THE MOBILITY FORUM

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Rota's Multimodal Transport is a Joint Effort of Multiple Branches and Nations

HURRICANES: Brig Gen Richoux Speaks from Experience

CONTENTS THE MOBILITY FORUM

FROM THE TOP
3 Hurricanes: Brig Gen Richoux Speaks from Experience
5 So Long, Fellow Airmen

RISK MANAGEMENT
6 My Pride is All That Hurt
12 Aerial Port LOSAs Increase Safety, Efficiency

FLIGHT SAFETY
8 Aviation Ground Mishaps: Four-Year Indicators

SAFETY CULTURE
10 Rota's Multimodal Transport is a Joint Effort of Multiple Branches and Nations
13 Critical Days of Summer 2017
14 7 Steps to Setting and Reaching Your Safety Goal
24 I Had Junk in My Trunk!
36 Trapped Below and Running Out of Air
37 Word to Your Mother

HEALTH AND FITNESS
15 Getting Out of Your Slump
32 How Hot are You?

AMC NEWS
16 Airman's Invention for Safer Hitch Bar Could Affect Entire Trucking Industry
18 Unit Deployment Manager: Are You Mission Ready?
34 Benchmark Cybersecurity Assessment on C-5M

SEASONAL CONSIDERATIONS
22 Having a Blast at Home
30 Water: The Fickle (and Deceptive) Element

MOTORCYCLE CULTURE
26 A 'Good Guy' Club

AMC HERITAGE
28 Charting the History of Air Force One

REGULAR FEATURES

20 Center Spread: The Rescue Reflex
38 Mishap-Free Flying Hour Milestones
39 Quickstoppers
40 A Day in the Life

ON THE COVER
Personnel unloading helicopter from a C-5 at Naval Station Rota.

PHOTO BY MS. KIM BRUMLEY

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HURRICANES:
Brig Gen Richoux Speaks from Experience

By MS. KIM BRUMLEY,
Staff Writer

Nothing speaks louder than the voice of experience, and that certainly holds true when it comes to surviving a hurricane. Air Mobility Command (AMC) is lucky to have Brig Gen Lenny Richoux as Vice Commander of 18th Air Force (AF) at Scott Air Force Base in Illinois. He survived a monster storm as a child in Louisiana, and his team helps coordinate delivery of aid to regions affected by disasters today.

"One of my most vivid childhood memories is watching my father try to keep rising water from our home in Jefferson Parish, Louisiana, as Hurricane Camille approached the Gulf Coast in 1969," he recalled. "Our home did not flood that day, but my father always evacuated us when subsequent storms approached New Orleans. Even with Hurricane Katrina, he and my mother came to my home in Charleston, South Carolina." As a captain and part of the Wing Crisis Action Team staff in Charleston, he rode out two hurricanes there.

Brig Gen Richoux's cumulative experience gives him a unique perspective—an overview he is proud to share with readers of *The Mobility Forum*. A prime example is Hurricane Matthew, which approached the Caribbean in 2016. Richoux said USTRANSCOM, AMC, 18th AF, and the 618th Air Operations Center (AOC) worked with USSOUTHCOM, USNORTHCOM, 12th AF, and 1st AF to help evacuate people from Guantanamo Bay, Cuba, and deliver disaster relief to Haiti. Before the storm hit, evacuating families from Guantanamo Bay involved six aircraft from Joint Base Charleston and Little Rock Air Force Base.

"The Air Force is part of the DoD response to natural disasters because of the skills, capabilities, and professionalism of our Airmen," Richoux said. "The support after Matthew hit was a team effort that continued well after the storm moved on." Many people worked in support of the United States Agency for International Development (USAID), who led relief operations.

Airmen from the 621st Contingency Response Wing help unload rice from a World Food Program truck in Port-au-Prince, Haiti. The Airmen were working alongside Haitian citizens to provide relief after the nation was struck by Hurricane Matthew.

USAF PHOTO BY TSGT RUSS SCALF

"Joint Task Force [JTF] Matthew involved more than 400 service members from all military branches. For example, the 621st Contingency Response Wing linked up with the 689th Rapid Port Opening Element and members of the Defense Logistics Agency. Those three partners melded to open an airfield, allowing troops to deliver aid faster, saving more lives.

MSgt Gabriel Peterson, of the 290th Joint Communications Support Element, delivers cooking supplies to citizens of Beaumont, Haiti.

USAF PHOTO BY TSGT RUSS SCALF

Additional C-17 and C-130 crews and aircraft deployed to support the Marines, moving more than 500 tons of relief supplies and equipment into the country."

Richoux said Joint Base McGuire-Dix-Lakehurst Airmen spent three weeks in Haiti assessing what the airfield needed to operate at surge capacity and opening the aerial port, allowing more aircraft and supplies to enter. Additionally, Airmen from Dover AFB, Delaware, flew two C-17 planes to shuttle service members and civilians into the country, while planners and operators at the 618th AOC coordinated and provided tactical control over the aircraft movements.

Hurricane Matthew's damage was devastating and widespread, but Richoux said helping the USAID saved lives, particularly in Haiti.

"Coordinated efforts provided hundreds of thousands of pounds of food, generators, hygiene kits, and medical supplies," he said. "JTF Matthew brought in more than 440 tons of supplies in the first two weeks—but only because Mobility Airmen helped open the airfield and enabled Army and Marine helicopters and Ospreys to deliver those supplies. Overall, we operated 51 sorties, bringing people and supplies to and from Haiti. Those flights moved more than 500 passengers, along with humanitarian supplies and gear for relief operations."

The 18th is preparing for the 2017 hurricane season, as well.

"There will always be another hurricane, but we don't know when or where so we must be ready," said Richoux. "We work with the combatant commands and our partners so we can respond to requests from the Federal Emergency Management Agency [FEMA], states, or nations. We also review plans regularly so the 18th AF and Expeditionary Center enterprises are ready to go when called."

He added that the upfront preparation helps Airmen respond faster and more efficiently. Last year, during Hurricane Matthew, assets were actually in place before the storm arrived, and U.S. service members were in Haiti providing relief the day after the hurricane hit. Planning ensured that all partners knew in advance what to do. When it comes to preparing for these types of storms at home, Richoux again speaks from experience.

"Be ready," he said. "Hurricanes give us ample warning, and there is no reason to stay put. Evacuate if given the opportunity. Have a plan with your family—where to go, what to bring, and how to communicate if you are separated. This applies to any natural disaster. The FEMA website at **www.ready.gov** is a great place to start. Most important is listening to your local officials. If they tell you to evacuate, please do it. You can rebuild homes and replace belongings … but not families."

In closing, Brig Gen Richoux emphasized how invaluable Airmen are in natural disasters.

"They make these missions happen because they are the best at what they do," he added. "AMC, 18th AF, Expeditionary Center, Guard, and Reserve leadership are immensely proud of them. They provide the skills, capabilities, and professionalism you desperately want when a disaster strikes—and they provide them quickly. When people see an American aircraft, they know help is coming. This hurricane season, we are again ready to respond to whatever the weather may have in store."

Brig Gen Richoux says from 2005 through 2008, the mobility enterprise responded to Hurricanes Katrina, Rita, Ike, and Gustav by:

- Coordinating more than 1,500 sorties,
- Moving more than 25,000 passengers,
- Evacuating more than 3,600 patients, and
- Delivering more than 13 million pounds of gear and supplies.

When Super Storm Sandy hit in 2012, the mobility enterprise flew 342 sorties, moving 950 passengers and carrying more than 7.6 million pounds of gear and supplies.

So Long, Fellow Airmen

By COL MICHAEL SEILER, AMC Director of Safety

It has been a dream to be part of an incredible safety team and see firsthand its positive impact. We have come a long way from the days of reactive safety. We have transitioned to a proactive stance because of trends and overarching mishap themes. We know the "why" and now strive not to repeat past mistakes as we execute our present missions.

In the future, we will lead the charge with a greater understanding of proactive safety using tools such as Ops RAMS, Aviation Safety Action Program (ASAP), Military Flight Operations Quality Assurance (MFOQA), and Line Operations Safety Audit (LOSA). Commercial airlines and the entire Air Force will look to AMC for groundbreaking information gleaned from aerial port LOSAs. We have also applied science to quantifying the safety culture through the use of the Air Force Combined Mishap Reduction System (AFCMRS). This inside-out vantage point survey does not provide raw numbers but provides indicators of positive or negative points in the culture.

Safety is about the culture of a unit or organization.

