U.S. ARMY
KNOWLEDGE
OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

A Deadly Day on the Range

U.S. ARMY COMBAT READINESS CENTER
Fort Rucker, Alabama

Editor's note: According to the saying, there are no new accidents, just new victims. This is evidenced by the fact that we continue to lose Soldiers to the same types of preventable accidents year after year despite the Army's best efforts to keep them safe. For example, as of July 1, there have been three fatal training accidents on ranges this fiscal year. The following article provides insight into a fatal range accident the U.S. Army Combat Readiness Center investigated several years ago and includes some recommendations in hopes of preventing similar needless losses from occurring in the future.

An infantry company was tasked to plan and execute a squad-level fire and maneuver lane. The company set up assembly and sleeping areas a few hundred meters from the lane. The ammunition point NCO in charge issued live and blank ammunition from the same table, where both types were stored during the conduct of the range. There also were some smoke munitions in the same area.

The company cycled the squads through the day walk-through and blank fires before live fires began. The company commander was the range officer in charge, and the platoon leaders alternated as the range safety officer as their individual platoons went through the lane. Their duties included informing range support of the changes via radio or telephone.

The platoon sergeants and the company first sergeant performed

safety duties during the squad iterations, as well as leader and range responsibilities. The company commander briefed each squad at the start point before firing began. The brief was oriented toward the tactical aspects of the lane rather than a general briefing covering both tactical and accidental risks.

As daylight faded, the last few squads cycled through the lane. However, the unit wasn't pressed for time to complete the iterations. The first platoon second squad received their safety brief from the company commander when they arrived at the start point for their iteration.

The squad engaged the first objective, and the squad leader fired a few rounds from his M4 rifle. One of the squad members ran out of ammunition at the second objective, so the squad leader handed the Soldier a loaded magazine from his assault vest. Another squad member ran out of ammunition at the third objective and was handed the magazine from the squad leader's M4. The squad leader then pulled an empty magazine from his vest and inserted it in his M4. However, the natural cycling of the ammunition caused a live round to be in the chamber when the squad leader fired at the first objective.

When the lane was completed, the squad leader didn't clear his rifle properly. The rest of the group did clear their weapons and were checked by team leaders within the squad. However, the safeties and RSO didn't verify all weapons were cleared. The company commander asked if all weapons were cleared, and the group said yes. The Soldiers then loaded a bus for the assembly area.

Dusk was setting in as the squad arrived at the assembly area, so the company ate chow and began the transition to night-fire iterations. During this downtime, the squad leader had come off the range and tasked a Soldier to install a PEQ-2A laser aiming device on his M4. The device originally was installed on the tasked Soldier's weapon, an M240B machine gun, which wasn't to be fired during the night iteration.

The squad leader handed his M4 to the Soldier, and neither performed weapons-clearing procedures. As the Soldier searched for a tool to remove the sight, the squad leader began talking with other company members. The Soldier installed the sight and began looking for his squad leader.

While searching for the

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Mission Statement:
The Army Safety Team provides the Army with safety and risk management expertise to preserve readiness through the prevention of accidental loss of our Soldiers, Civilians, Families and vital resources.

squad leader, the Soldier ran into two other Soldiers practicing knife-fighting techniques with chem lights. The Soldier began walking closer to the other Soldiers because he wanted to join the fun. As he approached, he raised the M4 from the low ready to firing position. He then pointed the rifle at one of the Soldiers and, in one fluid motion, rotated the selector lever to fire and squeezed the trigger. The Soldier the rifle was pointed at was hit in the face with a bullet.

The other Soldiers immediately began administering first aid and called range support and 911. However, different company members called 911 and range support at the same time, causing some conflict in response. The emergency responders were also delayed because of problems getting an accurate description of the situation and the Soldiers' location. The injured Soldier was finally transported by ambulance to a local hospital, where he was pronounced dead.

Why the accident happened

- No one verified an M4 on the range was cleared of all rounds. The loaded weapon was then given to another Soldier.
- No one verified the Soldiers exiting the range cleared their weapons, resulting in a loaded weapon back at the assembly area.
- A weapon that was believed to be unloaded was pointed at another Soldier and the trigger was pulled.
- Procedures violations were allowed to happen within the formation.

Another observation

There was an unnecessary time lapse in the initial calls for emergency care and confusion regarding the information to convey.

What can be done?

- Unit training must be improved to ensure weapons handling and clearing procedures are followed and enforced at all times. Positive command action should also be taken to ensure proper personnel are selected as RSOs and that

FYI

From the USACRC Ground Directorate:

It is imperative leaders at all levels are actively involved in the risk management process and ensure standards are fully enforced. Training ranges must be conducted in accordance with Army Regulation 385-63, Range Safety, and it is critical for commanders to establish range safety certification programs to train and qualify personnel in the duties of officer in charge and range safety officer for firing exercises and maneuver operations in accordance with Department of the Army Pamphlet 385-63, Range Safety.

Key issues to focus on based on recent accidents include ensuring live and blank ammunition always remain separated and Soldiers maintain muzzle awareness at all times. Leaders must also ensure Soldiers of all ranks THINK about weapons safety:

Treat every weapon as if it is 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.

Resources for managing range operations and safe weapons handling, to include privately owned weapons, are available in the Range & Weapons Safety Toolbox at https://safety.army.mil/rangeweaponssafety. 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 other useful sites and tools such as Ground Risk Assessment Tool.

these individuals understand their duties and responsibilities.

• Commanders must ensure all personnel in key range positions are trained adequately to perform their assigned duties. This includes a review of existing local certification training programs and placing special emphasis on RSO duties and responsibilities.

• Commanders must emphasize how complacency and personal indiscipline can lead to accidents and severe or fatal injuries. They must enforce all applicable weapons-handling procedures and expand unit training programs to overcome complacency and discipline shortcomings.

• Commanders must ensure range OICs understand their assigned duties and responsibilities and conduct effective preliminary marksmanship instruction before every range. In addition, all leaders must understand and practice risk management.

• Soldiers at all levels should rehearse the casualty evacuation plan to determine if any shortcomings exist and take measures to correct deficiencies. Seconds can make the difference between life and death for an injured Soldier.■

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Over the Edge

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It was the Saturday of the first battle assembly weekend in the new fiscal year, and a staff sergeant and a few of his Soldiers were conducting a recon. The plan was to take a HMMWV into the hills to find the perfect location for training. This plan would have worked out great had it not rained the past two days.

On this day, however, the weather was clear with the temperature hovering about 68 F. Everything was going well on the recon until the Soldiers got to a bridge. The structure wasn't exactly what comes to mind when picturing a bridge; it was more of a low water crossing. If not for the previous days' rain, crossing this bridge would have been a piece of cake. Now it was flooded.

"No problem," the sergeant thought. "We're in a HMMWV. A little water won't hurt us." Before attempting to cross, the sergeant talked to some locals who lived nearby about the width of the bridge. They assured him the HMMWV could make it. He also watched a pickup truck cross the bridge successfully. Two Soldiers then walked across the bridge so the sergeant could roughly measure the width. Neither Soldier fell in the stream, so the sergeant figured the bridge was wide enough for the HMMWV.

The Soldiers entered the HMMWV and started across the flooded bridge. Just before reaching the middle, the HMMWV's left-front tire slid off the left edge. At this point, the sergeant realized attempting to cross was a bad idea; but before anyone could move, the left-rear tire also slid off the bridge. The sergeant instructed the Soldiers to slowly exit the HMMWV. After everyone was safely out the vehicle and back on land, all they could do was watch as the HMMWV rolled off the bridge and into the stream.

Since it was Saturday, the nearest Army Reserve maintenance shop was closed, so the proper wrecker wasn't available to retrieve the HMMWV. This forced the Soldiers to call a local towing company. The first tow truck arrived on the scene but couldn't move the HMMWV, so another truck was called. Fortunately, the second truck was able to pull the HMMWV from the stream. Unfortunately, the HMMWV wasn't properly hooked up to the tow truck and sustained nearly $20,000 in damage.

The sergeant and his Soldiers learned an important lesson that day: Floodwaters can hide damaged roadways and low water crossings, so if you can't see it, don't cross it. They also learned to conduct training recons during the week — when the maintenance shop is open — and have a retrieval plan for vehicle breakdowns and accidents. Luckily, no one had to pay for these lessons with their life.■

FYI

Field Manual 3-90.12, Combined Arms Gap-Crossing Operations, focuses on the elements necessary for the forces to cross an obstacle, wet or dry. To view this publication and others related to equipment safety operations, check out our Driver's Training Toolbox at https://safety.army.mil/drivertrainingtoolbox/. Having a strong, solid foundation on the aspects necessary for the conduct of water crossings enables the personnel and equipment to be safely postured.

Crossing the Gap Safely

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Fort Rucker, Alabama

Vehicle water crossings are an inevitable, yet necessary, task for leaders, Soldiers and personnel to accomplish their mission. Because of the inherent danger in water crossings, it is imperative units conduct proper terrain analysis, personnel training in fording operations, equipment preparation, and apply risk management during the planning process and well before the execution phase.

There are many important factors to consider before conducting water-crossing operations. I would like to highlight a few best practices and lessons learned in an effort to shed light on how to mitigate risks associated with water crossings.

