THE MOBILITY FORUM

THE MAGAZINE OF AIR MOBILITY COMMAND | **WINTER 2015/2016**

Past, Present, and Future Discussed at 2015 A/TA Convention

$AVE-ing the Air Force Fuel and Finances

18th AF WELCOMES LT GEN SAMUEL COX

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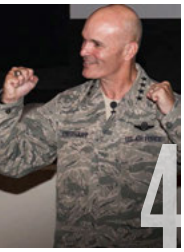

ON THE COVER

A1C Caleb Mason, 736th AMXS, marshals a C-17A Globemaster III from the 436th AW during a snowstorm at Dover AFB, Del.
USAF PHOTO BY GREG L. DAVIS

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AIR MOBILITY COMMAND
Gen Carlton Everhart II

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Season's Greetings from Air Mobility Command Headquarters!

As I reflect on another successful year of mobility operations across the globe, I am reminded of the incredible things our Airmen accomplish every day. You make an incredibly complex and vital mission appear easy, and we could not do it without each member of the Total Force team.

Our Air Force is successful because of our dedicated, selfless Airmen. Tragically, we lose Airmen every year during the holiday season. Some losses result from taking unnecessary risks. Please think about long-term consequences when you are tempted to push the limits. Whether you are frying a turkey or preparing for a long drive, consider the worst-case scenario, and then take appropriate measures to reduce risk.

Many of you will drive to visit family and friends when roads are busy and weather conditions are less than optimal. Although you cannot control the environment, you can control your personal decisions on the road. Adjust your speed to meet road conditions, stay awake, and never drink and drive. Last year, the Air Force family lost four members to motor vehicle mishaps—four lives too many. Please think of your loved ones before you get behind the wheel.

Each of us has an individual responsibility to take care of each other.

Many Airmen will spend time with loved ones this holiday season while others will continue to answer our nation's call. Some will face their first holiday season geographically separated from family and friends. Take care of each other, be supportive of your fellow Airmen, and remain mindful of signs of depression and solitude. A simple act of kindness, a well-timed question, or an invitation to dinner can make a big difference.

Each of us has an individual responsibility to take care of each other. I expect leadership at all levels to be involved. Airmen are our most treasured resource, and caring for them does not stop when the day's work is done. Our Active Duty, Guard, Reserve, and Civilian Airmen are the heart of AMC. Each of you must be ready to face challenges the New Year will undoubtedly bring. Together we will continue to answer the call and deliver rapid global mobility anytime, anywhere.

My wife Michele and I want to thank you for a wonderful year. We wish you all a safe, joyous, and happy holiday season.

– Gen Carlton Everhart II

Getting to Know GENERAL EVERHART

Gen Carlton "Dewey" Everhart II, commander of Air Mobility Command, is impressed by the dedicated Airmen he sees across the mobility enterprise.

"I am humbled and honored to command more than 118,000 Airmen, uniformed and civilian, who go out and perform our mission every day in support of combatant commanders around the globe," he said. "Our outstanding Airmen—enlisted personnel, officers, civilians, Guard, and Reserve—do amazing things in a challenging and complex environment through hard work and innovative thinking."

Gen Everhart took some time to look back at AMC's recent accomplishments and share with *The Mobility Forum* what he envisions for the future.

"Gen McDew did a magnificent job setting the stage for professional development, particularly with our officers but also for our enlisted and our civilians," Everhart said. "We will continue emphasizing programs such as Phoenix Stripe, High Flight, and Cornerstone, so AMC's number one operational asset—our people—have a good foundational baseline in professional development, on the road to becoming strong leaders."

Everhart also praised past leadership's creation of a strong system for flight safety and occupational safety.

"Every task—from preparing planes and airfields to flying and executing missions—is a critical job that we must do safely and effectively," he said. "In flight safety, we reaped huge benefits from initiatives such as the Line Operations Safety Assessment to Audit (LOSA) program and Operational Risk Management (ORM), making sure we perform deliberately and without accidents. In occupational safety, we continue to lead the Air Force with initiatives like the Critical Days of Summer. This year, for the first time since 2008, we had no vehicle fatalities during the 107-day period. Our on-duty and off-duty Class C mishaps are down 24 percent, which is phenomenal."

Gen Carlton D. Everhart addresses mobility Airmen during his first Headquarters Air Mobility Command all call on August 17, 2015.

USAF PHOTO

The general pledged to continue looking at AMC's best practices so the command can break a chain of events before an incident happens.

"In my previous job, it appeared things were done a certain way for many years. But at one point, I felt we needed to just pause. If something didn't look or feel right,

"People around the world rely on AMC's ability to answer the call and perform operations at a moment's notice, so we must be prepared."

we examined whether we were doing it safely, effectively, and efficiently. If so, we proceeded," Everhart said. "But if not, we discussed ways to change that dynamic before an accident occurred. Taking a hard look at how we do things will continue to benefit all of AMC, so I'm asking each of you to suggest better tactics, techniques, and procedures—things that highlight our capabilities and meet our combatant commander's needs."

He said he appreciates venues like the Trend Review Action Committee (TRAC) because of their ability to identify trends and share that information directly with units.

"Identifying and addressing trends across the range of operations, logistics/maintenance, and other occupational safety situations keeps us focused on safety. Leadership has also tweaked the ways we communicate with Airmen, and we are seeing huge benefits from that, too," Everhart said.

The command shares information through newsletters, analysis reports, and meetings. Programs like Aviation/Airman Safety Action Program (ASAP) give individual crewmembers a voice to provide safety information directly to the command. Everhart encourages wing leadership and safety staff members to get personally involved in creating a safety culture that emails alone can't accomplish.

"I was a wing chief of safety at one time, and just being able to have a discussion—whether with a ground crew or within a flying squadron–was incredibly beneficial to mission safety."

Everhart acknowledges there's much to do as the world evolves and procedures change.

"We must remain operationally focused, which is hard to sustain at this pace. We are as busy now as ever, and I don't see that trend slowing. People around the world rely on AMC's ability to answer the call and perform operations at a moment's notice, so we must be prepared."

To help do that, he mentioned one potential change on the horizon is Air Mobility Command's Rodeo 2017.

"Rodeo is a remarkable experience, watching our Airmen perform their missions and seeing how well they conduct day-to-day operations," Everhart said.

"In 2017, we are moving toward a capabilities-based exercise with our sister services and international partners, to see how our Airmen and aircraft function in scenarios such as disaster response and possibly airfield seizures—things our sister services want us to do," he said.

"We think this will maximize our limited budgets and benefit everyone, including our mobility Airmen. I want to make sure we are as efficient as possible in these and other exercises, and I look forward to collaborative dialogue with our partners," said Everhart.

"Do they get what they need from us, and are we hitting the mark? Can we do better?"

Everhart places taking care of Airmen at the top of his priority list, and he recognizes the importance of gathering information from the source.

"My plans for the future include getting out and meeting Airmen in person, making sure our people have the right equipment, with the right platforms, at the right time to perform effectively," he said.

He put Airmen on notice: he expects feedback from everyone he visits.

"I'm a people person, so if I walk up and ask how you are doing, I genuinely want to know. I also want your honest feedback on how I am doing at my job. That's the only way I know I am meeting your needs—that you are getting what you need to execute the mission. If there are budgetary constraints or circumstances beyond my control, I will let you know that."

As the year comes to a close, Everhart said that like many AMC Airmen, he and his family will spend the traditional holiday period with family, friends, and co-workers reflecting on the past year and making plans for the coming year.

"My family and I like to recharge our batteries outdoors, so that's likely what we'll do," he said. "Whatever your plans are, I want to wish all our Airmen a happy and peaceful holiday season."

Lieutenant General Samuel Cox
Assumes Command of 18th AF

By MSGT THOMAS J. DOSCHER,
18th AF Public Affairs

Gen Carlton D. Everhart II, AMC commander and former 18th AF commander, presided over a ceremony today in which Lt Gen Samuel Cox assumed command of 18th Air Force.

> "We will certainly face new and different challenges in the future, but I know our Total Force Airmen will rise to the occasion, and together we will succeed—just like they have done for decades."

Everhart said Cox's leadership and the dedication of the men and women of 18th Air Force would allow the command to reach new heights.

"Those Total Force Airmen—Active Duty, Guard, Reserve, and civilian—make up the largest numbered air force in the greatest Air Force the world has ever known," Everhart said. "It is now your charge and challenge to lead them."

As 18th AF commander, Cox will lead Air Mobility Command's operational mission as Air Forces Transportation, the air component of U.S. Transportation Command (USTRANSCOM). He is responsible for the command's worldwide operational mission of providing rapid, global mobility and sustainment for America's Armed Forces through airlift, aerial refueling, aeromedical evacuation, and contingency response. Additionally, Cox also commands Task Force 294, which oversees Air Force tanker operations in support of U.S. Strategic Command.

"I look forward to leading and working alongside our mobility warriors," Cox said. "We are blessed to have amazing Airmen who are incredibly talented, and I am honored and privileged to be back as part of this amazing team."

Cox comes to 18th AF from the Pentagon, where he served as Deputy Chief of Staff for Manpower, Personnel and Services. His prior assignments include multiple operational assignments in Air Mobility Command, commander of the 436 AW and the 618th Air and Space Operations Center, and Director of Operations and Plans at USTRANSCOM.

"I know what the Airmen of 18th Air Force are capable of," Cox said. "We will certainly face new and different challenges in the future, but I know our Total Force Airmen will rise to the occasion, and together we will succeed—just like they have done for decades."

With approximately 37,000 Active Duty, Guard, Reserve, and civilian Airmen and approximately 1,100 aircraft, the 18th Air Force manages the global air mobility enterprise through the 618th Air Operations Center (Tanker Airlift Control Center), 11 wings, and two stand-alone groups.

• TORQUE 62 •

Honoring Their Memory

39th AIRLIFT SQUADRON

Capt Jonathan J. Golden, 33, of Camarillo, California
Capt Jordan B. Pierson, 28, of Abilene, Texas
SSgt Ryan D. Hammond, 26, of Moundsville, West Virginia
SrA Quinn L. Johnson-Harris, 21, of Milwaukee, Wisconsin

66th SECURITY FORCES SQUADRON

SrA Nathan C. Sartain, 29, of Pensacola, Florida
A1C Kcey E. Ruiz, 21, of McDonough, Georgia

On the night of October 2, 2015, a C-130J from the 317th Airlift Group at Dyess AFB, Texas, and assigned to the 455 Air Expeditionary Wing, crashed on takeoff in Afghanistan. The mishap took the lives of its four crewmembers, as well as two Security Forces Airmen from the 66th Air Base Group at Hanscom AFB, Massachusetts, and five civilian passengers. Three Afghan military members on the ground also perished.

Air Mobility Command mourns this tragic loss and remembers their sacrifice.

MFOQA

MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE:

What It Is, What It Isn't, What's New

By MR. BILL KROUSE, AMC MFOQA Program Manager

Officially, "MFOQA is the analysis and trending of aircraft system and flight performance data to enhance combat readiness through improvements in operations, maintenance, training, and safety functions." (AFI 91-112, *Aviation Safety Programs*, 26 Jan 2015, para 2.1.1)

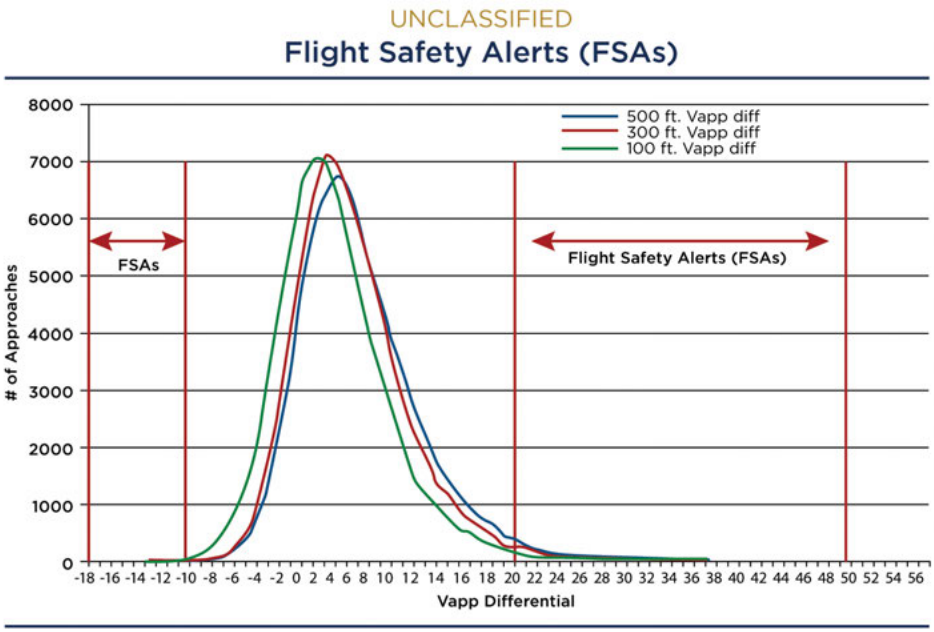
Simply spoken, Military Flight Operations Quality Assurance (MFOQA) looks for the "links in the mishap chain of events" with the goal of identifying them for crews and leadership to mitigate. Basically, stop the mishap before it happens.