It is a fallacy to base progress of a safety program on A, B, or C mishap numbers alone. Safety is about the culture of a unit or organization. If everyone in the unit understands what proactive safety means, you are marching in the right direction, regardless of numbers. A unit can have zero mishaps but it is set up for tragedy if there is not a culture of safety. Compare this to a unit with mishaps that is attacking the issues and has a firm safety culture. You can't simply look at numbers without tackling prevention.

We must also understand that safety will never be a zero-risk operation. The safety and security of this nation does not depend on us operating missions with zero risk. However, practicing good judgment and risk mitigation will accomplish the victory, which we know happens every day.

We are working toward an incredible safety culture applauded Air Force-wide that has come from outstanding AMC leadership throughout the years. Gen Everhart and his staff back us; they embrace all the requirements and invest both the time and funding for proactive safety. The results from that dedication for the entire MAJCOM are evident and continue to gain momentum.

The AMC safety staff that continues to support and develop the safety culture is unparalleled. I have the greatest admiration for their tireless efforts. They—and the people who support them—work tirelessly to improve the safety culture and foster the proactive environment we know and benefit from today.

Safety is about what we do as a team. It has been an honor and privilege to serve with this team—with all the outstanding Americans who stepped up every time they were tapped on the shoulder.

So long and fly safe!

My Pride is All That Hurt

I never thought it could happen to me, BUT IT DID!

By IDENTITY PROTECTED
ASAP SUBMITTER

There I was … flying a local C-17 night vision goggle (NVG) training sortie at our auxiliary field. After performing several tactical arrivals and approaches in a busy traffic pattern, I was shocked when, on short final, the Ground Proximity Warning System (GPWS) announced "TOO LOW, GEAR!"

I immediately called "go around" and we broke out of the pattern in accordance with the "Time Out" plan I included in our sortie pre-brief. We went into holding VFR and talked about what happened and how we let CRM break down to the point that we failed to lower our gear. As a group—me, a highly experienced instructor in the right seat; a moderately experienced copilot in the left seat; two newbie copilots in the additional crewmember (ACM) seats; and our loadmaster—we had not completed the Before Landing Checklist, which put us in a position to potentially land gear up!

After about 15 minutes of discussion of what happened, what led to it, and how to prevent it from happening again, I ensured that all crew members were comfortable and had the right state of mind to continue training. During the sortie debrief after we landed, we continued to analyze what led up to this potentially disastrous situation.

First, the root cause was the failure to properly accomplish and complete the Before Landing Checklist. It wasn't until we were descending on final with the gear retracted and the GPWS shouted "TOO LOW, GEAR" that we realized it. But what were the contributing factors?

- **Task Saturation.** It was a full pattern with opposite direction departures, arrivals off instrument procedures, and aircraft breaking out and re-entering. We were also at the transition time from day to night and we were constantly donning/doffing NVGs, gaining up/down HUDs, and managing displays. All of this combined to create a situation on the downwind leg where I was incorrectly prioritizing the pattern and profile management versus aircraft configuration. Numerous ATC communications and advisory calls between me and other aircraft drew my attention away from the basic tasks I had as the Aircraft Commander and Pilot Monitoring.

- **Complacency/Expectation of Performance.** I had biased expectations of student performance. I've flown with the student in the pilot's seat numerous times, and I felt I had a good gauge for his level of performance. When he was flying, I focused less on pattern mechanics and more on profile management and de-confliction compared to the level of close

A C-17 Globemaster III assigned to the 535th AS, 15th Wing, glides past Waianae Range as it prepares to land at Wheeler Army Airfield, Hawaii.

U.S. Army photo by SSgt Armando R. Limon

monitoring I expected with my next two students. For the other pilots on this sortie, the dangerous assumption is that senior, experienced pilots don't make mistakes. I've yet to fly a perfect sortie. Multiple repetitions in the VFR pattern can lead to confusion as to whether or not checks are completed, and the halo effect can lull people into thinking the IP won't miss anything that seemingly basic.

- **Knowledge Errors.** One of the ACMs noted during our debrief that the gear lights were so dim during the transition from day to NVG ops that he incorrectly thought the gear lights were deactivated by the internal NVG light switch. The gear was down on previous patterns, and this knowledge error created the impression in his mind that the gear lights weren't visible during NVG ops, decreasing the effectiveness of the backup provided by additional pilots from the ACM seats.

- **Communication Errors.** En route to our training airfield, I placed the seatbelt lights to "auto" so they would only illuminate when the gear was down. I mentioned this to the loadmaster as another avenue of backing us up, but this is an older technique not used by many pilots and the intent was missed. In addition, repetitive pattern sorties can be mind-numbingly dull for loadmasters, and it's tough to stay vigilant and monitor crew communications. There was a question about whether the Before Landing Checklist was heard to be completed, and it wasn't challenged.

My ego was bruised after the event, but I submitted an Aviation Safety Action Report (ASAP) because I wanted to help prevent other crews from doing the same thing.

My ego was bruised after the event, but I submitted an Aviation Safety Action Report (ASAP) because I wanted to help prevent other crews from doing the same thing. If the only thing damaged that day was my pride, it was still a good day.

So, why am I writing this article? I provided my contact information when I filed my ASAP, and the Ops RAMS team chief contacted me right after the submission to thank me for the ASAP. He thought other instructors could use it as a lesson plan, and he reiterated that my identity would be protected outside of his immediate office. My event occurred in January 2016. But then six more ASAPs followed in 2016 for the same thing: a C-17 crew failing to lower the gear until warned by the Terrain Awareness and Warning System (TAWS) and/or GPWS. In one case, the aircrew received a TAWS alert at 800 feet. The crew believed it was a false alert and turned the system off, only to receive the GPWS warning at 300 feet! The ASAPs were spread out over the year, with three in April (all different events), two in June (same event, but two different crew members), and one in October.

While pre-briefing the AMC Vice Commander, Maj Gen Sharpy, for the quarterly Trend Review and Action Committee in February 2017, the Ops RAMS team briefed these seven ASAPs and mentioned a comment I shared when initially contacted in January of 2016, that I spend more time at our aux field on NVGs than anyone else at my base and "if it can happen to me, it can happen to anyone …" Gen Sharpy was impressed with my willingness to admit that I made the mistake for the betterment of others. He asked them if I'd write an article, and I immediately agreed.

Not only does this allow me to continue to advocate for flight safety and increase awareness for other crews, it confirms to me that *Just Culture* exists at the highest levels of AMC leadership and that the spirit of ASAP is being honored. My ASAP was also used in the third quarter phase training guide for all C-17 crews. I urge all of you to never hesitate to submit an ASAP. You could prevent the next serious accident.

Aviation Ground Operation Mishaps: Four-Year Indicators

By MR. LALO MAYNES,
HQ AMC Flight Safety

Today I want to share some AMC mishap information from the four-year period of fiscal year 2012 through fiscal year 2016. It is kind of like the five W's (who, what, when, where, and why) with some bonus information. Specifically, it represents mishaps that include physical injuries sustained by maintenance technicians in the following fields: 2A (aircraft maintenance), 2T (transportation specialists), and 1A (aircrew). By highlighting Aviation Ground Operation (AGO) mishaps to commanders, flight chiefs, and front-line supervisors, my request is that you will work with Airmen to help reverse the trends associated with these mishaps and the resulting injuries.

In all, AMC personnel experienced 542 AGO injuries during the four-year period. By definition, an AGO mishap involves DoD aircraft with no intent for flight that results in reportable damage, injury, or fatality. Aircraft maintenance and aircraft operations on the ground fall into this category. Mishap classifications are determined by cost. The costliest is the Class A; the least costly is the Class E.

Figure 1 breaks down each mishap class by dollar threshold. In the last four years, AMC did not have an AGO fatality; however, all of the 542 injuries required a safety investigation and written report to capture the findings and any associated recommendations. Investigators were selected by the appropriate Wg/CC to determine what happened and make recommendations to prevent similar future mishaps. Investigators are highly qualified personnel from dozens of career fields.

By comparing these mishaps, AMC/SEF identifies trends on which to focus safety efforts. If a trend is observed, we investigate why the same mishaps are recurring and what can be done to mitigate the risks or prevent recurrence. *(What follows is simple data; it does not indicate substandard performance.)*

Of the 542 injuries, AMC experienced 390 Class D AGO mishaps and 152 Class C AGO mishaps. Fortunately, there were no Class A or B mishaps.