Soldiers and leaders may not realize the buoyant force on an object is equal to the weight of the fluid displaced by that object. A cubic foot of water weighs about 62.4 pounds. Vehicles displace a lot of water when they enter a river or creek bed, and the pressure exerted by moving water increases with the square of its velocity.

The depth and width of the area to be crossed, the bank conditions and the river's current velocity are major factors to consider before attempting a water crossing. These factors will determine if equipment and personnel can cross by fording or swimming, if use of expedient materials is practical, or if specific bridging assets are required.

Some common risks of trying to cross water include vehicles stalling or becoming stuck. Most times, when a vehicle stalls, personnel try to get out of the vehicle. Once outside, they are exposed to swift currents that may result in them falling into the water and being swept away or jammed into debris downstream.

Drivers and their vehicle commanders also must be aware of environmental conditions and other issues associated with water crossings. Water clarity and lighting circumstances could conceal the condition of the roadway beneath them. Floodwaters can also hide a damaged roadway.

Other factors to consider before conducting water-crossing operations include:

- Follow all vehicle fording and swimming instructions in accordance with the vehicle's technical manual.
- During training exercises, ensure drivers and crewmembers wear personal flotation devices if the water is more than 4 feet deep.

Factors to consider during water-crossing operations include:

- Ensure the water depth at the fording site is below the vehicle's fording limits and the site is clear of submerged obstacles.
- Do not exceed 4 mph when entering and traveling through the water.
- Consider not wearing load-bearing equipment during fording operations. The equipment could snag on vehicle components and prevent crewmembers from escaping through the top hatches during emergencies.
- Consider leaving combat locks unlocked during fording and when operating near bodies of water.
- Store sensitive items and small arms inside the vehicle. If the vehicle sinks, these items can be easily retrieved during recovery operations.
- Attach dismounted troops to a safety line when crossing.
- Do not cross more than one vehicle at a time, and do not cross a vehicle beside dismounted troops.
- Ensure the fording site has adequate entrance and exit points and a firm bottom.

Analyzing wet gaps and using the necessary resources available should allow for safe crossings and minimize unnecessary risks. Just remember to always act safely, trust your training and don't cut corners.■

FYI

Think your tactical vehicle is heavy enough to protect you from fast-moving water? Think again. If a 97,000-ton aircraft carrier can float, so can your 3-ton HMMWV. The reason is buoyancy. According to the National Weather Service, most cars can be swept away in 18-24 inches of moving water. Trucks and SUVs — even with their higher clearance — do not fare much better. Whether driving or walking, any time you encounter a flooded road, the NWS encourages you to "Turn Around, Don't Drown."

Get the tools before the road gets rough.

Driver's Training Toolbox

https://safety.army.mil

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READINESS THROUGH SAFETY

A Perfect Example

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For years I have bought my children small dirt bikes and gone riding with them. I never let them ride without wearing their personal protective equipment and always set the example by wearing my own — except that one day when I made an exception.

It was late on a Sunday afternoon during a Labor Day weekend and I was working with friends to roof a barn. The kids had gotten bored and went looking for something more exciting to do. Eventually, they found their dirt bikes and dragged them out. Having been sitting for a while, the bikes were difficult to start, so I came down from the roof to help get them running.

Once I got the bikes started, the kids rode them up and down our 900-foot-long dirt driveway a couple of times. My kid complained his bike wasn't running correctly, so I decided to give it a quick check ride. I ignored my own rules about wearing PPE and didn't put on a helmet, gloves or other protective gear. After all, I was only going up and down the driveway. What could happen?

About two-thirds of the way down the driveway, the engine started to over-rev. I couldn't get the bike to downshift, so I tried to slow it down by using the rear brake. Well, that didn't work either and I was fast approaching the end of the driveway, which opened onto a busy state road. Instead of going for the shut-off valve, I grabbed the brake handle, locked up the front tire and spun to the left. I then launched over the handle bars, landed on my left shoulder, flipped and slid face-down for at least 25 feet. Altogether, I managed to break my collarbone, burn my left leg, get a nasty case of road rash on my right arm and face (got four stitches there) and tear up my knees and elbows. Some example I was.

Had I been wearing my helmet and other PPE, the only injury I probably would have suffered would have been the broken collarbone. Instead, I provided my children with a perfect example of what not to do. Maybe at least seeing the consequences made an impression on them. Hitting the road certainly made an impression on me!

I'm glad it was me on the bike and not one of the kids when the engine malfunctioned. However, at least they were wearing their safety equipment — which reinforced a lesson for me. There is no situation so safe or harmless that you don't need to wear your PPE.■

RIDE FOR YOUR LIFE

The Motorcycle Mentorship Program establishes voluntary installation-level motorcycle associations where less experienced riders and seasoned riders can create a supportive environment of responsible motorcycle riding and enjoyment. This can create positive conduct and behavior and serve as a force multiplier that supports a commander's motorcycle accident prevention program.

MMP
MOTORCYCLE MENTORSHIP PROGRAM

Check out the USACRC MMP website for some examples of active mentoring programs.

https://safety.army.mil

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Flying the Crowded Skies

CHIEF WARRANT OFFICER 5 TOM MCCLELLAN
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Operating manned and unmanned aircraft in the same airspace is always going to be hazardous, and more so in the future. During my most recent deployment to Kandahar Airfield in Afghanistan, I was notified of a close call of the worst kind — a near mid-air collision between a UH-60 medevac and an MQ-1 Predator unmanned aircraft system. It's important Army aviators learn from incidents such as this one and share the information so we can reduce the chances of it occurring again.

It was about 2100 hours and five crewmembers were returning to Kandahar Airfield in the medevac aircraft. They were coming from the south and descending from 5,000 feet mean sea level altitude to reach the inbound altitude of 3,800 feet. The procedure called for visual flight rule aircraft to maintain 3,800 feet when crossing the VFR reporting point and continue at that altitude until entering the pattern to land at the airfield.

The crew was unaided, and the CW2 pilot in the left seat on the controls noticed lights ahead. He was unclear if they were ground lights or lights from another aircraft. He mentioned the lights to the other CW2 pilot and they discussed it for a moment.

The medevac would reach the reporting point in about 30 seconds. The pilot on the controls began to feel the lights directly ahead may be lights from another aircraft and started a climb to avoid the traffic. Suddenly, the apparent speed of the lights directly ahead of the Black Hawk increased rapidly. It was another aircraft. One second later, the MQ-1 passed the medevac within 100 feet of the left door at the same altitude, just missing a head-on collision.

In most aircraft accidents, there is a combination of factors that lead to the crash. This was no different. Fortunately, there was not a crash and all crewmembers survived.

"This incident illustrated the need to reinforce the procedural control processes with all Army rotary-wing personnel and to establish new unmanned procedures at the airfield."

What went wrong?

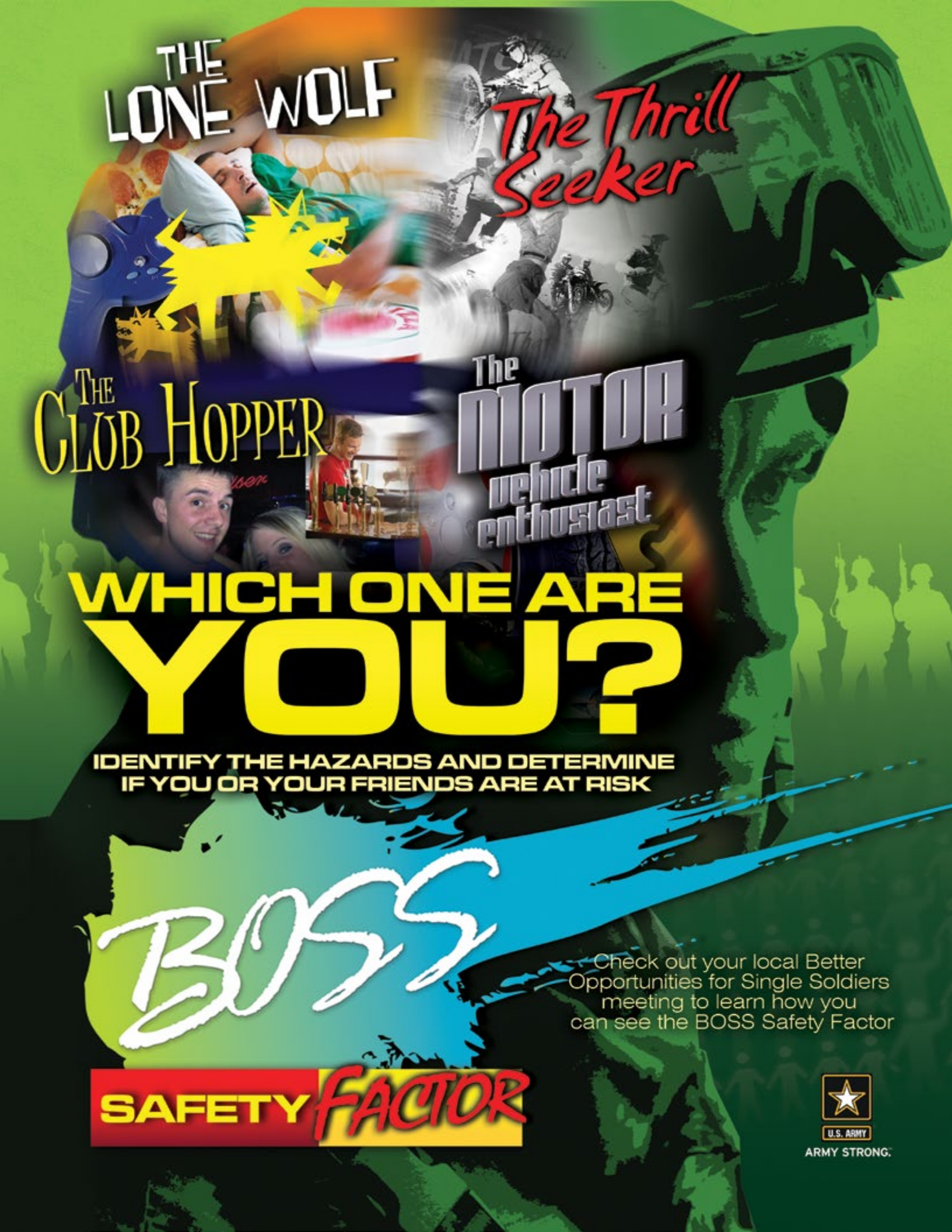
There were many mistakes or events that led to this incident. The aircrew started following the VFR procedures when returning to the airfield, going to the procedural altitude at the VFR reporting point. The aircrew followed the correct radio procedures until the