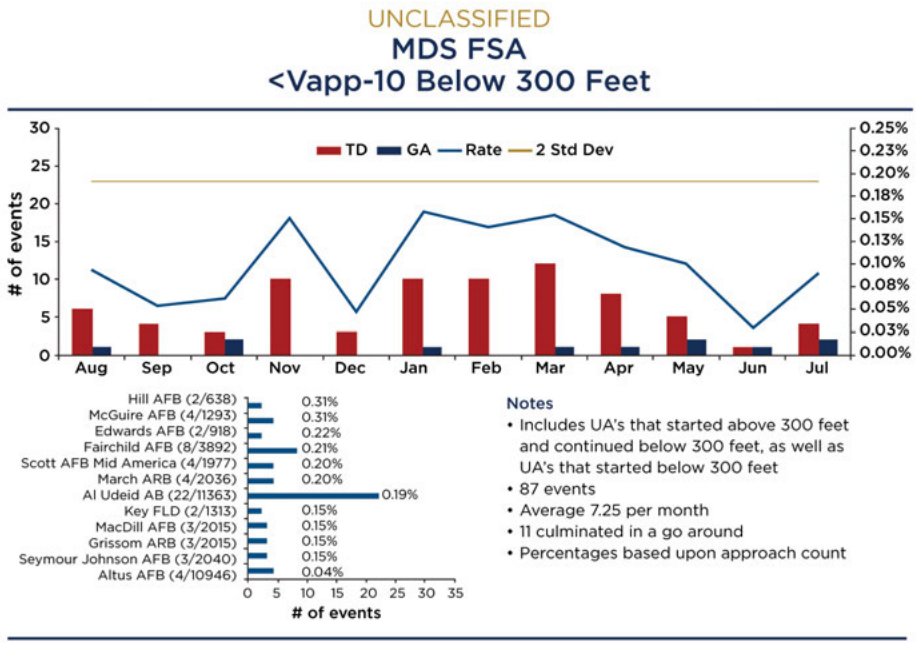
So how does it work? The MFOQA program uses Mission Design Series (MDS) experts, usually retired instructor pilots, to review flight information collected by onboard systems to look for characteristics normally associated with a mishap or, if left unaddressed, could lead to a mishap. In addition, MFOQA analysts look for operational efficiencies, including cost-saving initiatives, training effectiveness, and airframe usage. Analysts work hand in hand with headquarters action officers in Training, Tactics, and Standardization to ensure crew safety and to maximize mission success. MFOQA analysis provides commanders and unit leadership with a baseline to evaluate the environmental and operational threats crews are exposed to and how well crews are handling them. Using a series of software tools, the analyst can build a picture of a specific event or location crews are struggling with. They can add empirical support to issues—meaning MFOQA analysis can remove the "I believe" and replace it with "the analysis shows." MFOQA analysis can help a unit examine how it is operating and help leadership understand where to focus attention. Bottom line, MFOQA analysis is a force multiplier, a necessity to ensure the USAF is the best air force in the world.

An important concept to understand is that MFOQA is not a box on the plane; it is a process, and MFOQA analysis only tells us what happened—not why it happened. So use the Aviation Safety Action Program (ASAP) submissions to tell us the why, but that is another subject to discuss. MFOQA is not a tool to track crew performance. In fact, according to AFI 91-225, para 1.2.2.1, "Data collected for or analyses generated from Aviation Safety Programs (MFOQA included) shall not be used for monitoring personnel performance to initiate crew qualification downgrade (e.g., Q2 or Q3) or decertification, or to take adverse personnel action, including non-judicial (e.g., Letter of Counseling, Article 15, etc.), or judicial action…." It is also important to know flight data files used for MFOQA analyses are factual information and are not covered by the privileged safety information procedures of AFI 91-204, *Safety Investigations and Reports*.

As the MFOQA program in AMC matures and the understanding of its capabilities increases, it is natural that the program morphs into a system more supportive of the customers. Analysis has moved away from the larger packages of analysis covering a wide range of issues to a more focused/targeted approach. Analysts are working more on specific issues identified by units and locations causing crews the most problems. The newest effort is the Fight Safety Alert (FSA). FSAs are events that make the hairs on the back of your neck stand up—the kind you walk away from thinking, "I am never going to let that happen to me again."

Not surprisingly, FSAs normally show up on the outer fringes of





Example of how the FSA will show up in analysis packages.

the analysis, outside the bell curve where most events reside.

Using the "mishap chain of event" analogy, FSAs are events that may be missing just one "link" in the chain of events before a mishap occurs. So where did FSAs come from? Pilots on the staff put their heads together to define events that scared them to a point that the memory is ever etched in their minds. Experts in each MDS developed a list of events they wanted tracked/trended every month. Lists include events like being more than 10 knots slow on approach, more than 30 degrees of bank below 300 feet on final, or configuration changes below 300 feet. Each MDS has its own set of FSAs, and the command is currently developing a database to confirm the triggers are correct. Everyone agrees even one FSA is bad, but we need to determine if the event is just a one-off or if we have a trend. To address this issue, analysts will trend all FSAs by event. We have established a line in the sand of two standard deviations as a point where leadership will be brought into the analysis and mitigation process. We are still evaluating whether two standard deviations is the right line to use.

As mentioned, MFOQA analysis only tells us what happened—not why. There could be a perfectly good reason for an event to occur; like avoiding a glider while on departure out of Ramstein AB. The command believes FSAs are important to mitigate, so it is developing procedures for contacting the crew involved. This concept of crew contact has some issues to overcome before we can implement it. For example, some aircraft flight data is only downloaded once a month, raising the challenge that the crew may not remember all the particulars of the event. A second issue is that flights in the AOR are often covered by an ATO, which means we do not have ready access to the crew that flew the mission. And finally, we need to quantify how crews are contacted to protect their identity and not interrupt crew rest. We recommend you track down a monthly analysis for your MDS and become familiar with the FSAs associated with your aircraft. And if you experience an FSA, file an ASAP while the event is still fresh in your mind *(read more on page 24)*. Together we can make flying a safer job for all of us.

MFOQA analysis has come a long way in the last seven years and the future looks bright. If you have specific analyses you would like to see, drop us an e-mail at **a3.opsrams@us.af.mil**.

There I Was …

By MR. KEVIN SLUSS,
CSP, OHST, CET, CFPS
HQ AMC Flight Safety

Occasionally I am asked to tell the story of my Class A mishap experience. I say yes, but from the other side of the table. Here goes …

Airdrop crews, have you ever wondered why we brief minimum control speed in the airdrop briefing? For the vast majority of airdrops, 5,000 pounds and less, it seems like a waste of effort. This procedure started as a recommendation from the following event.

We (a C-130 crew from Dyess) flew to Pope as part of a five-ship doing a week of airdrops. This was in 1989, before GPS (global positioning system), before NVGs (night vision goggles), even before SCNS (self-contained navigation system). The aircraft commander, a former first assignment IP, had just completed AC school and was new to flying in the left seat. A highly experienced IP flew in the right seat, since resources allowed that to occur back then. This, his last "good deal" before retirement, became his last Air Force flight. I, the navigator, had been an instructor for about a year. The flight engineer had some experience; he planned to separate later that year upon completion of his current enlistment. TSgt Charles Alfred, the primary loadmaster, brought much experience; the secondary loadmaster had a couple of years of experience. This crew had flown (IP in left seat) earlier in the year in MAPLE FLAG and worked well together.

We had done night personnel drops that week, mostly on Sicily drop zone. When the Coleman impact area was active and artillery lit the night sky, finding ground references to align on the drop zone with the necessary precision was challenging. We had made a few no-drop racetracks that week to improve alignment.

The mission on this day was to drop two Sheridan armored reconnaissance vehicles and three ships of personnel in support of an Army Emergency Deployment Readiness Exercise, which is a big deal to the Army. Following that, the aircraft was to land at Mackall Army Airfield to upload more paratroopers. A crew chief flew on board to marshal the aircraft there.

I went to the aircraft early to manually calculate my air release point (no mission planning computers then), so I heard and observed the loading operation. The Sheridan fits exactly within the back of a C-130; when loaded, no room exists for transit to the aft of the airplane except for small crawl spaces. One winch burned out assisting the loading of the vehicle; another winch was needed to complete the job. Crew discussions included what to do if the load did not exit the aircraft. Back then, we (and many crews) speculated that the deployment of the two extraction parachutes would create enough force to overcome the cargo locks. But if not, turning was out of the question, as the aircraft would stall. Thus, our concept for that situation involved crash landing on the drop zone.

To make the schedule drop zone time work, the two aircraft with Sheridans departed as single ships five minutes apart, arriving at the target one minute before and one minute after the start of the block time. The three-ship of personnel departed as a formation to arrive at the end of the 10-minute block. The Army prefers that the equipment be dropped before the personnel.

> My call to "prepare for crash landing" alerted the crew chief to sit down and strap in on the crew bunk.

This was also before even the Raised Angle Marker. Cerise-colored panels, in the shape of block letters, marked the desired points of impact (C for equipment, A for personnel). We also had no radio contact directly with the drop zone then, so the absence of the pre-briefed mark was considered a no-drop situation. The lead ship called a no-drop, stating the absence of the equipment block letter; my crew quickly agreed and called a no-drop, also.

The only plan for a no-drop was to escape to the north and return to Pope. However, heading northbound, we discovered our error. We had clearly seen the personnel block letter A but did not see the equipment C because shadow fell between them on the drop zone. Northbound, it was easy to see both block letters. Our right seat pilot called the three-ship and learned that it had not yet arrived at the initial

A C-130 Hercules flies during a training mission over Yokota Air Base, Japan.

USAF PHOTO BY OSAKABE YASUO

point about 20 miles north of the drop zone. With some quick mental math, he determined that our two aircraft could accomplish a racetrack, make the drops, and depart before becoming an issue for the three-ship. Both crews agreed, turned to accomplish the racetrack, and ran drop checklists.

Unfortunately, the loadmasters had already run completion of the drop checklist, which includes relocking the cargo locks. During the compressed airdrop checklists, the loadmaster called his checklists complete but had not unlocked the left side locks. So, we completed the racetrack, slowdown, and alignment, and observed the No. 1 aircraft release its load, the IP noting "that's pretty" as it descended to earth with eight parachutes.

However, on our aircraft, the left hand locks remained engaged, so now the aircraft had two parachutes deployed, causing drag. As we had discussed, in that event, we prepared for the crash landing. The pilots were quite busy keeping the aircraft in controlled and level attitude, selecting an aim point to keep the aircraft out of the trees south of Longstreet Road. My call to "prepare for crash landing" alerted the crew chief to sit down and strap in on the crew bunk. The initial impact and ground run were quite rough, harder than the worst assault landing you have ever experienced.

The five of us up front quickly evacuated; the overhead hatch was already gone by the time I made it there. We exited before the pooling fuel near the aircraft caught on fire. An Army pilot and the Army medics supporting the exercise south of Longstreet Road quickly arrived to help retrieve the loadmasters. The secondary loadmaster lost part of his right leg as the load broke free during the ground run. TSgt Alfred appeared to be in bad shape and indeed died of his injuries. Based on where he was found, though this was never conclusively proved, we on the crew believed he was attempting to crawl aft to put a knife on the extraction line to release the chutes. The left hand "simul" handle had been bent inhumanly out of position.

One lesson learned through post-event simulations was that, rather than short repeated attempts, a sustained 30-second pull on the "simul" handle would release the locks, which became a standard emergency procedure. And, had we known that the aircraft could have safely turned at the right airspeed, we likely would have attempted the 160-degree turn to land on the Pope runway.

I did not know then that I would complete an Air Force career and begin a second career in safety. Nor did I think I would once again have the opportunity to work with aviation as I have done these last few months. I hope this story will reinforce your belief in the system of finding good in tragedy and developing procedures to prevent mishaps like this from happening again. And, it is exciting to see the development of proactive safety processes, such as those you read about often here in *The Mobility Forum*, which can obtain lessons learned without the mishap.