Who

The most injured, according to career field, were airlift crew chiefs (161 injured, or 29 percent of the 542 mishaps). Next were tanker crew chiefs at 9 percent, followed by propulsion specialists at 7 percent, and hydraulics at 5 percent. A1Cs suffered the most mishaps at 170 (31 percent of the total), SrAs at 30 percent, and SSgts at 20 percent. By age, the largest number of injuries were to 22-year-olds (62 injuries, or 11 percent of the total), followed by 21-year-olds at 10 percent, and 23-year-olds at 9 percent.

Where

Mishap location can be a critical data point during trend analysis. This metric supports the theory that we would expect more mishaps at our larger operational installations. Travis AFB had 76 injuries (14 percent of the total), Dover AFB had 9 percent, and Joint Base McGuire-Dix-Lakehurst had 7 percent. The next highest mishap location was in the deployed environment at Al Udeid AB, Qatar, and accounted for 6 percent of the AGO mishaps that resulted in injuries.

Wing

Based on the nature of air mobility operations, the accounting wing where the injured person was assigned can differ from the location where the mishap occurred. Consider that 60 AMW had 19 percent of the total injuries, 436 AW had 12 percent, 62 AW had 9 percent, 19 AW suffered 8 percent, and the 305 AMW had 7 percent of the 542 injuries.

Aircraft Fleet

Airframe plays an important role in trend analysis and provides valuable information to determine risk associated with certain weapon systems. An AGO injury mishap rate was calculated by using the number of mishaps in each fleet and then dividing by the number of aircraft in that fleet to calculate a rate per aircraft. C-5s sustained the highest injury rate per aircraft at 2.33, followed by the C-130s with a rate of 1.46. This indicates maintainers suffered almost twice as many injuries on the C-5 than the next highest aircraft type. Third and fourth were C-17s at a rate of 1.42 and the KC-10 at 1.11.

When

A valuable category for AGO mishap trend analysis is time of day. Most safety professionals and squadron leadership think night is more susceptible to injuries due to reduced lighting, fatigue, and circadian rhythm. However, day shift personnel suffered the highest number of injuries at 294 (54 percent). Night shift personnel suffered 37 percent; dawn had 3 percent, and dusk had 4 percent.

FIGURE 1

CLASS	COST	FATALITY/ DISABILITY/INJURY
A	$2,000,000 or >	Fatality or permanent total disability
B	$500,000 or > but < $2,000,000	Or permanent partial disability
C	$50,000 or > but < $500,000	Injury or occupational illness with 1 or more days off from work
D	$20,000 or > but < $50,000	Injury or occupational illness not otherwise classified as A, B, or C
E	Does not meet A, B, C, or D but deemed important to investigate	None

Task Performed

This is a challenging metric because ground handling and serving operations encompass many aircraft maintenance tasks and subfields. I categorized 38 tasks as ground handling and identified the top seven tasks that resulted in the most injuries (this includes aircrew, maintenance, and transportation career fields).

1. Cargo Loading/Unloading - AMC personnel suffered 112 mishaps, or 20 percent of the 542. Of note, AMC had more loading mishaps (76) than unloading (36).

2. Ascending/Descending the Aircraft Ladder - This task accounted for 52 injuries (or 9 percent of the total). Further analysis reveals that 18 injuries happened while ascending the aircraft ladder and 35 while descending.

3. Performing Maintenance Inspections - AMC personnel suffered 51 injuries on this task.

4. Engine Maintenance was the highest subcategory for inspections, with 36 injuries.

5. Walking under the aircraft resulted in 27 injuries.

6. Tooling (working with tools) was an area of concern. An example of this type of AGO mishap is, "the tool slipped and struck the worker's head" (25 injuries).

7. Tires/Wheels/Brakes resulted in 20 injuries of the 542.

Body Part injured

A total of 15 body parts were injured. There were 165 head or cranium injuries (excluding the eyes). The digits (fingers) suffered 75 injuries, while back injuries numbered 68. Additionally, AMC personnel suffered 33 hand, 20 eye, and 19 knee injuries.

Why

Slips, trips, and falls (STFs) reflected similar findings to previous data. STFs caused 147 injuries (27 percent of mishaps), which resulted in 258 convalescent days off—days where Airmen were not supporting the mission due to the recovery process. Although we sustained more head injuries, they only resulted in 76 convalescent days off. My advice to commanders, flight chiefs, and front-line supervisors is to focus on reducing STFs and head injuries, as these have huge consequences for Airmen and the mission. Tell your personnel to slow down and take appropriate measures while descending or ascending aircraft ladders and maintenance stands, and while working inside the cargo bay of aircraft.

Human Factors

Of the 542 mishaps, our investigators identified human factors as causal to the injury in 338 or 62 percent of the mishaps. The top three human factor elements are:

- **Mental awareness** (identified in 126 mishaps). These are factors of an attention management or awareness failure that affect the perception or performance of individuals (e.g., not paying attention, fixation, or distraction).

- **Judgment and decision-making errors** (111 injuries). These factors occur when an individual proceeds as intended, yet the plan proves inadequate or inappropriate for the situation (e.g., an "honest mistake").

- **Performance-based error** (identified in 29 injuries). These factors occur when a specific action is performed in a manner that leads to a mishap (e.g., checklist or procedures not followed correctly).

Prevention/Mitigation

Proactive safety efforts will lead to mishap reduction and ensure we maintain our most critical resources: people! At AMC we're looking forward to the first Line Operations Safety Audit (LOSA) in maintenance, tentatively scheduled for the summer of 2017. If I haven't identified your career field, please contact me and I will determine trends associated with your functional area.

AMC continues to lead the Air Force in proactive safety on behalf of mishap prevention, but we can't do it without your help. It only takes one Airman or supervisor to lose focus or ignore tech data or deviate from training—suddenly, lives are put at risk. Our people and aircraft provide rapid global mobility 24 hours a day, 365 days a year. Please help us accomplish this dynamic, challenging mission safely!

Rota's Multimodal Transport is a Joint Effort of Multiple Branches and Nations

By MS. KIM BRUMLEY, Staff Writer

What is a *multimodal transport*? This term simply means more than one form of transportation; in this case, for the multimodal transport at Naval Station Rota, Spain, it is moving cargo by air and sea.

Mission Commander for the Rota Multimodal Trans Load Operation, Lt Col John D. Foy, explained that what they do there requires using Military Sealift Command ships for the nautical miles and Air Mobility Command (AMC) C-5 aircraft for the airlift. The multimodal method saves the Army roughly 50 million dollars per "relief in place/transfer of authority" (RIP/TOA) versus the cost of flying all the equipment from the United States. But the transition is no easy task.

AMC operations planning teams—including the 18th AF, TACC, and TRANSCOM—began preparing months earlier. When the downrange Combat Aviation Brigade (CAB) completes a 15-month deployment, the personnel and equipment come home, and another CAB with equipment comes in with no lapse in combat capability.

The multimodal transport that occurred during my visit started in Tacoma, Washington, where the 16th Infantry Division CAB's helos had been loaded onto a ship, which then sailed to Naval Station Rota. This is one of the few places where the seaport and the airfield are within the same fence line. This means equipment coming off the ships is towed to the airfield with no break in security. Crews then mark, weigh, and tape it, plus verify it matches the load plan. After a joint inspection at the airfield, personnel upload everything onto the C-5.

From Rota, the helos are flown downrange and unloaded because they are, as Foy explained, "Completing the life cycle of getting the helicopters to the fight."

At the downrange location, crews go into a rest period, but another is waiting to take over and keep the mission going. Equipment from the outgoing CAB is loaded, and the second crew brings another load to Rota, where personnel download and prepare the helos for loading onto a ship for return to the United States.

The process runs like a well-oiled machine, but leadership is not so focused on deadlines that they overlook safety.

"With any operation," Foy explained, "especially one with so many joint partners and units from different branches, we do our best to minimize risks. Sacrificing safety is

Opposite page, left to right: Personnel unloading helicopter from a C-5 at Naval Station Rota; Mission Commander for the Rota Multimodal Trans Load Operation, Lt Col John D. Foy.

This page, photo, top: Navy ships anchored in the port at Naval Station Rota.

Photo, bottom: Army Combat Aviation Brigade helicopters awaiting transport.

PHOTOS BY KIM BRUMLEY

not worth an on-time takeoff." Rota does multimodal missions twice a year with no significant mishaps.

During the previous two transports, Foy observed the activities as the group director of operations. This time, however, was his first as commander for the Rota multimodal, and he is grateful the wing entrusted him with the tremendous responsibility.