pilot noticed the lights of the aircraft ahead. The medevac then began to climb without contacting the tower. They did not ask air traffic controllers in the tower about the lights.

The near-miss happened about 800 feet above the 3,800-foot inbound procedural altitude. The MQ-1 had departed on a runway heading to the west. Just after takeoff, the aircraft was cleared to turn south and proceed to the bore-site area south of the airfield and climb to the UAS procedural altitude of 10,000 feet.

The radar tracks of both aircraft showed the UAS flew directly over the VFR reporting point — just 500 feet above the VFR reporting point altitude of 3,800 feet. At the point where both aircraft passed each other, the UH-60 and MQ-1 were at an altitude of 4,600 feet, which was about 800 feet above the VFR procedural altitude of 3,800 feet.

This incident illustrated the need to reinforce the procedural control processes with all Army rotary-wing personnel and to establish new unmanned procedures at the airfield. UAS operations now call for all unmanned aircraft to maintain runway heading after takeoff until reaching 10,000 feet before given clearance to turn in any direction, including proceeding directly to the bore-site area. This new UAS procedure will ensure the unmanned aircraft will remain well clear of the vicinity of all VFR reporting points. The lessons learned here are valuable, especially as the density of manned and unmanned traffic around airfields increases in the future.■


THE LONE WOLF
The Thrill Seeker
The Club Hopper
The Motor vehicle enthusiast
WHICH ONE ARE YOU?
IDENTIFY THE HAZARDS AND DETERMINE IF YOU OR YOUR FRIENDS ARE AT RISK
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Check out your local Better Opportunities for Single Soldiers meeting to learn how you can see the BOSS Safety Factor
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There's Always Something

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When I was a young sergeant, squad leader and shop foreman in a forward support company stationed at Fort Sill, Oklahoma, my section was shorthanded as we were training to deploy. As in any support unit, we had two missions when it came to deploying: First, making sure the unit we supported was fully mission capable; and second, ensuring we were fully mission capable to deploy.

It was a Wednesday afternoon in late June when my platoon sergeant told me to get to the company because I had a new Soldier who was to be the newest addition to my section. As a maintenance NCO knee deep in fixing a ton of things at my shop, I was furious I had to stop what I was doing and head all the way on the other side of post to pick up a new Soldier.

I arrived at the unit to see this new private standing at parade rest in the corner of the platoon sergeant's office. He looked scared to death. I tried to be as personable as I could so he would relax because he looked as if he was about to pass out. The platoon sergeant filled me in on the Soldier's background, gave me a copy of his in-processing packet and told me to take care of it. Oh, and I only had about 48 hours to take care of it because in a few days the section was headed to the field for two weeks.

I thought to myself, "There is no way. Not only do I have to take care of this kid, I also have three deadlines in the shop!" I asked the platoon sergeant if he had a room in the barracks already. "No," he replied. "He just came to us 45 minutes ago. You have a ton of things to do because the first sergeant said this kid is going to the field with us, so make it happen!"

"There is always something a leader can do to help prevent accidents."

The Soldier had nothing but the uniform he was wearing and two duffle bags full of stuff. After I threw his bags into the back of my truck, I finally got the kid to start talking to me. He eventually began to warm up as we ran around post in-processing. I realized during our conversations, however, that this guy was going to be a handful. He had never been away from home before basic training and never passed an Army physical fitness test. On top of that, he'd gotten an Article 15 in AIT for underage drinking. I thought, "At least there's no way this guy can mess up this weekend. He just got here."

On Friday morning, we drew his CIF and I took him to his room and helped him put his stuff together. Unfortunately, the more I got to know the Soldier, the more I got a bad feeling about him. He kept

mentioning how he was ready for the weekend so he could let loose.

I told him that during his first 30 days at the unit he was restricted to post. Our battalion's policy was all unaccompanied Soldiers living in the barracks were restricted to post during the integration period. I also explained our unit's do's and don'ts, but he didn't seem interested in what I had to say. It was like he'd already made up his mind about what he was going to do because this was his first weekend of freedom. He never came out and told me that; it was just a gut feeling I had. Turns out my gut was right.

Later that afternoon, the battalion command sergeant major gave the weekend safety brief. He even brought all of the battalion's new Soldiers up front to help with the brief. My Soldier was one of them, and he actually did really well. I was impressed with his ability to brief a whole battalion without appearing nervous. He even recited things I said when we were in-processing him. My chain of command was pretty impressed too.

Following the CSM's brief, I wanted to talk to my squad. I looked around for the new Soldier, but he popped smoke right after the platoon briefing. I was pretty mad since I hadn't released him yet, but I wasn't going to keep the rest of my squad because this Soldier wanted to get a head start on the weekend.

The weekend went pretty well until Sunday morning at 0700, when I got a call from my platoon sergeant. He said the new kid got into a wreck on post. I thought to myself, "He doesn't even have a license. How could he have wrecked?" My platoon sergeant said I was to meet him at the CID office to help pick up the Soldier.

As I drove to meet the platoon sergeant, I wondered why we were going to CID. The new guy was supposed to be the designated driver for a group of Soldiers living in the barracks. Well, apparently he was sneaking drinks from another Soldier while they were at the bar. On top of that, he found a civilian at the bar selling cocaine; so the "designated driver" was not only drunk, he was high as a kite. Somehow the group made it back onto post, but the Soldier wrecked about a block from the barracks. Luckily, no one was seriously injured, though one Soldier in the backseat did get a little banged up.

Monday morning was quite interesting for me. I found myself in the CSM's office with my first sergeant and platoon sergeant, and we got our butts chewed. One of the questions I was asked was, "Sergeant, what did you do as a leader to prevent this accident?" I looked at him and said, "CSM, I believe that this was the Soldier's choice." Before I could say anything else, the CSM stopped me and said there is always something a leader can do to help. I walked out of the office thinking about what I could have done differently, but I had nothing.

Later, I realized my CSM was right. There is always something a leader can do to help prevent accidents. In this case, I saw signs that this Soldier was going to be a handful, but I had other things on my mind like the deadlines in my shop. I should have brought it up to my platoon sergeant. Maybe he could have helped. And although I briefed the Soldier on our unit's policies, maybe I could have broken them down so they related more to him personally. I also know now I should have checked on the Soldier throughout the weekend. Any one of these actions might have shown this kid that someone cared about him and prevented the accident.

After this accident, I was determined to not let anything like this happen again. I started paying extra attention to what was going on in my Soldiers' lives. If I see something troubling, we talk about it so it doesn't lead to bigger problem. Ultimately, this Solider was responsible for his poor decisions. But as his leader, I could — and should — have done more to help him make better choices.■

Ready ... or Not **is a call to action for leaders, Soldiers, Army Civilians and Family members to assess their readiness for what lies ahead - both the known and unknown.**

Throughout our professional and personal lives, events happen all around us. We are often able to shape the outcome of those events, but many times we're not. Navigating life's challenges is all about decision-making.

So are *YOU* ready ... or not?

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Do What You Brief

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Being involved in direct-support air assaults brings its own hazards that we plan for and work out in every detail. We know where we are going and what time we are going to be there. We know how much weight is onboard, what assets we have for the actual landing and where they will be. All participants know what frequencies to be on and how to contact each other. Unfortunately, no matter how well prepared we are, unexpected events can arise, like crossing paths with two aircraft flying their own mission.

We were working as a dual pilot in command cockpit as a risk mitigation for this type of mission due to the high-profile attention they would get and because of the use of night vision goggles. I was flying as the pilot in the right seat. We had just completed a simple infil that went well for the conditions and we were all pretty relaxed now that we were headed back to the house and pretty much out of range of the enemy.

I was on the controls and watching our flight path, making sure I was on course by bouncing it off what my multifunction display was showing. We were well south of the airfield and our sister ship was making common traffic advisory frequency calls on the common frequency.