$AVE-ing

the Air Force Fuel and Finances

By MS. RUTH ANN REPLOGLE,
Staff Writer

On July 10-11, 2013, C-17s demonstrated that the Surfing Aircraft Vortices for Energy, aka $AVE, concept was possible.

From Edwards Air Force Base, California, to Joint Base Pearl Harbor-Hickam, Hawaii, and back, these test flights allowed the trailing C-17 to "surf" the wingtip vortex (upward velocity) of the lead C-17. This updraft gave the trailing C-17 an additional lift without burning extra fuel, similar to the reduced drag effect a flock of geese gets when flying in formation.

The $AVE concept has been likened to other "vortex surfing" such as bike and car racers who capitalize on the energy of the vehicle zooming in front of them, hawks who circle in thermals to gain altitude, or dolphins who ride bow waves off ships to reduce exertion.

In the case of Air Force aircraft, the trailing plane assumes a position between 4,000 and 7,000 feet behind the lead plane, somewhat akin to tankers that refuel fighters in the air but with more distance and more time to react to altitude and airspeed.

Air Mobility Command Chief Scientist Dr. Donald Erbschloe said the trailing plane can reduce its induced drag by 40 percent, thus theoretically reducing its fuel burn up to 20-25 percent. Savings over 10 percent were recorded on those oceanic flight tests.

Once implemented, the estimate is that $AVE will save the Air Force $10 million annually in the C-17 fleet alone, $50 million annually if applied fleet-wide. At present, AMC guzzles two-thirds of the Air Force's annual $9 billion fuel bill—most of that two-thirds is consumed by C-17s—and Congress wants the military to figure out how to be more efficient with less money.

Erbschloe said AMC plans to do that at an operational level by optimizing flight routing, reducing weight where possible, and not carrying excess fuel. "$AVE offers significant efficiency gains, not to mention opens up new operational opportunities, if employed in concert with these initiatives," he said.

While $AVE has been hailed as an innovative and award-winning concept, what does it mean for the Air Force? When will it take operational effect? And will it really save the Air Force fuel and finances?

C-17 Boeing test pilot Lt Col Michael Sizoo (Ret.) participated in the initial $AVE test flights—in which the pilots had to hand-fly the planes into the $AVE position—and currently works on the development side of the $AVE concept.

Taking the data from the test flights, Sizoo and others from Boeing designed software for the planes' computer interface and autopilot flight controls.

The backbone of the $AVE concept comes from Boeing's formation flying system (FFS)—flying closer to the wake and maintaining position. With the $AVE software, pilots will be able to engage the $AVE mode with the push of a button and automatically gain the advantages of the lift from the lead plane.

Dozens of C-17s can fly in formation at one time using the FFS system. The values of formation flying for large aircraft isn't really a new concept, Sizoo said. Bomber planes flew in formation during World War II, and cargo planes today fly in formation for air drops.

Development of the next phase of $AVE software is ongoing, and the extensive testing of it necessary to certify it for flight is slated to begin next year, with certification expected the following spring.

Additional funding for the Advanced Technology Demonstration (ATD) recently became available, which will allow installation and demonstration of the $AVE software on a C-17 Weapon System Trainer. "The goal is to provide for as much training on the ground as possible, thus

minimizing the need for expensive flight training," Erbschloe said.

There are concerns surrounding the viability of the $AVE concept.

Erbschloe said there is genuine concern that there is no tool to help the aircrews visualize the location of the wingtip vortex, thus they are unable to generate useful training or fuel savings. Sizoo added that some pilots have the mindset that the $AVE concept is unsafe, particularly if the trailing aircraft has a wake crossing. There also is a scheduling issue from an operational standpoint as to whether AMC really gains savings by launching from different bases and coordinating cargo planes to meet and fly in formation.

"We're addressing those concerns, such as automating a wake crossing prevention design," Sizoo said. "The intent of $AVE is for long oceanic crossing cruise flights, where so much of the flying is straight with minimal turns."

At present, Erbschloe said a Business Case Analysis on the $AVE concept for C-17s is being coordinated throughout AMC, a necessary step if $AVE is to be submitted for operational funding in fiscal year 2018.

The Air Force isn't the only one looking at the benefits of $AVE. The National Aeronautics and Space Administration (NASA) and North Atlantic Treaty Organization (NATO) are both exploring vortex surfing, Erbschloe said.

NASA will conduct a series of flight tests of commercial aircraft in 2016 through the Automated Cooperative Trajectories (ACT) project.

These tests will evaluate the use of Automatic Dependent Surveillance - Broadcast (ADS-B) technology as a data link for cooperative multivehicle autonomy applications. ADS-B was designed to transmit an airplane's position and velocity information to ground controllers but can also be used to share real-time trajectory information with each other. By integrating this data into the airplanes' autopilot systems, the planes can more precisely coordinate their flight paths to save time and fuel.

The tests also will continue to gather data about the impacts of wake surfing on passenger ride quality, an important consideration for commercial operators.

NATO's Exploratory Team (ET-145), Formation Flying for Efficient Operations, has submitted a proposal to become a formal Research Task Group (RTG). Once approved the RTG will address several areas for coordinated research among the nations that have expressed a willingness to participate: Germany, France, Great Britain, Poland, Turkey, and the United States.

NATO has these goals:

1. Ensure interoperability between formation flight systems for military aircraft from different NATO countries;

2. Provide guidance and a framework for research into formation flight, while minimizing unnecessary duplication of effort;

3. Demonstrate the utility of using uncertainty-based formation flight simulation methods; and

4. Advocate for a jointly-sponsored flight research activity.

Sizoo believes someday $AVE will be just a routine part of flying and may include large autonomous aircraft. "This is the future of aviation," he said.

$AVE is the culmination of an ongoing, combined effort between AMC, the Air Force Research Laboratory, the 412th Test Wing, the Air Force Life Cycle Management Center, the Defense Advanced Research Projects Agency, the Boeing Company, and NASA Armstrong Flight Research Center.

The first C-17 flight tests employing "vortex surfing" were conducted at Edwards AFB, Calif.

Courtesy photo

FLIGHT HAZARDS IN COLD WEATHER

By MS. RUTH ANN REPLOGLE, Staff Writer

Winter is upon us and colder weather means we have to work harder to keep Airmen safe in the skies. Pilots flying this time of year encounter far more safety risks than in any other season.

"It is critical for everyone to know about the flight hazards associated with cold weather," said Brig Gen David L. Johnson (Ret.), who formerly served as director of NOAA's National Weather Service. Among the flight hazards in cold weather are darkness, wind, fog, low ceilings, snow, and the most dangerous of all, icing.

Darkness

Daylight hours drop off the farther north you go during winter. Depending on latitude, there may be eight hours or less of sunlight.

Obviously, night flying is different from day flying. Among variables are scanning the instrument panel rather than visuals outside the windshield, cockpit lighting, terrain, and runways.

Wind

Crosswinds are more potent during winter weather systems, as the wind blows harder. Even the best pilot can be overpowered by a strong gust.

Fog

Warm air over cold ground or cold air over warm surfaces can cause fog. During the winter, widespread fog is most common in the West, particularly along the Plains into the Rockies. The problem with fog is that it is difficult to predict or forecast when it will dissipate.

Low Ceilings

Low clouds are fog that is higher in the air, and it can sometimes be more hazardous than fog due to altitude issues.

Snow

Snow can cut visibility to near zero and can be difficult to predict, too. Once a weather system moves through, the air left behind is often cold, clear, and crisp. In summer, instability in the air causes thunderstorms; in winter, it causes snow showers.

Ice

Super-cooled liquid droplets in the clouds that strike the leading edge of an airfoil freeze on impact. This normally occurs between -8 and -12 degrees Celsius (18 to 10 degrees Fahrenheit) . The ice alters airflow over the wing and tail, reducing the lift force that keeps the plane in the air and potentially causing loss of control. NASA reports icing of aircraft happens more often in the Pacific Northwest, around the Great Lakes, and in the Northeast. In last winter's edition of *The Mobility Forum*, MSgt Julie Meintel of the 445th Airlift Wing described the three types of structure icing (clear, rime, and mixed) and its effects on aircraft structures, as well as induction icing and its effects on the power plant and aircraft engines. Cumulative effects of aircraft icing are decreased thrust, increased drag, decreased lift, and increased weight.

"A full understanding of the hazards will allow you to first avoid the flight hazard, and secondly, to cope during unforeseen encounters," Gen Johnson said. So the best defense against cold weather is a strong offense:

- Know the heightened risks of this season in your flying area.
- Give yourself more leeway to prepare for liftoff, double- and triple-checking procedures and checklists.
- Recognize your aircraft's limitations in colder weather, and know what to do if there is engine failure, wing stall, or icing in mid-flight.
- Familiarize yourself with your taxiing plan should slick spots, slush, or snow be on the runways where you are taking off and landing.
- Read up on *Air Force Handbook 11-203, Vol. II, Weather for Aircrews*.
- Check out NASA pilot guides for ground icing and in-flight icing at **http://aircrafticing.grc.nasa.gov/courses.html**.

Vince White, 305th Maintenance Group Transient Alert aircraft servicer, de-ices a C-17 Globemaster in preparation for flight at Joint Base McGuire-Dix-Lakehurst, N.J.

USAF PHOTO BY SSGT KATHERINE TEREYAMA

Not Your Usual Distractions: *the Holidays*

By MS. RITA HESS,
Staff Writer

When we hear the term "distracted driving," most of us think of texting, talking on a cell phone, or reaching for something in the back seat while operating a motor vehicle. But a website spearheaded by the U.S. Department of Transportation (**www.distraction.gov**) reminds us that it is "**any** activity that could divert a person's attention away from the primary task of driving." This includes eating or drinking, using a navigation system, and adjusting music—actions that put us, our passengers, and other people in danger.

Here are two more examples of dangerous driving habits that plague many of us this time of year. First is the holiday mindset. We get so preoccupied attending parties and school programs, rushing to retail sales, and thinking about where we're headed that we forget to keep our mind on the road.

A second example is driving while fatigued or drowsy, epitomized by the weary Airman who stays up late packing so he can leave the minute his shift ends and drive for hours overnight to arrive back home in time to celebrate with friends or family. This, too, is a dangerous practice that can have deadly consequences.

Here are some tips to help you arrive alive, wherever you're going.

The Holiday Mindset

While the holidays often spark cherished memories of the past and evoke hopes for the future, it's imperative to keep your mind in the present, concentrating fully on the task at hand. That may sound boring (focus on work while on the job, focus on driving while behind the wheel), but the upside is that you survive the season intact and get to focus on the festivities when it's time to do so.

IS THIS YOU?

According to the National Highway Traffic Safety Administration, drivers in their 20s make up **27 percent** of the distracted drivers in fatal crashes.

NSF reports **more than half** (55 percent) of drowsy driving crashes each year are caused by drivers less than 25 years old.

For many people, the key to staying "in the moment" is to organize tasks on paper. For example, make a "to do" list and keep a calendar of activities so you can quit worrying about what needs to be done or what might be forgotten. Seeing your commitments written down helps you know when to decline requests or invitations, and crossing finished tasks off your list provides a tangible boost of confidence. Don't forget to schedule free time on your calendar when you don't have to be anywhere. Also, seize impromptu opportunities to enjoy yourself—stopping to watch snow fall, listening to carolers, or admiring holiday lights.

Rather than waiting until the last minute, make a list (yes, another list) of people you'll buy gifts for and shop a little at a time throughout the year. This may save you money, too, because you'll have time to consider purchases carefully rather than buying impulsively on December 24. Even if it's too late to do this in 2015, try it next year!

If you usually hit the gym or run three times a week, keep your routine during the holidays by including it on your activity calendar. Exercise keeps your energy level up, thus maintaining your mental sharpness, and may help prevent unwanted weight gain from all the big meals and delicious desserts. Plus, the "alone time" can help recharge you.

Finally, consider postponing some celebrations until later. You can always make the trek back home later in December or early in January when life is less hectic, and who knows—you may even start a new tradition!

DROWSY DRIVING SYMPTOMS

- Droopy eyelids, nodding head, and/or incessant yawning
- Increased blinking in an attempt to focus
- Difficulty remembering miles you recently drove
- Missed exits or signs
- Feeling restless and irritable

Driving While Drowsy

The second dangerous driving habit doesn't just occur during the holidays. A 2014 study by the AAA Foundation for Safety (**https://www.aaafoundation.org**) revealed that drowsy drivers are involved in an estimated 21 percent of fatal crashes. Fatigue dulls your alertness, makes it difficult to focus, reduces awareness of your surroundings, causes you to drift into other lanes of traffic, and can lead to *microsleep*, where you close your eyes briefly for a mini-nap of sorts.

