stoves, which also put off carbon monoxide. Ensure the air within the space remains safe.

Conclusion

People survive disasters by putting forth the effort to plan before the disaster strikes. As demonstrated in other national disasters, until resources can be mobilized and assembled in your area, you are on our own to care for your family and neighbors. Will you be prepared when it strikes?

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WHERE THE RUBBER MEETS THE ROAD

JENNIFER NICKERSON
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While traveling the nation's highways, how often do you see pieces of tire and tread belts along the sides of the road? I see them nearly every trip I take. Almost all of this litter is caused by blowouts and tread separation. So how do we keep our tires from becoming part of this road debris? The answer is vehicle tire maintenance.

Most of us never even think about tire maintenance. Our minds are full of other things such as planning our route, packing the car and making sure the tank is full of gas. Failure to maintain a vehicle's tires, however, could bring a quick end to a family road trip.

The most important part of vehicle tire maintenance is having the tires inflated to the recommended pressure, which can be found on a placard located on the driver-side door jamb and inside the owner's manual. To check the air pressure, always use an accurate tire pressure gauge and check the tires when they're cold. If you check the pressure after driving, the tires will be hot and the gauge will register higher than the actual pressure. This false reading could later cause problems.

As tires wear, patterns develop, and these wear patterns can indicate several problems. The main two types of wear patterns are caused by tires being either underinflated or overinflated. An underinflated tire will develop excessive wear on the edges of the tread. An underinflated tire can flex more than a properly inflated tire. This flexing builds up heat, which can ruin the tire and lead to sidewall cracks. Underinflation can also reduce fuel economy through increased rolling resistance, which makes your vehicle's engine work harder.

Overinflation causes the tire to wear in the middle of the tread. In this case, the middle of the tire takes all the weight, which accelerates the wear. This uneven wear reduces the useful life of the tire.

Another important step in proper tire maintenance is to check for tread depth or boldness. There are a few ways to check for tread depth, including looking at the tire's wear bars. Another method is the penny test. Simply insert a penny into the tread with the date facing you. If you can see the date, it's time to replace the tire. Because the tire might not be wearing evenly, make sure you check the depth in several different areas. The majority of tire troubles occur when there is less than 10 percent of the tread depth remaining. Remember, when it comes to tires, bald is never beautiful. Mechanics check tread depth with a tire wear indicator, which can be purchased at many auto parts stores.

Weather is another issue that usually doesn't come to mind when checking tires, but it can play a part in maintenance. Tires on vehicles that sit parked on hard surfaces or stand in the hot sun for weeks or months can be damaged from lack of use. This damage is caused by ozone and heat and shows up as cracks in the sidewall that weaken the tire.

Bulges and abrasions should also be checked as part of a good tire maintenance routine. A bulge check depends on the type of tire you are using. A certain amount of bulge is normal with radial tires. However, if you notice a bulge on a bias tire, replace it. Any bulge on these tires makes them unserviceable.

On a radial tire, some bulges are not defects. These bulges are the result of how the tires are made. Different manufacturing techniques cause different types of bulges. The best thing to do is ask your tire company if the bulge is dangerous. However, any abrasion that goes all the way through the rubber to the cords means the tire should be replaced. This type of damage is too risky to leave to chance.

Before you hit the road, take the time to check your vehicle's tires. A good tire inspection helps to make a safe and happy trip.

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DIRTY CANOPY

CHIEF WARRANT OFFICER 2 DAVID BEAUMONT

All of us, at one time or another, have experienced driving down the road with a dirty windshield. A quick stop at a gas station to clean it and then we're back on our way. If only it were that simple in aviation. Here is my story about a painful lesson in making sure (or not) my canopy is clean before takeoff.

It was another mission in Iraq in which we departed early in the morning, before sunrise, and returned later in the day. On preflight I noticed the canopy had not been cleaned from the previous mission. I notified the crew chief and finished my preflight preparations. The crew chief went back to get some window-cleaning supplies and, while he was gone, ran into the oncoming shift. The oncoming crew chief returned as we were preparing our final walk-around. The dirty canopy was forgotten in shift change and, by this time, my mind was on other things.

Run-up was completed, my FLIR was optimized and we were ready to go. Neither I nor my co-pilot/gunner realized the canopy was still dirty. I'm sure the crew chief who knew it needed cleaning was back in his room by now. I might have caught the situation had I adjusted my night vision goggles inside the cockpit, but I had donned them after preflight and adjusted them before setting up my cockpit.

We took off and completed the first half of our mission. During the second half, the horizon began to get lighter. Before the sun actually broke over the horizon, the ambient light was sufficient for me to turn off the night system. It is at that moment I realized I had not ensured the canopy was cleaned. It was difficult to see through all the splattered bugs, dirt and grime that coated it. I knew the flight was only going to get worse when the sun became visible.

We were flying in spread formation at this point, so keeping my wingman in sight wasn't a problem. Looking for traffic over congested Baghdad airspace was more difficult. Every turn that pointed us to the east was painful. I found myself putting the aircraft out of trim to avoid needing to look straight forward. After more than an hour of squinting and struggling to see what was out there and where we were going, the mission was finally completed.

This flight ended without incident and, while the story might seem anticlimactic, an important lesson was learned. A simple dirty canopy increased pilot workload exponentially. Concentration was stripped away from flying and the mission at hand to try and make out what was on the other side of that canopy. An obstacle could have been easily missed and caused an accident. Free lesson: Ensure canopies are clean, both inside and outside. It is a simple task that isn't really given much thought, but it will be a big stressor the day it's forgotten.

KNOWLEDGE
OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

ACCIDENT BRIEFS

AVIATION

UH-60M
Class A
A passenger was killed and the aircraft was destroyed when it crashed on short final.

CH-47F
Class A
The aircraft's main rotor system contacted a ridge during pinnacle landing and crashed into the ravine. One crewmember died and the others were injured.

AH-64E
Class B
The crew ex perienced an overspeed condition during flight and landed hard, resulting in damage to the main landing gear and fuselage.

GROUND

Army Combat Vehicle
Class A
A Soldier died after he was struck by an M1126 Stryker during training.

Personnel Injury
Class A
A Soldier drowned while swimming at a river crossing with other Soldiers.

A Soldier drowned when he was swept away by the current while swimming in a river.

DRIVING

PMV-4
Class A
A Soldier was killed when he lost control of his vehicle on the interstate, entered the median and struck a tree. He was not wearing his seat belt. Local authorities stated the Soldier was traveling at a high rate of speed.

A Soldier died after his vehicle rear-ended a semi-trailer on the highway.

A Soldier died when he was ejected from his vehicle as it overturned numerous times.

A Soldier died after he crashed his vehicle at an intersection.

PMV-2
Class A
A Soldier was killed at an intersection while on a group ride with two other Soldiers. The Soldier had completed the Motorcycle Safety Foundation's Basic *RiderCourse* and was wearing all of his personal protective equipment.

A Soldier died when his motorcycle ran off the road and struck a tree.

A Soldier riding as a passenger on a motorcycle was paralyzed when the operator crashed. The operator was treated for fractures and released.

A Soldier was killed when he lost control of his motorcycle in a curve and crashed. The Soldier was wearing full PPE and had completed the MSF's Experienced *RiderCourse*.