The night was clear and we could see for a substantial distance in front of us. Suddenly, we saw the flashing of a top anti-collision light of an aircraft in the distance. As a crew we started to focus on this blinking light on the horizon, trying to figure out which way it was headed. Eventually we saw the light was coming toward us, so we adjusted our altitude to ensure we didn't end up on a collision course.

"We learned that no matter how much planning you do, you still must always expect the unexpected."

We called back to our second aircraft and gave them a heads-up. They acknowledge they saw it and made a call on the common frequency to make sure the other crew saw us. Up front we continued to look for the second aircraft we knew should either be in front or behind the one we could see. All eyes in our aircraft were focused in front and down, searching for the other aircraft, all the while never hearing any kind of response that they even knew we were in the area. As the other aircraft was close to passing below us on our left (about 500 feet below and almost a half-mile out), we were still searching for its sister aircraft. I decided to stop focusing on them and looked out front.

To my surprise, I spotted the second aircraft coming straight at us. I announced what I saw and broke left to try and escape a head-on collision with an aircraft that shouldn't be there. As we leveled out, each aircraft passed the other with no contact. I looked in the other cockpit and saw that none of that crew was even looking at us. They had no idea how close we came to running into each other.

We calmed down, continued to home station, parked and shut down. As a crew, we talked about what we all thought had happened from our own view. We decided we needed to report what happened to our tactical operations center. We were told the other aircraft were a flight of two from a different forward operating base. A couple of days later, we got an update that the other crew never even saw us during the entire event.

We learned that no matter how much planning you do, you still must always expect the unexpected. As a unit, we started tracking when other flights would be in our area of operation and made them aware of missions. As a crew, we found that no matter how much experience you put in the cockpit, it is only as good as the crew coordination being used. I never scanned where I should have and briefed that I would be looking.

We became focused on the first aircraft and got lost in the fact that just because we fly a certain way, not all flights fly the same. That second aircraft may not be where we think it should be. The main thing I took was brief what you want, but do what you brief.■

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The Weight of War

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In his ancient military treatise "The Art of War," Sun Tzu notes that if you put your army on a forced march at a certain speed, you will lose one-tenth to two-thirds of your troops along the way. While technologies have changed over the past 2,400 years, the effectiveness by which troops can march long distances with their equipment continues to be a critical factor in the success of many military operations.

During dismounted troop foot movement, Soldiers must carry heavy equipment over varying terrains with multiple environmental hazards. Carrying heavy loads leads to more rapid fatigue, greater food and water requirements, awkward body postures, and unaccustomed stress and friction to various body parts. These factors reduce Soldiers' physical and mental combat performance capabilities and increase the risk of injuries. The impacts can be fatal for individuals and detrimental to unit mission success.

Though its costs are well documented by both scientists and military historians, the ability to effectively and rapidly move troops by foot is an indisputable advantage in many operational circumstances. Therefore, foot march training, or "rucking," remains an important component of Army readiness training. Foot march training that is too excessive or intense, however, can unnecessarily increase the risk of both acute and overuse injuries. The injuries can cause a few days to weeks or months of limited physical activity or medical treatment and possible permanent disability.

Though training to fight will always be associated with some injury, the Army can train smarter. Various military studies and observations support this concern, such as:

- Foot march training was found to be five times more hazardous in terms of injury rates than regular physical training.
- Foot marching was reported as the second-leading cause (next to running) for training-related injuries in IET trainees and a non-deployed infantry unit.
- Ruck running may increase injury risk, so speeds should not exceed 3-4 mph.
- Performance has been optimized by training programs that include a mix of loaded foot marching (e.g., one session each week to 10 days); non-march upper-body resistance physical training (e.g., two session per week); and aerobic training with intervals (e.g., 2-3 session per

FYI

Leaders and Soldiers are encouraged to submit questions or share information that might help address current data gaps on this topic. Submit comments to the Army Public Health Center (Provisional) at usarmy.apg.medcom-phc.mbx.injuryprevention@mail.mil. For additional information, visit the APHC Injury Prevention webpage at http://phc.amedd.army.mil/topics/discond/ptsaip/Pages/default.aspx. Also look for the update to Army doctrine Field Manual 21-18, Foot Marching, pending publication as ATP 3-21.18 later this year.

week). Programs that do not include adequate non-marching activities to increase overall physical fitness may have higher injury rates.

• Training programs that increase the intensity (load weights) and/or distance (time) too quickly can increase injury risk. A general rule is to not exceed a 10 percent increase in intensity or distance on separate days weekly.

Injuries of concern

Foot marching-related injuries can occur in almost any part of the body **(see Figure 1 on next page)**. Most injuries result from the repetitive stresses placed on the body's skin, bones, muscles and nerves. The vast majority occur in the back and lower-extremities, including the legs, knees, ankles and feet.

Environmental conditions can also contribute to injuries. For example, rough terrain and imbalanced loads can lead to acute sprains or fractures from slips, trips and falls. Heat stroke, heat exhaustion and heat cramps are a concern given the hydration needs of personnel wearing body armor and carrying heavy gear. Cold weather, altitude, insects and animals can also cause injuries.

Severe musculoskeletal injuries — such as ankle fractures or sprains from falls or

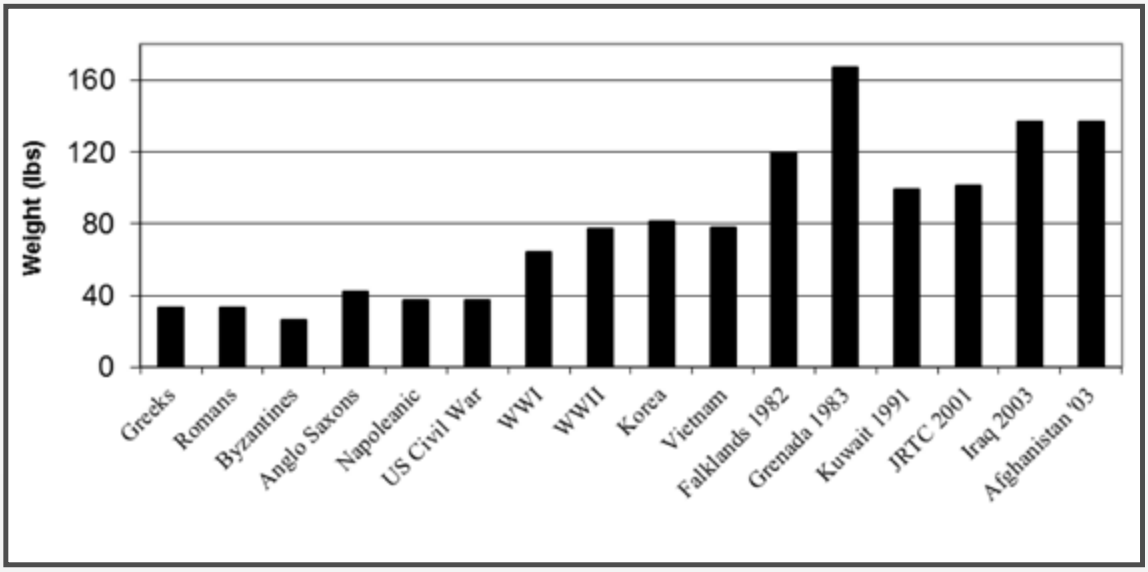
"Unit leaders should assess their foot march training programs and apply prevention measures to help minimize these injuries."

stress fractures from overuse — can require substantial medical care and result in months of lost duty time or even medical discharge. Stress fractures in the pelvis, which have been found more frequently in female recruits, require especially long rehabilitation. Various injuries to the back and knee pain may become more noticeable over time, reoccur sporadically or possibly result in long-term chronic conditions.

Even minor injuries such as blisters or foot numbness can become severe if not addressed in time. Some injuries, such as ruck sack palsy, a specific shoulder nerve compression condition, are uniquely associated with ruck marching. Other overuse injuries may not be attributed to foot marching activities alone. For example, stress fractures of the hip, leg and foot and knee injuries may be exacerbated by running.

What's the solution?

Unfortunately, technology alone cannot solve the age-old problem of overloading the foot soldier. In fact, over the last century — despite the weight reduction of some items — technological advances in individual protective equipment, munitions and communication systems have instead contributed to an increase in the average weight of carried loads **(see Figure 2 below)**. Other "heavy" supplies, especially water, simply cannot be replaced. The loads carried in recent operations in the Middle East have been reported to average more than 100 pounds.



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INJURIES ASSOCIATED WITH THE WEIGHT OF WAR

- Upper back & neck pain
- Lower back pain
- Shoulder pain,
- Nerve compression conditions (Ruck Sack Palsy)
- Pelvic stress fractures (Pubic Ramus)
- Hip stress fracture (Femoral Neck)
- Nerve compression in thighs (Meralgia Paresthetica)
- Knee pain
- Patella FemoralSyndrome
- Lower leg (tibia) stress fractures
- Blisters, ingrown toenails, and infections (cellulitis)
- Stress fracture
- Nerve compression in foot (Metatarsalgia)
- Ankle sprains & fractures

More rare but **potentially fatal** muscle-related conditions:

- Rhabdomyolosis
- Muscle Compartment Syndrome

ADDITIONAL **ENVIRONMENTAL** INJURIES: HEAT COLD ALTITUDE INSECTS & ANIMALS

http://phc.amedd.army.mil/

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Unit leaders should consider the following suggestions to both optimize performance and minimize injuries:

• Review injury risk factors and possible prevention tactics **(see table to the right)**.