Even if you manage to stay awake, drowsiness can cause behaviors that may lead to crashes. Maybe you reach to roll down the windows for fresh air, adjust the air conditioner to keep cool, or change the music to something more upbeat—all actions that require taking your eyes off the road just long enough for something to go awry. Fatigue compromises your reflexes and motor skills.

Men are more likely to drive drowsy than women, according to the National Sleep Foundation (NSF), and are almost twice as likely as women to fall asleep while driving. NSF reports more than half (55 percent) of drowsy driving crashes each year are caused by drivers less than 25 years old.

To lower your risk, get plenty of sleep the night before you travel, and stop for breaks about every 100 miles (or every two hours). Never drive after taking medication that can make you drowsy, (e.g., cold tablets or allergy pills) or after drinking alcohol in any quantity.

If you become sleepy and have a lot of miles to go, STOP and rent a room for the night or find a public, well-lit area to take a nap. If you are near your destination, stop for a cup of coffee or a caffeinated cola, which may help for a short time.

Bottom line? In addition to the obvious distracted driving actions, mental stress and physical fatigue also contribute to holiday deaths. Don't allow yourself to become a statistic. Whether driving locally or traveling out of town, pack your patience, allow for delays, reduce your speed (especially in inclement conditions), and keep your hands on the wheel.

Have a safe and happy holiday season!

STRESS

Impacts Making Safe Choices

By SMSGT JAMES A. MIDDLETON, Ret.

In my Air Force days, I investigated the unfortunate death of a young man involved in a single vehicle accident. It turns out, everyone at work knew he was stressed. He was recently divorced and having relationship problems with a new girlfriend.

The young man was trying to juggle long work hours, a second job due to financial troubles, and a one-hour drive to and from his girlfriend's house. This turned into 16- to 18-hour days. When stressed, he would use fast driving to release his anger. His friends knew this, also, but didn't say anything to him about it, even when he got a speeding ticket for driving 95 miles per hour.

One night after an argument with his girlfriend, he decided to angrily drive too fast for the conditions, rounded a curve, and struck a tree. What was he thinking as he rounded that all too familiar curve that he safely drove through in the past?

Did you know that stress can affect your safety? We can identify certain behaviors that help us recognize our stress level or the stress level of others.

Maybe he was thinking, "I don't care what happens to me. If I am hurt, no one else is going to care either. I have so much I am struggling with, the only thing I have control over is this car. Ahhh! I just wish I could get out of here!"

Did you know that stress can affect your safety? We can identify certain behaviors that help us recognize our stress level or the stress level of others. These behaviors can include increased smoking, violent thoughts or actions, participating in more risky activities than normal, accident proneness, driving while intoxicated, arriving at work stressed, feeling overly fatigued, and binge drinking.

As we move closer to the holidays, stress levels can further increase. Recognize the signs and symptoms and seek help to mitigate stress in a positive manner. Your safety is important within our Air Force family!

SPOTLIGHT AWARD

Reach 700 Crew Acts Quickly to Save Aircraft, Lives, and Cargo

The Reach 700 crew, 62d AW, Joint Base Lewis-McChord: (L to R) SrA Shelby Conry, ML; Capt Michael Menna, FPQ; TSgt Eric Pietras, IL; and Capt Elliot Gautreaux, FPC. Not pictured: Capt Christopher Martin, IP; and TSgt Richard Watkins, FCC.

While on initial climb to FL240 after departing Ramstein Air Base in Germany, the crew of Reach 700 received a "master caution" annunciation. The C-17's warning system had detected a fault of the electronic flight control system; the autopilot clicked off, and flight controls became degraded.

The aircraft commander quickly assessed the implications of this malfunction to flight in reduced vertical separation minimum airspace and coordinated a level-off with German air traffic control (ATC). The crew also coordinated to hold at a point about 20 nautical miles east of Ramstein while troubleshooting the problem.

After reviewing the faults, another master caution illuminated with a FLAPS FAIL annunciation on the electronic flight control system actuator panel. The crew ran the appropriate checklists but was unable to recover use of the flaps. They readied themselves for an abnormal NO FLAP LANDING. The crew calculated the required takeoff and landing data for landing without flaps and determined they needed to burn at least 80,000 pounds of fuel to land below the tire-limiting speed. Despite being one of the busiest airports in Europe, Frankfurt International offered the safest landing surface for a 180-knot heavy-weight, near-limits approach.

Weather was rapidly deteriorating across the region, and the descending cloud decks were reducing visibility and bringing icing conditions. The crew could not afford to spend hours burning 80,000 pounds of fuel. They needed to act fast!

To beat the worsening conditions, the crew coordinated with both Command and Control (C2) and ATC to execute an emergency dump procedure. The crew demonstrated excellent Crew Resource Management to coordinate with multiple agencies, maneuver the aircraft for an approach to Frankfurt, and accomplish fuel-dumping procedures. Having completed all emergency and normal checklist procedures, the aircraft commander hand flew the near-limits approach in poor weather and with a degraded flight control system. Reach 700 landed safely and without further incident. They taxied the aircraft to park, and the emergency was terminated.

The actions of the Reach 700 crew demonstrated a methodical and safety-minded approach in an emergency situation. They complied with all requisite checklist procedures, accomplished all necessary coordination with ATC and C2, and explored all avenues to determine the best way to terminate the emergency safely. The crew's actions saved the $215 million aircraft, six crew members, and 70,000 pounds of priority cargo. All deserve a Safety Spotlight!

Past, Present, and Future
Discussed at A/TA 2015 Convention

Gen Carlton Everhart, AMC commander, and CMSgt Victoria Gamble, AMC Command Chief, pose for a photo with Phoenix Stripe/High Flight/Cornerstone attendees, during the 2015 Airlift/Tanker Association Convention and Mobility Symposium, Oct. 28, 2015. Chief Gamble retired from AMC on 6 Nov 2015.

USAF PHOTO BY SSGT SHANDRESHA MITCHELL

By SSGT STEPHENIE WADE,
HQ AMC, Public Affairs

More than 1,500 mobility Airmen and Air Force leaders attended the 2015 Airlift/Tanker Association (A/TA) Convention and Air Mobility Symposium in Orlando, Florida, October 29-November 1. This year's theme was "Mobility Airmen Excellence in Action – Past, Present and Future!" During the convention, speakers highlighted how Total Force Airmen come together to accomplish the mobility mission across the globe.

Gen Carlton D. "Dewey" Everhart II, Air Mobility Command Commander, delivered the final keynote address. He lauded A/TA as an opportunity to combine the power of innovative Airmen with the resources of industry.

"The Mobility Symposium is an ideal professional development opportunity for officers, enlisted, and civilian Airmen," he said. "To shape our global enterprise, we must face challenges and find ways to succeed against overwhelming odds… Our nation needs mobility Airmen to lead us to a future where today's innovations will become routine. How will we use directed energy, hypersonic, nanotechnology, or remotely piloted aircraft? Are the answers in the technologies the next tanker or airlifter will utilize, or will they use something that hasn't been imagined yet? Do you understand the impact your job has on the lives of others?"

CMSgt of the Air Force James A. Cody provided examples during A/TA of mobility Airmen contributions this past year. He highlighted SrA Crystal Cash, 91st Air Refueling Squadron, MacDill AFB, Florida, one of first Airmen to return to Iraq to provide refueling support; TSgt Rebecca Martin from Pope Field, North Carolina, who won the Department of Defense 2015 Spirit of Hope Award for her 1,100 hours of volunteering; and SSgt Haida StarEagle from Headquarters Air Mobility Command, who was selected for the new Senior Leadership Enlisted Commissioning Program.

"Each Airman has a story," Everhart said during his keynote address. "At this moment, you are writing a new chapter in our mobility story." He recounted mobility Airmen accomplishments in the year leading up to the convention: fighting Ebola during Operation United Assistance; refueling coalition aircraft during Operation Inherent Resolve; moving equipment during the retrograde in Afghanistan; providing humanitarian aid to Nepal during Operation Freedom Sentinel; contingency response Airmen strengthening the en route structure; and providing presidential and special airlift missions.

He added that Airmen have accomplished significant tasks like designing the C-5M Super Galaxy and C-130J Super Hercules, but they must also consider how they will train for the future.

"As the mobility fleet evolves, we must advance the way we train to maintain readiness," Everhart said. "Our Airmen are our weapon system … So we need to get more bang out of the training dollars we have. And, when we exercise, we have to do it with joint and international partners, just like we did with Talisman Saber ... [which] showcased exactly what rapid global mobility can do."

The general acknowledged the KC-135 has been the bedrock of the refueling mission for nearly 60 years—since the Vietnam era.

The U.S. Air Force Chief of Staff, Gen Mark A. Welsh III, also spoke about the history and success of air refueling, saying the KC-135 changed the game.

"Today's refueling fleet enables combat operations and Air Force

Photo left: Gen Carlton D. Everhart, AMC commander, gives the closing address during the 47th Annual A/TA Convention. Photo right: Gen Mark A. Welsh.

USAF PHOTOS BY SSGT SHANDRESHA MITCHELL

Gen Everhart and attendees of the 47th Annual A/TA Convention pose for a group photo. Each Airman played an integral part in providing Rapid Global Mobility in the aeromedical mission that returned SSgt Taylor Savage to safety (see related story below). Left to right: SSgt Maria Szymanski, combat medic; Marty Shroyer; TSgt Aastria Gathings, 621st CRW; Lt Justin Munger, 22 ARW pilot; SSgt Amber Fredericks, combat medic; Capt David Grzechowiak, 146 IES; Gen Carlton D. Everhart; and SSgt Taylor Savage.

USAF PHOTO BY SSGT SHANDRESHA MITCHELL

success globally. You guys [AMC] have no idea how cool you are."

Everhart said the KC-46A is next. "The demand for tanker gas is high and isn't limited to the Middle East. The KC-46A is a step in the right direction. Advanced avionics and communications equipment … will increase situational awareness for operators so they can get closer to the fight," he said.

At the end of his speech, the audience paused to reflect on the aircrew of Torque 62 from Dyess AFB, Texas, who lost their lives when a C-130J crashed in Afghanistan in October.

Everhart said, "A lost life is a harsh reality in our line of work. But, we've made vast improvements to save more lives ... The survival rate of patients has increased over 20 percent [in the last 25 years] because of Airmen." He told the story of SSgt Taylor Savage, a combat medic, who was injured in 2013 by an improvised explosive device in Afghanistan while supporting Army partners. Within 48 hours, she was evacuated to Walter Reed Army Medical Center.

"Airmen from our tactical critical care evacuation team and air transportation teams watched every heartbeat along the way," recalled Everhart. "SSgt Savage will be the first to tell you that machines and airplanes didn't save her. People did." Savage was present during the speech and appeared on stage, inciting an energetic standing ovation.

Suddenly, the crowd witnessed an onstage surprise—reuniting SSgt Savage with the two combat medics who helped save her life, SSgt Maria Szymanski and SSgt Amber Frederick. The crowd rose again in applause.

"The people in the audience will determine what AMC looks like tomorrow," Everhart concluded. "Airmen will develop the next airlifter, the next tanker—and will continue to save lives."

Where Will the Next Mishap Occur?

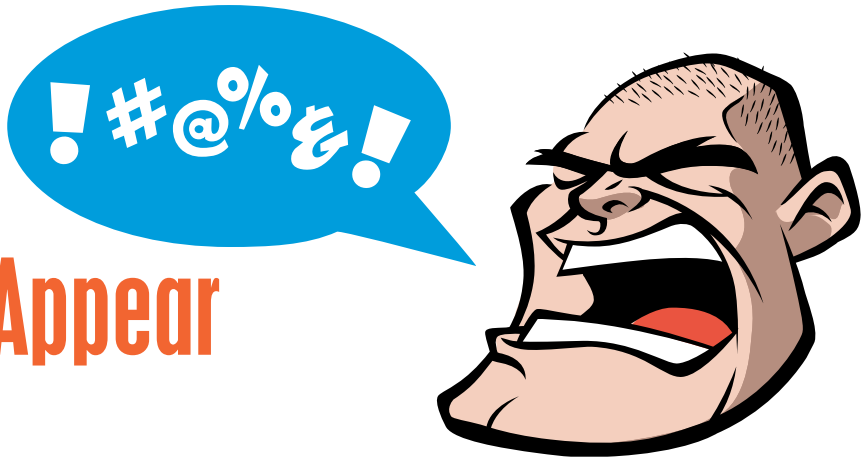
By MS. KIM BRUMLEY, Staff Writer

That was the billion dollar question on the mind of every safety professional in attendance at the Chief of Safety Conference held in Orlando, Florida on Oct. 29th, 2015. As Col Michael Seiler, Director of Safety for Air Mobility Command, posed the big question to the attendees, he also let them know that every possible means of providing a vital answer is being explored. From in-depth market research to reach the high risk group of young Airmen to throwing out the old, boring PowerPoint safety presentations for more interesting and engaging training, AMC safety is exercising a full gamut of options to proactively get ahead of preventable mishaps. He also encouraged everyone to simply get out there and speak one-on-one with Airmen any time there is opportunity and asked what tools or resources he could provide to assist in the worthy cause of improving the safety culture.