"I've got a fantastic team from the 725th Air Mobility Squadron stationed here and the augmenters from Dover and Travis, the 515th Air Mobility Operations Wing in the Pacific, and 521st Air Mobility Operations Wing in Europe," said Foy. "All six wings who supplied personnel want the same thing—to do the mission and do it well. It was a seamless integration of effort between active duty and reserve Air Force, U.S. Army, U.S. Navy, Spanish Navy, and contractors. It's truly a joint effort of multiple branches and nations."

He added that Rota is a fixed presence with maintenance, command and control, and aerial port in place to facilitate TRANSCOM's global mission.

"Planes have to land all over the world, so we've prepositioned assets and stationed people in strategic locations to catch the aircraft, handle the aircrews, upload and download, and work the entire mission with the velocity that's required. Here, the first CAB has been in theater for 15 months, so it is important to complete the multimodal mission and get them home to their families. It's a great opportunity to show what we can do—how we can shine for AMC and accomplish something important for the Army so they can go home," said Foy.

Rapid global mobility is a feat AMC can accomplish because of dedicated Airmen who fly the planes and work on the flight lines, those in command and control who ensure each mission is organized and on time, and personnel in supply and maintenance who keep the planes flying. It is truly a group effort, both stateside and worldwide.

THE ROTA MULTIMODAL TRANS LOAD OPERATION INCLUDED

42 total missions:

- 21 into Rota and 21 downrange

21 missions in cargo:

- 29 helos
- 101 tricons (containers)
- 12 pallet trains (three pallets together)
- 6 rolling stock (trucks/vehicles)

21 missions out:

- 54 helos
- 64 tricons

Manpower:

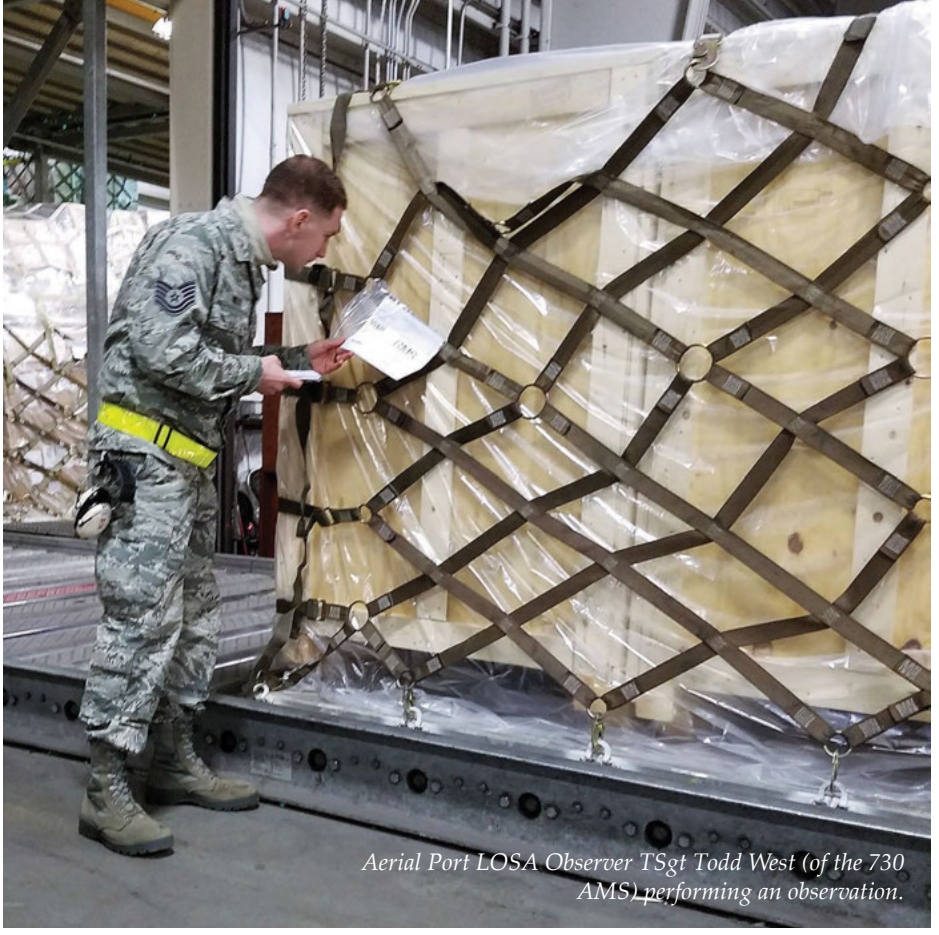
- 107 people from 6 wings
- 200 people already in place at Rota and downrange

Aircraft:

- 3 C-5's from Dover

Aerial Port LOSAs Increase Safety, Efficiency

By CAPT ALAN FOOTE,
HQ AMC/A4TR



Aerial Port LOSA Observer TSgt Todd West (of the 730 AMS) performing an observation.

Around the clock, a near constant stream of trucks offload cargo at Air Mobility Command's (AMC's) aerial ports. In the receiving area, a forklift carefully eases a massive generator off a truck while delivery vans drop off letters and small parcels, another vehicle brings cylinders of hazardous chemicals, and a flatbed carries boxes of helicopter blades fresh from the depot. Every day, proud Port Dawg teams around the globe verify cargo eligibility for airlift, build pallets to various aircraft specifications, sequence cargo onto 60K Tunner loaders, and load cargo onto military and commercial aircraft for movement to its destination.

In the midst of this action, a professionally trained aerial port Line Operations Safety Audit (LOSA) observer identifies safety threats to Air Transportation and Traffic Management personnel. The observer spots vehicle choke points, environmental factors, improperly weighed cargo, incorrectly positioned loads, and task interruption stressors that may lead to errors. The observer determines if the team manages these threats properly or if the threats result in errors, such as improperly configured cargo, unsafe operation of equipment and vehicles, or incorrect communication and data entry. By watching aerial porters' natural responses to these threats and errors, the observer sees if any undesired states or increased potential for mishaps result. The observer documents this threat and error management in a non-attributional and non-reprisal manner, and then submits to a neutral third party contractor, the LOSA Collaborative.

Gathering this data is a milestone for a new initiative within AMC. Over the past year, the Air Transportation Division program managers joined forces with the command's Flight Safety Office and the LOSA Collaborative, who already execute LOSAs for the Mobility Air Force pilots, loadmasters, and boom operators. Building on the success of these audits, the aerial port version is tailored to the unique environment and tasks associated with the Air Transportation career field.

Recently, 12 competitively selected air freight noncommissioned officers received specialized observer training at Scott Air Force Base, Illinois. They then traveled to selected aerial ports; they anonymously documented the management of threats and errors within those ports, and sent the data to the LOSA Collaborative. After the thousands of data points are analyzed, a comprehensive report is prepared and the AMC vice commander is briefed on how aerial ports are experiencing safety risk.

After the outbrief, the AMC commander may convene a safety investigation board to further analyze the data and make recommendations to reduce mishap potential to our Airmen, aircraft, and equipment. The goal is to create safer, more efficient aerial ports and enhance rapid global mobility across the enterprise.

Critical Days of Summer 2017

By MR. WAYNE BENDALL, HQ AMC
Occupational Safety and Health Manager

Memorial Day weekend officially kicked off the start of AMC's Critical Days of Summer safety campaign that runs through the Labor Day weekend. This summer period historically exposes our Airman to greater risks, as the activity level at many locations increases dramatically. The theme this year is "SAY SOMETHING." A moment's hesitation to speak up could result in a catastrophe.

General Carlton D. Everhart II, AMC Commander, and Chief Master Sergeant Shelina Frey, AMC Command Chief, kicked off the campaign with a video, sharing their thoughts on personal risk management and sound decision-making. In addition to the video, AMC Safety provided guides to spark discussions in small group settings. We also provided campaign flyers and short, comical videos designed to entertain while conveying the importance of speaking up when the situation warrants it.

In the Air Force, we promote the "wingman concept," which originated in the flying community and evolved into simply taking care of each other. It is a part of our history and is key to our mission success and the safety of our personnel.

Being a good wingman means more than just being a bystander. Good wingmen must speak up if they see a friend, family member, or co-worker doing something that just doesn't pass the logic test.

"Each year, the Air Force loses lives to preventable mishaps," says Gen Everhart. "If someone had identified the hazard, interrupted a flawed decision chain, or had the courage to say something, one of our own might still be with us."

Speaking of which, we were very fortunate last year in AMC to enjoy our second fatality free campaign season. Let's shoot for back-to-back success stories this year!