• Encourage Soldiers to modify individual factors within their control.

• Plan and document the unit's foot march training program purpose, necessary distance(s), equipment and weights, speed(s), terrain and environmental factors, and progression goals and dates for each training session.

• Ensure physical training regimens avoid consecutive days of intense lower extremity training such as distance runs and foot marching.

• Be aware of the unit's injury rates and the types of injuries experienced to adjust training regimens as needed.

• Consider coordinating with master fitness trainers or physical therapists to establish and plan a training program that is best suited for a specific unit.

Train to fight smart

The Army's primary investment is in developing and maintaining Soldiers who are physically and mentally ready to fight our wars. Rigorous physical training is a necessary part of this investment, and with it there will be some injuries. However, many injuries are not an acceptable part of "doing business" — nor should they be a way to "weed out the weak." Unit leaders should assess their foot march training programs and apply prevention measures to help minimize these injuries.■

Table. Loaded March Injury Risk Factors and Prevention Tactics

Risk Factors	Prevention Tactics
At the individual level	
Small frame and height	♦ Though some individual factors cannot be changed, they may be accommodated to minimize unnecessary risk. For example, equipment design or strap use may need to be modified for those of smaller stature, or speed and progression times adjusted.
Prior injury or illness	♦ To avoid re-injury or more serious injury, ensure adequate recovery and retraining times (such as twice the profile time)
Low muscle mass Low fitness levels	♦ Precondition and follow balanced Army physical readiness training (PRT) program to increase aerobic fitness, muscular strength, muscular endurance, as well as agility, power, and balance.
Tobacco, alcohol, and drugs that may impair body tissue function for recovery Inadequate nutrients/ energy and/or hydration	♦ Avoid substances that can slow down your body's normal ability to repair muscles and bones after physical exercise ♦ Consume enough of the right foods and drink plenty of fluid before, during and after loaded march activities. A *lot* of calories and fluids are needed to help minimize fatigue, illness, injury and help recovery.
Improper foot care	♦ Wear properly fitted and broken in boots ♦ Properly cut toenails (short, flat, not curved) ♦ Use synthetic socks, with thin liners (e.g., nylon) ♦ Carry extra socks to change to keep feet dry ♦ Use ointments/tapes to reduce friction blister prevention
Excessive body stress and friction from equipment	♦ Only carry required items and wear proper equipment (e.g., MOLLE ruck with pockets to distribute weight) and adjust sternum, shoulder, and hip straps to minimize strain on lower back ♦ Keep weight close to body and reducing movement/rubbing, stop and readjust if numbness/pain begins ♦ Pack heavier items on top for even terrain, distribute lower for hills
At the unit level	
Inadequate progression of load weights and duration (distances) and inadequate recovery time	♦ Gradually increase load weight and distances over 2-6 months. This is essential for recruits or less experienced. ♦ Stagger increases to weights and distances (no more than 10% each time) while factoring in unit experience, fitness level, climate, terrain ♦ Be aware of and avoid consecutive days with other intensive physical training to allow adequate recovery
Frequency of foot march training >1 per week	♦ Evidence suggests every 10-14 days combined with non-marching aerobic and muscular strength and endurance activities may improve performance as well as one marching session a week
Excessive Duration excessive Excessive Speeds (> 5 miles per hour (mph)) Excessive Intensity (Weight, in combination with speed) http://phc.amedd.army.mil	♦ The only Army wide requirement is to tailor march training distances (and weights and speeds) to unit specific needs ♦ Carefully evaluate need to ever exceed 12 miles in a day or cover longer distances over a few days ♦ 3-4 miles per hour goals are fast paced maximal goals ♦ "Ruck-running" sessions should be avoided ♦ 20 pounds may be enough to start recruits. Increasing weights more than 20 pounds each week may increase injury risk. Do not increase weight on days that speed or distance is increased. ♦ Ideally weights should not exceed 60 pounds (45% average body weight). The need to carry heavier weights should be determined by unit commanders and achieved gradually over time.


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Blinded by the Light

MARK KELLEY

It wasn't a typical rush-hour traffic pattern. Instead of a steady flow, vehicles were clumping in groups and coming to a stop in unpredictable patterns. Eventually, the cause became apparent. Up ahead, dump trucks and road-building machinery, as well as groups of road construction crews, were working on the highway. The weather was perfect; however, the setting summer sun was wreaking havoc on westbound motorists, causing some to find creative ways to block the glare so they could see to drive.

The road crews were working on a one-mile section of both the eastbound and westbound lanes on a divided four-lane highway. This section of highway was further divided into subzones, with crews funneling traffic into one-lane corridors. Vehicles were ushered through the zones by warning signs and flaggers with traffic-control signs.

In addition to construction zones and subzones, the roadwork caused intersecting access points to become partially blocked by traffic. Unfortunately, the road crews didn't fully man or control all intersecting ingress and egress points along the highway. As a result, some drivers were entering the highway from an access point with a limited sight distance. There were numerous close calls, and it was only by luck vehicles didn't collide. The road crews weren't immune to the danger either. Because they were facing westbound traffic, they were at the mercy of the sun-blinded drivers, frequently dodging passing cars and trucks.

As rush hour progressed, drivers were becoming increasingly aggressive in their attempts to traverse the constructions zones. To make matters worse, the sun angle became even more intrusive as the traffic volume peaked. Cars were darting in and out of traffic lanes, and following distances got progressively shorter to the point that westbound traffic was now bumper to bumper. Brake lights were almost impossible to see through the blinding glare of the sun.

"The blinding sun and aggressive drivers are a dangerous combination."

I drove slowly through the westbound traffic. When I reached the last series of construction subzones, the flagman signaled traffic to resume to the posted speed limit. Motorists were more than happy to speed up — despite the continued reduced visibility due to sun glare. As I rounded a curve, another westbound vehicle started passing my car. I was traveling below the posted speed limit and rounding a curve when I saw a pickup truck start to pull out of a side road and into the lane ahead of me and stop. At the same time, the sun blinded my vision.

Unable to judge closing distance or change lanes to avoid collision, my car T-boned the pickup at almost 45 mph. My air bag deployed and the inertial-reel

lap/shoulder belt engaged, stopping my forward motion into the dash. All my tools in the back seat flew through the busted windshield and landed on the road ahead. The pickup truck's fuel tank ruptured, spilling gas on the road and pooling in front of what was left of my car. Dazed but otherwise uninjured, I was able to get away from the wreckage.

Soon afterward, emergency medical services and law enforcement arrived, securing the scene and transporting me to the hospital. The pickup driver was cited for causing the accident. He was unhurt, as most of the impact was in the truck's bed right behind the cab. After being looked over at the hospital, I was released.

Lesson Learned

The blinding sun and aggressive drivers are a dangerous combination. This was the first accident I'd ever been involved in during my more than 40 years of driving in all types of conditions. It just goes to show that despite your experience and skill, you never know what the other guy is going to do. As motorists, we must always be alert and wear our seat belts. On this day, my seat belt saved my life.■

FYI

The rising and setting sun can result in highway havoc for motorists. So what can they do to protect themselves? AAA offers the following tips:

- Invest in polarized sunglasses, which can help reduce glare.
- Use your sun visor. It can help to block out the sun.
- Leave more following room. When the sun is in your eyes it can be hard to see what the car ahead is doing. This is one more instance where it pays to leave extra room between you and the next vehicle.
- Drive with your headlights on to increase your visibility to other drivers

Additional tips include:

- Keep the windshield clean, inside and out.
- Check the windshield for pitting and cracks.
- Avoid storing papers or other items on the dashboard.
- If having a difficult time seeing the road, use lane markings to help guide you.

HERE IT COMES

Don't make a bad situation worse.
Whether it's changing a flat tire or stopping to render assistance to a stranded motorist, practice smart roadside safety techniques so you don't end up another accident victim.

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READINESS THROUGH SAFETY

Fixation Happens

CHIEF WARRANT OFFICER 2 THOMAS B. FARRELL
1st Battalion, 14th Aviation Regiment
Fort Rucker, Alabama

Most everyone has heard horror stories involving target fixation, but they don't believe it will ever happen to them. Typically, Army aviators are Alpha males or females who think they are invincible, the best of the best. Of course, they want to make sure fixation is always discussed during training, but in the back of their minds, they think it is only for the junior aviators.

I was flying as part of a Scout Weapons Team with two OH-58Ds in Kandahar, Afghanistan, in 2013 when we were called in by the ground forces who were receiving heavy machine-gun fire from multiple locations and were unable to maneuver. I was in the left seat of the trail aircraft, in charge of operating the mast mounted sight to detect targets from a distance as well as communicating with the higher command. My right-seater was a CW4 standardization pilot/instrument examiner who was also acting as the air mission commander that day.

Our lead aircraft had a staff captain who didn't get much flight time in theater, but he was in the right seat. His left-seater was a CW2 line pilot who flew almost every day while deployed. The abilities of the crewmembers were evenly distributed throughout the team.