The effort of all those sincerely dedicated professionals has not gone without extraordinary reward as the statistics for overall mishaps are at an all-time low in 15 years. Gen Carlton D. Everhart, Commander of AMC, personally thanked each and every professional during the conference for going above and beyond in their daily duties.

Looking toward the future, Col Seiler has more avenues of proactive safety to explore and encourages safety professionals from across the command to roll up their sleeves and participate in the quest to answer the billion dollar question.

Things Are Not Always as They Appear



By MSGT ROY RESTO, Ret.

Don't you hate all those Latin terms that continue to linger in our language, such as ***prima fascia*** and ***quid pro quo***? (Isn't that a fish delicacy in some countries? I'll eat it if I don't have to look at the eyes.) In 2008 ***anno domini***, a few of us deployed to one of the locations earning hostile fire pay—and no, I still have not figured out how that pay is calculated; it just seems so ***non sequitur***. And so it is, there I was …

On this notoriously torrid day, I found myself on a launch van. At this busy location, the van is usually staffed by 6–10 specialist maintainers: electricians, avionics, hydraulics, and engine troops. The van is to be shipside at every launch, ready to assist the flight crew in the event a problem is encountered before leaving the chocks. *Get the mission off*. The launching crewchief on the ground is always in contact with the flight crew via headset and is assisted by another crewchief. A hand wave from any crewchief and we're there.

We were going from one launch to another and arrived at this particular aircraft when it was well into the departure checklist. As usual, we parked at a safe distance, and all seemed uneventful as the four engines started up one by one. We heard the engines spool up as the marshaller waved the lumbering tanker out of the chocks.

All of a sudden, we heard the driver yell frantically, "OH MY GOD!" While the plane was taxiing, the assistant crewchief started walking toward the airplane. A few of us offered that the assistant seemed to have a death wish to be sucked into the engine or run over (the ***causa mortis***). Just as quickly, the marshaller signaled for the plane to stop after it had rolled a couple of meters, and the assistant grabbed the ground chord that had apparently been left behind.

The van driver and a few others uttered, "That was a close call. How could that happen?" After the assistant cleared the taxi path, the marshaller motioned for the aircraft to continue the taxi. When the aircraft was well on its way to the runway, the van driver proceeded to the now empty aircraft parking spot to hook up and reposition the ground power cart. After dropping off the cart, the same two crewchiefs asked the van driver to move the cart a little further. *That did it*.

At this point, the van driver seemed to have lost it. He gunned the van with screeching tires in a circle to approach the two crewchiefs, and then slammed on the brakes, shifted into Park, and jumped out of the vehicle. Seated behind him, I yelled, "Easy! EASY!" to no avail. He (an NCO) proceeded to berate the lowly, safety-violating crewchiefs in no uncertain terms, accompanied by flailing arms, pointed fingers, and seasoned language; they were certainly ***persona non-grata***.

The two crewchiefs seemed stunned and remained quiet until the van driver exhausted his pontifications and lexicon of expletives. With the van driver now in an apparently vented state, the two crewchiefs spoke up. It turns out that during the preflight procedures, the ground chord became inextricably wedged beneath the nose tire. The crewchief then coordinated with the flight crew that he would marshal them a couple of meters out of the chocks, hold them, and the assistant would recover the potential FOD hazard. In fact, during the short taxi, the flight crew never advanced the throttles on the side of the assistant crewchief and used the engines on the opposite side to taxi the short distance. The flight crew was debriefed upon their return and confirmed the same. For the remainder of the deployment, the van driver and the two crewchiefs were not observed exchanging pleasantries.

As is my ***modus operandi***, I'll let you conclude what the lessons to be learned are, particularly as they relate to maintenance resource management and human factors.

By the way, I'll have you know that this article is a ***pro bono*** effort on my behalf. *Over 'n out*.

SPOTLIGHT AWARD

MacDill Airmen Avert B-2 Mishap

Mr. Michael Boldin

A1C Jonathan Alexander

SSgt Charles Hildreth

SrA Ryan Monday

On the night of April 23, 2015, members of the 6th Operations Support Squadron Air Traffic Controllers had their hands full helping a distressed B-2 Spirit that diverted to MacDill AFB, Florida, due to an in-flight emergency.

SSgt Charles Hildreth (Local Control) was informed that the aircraft was reporting avionics and dashboard communication failure. Under the direction of **Mr. Michael Boldin** (Watch Supervisor), **A1C Jonathan Alexander** (Flight Data) relayed the data to the appropriate emergency response agencies.

On the aircraft's initial ILS (instrument landing) approach at MacDill, the pilot requested a low approach so tower personnel could determine if the landing gear was down properly or stuck in the up position. Simultaneously, **SrA Ryan Monday** (Ground Control) began staging response vehicles, and SSgt Hildreth had everyone involved switch to an emergency frequency, allowing efficient communications.

Air Traffic Control (ATC) observed the landing gear down, so SSgt Hildreth coordinated a second approach, informing the aircrew that the BAK-12 arresting system on the approach and departure end of the runway were both raised, which slows down fighter jets. This transmission—although not required—proved pivotal.

The aircrew responded that they couldn't land over the BAK-12 because it can damage a B-2, so a plan was devised to expedite takedown of the arresting gear. A single arresting system typically requires 20 minutes for removal; during this event, both systems were removed in 12 minutes.

As removal neared completion, SSgt Hildreth cleared the emergency aircraft via ILS approach for a full stop. Despite the aircraft's limited nose gear steering capability, the B-2 landed and safely initiated shutdown on the taxiway.

The aircrew later praised ATC for the barrier call, saying, "We had our hands full ... so you saved the day." The pilot added that the emergency and recovery were challenging, but the real success story was how team MacDill worked together across operations, maintenance, and mission support groups to return a national asset to a combat mission ready status. Indeed, everyone involved performed exceptionally, preventing casualties and saving the $2.2 billion aircraft.

Lt Col John Martin, 6 AMW Chief of Safety, praised the superb situational awareness and timely actions of those involved for helping avert an aircraft mishap.

Nice job, everyone!

Improving Safety While Protecting Your Identity

By TSGT THOMAS A. PERRY, AMC Ops RAMS

As aviators, we are always striving to increase our knowledge of the locations we will be flying into, as well as trying to learn from any issues we may encounter along the way. One of the most efficient ways we are able to do this in AMC is by utilizing the Aviation Safety Action Program, or ASAP. But, some of our AMC aviators are unsure, or even frightened, about using this program for fear of reprisal for what they submit. Whether you choose to submit an ASAP report anonymously or provide your contact information, we will not release your personal information without your consent. What most people may not know are the lengths that we go to safeguard the identity of everyone that submits an ASAP report.

As a part of the Operations Risk Assessment and Management Systems team, or Ops RAMS, the data analysts of ASAP are charged with ensuring that the identity of any aviator that submits an ASAP report stays protected. This continues to be emphasized by senior leadership in AMC as we move towards a Just Culture. No matter who is asking for the submitter's information, we will NOT release it without the consent of the submitter. It does not matter the position or rank of the individual asking for the information; we will not break the integrity of the identity protection of the ASAP.

From the moment the ASAP report is submitted, we take great pains to verify that the information is properly de-identified but still able to be used by the rest of the MAF so we can learn from it. This action allows events experienced by a few to become lessons learned by many. Before we post a submission to the ASAP Status Scoreboard for all to see, we carefully go through it line by line to certify there is no identifying information that anyone could piece together to identify the crew that flew that mission. We scour everything provided by the submitter, removing/redacting all call signs, dates, mission numbers, and sometimes even aircraft types and airports, relegating the submitter's identity to obscurity.

With the ASAP program, you are not required in any way to provide your contact information, but we highly encourage that you do. When you submit your name with the report, we are able to reach out to you from the Ops RAMS office to clarify/gather more details. This allows us to expedite our response to the rest of the MAF. We have exercised this opportunity numerous times, with our analysts reaching out to submitters for supporting information to clarify their reports. Changes produced from submitters' direct involvement include immediate changes to GIANT reports and updates for cargo loading procedures at forward operating bases. Also, with concurrence from the submitter, we have been able to link them directly with subject matter experts to remedy the issue much faster, but we can only do this if submitters are willing to provide their contact information when they submit an ASAP report.

In order for us to continue to grow as aviators, we have to learn from the issues we have encountered through our careers, and we can capture that information for future aviators to learn from as long as we utilize programs such as ASAP. To submit an ASAP report, please log onto the ASAP website at **www.usaf-mfoqa.com**. If you have any questions, you can contact the data analysts in the Ops RAMS section via email at **amc.asap@us.af.mil**.

Safety Surveys and the ZOMBIE APOCALYPSE

By AL "DR. LOVE" JONES,
AFCMRS Program Manager

Survey Statement:
Leaders/Supervisors in my squadron discourage cutting corners to get a job done.

Squadron Member Response:
"It has become clear to us that they want us to follow the T.O. when they are watching, but they want us to cut corners when they are not."

Interesting! If you are the wing, group, or squadron commander, what do you make of this comment? Is it true? Is it a misperception? Is it a little bit of both? Is your safety culture setting your Airmen up for failure?

It's sometimes easy to look back after an accident and say, "We should have seen it coming." The Air Force Combined Mishap Reduction System (AFCMRS) helps you see "it" coming and also allows you to quantify what you're up against. AFCMRS allows all AF commanders to measure their organization's safety culture. The survey provides critical information regarding ops tempo vs. manning, fatigue, communication challenges, equipment shortfalls, cutting corners, and more.

AFCMRS shows you the challenges reported by Airmen of every rank, thus helping you focus on those areas with interventions that resonate with the target demographic. Perhaps it is internal squadron communication for E4-E6 in a maintenance squadron, flying proficiency (vs. currency) training for O1-O3 in a flying squadron, or fatigued driving due to long duty days for E1-E3 in a security forces squadron.

There are two parts to the survey. The first part is a series of standardized items, yielding a score that can be measured against similar squadrons accomplishing the same mission across the Air Force. We can see how your E4-E6 maintainers score internal squadron communication compared to other E4-E6 maintainers in your MAJCOM or all across the USAF.

Perhaps the most important information comes from the second part of the survey: the write-in comments provided by your organization's members. Though no one is required to provide comments, we always see a strong response—particularly among the more disgruntled. If you want to correct existing or perceived problems, you want to hear from these folks! While the standard comparisons give you an appreciation for the overall score and a comparative look at problem areas within your organization, the comments give you an insight into specific problems and concerns to help assess the level of frustration or passion generated by the reported condition.

There is no cost to any organization participating in the survey process, and commanders from squadron to MAJCOM level can initiate the survey. It takes about five to seven minutes for the unit safety rep to set up a survey request on our website, and assigned personnel can take a survey within 10 minutes of a commander saying, "Make it so." It takes an average of 10 minutes for respondents to complete the survey, and any computer with Internet connectivity can access our website. Respondents do not need to use a CAC enabled or .mil computer.