Unfortunately, six Air Force members lost their lives during the campaign last year. Alcohol was a factor in five of them, and three were the result of motor vehicle mishaps—the leading cause of death to our Airmen. Other factors that contribute to mishaps include excessive speed, fatigue, and distractions.

Water sports are historically the second leading cause of accidental death to Air Force members, with the most common factors being alcohol and fatigue. Many times, swimmers overextend themselves by exceeding their physical capabilities, a hazard compounded by alcohol. Together, water and alcohol form a deadly combination.

The 2017 summer months will offer countless opportunities to enjoy various activities. We encourage everyone to do just that! These same months will offer increased risks that claim the lives of Air Force Airmen annually.

Think about this for a moment. The next time you notice something unsafe, whether it is a passenger in your car not wearing a seatbelt, or a co-worker performing a task without proper fall protection, or a friend at a party about to drive home after consuming alcohol, whatever the case may be ... will you have the courage to say something?

"You might be the very last line of defense to prevent a tragic mishap," commented Chief Frey.

Please, when faced with the choice to speak up or remain silent—SAY SOMETHING!

7 Steps to Setting and Reaching Your Safety Goal

By MS. RUTH ANN REPLOGLE, Staff Writer

Many of us make resolutions to better ourselves and, many times, those resolutions fall by the wayside within a week or two.

It's not uncommon to set personal goals and then become discouraged when you don't see results immediately. The same goes for work. It's easy to get inspired or motivated and then get back into a rut days later.

The reason most goals fail is because either the goals are too broad and lack focus or the goals are too narrow and require other components to be successful.

The key to achieving any goal? Baby steps.

1. **Choose a meaningful goal.** Use the SMART method to set your goal:
   - **S**pecific—Describe in detail exactly what it is you want to achieve. The more detail, the better the results.
   - **M**easurable—Develop benchmarks and tools you will use to measure your progress.
   - **A**ttainable—Identify goals that you have the skills and ability to achieve.
   - **R**ealistic—Be realistic about the time, money, resources, and skills required to achieve your goal.
   - **T**imely—Create a timeline and a reasonable deadline for achieving the goal.
2. **Determine your current strengths and weaknesses.** Just a reminder, strengths are things you're good at, and weaknesses are things you have difficulty doing. Know your limitations, too. Recognizing what your limitations are will help you strategize your goals better.
3. **Identify hurdles.** Think about things that may hinder you from achieving your goal. These may require immediate energy, effort, and attention to overcome.
4. **Make a plan to address those hurdles.** Set smaller short-term goals to overcome hurdles so you can get closer to your overall goal. These goals can be daily, weekly, the next six weeks, the next three months, the next six months, and so on. Achieving those short-term goals will lead to "quick wins" and keep your morale high.
5. **Focus on one short-term goal at a time.** Create daily to-do lists of steps that will build on one another to accomplish your ultimate goal.
6. **Be flexible and positive.** As with life, you will face setbacks. That's when you take a deep breath and keep going. Post visual reminders in your office area or on your smartphone of the long-term goal to keep you motivated. It also helps to make your goal public to co-workers, your squadron, or your unit so others can hold you accountable and cheer you on. If you get off track, don't give up! Every step counts, no matter how small. Hang in there because days become weeks and weeks become months. Before you know it, you've accomplished your goal.
7. **Keep a record of your progress.** Tracking your successes will inspire you to press on. Share accomplishments with your wingmen, and celebrate triumphs along the way.

Getting Out of Your Slump

> When you're in a slump, you're not in for much fun. Un-slumping yourself is not easily done.
>
> – Dr. Seuss

By MS. RUTH ANN REPLOGLE, Staff Writer

Day after day, week after week, month after month. It's easy to fall into a routine and become complacent. Complacency, of course, can lead to disaster. Moreover, if you've been firing on all cylinders, giving 100 percent all the time on the job, you're likely depleting your inner batteries. You may even find your mood taking a nosedive but you're not sure why.

If any of this sounds familiar, it's time to stop the madness and reassess your daily routine.

HERE ARE NINE HEALTH HACKS TO RECHARGE AND REFUEL YOURSELF:

1. **Eat better.** That means staying away from the vending machine and snack bar. Take a hint from **ChooseMyPlate.gov**, and up your servings of fruits and veggies to half your plate at ***every meal***.
2. **Drink water.** It's possible to get dehydrated just sitting in your chair. Your body—including your brain—is 70 percent water, so you need to be rehydrating your system every day. Invest in a sturdy refillable water bottle so you can monitor your daily intake.
3. **Move.** Go outside, wander around in the building, or jog in place.
4. **Take a break.** It is easy to get so focused you forget what time it is. Set your smartphone's alarm to alert you to move every couple of hours.
5. **Prioritize.** Rack and stack and tackle what's on top. Changing up your schedule helps break the monotony. And set goals (see page 14 for how to do that).
6. **Laugh.** Laughing not only lifts your mood, it burns calories, too. Smiling makes you feel better, plus it can boost morale in your office.
7. **Sleep more.** Airmen who slouch on sleep end up slouching on the job. Your brain gets sluggish and less alert when you don't give it a rest. Experts recommend at least eight hours per night.
8. **Unplug.** We know your smartphone is your best bud, but sometimes you need to power down. Instead of sending an email, walk over to your co-worker's desk and chat.
9. **Relax.** Just like you prioritize your day at work, make time on your calendar for some fun after hours or on the weekend.

Slumps can make you feel stuck or drained. Make sure to take time out for yourself, using one or more of the suggested hacks.

However, if your slump persists, consider talking to your unit's chaplain.

Teddy Manning (left), 375th Logistics Readiness Squadron (LRS) chief of personal property, and SSgt Joshua Meyer, 375th LRS vehicle operations control center NCOIC, show the different iterations of the Meyer's Bar as it has been continuously tweaked at Scott AFB, Ill.

USAF PHOTO BY SRA JOSHUA EIKREN

Airman's Invention for Safer Hitch Bar Could Affect Entire Trucking Industry

By SRA JOSHUA EIKREN, 375 AMW Public Affairs

There's an innovative idea from a Scott Air Force Base Airman that could affect the entire trucking industry.

The "Meyer's Bar," nicknamed after its inventor, SSgt Joshua Meyer, is a five-foot reinforced steel bar that has been constructed to support a lowboy trailer's hydraulic gooseneck hitch to prevent it from bending.

Before Meyer's innovative idea, he and others in the 375th Logistics Readiness Squadron's (LRS) vehicle operations section depended on the tractor's crossbar to support the hitch; however, their tractor's crossbar wasn't rated to support the gooseneck and consequently bent in the process.

After witnessing repeated crossbar failings, Meyer began to experiment with various materials, such as treated wood and steel, to reinforce the gooseneck, but all broke under the pressure when used.

"During one mission to support a presidential movement, the bar slipped and caused one of our operators to fracture his thumb. After that, I knew something needed to change," said Meyer. "The main reason I designed it was to ensure the safety of our personnel and anyone who operates these types of trailers."

Marrying the previous design materials and using the strengths of one to shore up the weaknesses of the other seemed like a productive solution to Meyer, so he purchased the necessary supplies from a local hardware store and began construction of the Meyer's Bar.

During the process, Teddy Manning, 375th LRS chief of personal property, saw the bar and

offered to help design and weld the final creation. Manning provided design pointers and suggestions to eliminate structural flaws on the original prototype.

He also reached out to people he knew to acquire the materials needed at less cost, as well as tweaking the original design, resulting in a much tighter and durable product.

Manning explained, "I thought Meyer had a wonderful idea. When he contacted the General Services Administration to gather a cost analysis to retrofit the current fleet of trucks to correct the issue, he was informed it would be over $10,000 per truck. We retrofitted for less than $100. The impact of his idea has saved the government tens of thousands of dollars and has impacted the Air Force as a whole."

The current bar is made out of two five-foot steel beams; it has handles at each end and rubber pads for grip on the bottom. There is also a square tube on the front to maintain better contact with the trailer's hydraulic arm. The length eliminates the risk of getting hands caught in the pinch point.