While the ground forces continued to receive fire, we moved in to give them immediate air support and hopefully deter the enemy just by showing up on station, which was the case in this particular firefight. However, the ground forces maintained positive identification of one of the enemy shooters and passed off the target to us. We gained visual contact of the shooter and proceeded to track him through fields and grape rows. Our lead aircraft was communicating with the ground force commander, and our team was given the green light to prosecute the target with .50-caliber fire only due to buildings being too close for us to use our 2.75-inch rockets or Hellfire missiles.

At the last minute, my AMC sitting next to me decided he wanted to take the shot first because he felt more confident in his abilities to put rounds on target since the lead aircraft right-seater was the staff captain. So, we took lead and proceeded to set up for diving fire.

We climbed up from 500 feet above ground level to 1,000 feet AGL and bled off some airspeed. Everything was looking good and we were ready to push in. My right seater announced, "Pushing over," which meant he was starting his dive and we were about to engage. As soon as we nosed the aircraft over, he began firing at the enemy shooter, who was moving down

a trail through some grape rows.

My right-seater wasn't hitting the target but was determined to and didn't want to let up. As the ground came closer and closer, I began to tell him to cease fire to cue him in on pulling up and away. But he didn't do that. He continued firing.

When I finally thought it was time to pull up, I safed the gun, grabbed the controls and began to pull off the target. At that point we were both on the controls and pulling up for dear life. Our tail boom went down below and between the 6-foot-tall grape rows. On the other side of the field was a mud wall about 4 feet high. Our skids just grazed the wall, breaking off our skid shoes on each side of the aircraft.

The moral of the story is no matter who you are or what hour level you are at, fixation can happen to you. It happened to one of the best SP/IEs I've ever flown with. Of course, he apologized and thanked me for recognizing what was going on. He also went back to the troop when the day was over and made sure everyone knew what happened. He just wanted to make sure everyone was aware that it could happen to any of us. Believe me — fixation happens.■

HERE IT COMES

Overcorrecting often leads to rollovers, the deadliest of vehicle crashes.

How can you prevent it?
Don't panic! Take your foot off the gas, smoothly steer back onto the road and, if you must brake, apply even pressure to the pedal without stomping.

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READINESS THROUGH SAFETY

Asleep at the Wheel

NAME WITHHELD BY REQUEST

Risk management, safety and constant planning are a way of life for the military, but so are chaos, deadlines, demands and stress. Sometimes it seems as if there isn't enough time in the day to accomplish all our tasks, but the job always seems to get done. Benjamin Franklin wrote, "If you want to enjoy one of the greatest luxuries in life, the luxury of having enough time, time to rest, time to think things through, time to get things done and know you have done them to the best of your ability, remember, there is only one way. Take enough time to think and plan things in the order of their importance." When leaders forget to follow basic principles like these, people get hurt or killed.

We were setting up a convoy operation from North Carolina to Virginia. We were doing all the usual steps — planning for hours on end, reviewing courses of action, preparing maps, checking routes, scheduling sleep plans, briefing personnel, testing equipment and establishing emergency procedures. We needed to complete the trip in less than two days and, according to the risk assessment, that goal was attainable.

The first leg of the trip was pretty uneventful except for a few vehicle breakdowns; but otherwise everything seemed to be going well. There was, however, one factor we overlooked along the way — fatigue. All our vehicles needed fuel about halfway to our destination, and we'd planned for the refueling stop. Refueling the vehicles would take all night, and our plan called for all drivers to get eight hours of sleep with no exceptions. This is where leadership really should've been on their toes; but as we all know, it takes just one person to break the rules and create tragedy.

In this case, one of our 5-ton drivers didn't rest that night and fell asleep at the wheel on our way back to North Carolina the next day. The truck hit a car that was pulling onto the highway from a gas station, killing a woman and her young child.

What could our leadership have done to prevent these senseless fatalities? We should've practiced risk management continuously since circumstances can change every minute, hour or day. We should constantly reassess the situations and hazards around us to determine if the mission is worth the risk and apply new control measures when needed, then follow up with close supervision to ensure those risk decisions are carried out by everyone. Teamwork and communication are the keys to success, but everyone must realize they have a leadership role when it comes to risk management and getting the job done safely.■

HERE IT COMES

Ride Safe, Ride Long!

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Two Up, Four Down

SGT. MAJ. THOMAS J. BROUILLETTE
State Safety Office
Louisiana Army National Guard
Alexandria, Louisiana

It was a typical Monday morning as we made preparations for a motorcycle ride. After our usual safety brief, my wife and I, along with two other senior NCOs and their wives, hit the road. It was April 20, 2012, and I had no idea my life was about to change forever.

We started the ride as we'd done in the past; I was the lead bike and the other two were in a staggered formation behind me. We were following a brown pickup truck heading south on Louisiana Highway 107 when the young driver made a quick stop and hit his blinker to make a left turn. Rather than turning, though, he sat in the roadway even though there was no oncoming traffic. I blew my horn several times so he would go, but he sped off instead of turning.

We traveled another half-mile or so behind the truck when the driver suddenly turned into oncoming traffic. A motorist in the northbound lane swerved into the southbound lane (my lane) to avoid a head-on collision with the truck. After seeing me, however, he took evasion action to avoid hitting our line of motorcycles and pulled back into the southbound lane, colliding with the pickup on the right-rear side.

When I saw the vehicle come into my lane, I hit the rear brake extremely hard, which caused my motorcycle to fishtail to the left. One of the riders to my rear had glanced off the roadway and didn't see what had happened ahead. He struck me with his motorcycle at about 55 mph, hitting my right leg with his front tire and causing our motorcycles to become entangled.

When I realized we were going down, I reached back with my left arm and grabbed my wife around the shoulder area and pulled her close to me. Fortunately, luck was on our side, and she landed on top of me as we hit the ground. The other motorcycle also hit the ground, slamming both passengers to the asphalt.

As my wife and I laid on the roadway, I asked if she was OK. She said she was. I then looked around to see if the other riders were OK. I spotted the driver, but I couldn't find his wife. I eventually heard her screaming, "Please don't let me die!" Just then, the driver of the third bike ran up to me and said, "Sergeant major, don't move or try to get up. Your right leg is broken. Stay put."

Shock started setting in. I was laying on my back with my toes pointed to the ground and my heel facing upward. I was also bleeding from several areas of my body. I could feel the hot asphalt burning my skin, but all I could think about was my friend's wife still screaming for help. Several people who witnessed the accident stopped to render first aid. I could hear them in the background saying, "We have two critical people laying on the road," as they were speaking to the 911 dispatcher.

When the emergency medical

technicians arrived, they placed me on a gurney and loaded me into the ambulance. That's when I noticed my wife was already inside. As we laid side by side holding hands, all we could say to each other was, "Now that's a ride I never want to take again."

At the hospital, a Louisiana state trooper asked, "Sir, who taught you to ride a motorcycle and do what you did. Because today you saved four lives."

My response was easy. I said, "Sir, my motorcycle training kicked in. I knew what to do, how to do it and when to do it."

"Wow," the trooper said. "I wish that type of training was a requirement to get a license so I could see more favorable results in motorcycle accidents."

After several surgeries, numerous hours of physical therapy and a will to live and continue serving my country, I am now able to walk and run without any aid. Yes, I was lucky that day, but my Motorcycle Safety Foundation training helped keep me alive. All of the riders that day had taken the training. I'm living proof it saves lives. Take it, learn it and apply it. It's why I am still around today.■


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That .01 Percent

CHIEF WARRANT OFFICER 2 CODY T. SCHOONOVER
C Company, 1-3rd Attack Reconnaissance Battalion
Katterbach, Germany

It was a bitterly cold evening in Ansbach, Germany. We were conducting local area orientations for one of our newly progressed RL-2 aviators and the training was going well. His control touch was great and I had no issues with his decision-making and radio calls. This allowed me to get comfortable, or complacent, with him during the LAO and progressively more difficult traffic patterns. As we progressed, I slowly let him take over conducting more and more of the decision-making for our flight.

As part of his LAO, we decided to get a hot refuel before shutting down for the evening. We called in-bound from the VFR reporting point. When we completed our call to the tower, I overheard another Apache asking for main engine starts on Charlie Row. I didn't think much of it at the time, but later I would realize that this one radio call would become a teaching point to my young front-seater and myself.

We continued downwind and called our before-landing checks just like we always did. We turned base for final and he started his decent to the runway. As the decent began, I saw the blades had begun turning on the aircraft that was parked in Charlie Row. It didn't register in my head that the front seater was focused on just landing the aircraft and did not have the situational awareness about anything else going on outside of that one specific task. He landed toward the end of the runway and began taxiing off of West Taxiway.

I began doing an after-landing check and was head down for a brief second. As I did this, I heard a brief radio call from tower approving taxi for what I thought was for us; actually, it was the other aircraft parked on Charlie Row. I didn't hear it all because the front-seater began to ask me a question during the transmission.

I was distracted and let my guard down as we were on the ground. By being head down, I didn't realize my PI had taxied past the hold-short line on West Taxiway. When I looked up, I realized we were taxiing right to the same point as the other Apache, but we

"Inattention and a skill-based error almost led to a catastrophic event that would have been completely avoidable in 99.99 percent of instances."