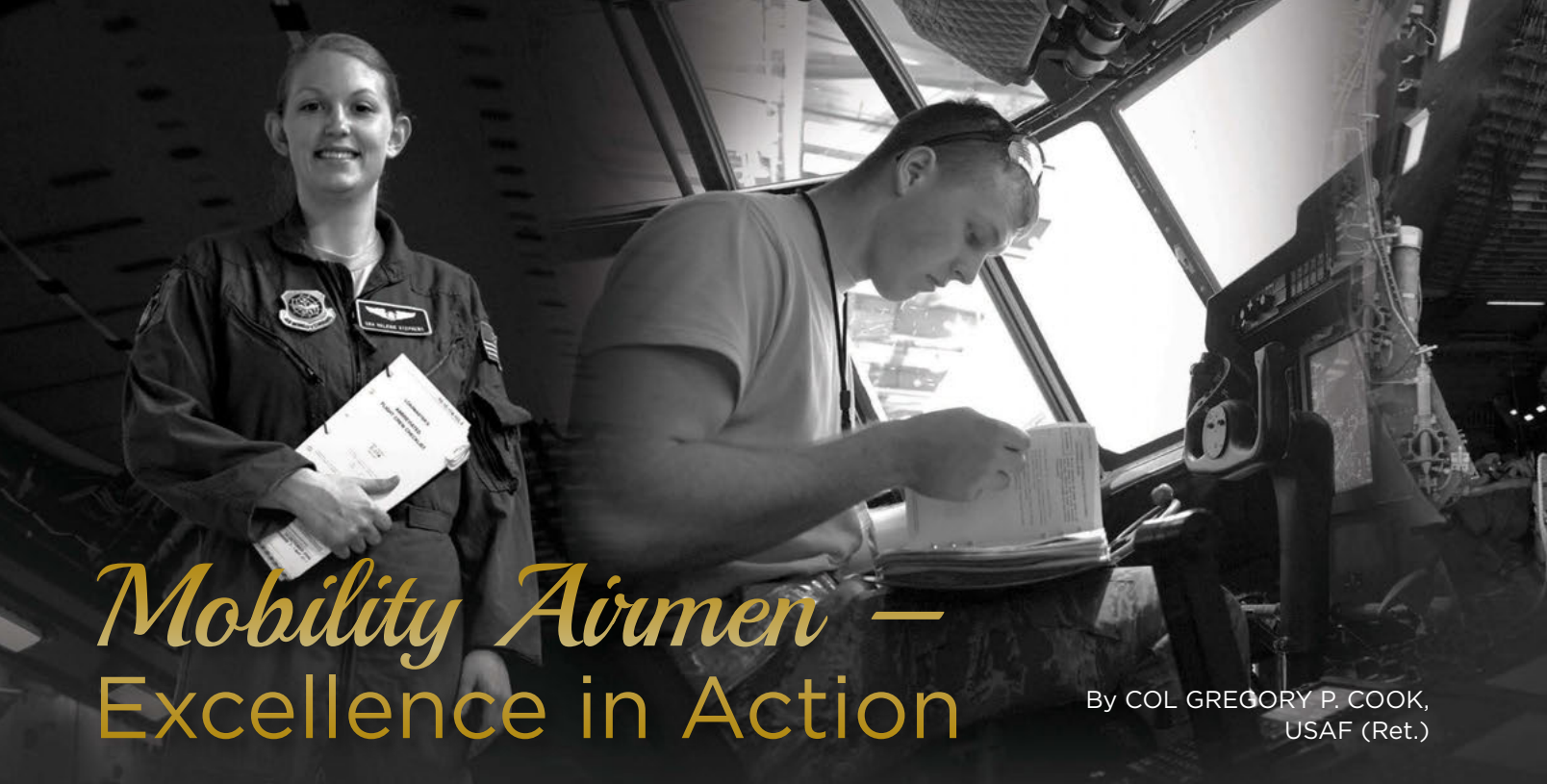
If you are going to mitigate risk, it sure helps to know what you are up against. It is much better to ask, "What's heading my way?" than to wait and have to ask, "What hit me?"

For more information, go to **www.afcmrs.org** or contact Ms. Ashley Palacios at DSN: 246-0781.

AFCMRS FUN FACTOIDS

Survey respondents often ask, "Is anyone actually going to read this comment?" The answer is yes. We read EVERY comment you submit and then pass it on to commanders at all levels. Some respondent quotes even make their way up to the MAJCOM commander's desk.

While most of the hundreds of thousands of comments reviewed address traditional safety concerns related to human factors, references to zombies and/or the zombie apocalypse have appeared over 200 times (adjust your Risk Management accordingly).



Mobility Airmen — Excellence in Action

By COL GREGORY P. COOK, USAF (Ret.)

Mobility Airmen – Enablers of the Global Air Mobility System

Rapid global air mobility has been called the foundation of America's national security strategy. To illustrate this point, we can easily visualize images of large, gunmetal gray aircraft thundering through the sky to all corners of the globe. At first glance, the concept of *air mobility* is just that: airplanes and aircrews executing missions worldwide. Yet a deeper look proves it is the product of a *system*—a complex web of people, organizations, functions, and countless day-to-day actions and interactions. In particular, the contributions of mobility Airmen provide the strength behind America's air mobility force.

The system consists of thousands of people worldwide whose collective efforts enable air mobility's contribution to America's national security.

- They serve in the Air Force, Air Force Reserve, and Air National Guard.
- They represent other services or wear the uniform of another nation. Many are civilian and contract workers; some are volunteers.
- They execute missions in the air and on the ground at home bases, en route locations, deployed sites, major commands, and field operating agencies.
- They command and control mobility missions, provide logistical support, perform administrative duties, satisfy information needs, protect the force, and otherwise enable the air mobility mission in many ways.

From the main gate to the flightline, from the controls of a forklift to a computer keyboard, and from Any Base USA to the farthest reaches of the globe, *people* make rapid global air mobility a reality every day.

It has not always been so. The current system evolved over nearly a century of operations, following an amazing history of people, technology, organizational development, and the practical application of the aerospace mission. From the first U.S. military transport operation in 1916 to today's global forces, mobility Airmen—officers and enlisted, men and women—demonstrated their ability to overcome operational challenges and accomplish missions through excellence. For over 100 years, these often unheralded and unsung warriors embraced the unknown with courage, determination, and innovation. In the process, they developed a complex enterprise that knows no match.

Through the decades, mobility Airmen orchestrated great achievements and laid the foundation for today's air mobility forces. Their accomplishments and the system they created are finally being fully realized and recognized. Air Force leaders who grew up within the system now occupy key positions in national defense.

Prior to the creation of Air Mobility Command in 1992, airlift and tanker communities were generally regarded as less-than-equal "stepchildren" to the more glamorous fighter and bomber communities. The mission and its Airmen were often taken for granted in their supporting role. Despite their engagement and success during conflict, the airlift and tanker communities received

"The more I see of war, the more I realize how it all depends on administration and transportation … It takes little skill or imagination to see where you would like your army to be and when; it takes much more knowledge and hard work to know where you can place your forces and whether you can maintain them there."

– General A. C. P. Wavell, Quoted in Martin Van Creveld's *Supply War, Logistics from Wallenstein to Patton* (1977)

only occasional recognition of their contributions to national defense.

The air mobility story is about inspired strategic leadership; it is about officers and enlisted Airmen serving and supporting each other in the air and on the line—working together to accomplish complex operations, exercises, and missions. These quiet warriors epitomized the "can do" pioneering spirit of American aviation, overcoming obstacles and challenges along the way. They demonstrated innovation, flexibility, and adaptability while building a global air mobility system capable of responding to the demands of the time. In so doing, they exuded competence and excellence in action.

Air Mobility Today

Rapid global air mobility is a core mission of the U.S. Air Force today and includes the timely deployment, employment, sustainment, augmentation, and redeployment of military forces and capabilities across the spectrum of conflict and range of military operations. It is essential to virtually every military operation, allowing forces to reach foreign or domestic destinations quickly and seize the initiative through speed and surprise. Today, mobility Airmen are entrusted with establishing air expeditionary operations, opening aerial ports and delivering forces, plus sustaining and fueling operations until returning forces home again. Air mobility forces are often the first to arrive, engaged throughout, and the last to leave.

The primary missions of air mobility forces are to provide rapid global airlift and aerial refueling for U.S. and allied armed forces, with corollary missions of operational support airlift (OSA), aeromedical evacuation (AE), and special air missions that support the movement of national leaders. Mobility forces also participate in special operations, perform mobility missions, and provide operational support. Strategic airlift and air refueling missions are usually scheduled and managed by Air Mobility Command (AMC) through the 18th Air Force and the Tanker Airlift Control Center (TACC). The air component commands of the regional warfighting commanders oversee the operations of theater assigned assets, Air Education and Training Command (AETC) satisfies major training requirements, and Air Force Materiel Command (AFMC) conducts flight testing and evaluation of new aircraft and flight systems. Various aspects of OSA and AE are managed by both AMC and the theater air component commands.

The global air mobility system continues its long-standing role as the backbone of deterrence, a key enabler of defense operations, and the cornerstone of national security. Joint and allied forces rely heavily on its capabilities and continuous engagement on the frontlines. In many respects, air mobility epitomizes the concepts of global power, global reach, and global presence. It is omnipresent on the world scene, yet often neither visible nor recognized for its major contributions. The global air mobility system operates every moment of every day, year after year, in every corner of the globe because of mobility Airmen and their excellence in action.

Photos left to right: SrA Valerie Stephens, Dover AFB, Del. Photo by SrA Jared Duhon

SrA Jacob Osborne, Ramstein AB. Photo by A1C Michael Stuart

Airmen assist Soldiers at Travis AFB, Calif. Photo by A1C Amber Carter

SrA Alexis Aponte, McConnell AFB, Kan. Photo by A1C John Linzmeier

What Fuels Your Focus on the Job?

By MS. RUTH ANN REPLOGLE, Staff Writer

AMC'S MISSION is to provide global air mobility, and we all have missions within that mission, whether we are in the office, on the flightline, in the cockpit, or out and about.

For many of us, we come to work ready to start the day but then challenges come and distractions impede our work stream. It is easy to get bombarded by things that can pull us off course.

A 2010 Harvard study documented that a person's mind wanders almost 50 percent of the time while at work.

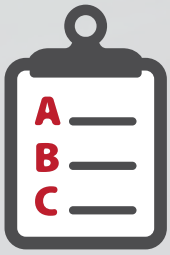
And while mind-wandering is often beneficial for discoveries in the realms of science and entrepreneurship, it can have disastrous effects in a military setting. Safety could be compromised due to lack of attention.

So the question becomes, "How do I stay focused on the job?"

HERE ARE SOME WAYS TO FUEL YOUR CONCENTRATION:

PRIORITIZE AND SET CLEAR GOALS

A list of priorities each day or for the week helps keep you on track. It also rewards you with the opportunity to cross off items when you accomplish your goals. Organize them by what tasks are urgent and what can be completed in the next week or so.



BREAK EACH TASK INTO BITE-SIZED CHUNKS

It can be daunting if the task at hand has many components and you feel overwhelmed. Split up the task into more manageable bits so you can effectively tackle it.

WORK IN INTERVALS

Alertness can drop off the longer you work on a project, so give yourself breaks every 60 to 90 minutes. FYI, your body clock (circadian rhythm) operates on a 90-minute cycle. Short bursts of hard work are more beneficial than burning your brain out by working without a breather.

SSgt Lewis Thomas, 11th Civil Engineer Squadron water and fuels systems specialist, checks a pressure gauge at Hangar 13 on Joint Base Andrews, Md.

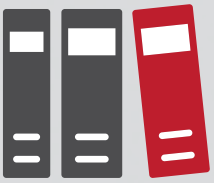
USAF PHOTO BY SSGT CHAD C. STROHMEYER

AVOID MULTITASKING

Trying to do too many things at once divides your attention and can cause you to not be fully committed to every task. Block off a specific amount of time for each task. That way you control your day and manage your time wisely. Work smarter, not harder!

LEARN YOUR TRIGGERS

Take note of when and how you get unfocused or let your mind wander. For example, were you tired, hungry, or bored when you spaced out? Did you only mean to check your email but next thing you know, it's an hour later? By learning what causes you to lose focus, you can head it off next time.



DECLUTTER YOUR WORK AREA

This is standard safety procedure on the flightline; however, if you have your own private space in an office or cubicle, it might behoove you to clean up and organize it so you can focus and find items.

TAKE TIME OUT TO RELAX

When you take breaks between tasks, it can help to meditate or listen to music. Or you may choose an activity as simple as standing up, stretching, or walking around. Maybe you need to eat a snack or get something to drink. Any relaxation technique helps you get centered and motivated.

ASSESS HOW YOU PROCESS INFORMATION

When training or attending a meeting, are you absorbing the information? Taking notes can help you focus and prevent you from doodling and getting distracted.

GET ORGANIZED

Having a routine helps, as long as you don't get complacent. Know what your schedule is, where your equipment is, what checklist(s) you need to follow, etc.

Maintaining your focus every day requires being proactive, but in the long run, it will pay off as you strive to exemplify your mission.