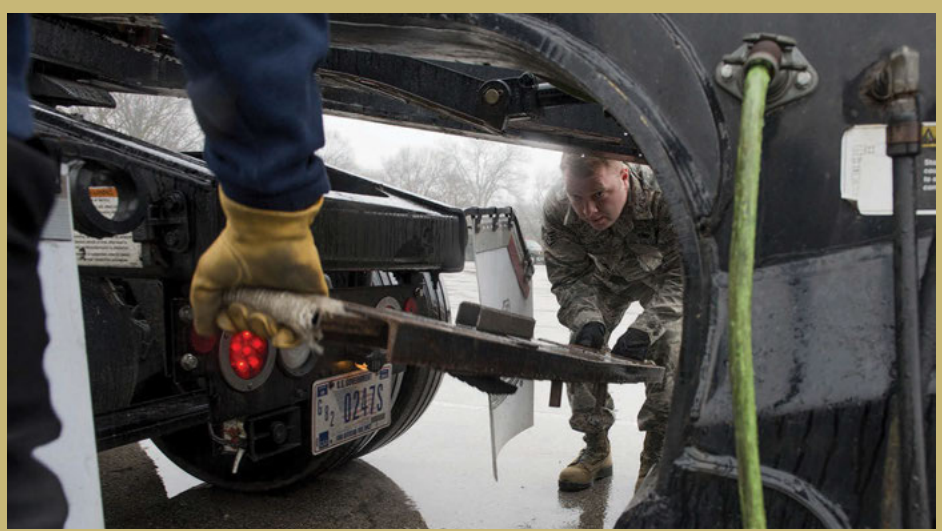
"I was unsure how it would operate initially due to it being a prototype design," Meyer said. "However, after numerous successes and setbacks, it is performing exactly as it was designed to do. We are still tweaking the project and making continual changes to be sure the Meyer's Bar is a quality piece of equipment."

Meyer explained that the safety concern of the lowboy trailers is an issue throughout the military. He believes his invention will be beneficial to others, which is why he contacted the Air Force's Airmen Powered by Innovation program about the bar, and they were interested in hearing more about it.

Photo above: Teddy Manning positions the Meyer's Bar onto the hitch of the lowboy. Manning assisted in the creation of the Meyer's Bar, using his welding skills to create Meyer's vision out of steel instead of lumber.

Photo below: SSgt Joshua Meyer lifts the Meyer's Bar onto the hitch of the lowboy.

USAF PHOTOS BY SRA JOSHUA EIKREN



"This is shaping up to be an important safety device for operation of lowboy trailers," Meyer said. "The broad scope of use for this product is staggering to me. It has the potential to impact assets—and more importantly, the lives of the men and women using those assets—in my career field, others in the Air Force, and across the Department of Defense and civilian sectors. I am humbled and ecstatic by that."

Manning added that "innovations like these are important because it proves there are still Airmen out there who see a problem and provide a solution. Instead of saying 'oh well,' (Meyer) asked himself what he could do to fix the problem."

Meyer was also recognized by the 375th Air Mobility Wing commander, Col Laura Lenderman, as an ICE Airman for his Innovation, Communication, and Excellence with solving this issue for the unit and possibly the entire trucking industry.

UNIT DEPLOYMENT MANAGER

ARE YOU MISSION READY?

By MS. JANET PURDY, Staff Writer

The 423d Mobility Training Squadron (423 MTS) has made it easier than ever to serve in one of the most critical positions for today's expeditionary environment, a unit deployment manager (UDM). The responsibility for the readiness, deployment, and reintegration of personnel and equipment lies within the duties of this position. The UDM ensures Airmen are prepared and fully equipped for joint services support.

The UDMs are appointed by their Unit Commander and are a key component for the ultimate success or failure of a unit's deployment program. Mission readiness has a direct influence on the air and space expeditionary forces—how the Air Force presents its forces to theater combatant commands and the joint community. Therefore, UDMs must be fully trained to prepare their units for the mission.

On any given day, over 4,000 UDMs ensure unit members are ready to deploy, brief work centers on upcoming deployment/exercise requirements, monitor personnel deployment eligibility, and support personnel coming home through the redeployment support process.

Training: Preparing for the Assignment

Ultimately, it is the responsibility of the Installation Deployment Officer (IDO) to train all assigned UDMs. However, the 423d lends considerable support to IDOs through online, web-based training (WBT). As the demand and extent of training needs grew, the 423d was compelled to move from an in-residence course for the entire Air Force to the WBT. Ultimately directed by a CORONA initiative (gathering of the Air Forces most senior leaders to sort out the most pressing issues confronting the force), the squadron's team of instructors created the WBT that currently resides on the AMC Gateway of Advanced Distributed Learning Service site at **https://goo.gl/cVqA1m**.

The WBT provides a foundational level of training to newly assigned Air Force UDMs but does not replace the requirement for an IDO to develop and provide additional UDM training that outlines requirements, processes, and procedures unique to the host MAJCOM and installation (AFI 10-403, paragraph 1.8.6.14). Most IDOs direct WBT as a mandatory training requirement for their UDMs, after which the IDO provides additional unit or base specific training.

The WBT is broken down into three modules: Basics, LOGMOD, and Simulator. In the Basics, students learn about UDM duties, key personnel, personnel and cargo readiness, unit type code management, redeployment, and reintegration. In the second module, students will learn the LOGMOD system—common task, maintaining personnel, cargo, and deployment data. Students then test to see how well they navigate various scenarios in a training simulator. Here, students are confronted with verifying their unit's manning positions, in-processing new personnel, inspecting cargo, receiving a tasking, and assigning personnel and equipment to support the tasking.

The intensive self-paced course takes approximately 20 hours to complete and is accredited by the Community College of the Air Force. Once students complete the online training, they can pursue credit by passing a proctored exam at their base education office.

KEY RESPONSIBILITIES OF THE UDM

- Knowing deployment guidance (various AFIs)
- Interacting with agencies on base involved in the deployment process (i.e., unit commander, installation deployment officer, unit training manager, MAJCOM functional area manager, first sergeant, key spouse, etc.)
- Maintaining applicable databases (logistics module, computer system accessed via AF portal)
- Deploying cargo and personnel in response to the unit

SSgt Ryan Maxey, a 41st AS C-130J loadmaster and unit deployment manager, stands in front of a C-130 J at Little Rock AFB, Ark. Maxey was recognized as Combat Airlifter of the Week for excelling as a loadmaster and aiding fellow Airmen throughout their deployment processes.

USAF PHOTO BY SRA HARRY BREXEL

Ensure mission readiness! Start your online UDM training today!

Looking Ahead – UDM Advancements

As the 423 MTS is always focusing on continuous improvement efforts, it evaluates feedback from program participants and implements changes, as necessary. For example, the 423d plans to start offering periodical webinars via Defense Collaboration Services, giving students working on modules the opportunity to ask the course director questions directly. Additionally, the 423d is creating a mobile application for your phone that can be used as a reference guide, outlining the curriculum material and identifying regulations via key word search options.

About the 423 MTS

The 423d Mobility Training Squadron is part of the USAF Expeditionary Operations School at Joint Base McGuire-Dix-Lakehurst in NJ; the school's mission is to educate and train general purpose and Mobility Air Forces Personnel across the range of expeditionary knowledge and skills. In addition to the UDM WBT, the schoolhouse offers various Logistics Readiness training programs for students all across the Air Force.

IDO Course: In-residence course that teaches students (21Rs - Logistics Readiness Officers, Active/Guard/Reserve/Civilian equivalent) how to develop critical thinking skills for the roles/responsibilities for pre-deployment, deployment execution, personnel reception, and redeployment process. As stated earlier, the primary individual responsible for training UDMs at an installation is the IDO. The online UDM training assists with foundational information, but the IDO provides base-specific knowledge.

LOGMOD Course: An in-residence course in support of wing deployments that teaches 2Gs (enlisted Logistics Planner) advanced capabilities and how to become Base Administrators of the computer system. This particular course offering is not intended for UDMs.

DCAPES [Deliberate and Crisis Action Planning and Execution Segments] in-residence courses: **Advanced** – base and MAJCOM level personnel who build deployment taskings; **Base** – base level personnel who manage/fill deployment taskings (assign people to requirements). DCAPES is the system the AF uses to communicate with the joint community regarding AF requirements.

LOGFAC [Logistics Feasibility Analysis Capability] Course: Both a WBT and an in-residence course used at the base and MAJCOM level to develop and analyze support sustainment requirements in support of theater air campaigns.

DID YOU KNOW?

In addition to serving your fellow Airmen in a critical role, an additional benefit of being a UDM is that many units recognize this position as a special duty assignment and, therefore, you reside in an 8U000, non-deployable manpower billet within the unit for two years.

NOTE: If the unit does not earn an authorized 8U000 billet (due to mission/size), its UDM typically resides as part of the commander's support staff at the group/wing level.