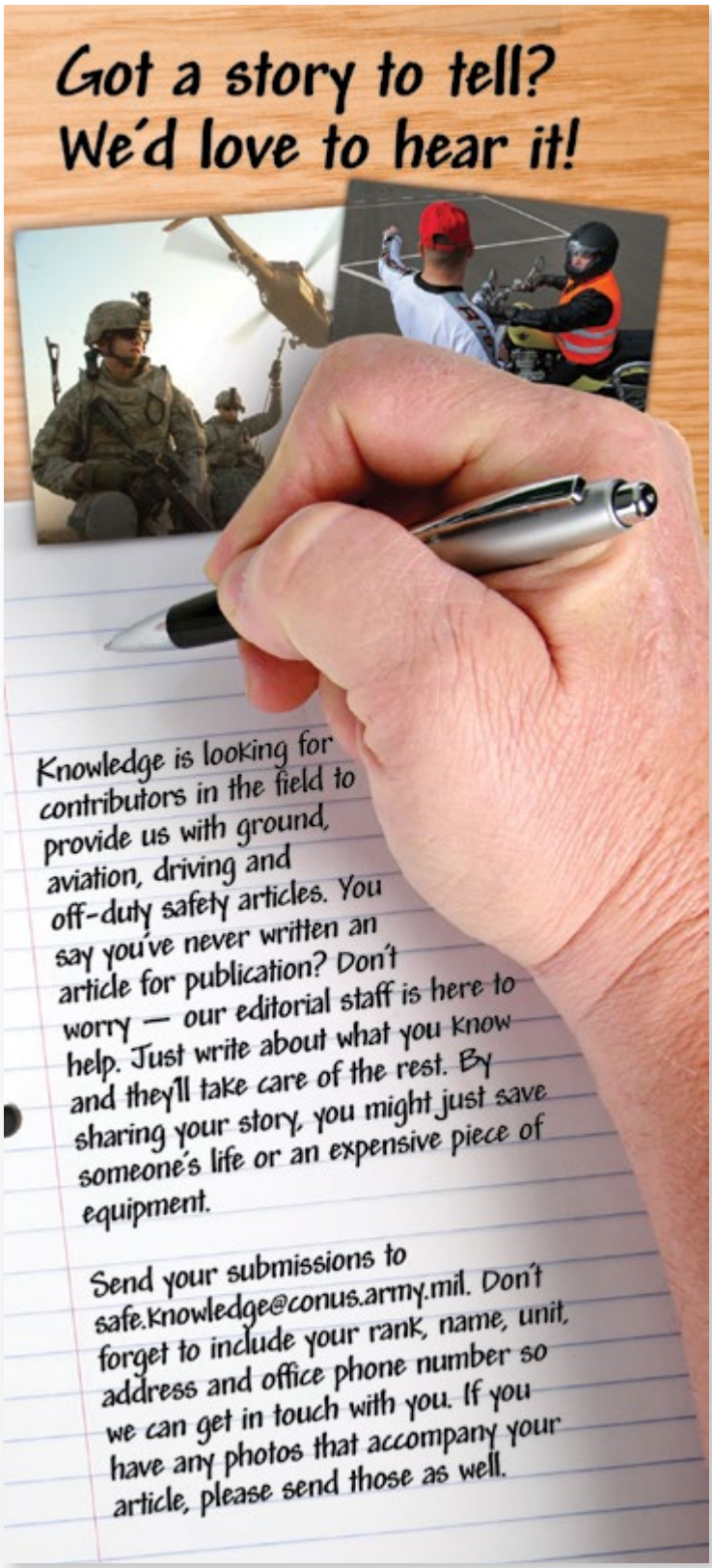
weren't cleared for it. And I don't believe they realized we were encroaching on their taxi line.

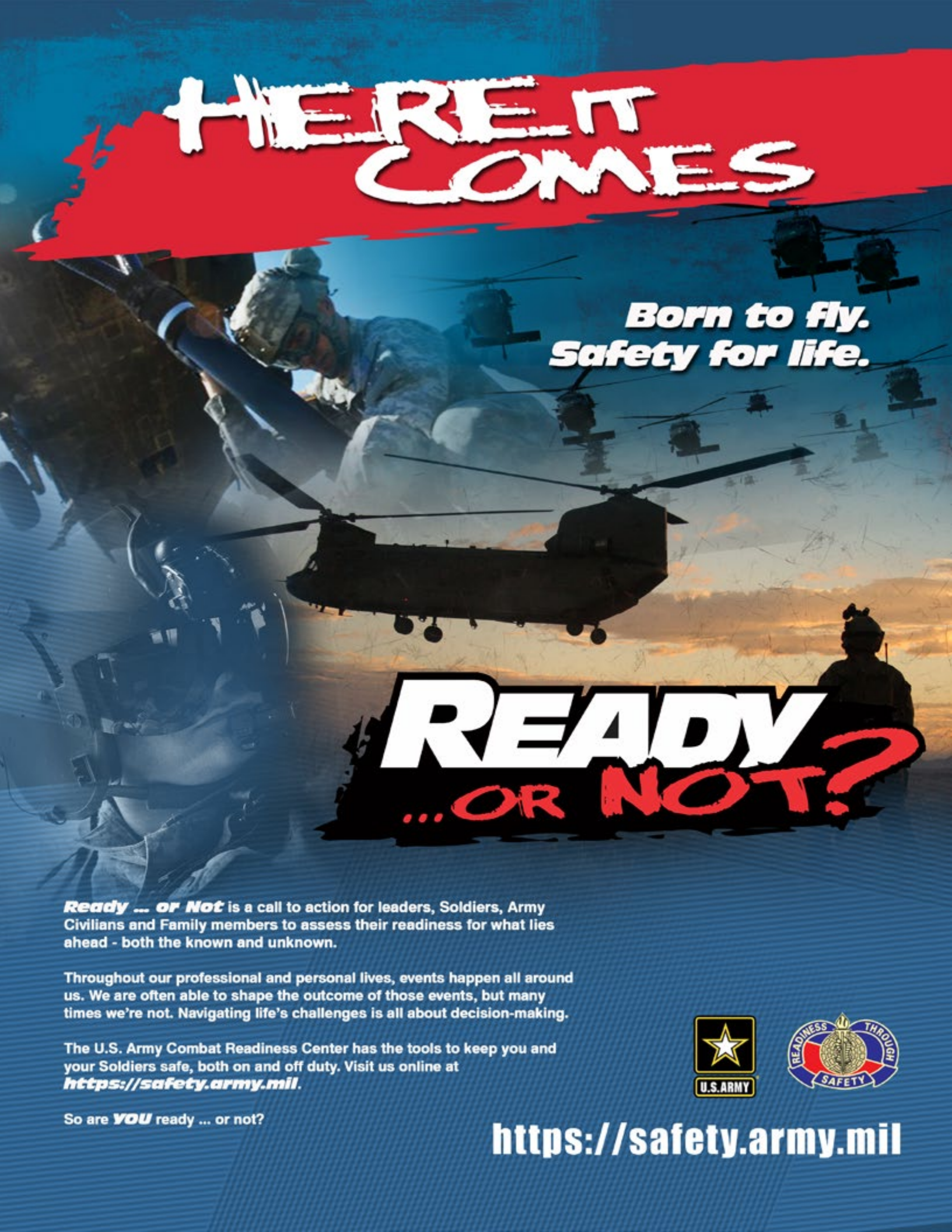
I saw the moment of doom and could feel my body physiologically change, knowing something wasn't right. As I finally got a full picture, I grabbed the controls and applied a significant amount of power to not only stop us instantly, but to back-taxi so we didn't intrude on the other aircraft. If I remember correctly, I may have even done a bit of a wheelie to get us back rapidly enough to avoid this collision.

When the Apache started passing by us, the crew looked over. I realized we were within 10 feet of their blades. Once they passed, I sat there and took in the situation. Such a mundane task as taxiing in for a hot refuel at a well-lit airfield almost led to a collision that could have killed someone — and it would have been my fault.

I asked my front-seater if he saw that aircraft or knew they were taxiing out. He said he was unaware of the other aircraft even being there. We spent a pretty good amount of time conducting an after-action review of the situation and I even talked about the event at one of our pilot briefs the following Friday.

Inattention and a skill-based error almost led to a catastrophic event that would have been completely avoidable in 99.99 percent of instances. I almost let that .01 percent get me and my front-seater — and possibly the other crew. Now, when I am finishing a flight, I always pay very close attention. No more heads down during taxiing and no more PI taxiing past the hold-short line without getting an earful from me about it.■





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Fishing for Trouble

LT. COL. MICHAEL SEINE
Alaska Army National Guard
Fort Richardson, Alaska

Running a boat on Alaska's rivers can be dangerous — even more so if you don't know what you're doing or are unfamiliar with the area. Proper planning and knowledge of the area, your boat and your own limitations is crucial to ensure a safe and uneventful experience. During a summer trip to Lake Creek, Alaska, we witnessed — and were involved in — a couple of situations that could have been avoided with a little forethought.

It was the peak of the king salmon season. With roughly 13 lodges in the area, throngs of tourists in boats packed the river, hoping to land a mighty king. The mouth of the river was extremely crowded with "hog lines," which are a bunch of boats anchored next to each other in a line during salmon runs.