AMC FY15 **Mishap Statistics Scoreboard**

FY15 Aviation Mishaps

Aircraft	Class A	Class B	Total As of Oct 2015
C-5M	0	0	0
C-17A	2	4	6
C-130	0	0	0
KC-135R	0	3	3
KC-10A	0	0	0
C-40B	0	0	0
Total	**2**	**7**	**9**

FY15 FLIGHT SAFETY NOTES

CLASS A

AMC had two Class A mishaps in FY15, compared to one in FY14. Most likely these mishaps will move to "AF at Large" at the mishap accounting organization because they are engine confined and will no longer be reflected on AMC stats. AMC had four Class A mishaps in FY13.

C-17A Engine Confined

During flight, the crew experienced a compressor stall in the #4 engine. The crew landed without incident. The safety investigation is ongoing.

C-17A Engine Confined

On departure, the #3 engine experienced a compressor stall. Following checklist procedures, the crew left the engine running and continued to the next destination. After landing, the engine flamed out during taxi. The safety investigation is ongoing.

CLASS B

The total number of Class B mishaps was the same as FY14. However, four of the seven mishaps were engine confined.

C-17A Birdstrike

During landing gear retraction after takeoff, the aircraft was struck by numerous lapwings resulting in damage to all four engines and the radome. The aircraft returned to base and landed uneventfully.

C-17A Blown Tires

The C-17 made an approach to an assault landing. After stopping, the crew realized there were multiple blown tires. The crew safety egressed with no injuries.

C-17A Engine Confined

The aircraft sustained an over temperature during #3 engine start. The over temperature was discovered during routine parametric data analysis. The safety investigation is ongoing.

C-17A Engine Confined

While enroute, "Eng Oil Filter 1" annunciated on the warning panel. The crew shut down the engine in accordance with the Precautionary Engine Shutdown Checklist. The crew landed uneventfully. Maintenance discovered debris on the engine chip collectors. The safety investigation is ongoing.

KC-135R Cargo Door

Upon departure, the crew received indication of an open cargo door. The crew declared an emergency and landed without further incident. The cargo door sustained damage.

KC-135R Engine Confined

On the ground, the aircraft experienced what appeared to be a tailpipe fire. The crew shut down all engines and egressed the aircraft. The safety investigation is ongoing.

KC-135R Engine Confined

During aerial refueling, the aircraft experienced an engine malfunction similar to a compressor stall. The crew shut down the engine, cancelled the remainder of the refueling, declared an emergency, and returned to base uneventfully. Post-flight inspection revealed engine damage. The safety investigation is ongoing.

MOBILITY AIR FORCES CLASS A MISHAPS

The following Class A mishaps were noteworthy.

C-17A Birdstrike, Engine Confined

On climb out, the aircraft struck a bird, damaging the #4 engine. The crew recovered the aircraft uneventfully.

C-130H Wheel Well Fire

The aircraft aborted takeoff for abnormal engine indications. Upon exiting the runway, two right main landing gear tires deflated. The aircrew stopped on the taxiway and noticed smoke. Crew and passengers egressed

FY15 Occupational Safety Mishaps

Category	Class A (Fatal)	Class B	Total As of Oct 2015
PMV 2Whl	0	1	1
PMV 4Whl	2	0	2
Sports & Rec	3	0	3
Govt. Motor Vehicle	0	0	0
Pedestrian/ Bicycle	0	0	0
Industrial	0	0	0
Misc.	0	1	1
Total	**5**	**2**	**7**

the aircraft safely. The fire was discovered under the right main wheel well and was suppressed by the fire department. Substantial damage occurred.

C-130H/C-27J Midair

The C-130 experienced a mid-air collision with an Army C-27. Both aircraft recovered to base with extensive damage.

FY15 OCCUPATIONAL SAFETY NOTES

PMV 2 Wheel

- Member lost control in a curve, struck a curb, and was ejected from a motorcycle and struck a tree.

PMV 4 Wheel

- Member lost control in a slight curve, left the roadway and overturned. Alcohol was involved and seat belt was not used.
- Member lost control, left the roadway and struck a tree.

Sports and Recreation

- Member dove to the bottom of a swimming pool and did not resurface. Alcohol was involved.
- Member was swimming in the ocean and drowned. Alcohol was involved.
- Member was mountain biking, struck a rock, and flipped over the handle bars.

Miscellaneous

- Member severed a toe while mowing grass.

"Make the Right Choices" Campaign Summary

By MR. WAYNE BENDALL, HQ AMC/SEG Occupational Safety Division

The theme of this year's Critical Days of Summer campaign was "Make the Right Choices." Too often people do not think before acting. Poor decisions—such as drinking and driving, texting while driving, driving while fatigued, speeding, failure to wear seatbelts or helmets, and excessive consumption of alcohol while engaging in water-related activities—can be devastating.

This summer, 16 Air Force Airmen lost their lives—two from AMC. Of those, 10 were the result of motor vehicle mishaps and five from water-related activities.

The good news is that we had ZERO fatalities in AMC as a result of motor vehicle mishaps. That is the first time that has happened since the summer of 2008 when we had ZERO overall fatalities (the only time in our history that has occurred).

The bad news is that we had two fatalities and two disabling injuries this year. Here is a brief synopsis of each one:

- An E4 (24 years old) was found unresponsive at the bottom of an apartment swimming pool. Primary causal factors were poor risk management and alcohol.
- An E6 (36 years old) drowned while swimming in the ocean. Primary causal factors were poor risk management and alcohol.
- An E5 (27 years old) sustained disabling injuries when she hit a rock while riding her bicycle and landed on her head. Primary causal factors to be determined pending the results of the investigation.
- An E7 (45 years old) cut his toe off while cutting grass. Primary causal factors to be determined pending the results of the investigation.

Alcohol was a factor in both fatalities. It can make people feel confident, less inhibited, and more euphoric. It has an especially high and often negative impact on those who display risk taking and poor choice management and can be an insidious enemy to our world-class Airmen and to society when misused.

Water-related activities can be especially dangerous when mixed with alcohol and fatigue. It's no wonder drowning is the second leading cause of death to our Airmen.

Continued emphasis on initiatives such as Alive at 25, the Save-A-Life tour, Airmen to Airmen (A2A), Street Smart, and Air Force Combined Mishap Reduction System (AFCMRS) supports a more robust safety culture.

Even though the summer campaign has ended, motor vehicle mishaps remain our greatest threat year round. Leadership, supervision, and wingmen are the backbone to effective mishap prevention efforts. Please stay focused, always vigilant, and aware of your surroundings. Sound risk management in your decisionmaking process can lead to better choices and be the difference between life and death.

Thank you for your continuous leadership in stressing safe operations and for continuing to encourage fellow Airmen to "Make the Right Choices." Let's aim for the safest autumn on record!

ON THIN ICE

By MS. KIM BRUMLEY, Staff Writer

Your alarm clock didn't go off, so you're frantically running around, trying to get dressed and out the door for work. Most mornings you have time to watch the morning news while drinking a hot cup of coffee to get you going, but this morning, you just don't have time. Instead, you hastily throw on your boots, grab your car keys, and run out the door.

If you'd had time to tune into the morning news, you would have known that a small winter storm dropped a thin sheet of ice on everything outside your front door, including the walkway to your car. But, running behind and in a hurry, you don't take the time to look around, so you don't notice the glistening ice you are about to encounter unexpectedly!

Just as your feet hit the ground, it happens: you experience that terrible feeling of losing control and not being able to do anything about it. You hold your breath, your heart rate instantly skyrockets, and your entire body tenses up as you anticipate the inevitable pain you know will happen when you hit the ground. No matter how hard you try, your descent to earth is ungraceful, so you land hard.

Wet or slippery conditions will test your ability to stay balanced, stay alert, and stay safe. Be prepared and use common sense.

USAF PHOTO BY A1C EARLANDEZ YOUNG

Usually, after a short time, you are able to swallow your pride, pick yourself up off the ground, and go on to work. But, there are times when a fall such as this can result in serious or even fatal injury.

According to the Occupational Safety and Health Administration (OSHA), slips, trips, and falls account for 15 percent of all accidental deaths and are the second leading cause of accidental deaths after motor vehicle accidents. In addition, falls make up over 17 percent of all debilitating occupational injuries, so occurrences in the workplace have certainly become a major problem.

What exactly are slips, trips, and falls?

A **slip** occurs when there is too little traction between an individual's feet and the surface he or she is walking or working on. This results in a temporary loss of balance.

A **trip** occurs when an individual's foot or lower leg hits an object,



Remember that your actions could have a negative impact for another.

but the upper body continues in a forward motion.

A **fall** occurs when a person descends freely by the force of gravity. There are two types of falls: same level and lower level.

- A fall at the same level occurs when an individual falls to the same surface he or she is walking or working on.
- A fall to a lower level occurs when an individual falls to a surface below the one he or she is walking or working on.

How can you better protect yourself from enduring an agonizing slip, trip, or fall?

Here are a few tips from OSHA:

- Avoid carrying or moving cumbersome objects or too many objects at one time.
- Pay attention to surroundings.
- Do not take unapproved shortcuts.
- Slow down and avoid being rushed or hurried.

Keep in mind that surfaces or surface conditions are major contributing factors for slips, trips, and falls. In the opening example, there was ice outside. But don't forget that ice and snow from outside are probably being tracked indoors, where it melts and forms puddles of water on that linoleum or concrete floor just inside the doorway of most workplaces. This creates an environment equally as hazardous as ice on a walkway.

If you drag in the elements when you arrive at work, be sure to clean up after yourself so that you are not the cause of someone else's fall. Remember that your actions could have a negative impact for another. In addition, if you do happen to stumble upon (no pun intended) an unsafe condition, be a great wingman and either clean it up or notify the proper person to correct the situation and prevent an accident.

We are all on the same team, so it's our duty to look out for each other, especially when it comes to safety. This winter, you can help prevent slips, trips, and falls for yourself and those around you by taking your time when you head out the door each morning, staying forewarned regarding weather conditions, and simply paying attention to your surroundings.

Being a good wingman means being a safety advocate in the workplace. Watching for slip, trip, and fall hazards is one way to do that. Here are some tips from OSHA on other ways to be involved in keeping your work environment safe.

- Participate in labor-management committees and other advisory groups.
- Conduct site inspections.
- Analyze routine hazards in each step of a job or process, and prepare safe work practices.
- Participate in developing and revising safety rules.
- Participate in accident/near miss incident investigations.
- Participate in decisionmaking throughout operations.
- Participate in pre-use and change analysis.
- Participate as safety observers and safety coaches.
- Report hazards and be involved in finding solutions to correct the problems.

WORKING IT OUT

By MSGT JULIE MEINTEL, 655 Intelligence, Surveillance, and Reconnaissance Group Historian, (AFRC) Wright-Patterson AFB, OH

Squeezing a workout into an already busy day can be challenging enough, even before you add weather into the mix of things to consider. There are many choices for workouts, too: running, biking, swimming, weight lifting, classes, cardio machines like the elliptical trainer or Stair Master, rowing, and more. The choices are nearly endless. Many of us like to exercise outside in the sunshine and fresh air, but when the temperatures drop, how we exercise will need to change a little.

When it's warm out, you don't really have to think much about what you are going to wear on your outdoor run. Throw on some shorts, a t-shirt, and your running shoes, and you are good to go. In the winter, you are going to need some layers. Depending on the climate and just how cold it is, you will need at least a base layer and an outer layer. Whatever the temperature, once you start moving you will sweat, so make sure your base layer, including socks, is made of a wicking fabric that will lift the moisture from your body. This will keep you from having a cold and soggy t-shirt right next to your skin. There's no faster way to ruin a great run than being cold and wet, so save your cotton shirts, sweatpants, and socks for relaxing post workout! Your base layer should fit snugly but not constrict your movement.

Your middle layer should be something warm for insulation, like fleece or wool, and finally, add an outer layer with a waterproof outer shell protecting you from biting winter winds and snow showers. And don't forget that the majority of your body heat escapes from your head and extremities, so cover your head with a cap; microfleece is a good choice because it's warm and lightweight, and because of its wicking properties. Gloves or mittens on your hands complete the picture of a cold-weather runner headed out to log a few miles. There are even mittens that have a kind of flip-top that will allow you to open or close them when you need to, securing the mitten with Velcro in the middle of the palm.

If your run takes you off-road or if there is snow or slush on the ground, you definitely want to pay extra attention to what you wear on your feet. Trail running shoes offer more tread than typical running shoes and may be a better choice so you don't end up taking a spill. If you plan to exercise before the sun comes up, make sure that you wear something reflective: a vest, a belt, or something that will let others know where you are. If you are exercising outdoors during the day, apply sunscreen on your face and any other exposed skin, and wear eye protection like sports sunglasses, or goggles if you are skiing to keep the wind and sun out of your eyes and help keep your vision clear. Look for a pair with 100 percent UV protection, and make sure they fit snugly but comfortably.