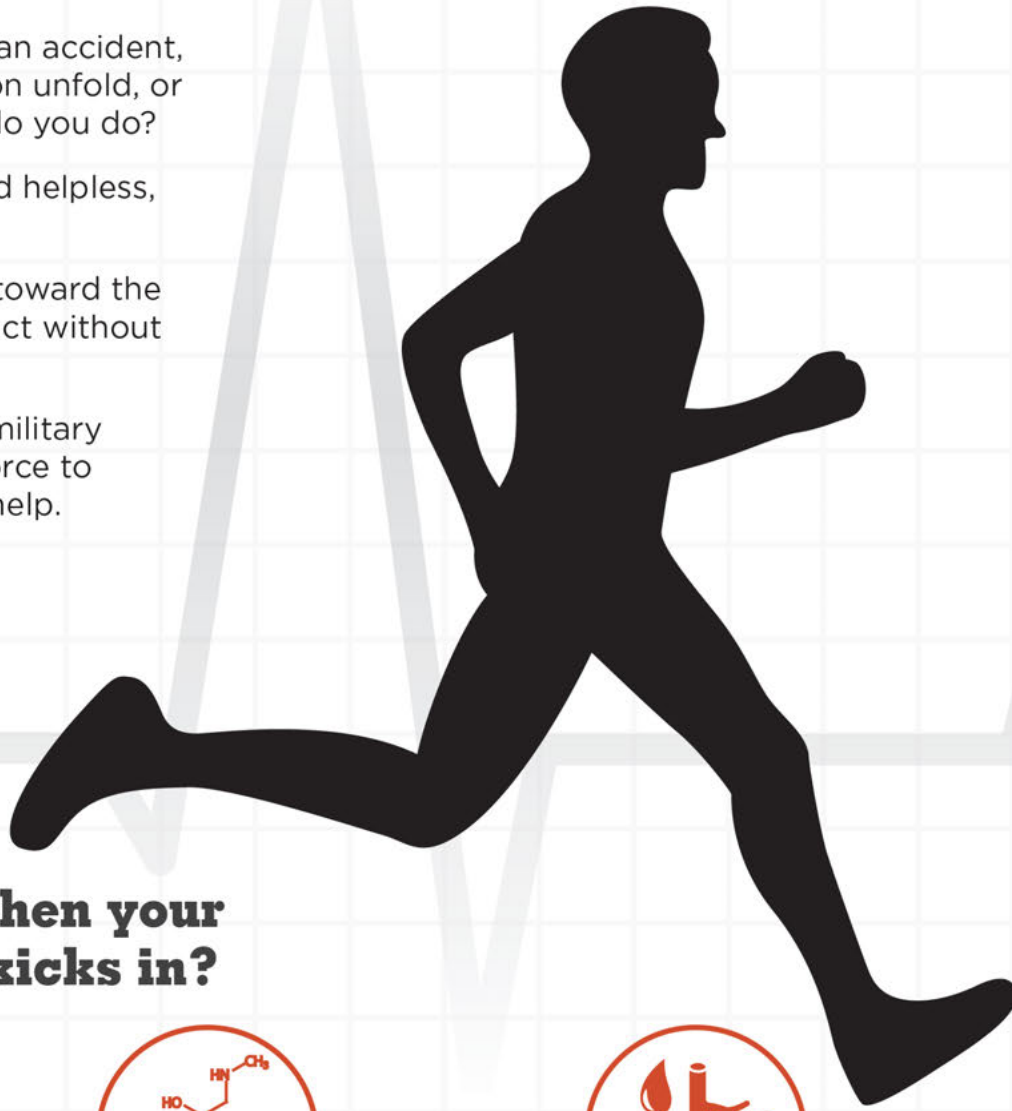
THE RESCUE REFLEX

You hear an explosion, witness an accident, watch a life-threatening situation unfold, or see someone drowning. What do you do?

Many people would be rendered helpless, their own brains in shock.

But not you. You start running toward the scene rather than away. You react without thinking about it.

Airmen are trained and skilled military members who joined the Air Force to serve. They inherently want to help.

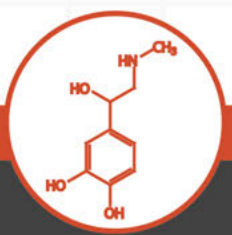


So what happens when your superhero instinct kicks in?

HEART POUNDS

An elevated heart rate (115-145 beats per minute) helps you think clearer, run faster, and fight harder.

Your brain releases neuropeptide Y, causing the "no fear" factor.



ADRENALINE RUSHES

Epinephrine boosts your ability to cope with danger.

It sets off metabolic changes resulting in increased blood flow, faster oxygen intake, and increased energy.

Strength and speed are enhanced.

BLOOD VESSELS NARROW

Once your heart rate exceeds 145 beats per minute, your body slows blood flow.

This limits bleeding and you develop tunnel vision.

Every second counts when there is danger looming.

For someone like you who has been trained to perform under extreme circumstances, you will likely:

1. **Assess the situation.**

   This will happen in a split second, but you've developed the ability to calmly make precise decisions and act on them under pressure.

2. **Stay focused.**

   You learned early on how to not allow outside influences to bother you.

3. **Take command of the situation.**

   Your confidence as an Airman will come forward.

4. **Calm and comfort the victims.**

   They are scared, in shock, and may be dying. They need to know you're there to help them.

5. **Act!**

   You know what you need to do to eliminate the threat and protect the individuals involved.

The key to remember when you jump in and rescue is **do it safely**.

You don't want to make the situation worse and end up becoming a victim yourself.

It's possible the best thing you can do is **call 911 and wait for emergency personnel to arrive**.

Having a at Home BLAST

By MS. RUTH ANN REPLOGLE, Staff Writer

'Tis the season for sparklers, firecrackers, and other illuminations. Summer is also synonymous with ER visits, permanent injuries, and home fires. More than 11,000 people require medical treatment every year thanks to fireworks-related incidents, according to the U.S. Consumer Product Safety Commission (CPSC).

It is wise to leave the fireworks to the experts. But maybe you've been shooting off fountains and spinners since you were a kid and think you're a pro at backyard fireworks displays. No problem! Most consumer fireworks are legal for purchase and use at home. If you practice caution when setting off fireworks, then your big summer bash should be tons of fun, right? It will be—if you always follow these 15 safety measures from the National Council on Fireworks Safety:

1. **Check out your local laws and obey them.** Fireworks are explosives regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives in two categories: display fireworks (large fireworks for shows supervised by a trained pyrotechnician), and consumer fireworks (small fireworks sold at stands for personal use). Some city ordinances do not permit consumer fireworks inside city limits.
2. **Purchase fireworks from reliable dealers.** Buy fireworks only from licensed consumer fireworks dealers. They will only carry those products that meet standards set and enforced by the CPSC.
3. **Know your fireworks.** Read the labels and performance descriptions before igniting.
4. **Avoid illegal explosives.** They are like TNT—they don't give you enough "fuse burn time" to get away before they explode. You can spot M-class fireworks, such as M-80s, M-100s, M-250s, M-1000s, cherry bombs, blockbusters, quarterpounders, and sparkler bombs because they will be primitive and without federally mandated warning labels. These illegal explosives were banned in 1966.
5. **Do not alter or make your own fireworks.** Unless you've trained with Pyrotechnic Guild International, Inc., just don't.
6. **Have a ready source of water close by.** A full bucket and a connected water hose are the best. Assign someone to be "the fireman" who is ready to engage if an emergency occurs.
7. **Be aware of the weather conditions.** If there is a strong wind or the grass is too dry, you should postpone.
8. **Set off fireworks outdoors.** You want a wide-open clear area away from houses, buildings, trees, bushes, and vehicles for your launch zone. Always try to shoot fireworks from a hard, flat, level surface. Gravel and sand surfaces are unstable, and grass is flammable.

9. **Use care in handling fireworks.** NEVER carry fireworks in your pocket or hold a lit firework in your hand. Sparklers can reach 1,800 degrees. Be leery of transporting in glass containers, too. Position yourself as far from the product as possible and extend your arm out using a flare or an extended butane lighting device.

10. **Wear safety glasses.** The professionals do.

11. **Stay sober.** Drink alcohol after the show is over if you must. Being intoxicated while lighting or handling fireworks puts you and everyone else at risk for injury.

12. **Light one firework item at a time and move quickly away.** You don't want to become a statistic.

13. **Dispose spent and dud fireworks properly.** Thoroughly soak them with water and then place them in a sealed metal trash container stored outdoors and away from buildings and combustible materials. NEVER re-light a dud.