As I made my way upstream, I noticed something unsettling and stopped the boat mid-river. There were two Frenchmen standing up in a boat fishing from each end. This was a little lake boat with a small motor that didn't belong on this river. But what really caught my eye was these two gents had anchored their boat with the bow pointing down river and the stern against the current.

As I watched these two, the man at the bow of the boat turned around and started walking toward the back, which was facing upriver. With each step toward the rear, the bow rose higher into the air and the stern sunk deeper against the current of the river. At his fourth and last step, the boat instantly filled with water, flipped upside down and sank to the bottom of the river, held in place by the anchor line.

There was no sign of the two men. As I scrambled to spot them, one of the men popped up and grabbed onto a log. He seemed to be holding on OK, so I continued to look for the other. Eventually, I saw a hand pop out of the water and grasp onto a sweeper — which is a tree that has fallen into the river. I quickly grabbed the man's hand and pulled him out of the water and into the boat.

After I pulled his partner off the log, I took the men to shore. They were lucky someone was nearby and able to rescue them. Most

"You never know what might happen in the wild. Without warning, you could find yourself in a survival situation."

people wouldn't last long stuck under a sweeper in one of Alaska's icy rivers. And while these two men were cold, wet and in shock, they survived to fish another day.

At the end of our stay at Lake Creek, we broke camp and headed farther down river. Halfway down the Yentna, the boat's old 75-hp Evinrude motor suddenly quit. We had a good set of tools onboard because we often have to do maintenance on the river. As I opened the cowling, however, I noticed a hole in the side of the engine where the piston rod had punched through the case. In an instant, our excursion became a float trip requiring an emergency recovery.

Because it was late and would be impossible to float up river back to the landing, we opted to find a cabin where we could get help and spend the night. Unfortunately, since we had not planned to spend the night on the river, we had no food, water, tent or sleeping bags onboard. Eventually we found a cabin that provided adequate shelter for the night. As luck would have it, the cabin was also stocked with food and had a shallow well so we could get fresh water.

The next morning, we made contact with our home base via radiophone and were able to get help sent out to us. We also left the owner of the cabin a thank you note with our phone numbers and some cash to cover the cost of the food we ate.

This trip taught us an important lesson: Always be prepared to spend the night! Here are some additional safety tips to consider while boating on rivers in wilderness areas:

- Always keep a complete tool kit in the boat. Include electrical connections, wire strippers and an epoxy that will work underwater to patch holes in the boat.
- Never anchor a boat in a river with the bow pointing downstream.
- Standing up in a boat in a river is a high-risk activity. If you have to, mitigate the risk by maintaining three points of contact and move slowly, being mindful of the balance of the boat and remaining freeboard.
- Know your limitations and ask the locals about hazardous areas and hidden rocks before exploring a river.
- Rivers can change overnight. A channel you use today may not be there tomorrow.
- Always anchor your boat securely at shore and know that the river may rise or fall several feet overnight due to rain or glacier melt in the mountains.
- Always wear a life jacket — no matter how good of a swimmer you think you are. Your swimming skills are useless if you're knocked unconscious falling out of the boat. A life jacket could save your life.
- Never get off step while negotiating shallow stretches of river. You may not have sufficient water to get back on step, or to drag a heavy boat back to an area where you can.
- Always keep an emergency form of communication on board.
- Leave a trip plan with someone else so they know when and where to start looking for you if you fail to arrive at your destination.
- Remember that there is no fish worth dying for!
- Don't be a liability. Always put yourself in a position where you can help others instead of being the one in need of help.

You never know what might happen in the wild. Without warning, you could find yourself in a survival situation. It was sheer luck we found a cabin with sufficient provisions. It provided us with shelter, food, water, heat and protection from bears, mosquitoes and the elements. A night on the river without that would have been a dangerous and unpleasant experience.■

READY ...OR NOT?

Ready ... or Not **is a call to action for leaders, Soldiers, Army Civilians and Family members to assess their readiness for what lies ahead - both the known and unknown.**

Throughout our professional and personal lives, events happen all around us. We are often able to shape the outcome of those events, but many times we're not. Navigating life's challenges is all about decision-making.

So are *YOU* ready ... or not?

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READINESS THROUGH SAFETY

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Happy Camper

1ST SGT. ROBERT JENKINS
2nd Battalion, 199th Regiment (RTI)
Camp Beauregard, Louisiana

Towing a trailer can be dangerous if you don't understand how the added weight and length can affect your vehicle's handling. I was towing trailers not long after I first started driving. At that time, I had no idea what a gross vehicle weight rating or gross combined weight rating even was. As a young person, I just assumed you hooked the trailer to a truck, jumped in and took off. It wasn't till several years later that I realized how wrong I'd been.

In 2007, my wife and I decided to buy our first camper. It was during this time I started learning what GVWR and GCWR actually meant, and that my half-ton 2006 Dodge Ram 1500 Mega Cab truck was fine for towing a 29-foot bumper-pull camper. By 2010, however, we had our sights set on larger camper. Unfortunately, my truck wasn't sufficient to tow a fifth-wheel camper, so I purchased a 2010 Dodge 3500 dually with a Cummins diesel engine.

Now that I had a proper vehicle to tow it, it was time to start looking for a new camper. Soon, we bought a Fuzion 42-foot triple-axle toy hauler. Our bumper-pull had never intimidated me, but this new camper had me scared — and not only because of the length. It was also 13 feet tall and weighed 16,000 pounds. Because I was nervous about towing something so big, I had a friend go with me when I went to pick it up at the dealership.

After the purchase, we were ready to hit the road. We took many trips, towing the camper thousands of miles. After a few years, I got rid of the 2010 Dodge and bought a new 2013 Ram 3500 dually that had a combined truck and towing capacity of 38,000 pounds. I was now very comfortable pulling this camper and had checklists I would go through while performing my before, during and after checks. We had never had an issue on the road until July 2015. Here's what happened.

After a week at an RV park, it was time to head home. The morning we left, I made the mistake of not checking the air pressure in all six tires on the camper. For some reason it just slipped my mind. About three hours into the trip home, we had a blowout on the camper. Having a blowout at 65 mph can be nerve wracking; but when you have a combined length of almost 60 feet and a weight of more than 26,000 pounds, it's terrifying.

FYI

The National Highway Traffic Safety Administration has a comprehensive guide to towing campers, boats and trailers — including information on gross vehicle weight ratings and safety checklists — on its website at www.nhtsa.gov.

Fortunately, there was a gravel lot up ahead that I could pull in to and put on a spare. Afterward, I checked the other tires and noticed one looked like it had a knot on it. My wife started looking for a nearby tire dealership and found one just 10 miles away. There I had six new tires put on the camper. We then got back on the road and made it home without further incident.

I don't know if checking the air pressure that morning would have prevented a blowout. Regardless, it was still a silly mental mistake. If I had been inexperienced towing trailers, panicked when the tire blew, or been driving with a vehicle that wasn't properly rated to pull a camper that big, my wife and I may not have been as lucky.■

Did You Know?

The gross vehicle weight rating is the manufacturer's specified maximum operating weight of a vehicle, including passengers and cargo. The GVWR does not include towed items such as trailers, boats and campers. The gross combination weight rating is the maximum combined weight of the towing vehicle, its passengers and cargo, as well as the weight of trailer, boat or camper being towed and its cargo. To find out a vehicle's CVWR and GCWR, check the owner's manual or contact a local dealership.

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Never Assume

CHIEF WARRANT OFFICER 2 TERRANCE BAILEY
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Fort Wainwright, Alaska

There I was, working as a Black Hawk crew chief with a medevac team. It was beautiful morning in eastern Iraq. The sun just coming up as I headed to prepare my aircraft for first-up duty. I went out before the rest of the crew to take care of a few things and have the aircraft ready for the pilots to do their preflight.

As I finished my preflight check, I remembered I had left something in my room. Since we were the only team of aircraft parked on a closed section of road, I decided to leave the covers open for the pilots. While I was inside, the rest of the crew arrived at the aircraft. As I made my way back, I realized they had started the auxiliary power unit, so I started running. When I arrived, the medic yelled that we had a mission.

As I ran around to my side, I glanced over the aircraft and the covers appeared closed. I hurriedly dressed in my flight gear as the main engines were started. When the power to the engines was increased, both of the engine covers flopped open. Luckily, as we were shutting down so we could close the covers, the operations section called us to say the mission was canceled.

Once the aircraft was shut down, I climbed up and secured all of the panels. The crew then got together to talk about what had happened. We came to realize there had been a lot of assumptions. The pilots had pushed the engine covers closed, assuming that when I got to the aircraft I would climb up and latch everything. When I ran up to the aircraft and, from a glance, saw the engine covers closed, I assumed someone else on the crew had secured everything. I hadn't asked, they hadn't said, but we each thought the other had secured the latches.

"The crew then got together to talk about what had happened. We came to realize there had been a lot of assumptions."

Ever since this incident, I've encouraged everyone crewing an aircraft to do their own walk-around. I prefer that at least both pilots complete a walk-around; not just looking at all the panels, but also putting their hands on each latch, ensuring they are positively secured. My main take away from this, however, was just because it looks like someone else did your job doesn't mean it was done right.■

HERE IT COMES

Perception is everything.

Vehicle drivers and motorcycle riders perceive distance, speed and potential hazards differently. Stay aware, be courteous and share the road.

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