Working out outdoors is extra helpful; fresh air is always just plain good for you. Natural sunlight helps lessen tension and eases frustration and depression, which we all face from time to time.

Now that we are properly outfitted, let's talk about what we can safely do outdoors. Tom Battaglia, a wellness coach, personal trainer, and gym owner, says the best way to adjust outdoor workouts when the seasons change is to just pay attention. We should give ourselves a little bit of extra warm-up time, or consider warming up inside and then heading outdoors. Also, cold temperatures can make it harder to run quite as fast or as long. Always pay attention to your body, and if the cold is bothering you, don't push yourself beyond what you can comfortably do. Tom also advises to dress in layers that can easily be removed and put back on while you are on the fly. Also, stay hydrated. You are still losing water through sweat even when it's cold out! It's just less noticeable when you are bundled up. Finally, when you are done, be aware that your body will get cold quickly, so do most of your cooling down and stretching inside.

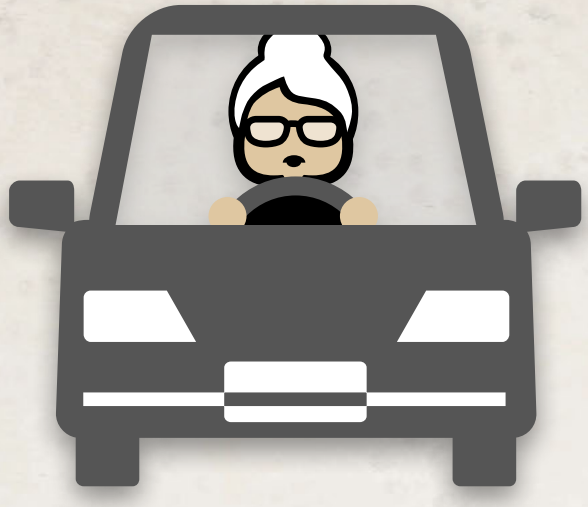
If you can avoid exercising outdoors when it's dark, you probably should. Black ice is very sneaky; you can hit a patch and never see it coming. Try to use roads and paths that are clear and well lit. Also, darker means colder, and there are times it's just too cold and ugly outside to go for a run. You may need to find another time of day or go to the gym instead. If you are going outside, though, look for a loop in your neighborhood or near your workplace where you can run or bike over and over. No, it might not be as interesting to keep seeing the same scenery, but if you slip and fall, or get too cold or tired, you won't be far from home or work, where you can get in away from the elements more quickly. Carry your cell phone with you, too; it's good for more than listening to your favorite songs while you work out. And let someone know where you are going and for how long.

We all know the numerous benefits of exercise. Working out outdoors is extra helpful; fresh air is always just plain good for you. Natural sunlight helps lessen tension and eases frustration and depression, which we all face from time to time. Seasonal affective disorder is brought on by the increased periods of darkness in winter, and getting as much natural sunlight as possible can really help.

Research published in *Medicine & Science in Sports & Exercise* shows that race times are faster in the cold and you may burn slightly more calories because your body is working harder in the cold and producing more endorphins, also known as "feel-good" hormones. Don't count on the temperature alone to help whittle down your waist measurement for your fit test, though! Cold temperatures are not enough to make a difference, but the exercise is.

Snow and cold temperatures do not need to drive your workout inside if you love being outdoors. Take a few extra moments to prepare and think ahead, and you can still keep it going all winter long!

Driving Like Grandma



By MR. MONTE NACE, Staff Writer

I admit it. On more than one occasion, I've encountered a driver that I thought was dawdling, and as I passed the vehicle, I mumbled (or at least thought to myself), *Hurry up, Granny!* I meant no disrespect—I love my Grandma! But older drivers sometimes seem to drive way too slow.

Well guess what? When it comes to driving in winter weather, Grandma knows best—slow is the way to go! Here are a few tips to get you where you're going in less-than-ideal winter weather.

Watch for bandits. Years ago, I took a defensive driving course in which our instructor taught us to be on the lookout for bandits at all times. A *bandit* was anything in the distance that "might" cause an accident. In a neighborhood, a bandit could be a group of children playing in the front yard (if a ball rolls into the street, a child might run after it). In rural areas, a bandit might be wildlife (deer are especially dangerous in some areas during certain seasons). On the highway, a bandit may be road debris, a vehicle without its lights on when they should be, a construction zone, or a particularly unforgiving curve.

As you're driving in winter weather, don't forget to look far ahead occasionally and slow down for bandits (obstacles) well before you get to them. Bandits can get you into much more serious trouble in rain, sleet, or snow because you may not be able to stop as quickly as you can in dry weather. That leads me to my next point …

Don't count on your vehicle's equipment and size. Your antilock brake system (ABS) and stability system won't help if you're driving too fast and start sliding off the road. According to the National Highway Traffic Safety Administration, a rear-wheel-only ABS on some pickups, vans, and sport utility vehicles (SUVs) may keep you from spinning out of control, but the front wheels may lock up and result in a loss of steering control. On very soft surfaces, such as unpacked snow, the ABS may actually *lengthen* stopping distances, so your best bet is simply to slow down and allow twice the stopping distance that you normally would in good weather.

The make and size of your vehicle won't help you, either—nor will having four-wheel-drive. In fact, pickups tend to have a higher center of gravity (which can make them unstable), so sliding on an icy roadway and then suddenly hitting a clear spot (which causes the tires to "grab" the road) can actually put you at greater risk of a rollover accident. That leads me to my next point …

Become a student. If you're new to an area that has winter weather, learn to drive in it. Knowing what to do in a skid is one of the best driving skills you can have, but it can be tricky to learn. Sure, "steering into a skid" sounds easy, but it seems counterintuitive the first few times you do it. You also have to stay calm and not overreact by overcorrecting or using your brakes.

Check on base or in the community for safe driving courses. If none are available, try to find a place (e.g., an unoccupied parking lot) where you can actually practice driving in slick conditions during daylight hours. At a minimum, these practice runs will give you a better feel for how your brakes will respond in sudden stops and how much stopping distance you need to allow for on icy or snowy roads. And guess what? That leads me to my last point …

Use your head. None of what you've read so far will be of much use unless you apply common sense.

- Drive sober.
- Wear your safety belt.
- Don't drive fatigued.
- Stay OFF your cell phone.
- Maintain your vehicle properly.
- Pack an emergency kit.

Bottom line: when it comes to driving in adverse weather during winter, do what Grandma does. Slooooooooooooooow down!

For more safe winter driving tips, go to **https://www.osha.gov/Publications/SafeDriving.pdf**

Flying Hour MILESTONES

8,500 HOURS

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CMSgt Juan Claudio

7,500 HOURS

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Lt Col Thomas A. Gervais

732 AS, JB McGuire-Dix-Lakehurst, NJ
MSgt Nicholas R. Brehm

6,500 HOURS

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Lt Col William J. Gorczynski
SMSgt Denise R. Roberts
MSgt Bryan D. Fitch
MSgt Jeffery L. Vaughn

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SMSgt Kevin M. Keane
MSgt Thomas F. Shine

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2,500 HOURS

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Capt Lee C. Schmeer
Capt Steven A. Siejkowski

An Airman from the 189th AW gives a thumbs-up during a training flight near Little Rock AFB, Ark.

USAF PHOTO BY SRA SCOTT POE

SUBMITTING MISHAP-FREE FLYING HOUR MILESTONES

To submit mishap-free flying hour milestones, send your request to:
mobilityforum@us.af.mil **HQ AMC/SEE, 618.229.0927 (DSN 779)**
Please submit as shown in the listings above (first name, last name, sorted alphabetically within rank).

QUICKSTOPPERS

Who's Guarding Who?

By MR. WAYNE BENDALL, HQ/SEG
Occupational Safety Division

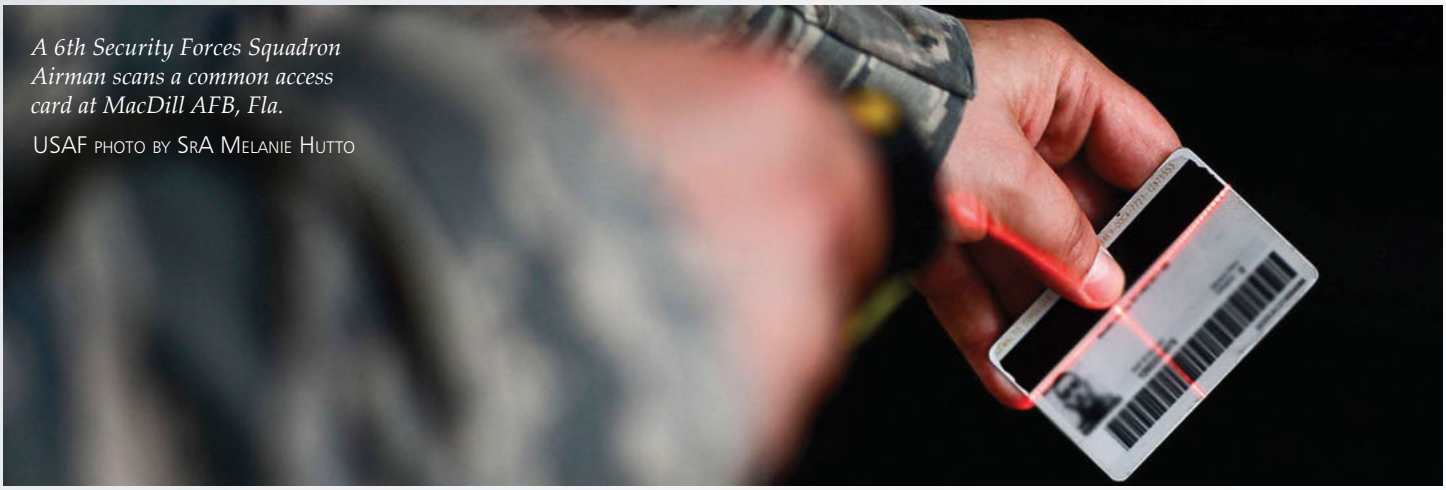
How often do we go about our business without thinking of how our actions impact others? As I drove through the front gate the other day, it struck me that the Airman checking my CAC was doing so to ensure my safety while on base. He had no idea my job was to do the same thing for him both on and off base. While he's guarding people like you and I from the hostile actions of others, I'm doing my best to ensure he has a safe workplace both at his gate post and anywhere else he works on base. Once he gets off duty, I take my job one step further by providing him with the knowledge to make better choices that impact his life. Hopefully he knows and understands the risk involved with things like drinking and driving, speeding, failure to wear a seatbelt, and texting and driving.

How seriously are any of us taking our roles of safeguarding one another? The Airman I mentioned is not a fictional character; he really did handle my CAC. I remember thinking as he handed it back to me that he really didn't have it very long. I'm not sure he even compared the picture on it to me. He no doubt assessed the risk before I ever drove up and made a determination based on training and experience that the chances of anyone wanting to do harm would not be driving through the gate at 0630. Or maybe he thought it wouldn't happen here.

In safety, we know from experience that accidents can happen anywhere at any time to anyone. The Airmen we lose each year to traffic accidents and water-related activities no doubt think accidents like the ones that take their lives only happen to other people.

How many wingmen, supervisors, and co-workers provide the same cursory service the Airman at the gate provided to me the other day? How many of you simply say "be safe" or "don't do anything stupid" and leave it at that? How many of you know about plans to drive through the night without stopping but don't intervene and suggest another alternative?

As we sort through the factors regarding fatality mishaps, the common causal factors we talk about are drinking and driving, speeding, failure to wear a seatbelt, and texting and driving. Sadly, failure of someone else to intervene and stop the sequence of events is almost always a contributing factor but is rarely mentioned. How would you feel attending a memorial service knowing you could have made a difference?



A 6th Security Forces Squadron Airman scans a common access card at MacDill AFB, Fla.

USAF PHOTO BY SRA MELANIE HUTTO

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A DAY IN THE LIFE

SSgts Amber Fredericks, Taylor Savage, and Maria Szymanski, combat medics, were reunited during the closing address of this year's 47th Airlift/Tanker Association Convention and Technology Exposition and Air Mobility Command Symposium, Oct. 31, 2015. The medics served together in Afghanistan and have not seen each other since 2013. Savage, from Scott AFB, was injured by an IED and medically evacuated. Szymanski is from Ramstein AB and Fredericks is from Joint Base Lewis-McChord. Read more about the reunion on page 21 or at **http://www.amc.af.mil/news/story.asp?id=123462349**.

USAF photo by SSgt Shandresha Mitchell