14. **Be considerate of others.** The noise and lights of the fireworks can frighten some animals. Fireworks can also cause combat Veterans and people with PTSD to experience flashbacks.

15. **Skip the home show …** if you can't abide by ALL of these suggested safety measures. It's better to be safe than sorry! Most areas host free public fireworks displays and might even have it choreographed to music.

FIREWORKS TRIVIA

- New Castle, Pennsylvania, home to many fireworks display companies, is considered the Fireworks Capital of America.
- The first fireworks were green bamboo called "pas chuk" that were thrown into fires to scare spirits away in ancient China.
- Gunpowder was accidentally discovered by a Chinese alchemist who mixed sulphur and salt peter (potassium nitrate) over a fire.
- Placing gunpowder into bamboo stalks and then throwing them onto a fire to be ignited produced a louder and more powerful bang; hence, the firecracker was born.
- Fireworks were used as warfare by attaching them to arrows.
- Settlers brought fireworks to the United States during the 1600s.
- Fireworks became very popular in Great Britain during the reign of Queen Elizabeth I. She so enjoyed them that she created a "Fire Master of England" position in her court.
- The first Independence Day fireworks celebration was in 1777.
- Static electricity in synthetic clothing can ignite fireworks.
- Today, computers are used to control the launching of fireworks and the synchronization of the aerial bursts with music during public fireworks displays.

Source: Fireworks.com

IN CASE OF AN EMERGENCY

If someone is injured by fireworks during your home show:

- If the person can be transported, immediately take him or her to a doctor or hospital.
  - If an eye injury occurs, keep the victim from touching or rubbing it. Do not flush the eye with water or put any ointment on it. Instead, cut out the bottom of a paper cup and place it around the eye to shield it until medical attention is received.
  - If someone is burned, remove clothing from the burned area and run cool, not cold, water over the burn. Do not use ice. Leave it uncovered until medical attention is received.
- If the person cannot be transported due to the severity of injuries, call 911. Do not move him or her unless directed to do so by a first responder or paramedic.

I Had Junk in My Trunk!

By MS. RITA HESS, Staff Writer

Six years ago this summer, our state was in a horrible heat wave. I convinced my husband we should take a short vacation to the closest place with tolerable temperatures: Colorado!

We had been there before, but we wanted to see something new this time and, most importantly, go to a place that felt cool! Like most people anxious for time off, I did my homework. I went online and read reviews of touristy sights, and then contemplated places we might stay. I downloaded maps and calculated mileages from one spot to the next. I monitored temperatures at a few of our hoped-for destinations and daydreamed about standing outside in a remote mountain town mid-afternoon with outspread arms and simply saying, "Ahhhhh! This cool air feels great!"

My husband often works late, so I took an extra day off to get us ready to go. The day before we left, I neatly folded and placed our clothing in the suitcase. I also packed a container with snacks and loaded some soft drinks into a small ice chest. We planned to drive our new (to us) car—a 10-year-old luxury sedan we purchased several months earlier—as it got great mileage and ran great. With a fresh oil change, new wiper blades, and the precise amount of air in the tires, I took it to the car wash and made sure it was spit shined and ready to roll!

Back at home, I began to load and organize our belongings in the vehicle so we could head out early the next morning. That's when I discovered a **HUGE** problem: I had junk in my trunk!

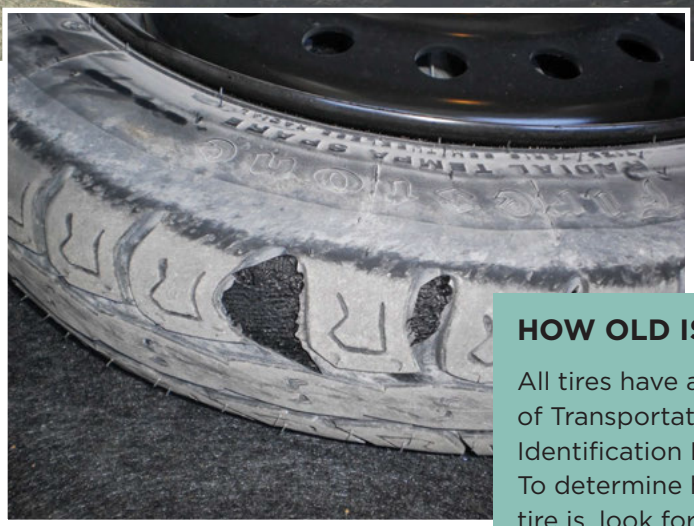
Without telling my age, let's just say I am old enough to know **not** to go on a road trip without checking the condition of my tires. And I did check them! The one I overlooked, however, was the spare. Imagine my horror when I popped open the trunk lid and saw a rotten spare tire. Yes, rotten! Large chunks of rubber were actually missing. I knew immediately we weren't leaving the driveway with that!

AGING TIRES = INCREASED RISK

According to the National Highway Traffic Safety Administration (NHTSA), most drivers overlook tire aging, which increases their risk of a crash. Aging occurs when the rubber and other components in a tire start to degrade over time due to service, storage, and environmental conditions. A tire may have plenty of tread but still be unsafe—a risk that increases under adverse conditions (wet or slick roads).

To decrease your risk of an aging tire-related accident:

- Inspect all tires monthly. Stop using tires if the thread is worn down to a minimum depth, if you see physical damage (cuts, cracks, bulges, etc.), or if you see signs of irregular wear or other damage due to under inflation or overloading.
- Have tires rotated, balanced, and aligned as recommended by your vehicle manufacturer.
- Address performance issues, such as tires that fail to maintain proper pressure (they lose air) or those that make an unusual noise or cause vibration while in use.
- Act immediately if your tire pressure monitoring system alerts you that a tire is underinflated. All 2008 or newer passenger cars, light trucks, and vans have this feature.
- Replace tires that pass the vehicle manufacturer's recommended tire replacement time. Check your vehicle owner's manual for more information.
- Be aware of your spare, which is prone to aging because owners seldom replace it. Even if you have a full-size spare tire, NHTSA recommends that you only use it in emergencies (e.g., a flat tire).



Imagine my horror when I popped open the trunk lid and saw a rotten spare tire. Yes, rotten! Large chunks of rubber were actually missing.

When my husband got home from work, we decided to simply take our other vehicle (a pickup truck)—but not until we made sure the spare was good! It was fine, so we loaded up and began our otherwise uneventful (and pleasantly cool!) journey to Colorado.

Now, before you judge my husband too harshly for the condition of the spare, I confess that I am the one who picked out and bought the car. I am the one who always drove it, and I am the one who was supposed to have maintained it. Thus, I am the one who should have checked (long before I did) to be certain I had a decent spare. But I didn't. Don't be too hard on me, either. Thankfully, it all worked out, and nobody got hurt. Please **DO** learn from my mistake, though. Never leave home with junk in your trunk!

HOW OLD IS YOUR TIRE?

All tires have a Department of Transportation Tire Identification Number (TIN). To determine how old your tire is, look for the TIN on your sidewall. The last four digits indicate the week and year the tire was manufactured. In the example below, the TIN reads 2613, so the tire was made in the 26th week of 2013. Also, check the TIN on new tires before you buy to be sure you are not purchasing tires that have been on a shelf or in storage and are already old. Some vehicle and tire manufacturers recommend replacing tires at 6 to 10 years old, regardless of tread wear.

A 'Good Guy' Club

By MS. RITA HESS,
Staff Writer

Most every motorcycle rider who serves in the military has at least heard of the Green Knights Military Motorcycle Club (MMC), but some are even more familiar with the group. In the Pacific Northwest, for example, SSgt Adam Kies is the Motorcycle Safety Representative for the 62nd Maintenance Squadron at Joint Base Lewis-McChord (JBLM) and president of MMC at JBLM.

"Green Knights started at McGuire Air Force Base," he explains, "and fulfilled a requirement to have a motorcycle mentorship program that didn't exist before then. Here, it is open to DoD active duty, guard, or reserve, and DoD civilian retirees and spouses. We aren't service specific—in other words, we are not just an Air Force club. In fact, we recently helped start a chapter that is primarily all Navy riders because it was too far for them to travel for our monthly meetings."

SSgt Kies, named 2016 Air Mobility Command RiderCoach of the Year, is responsible for 29 riders in his squadron. He serves as instructor and certifier for area riders and ensures all riders on McChord Field attend the Motorcycle Refresher Course training. His work in that

Photo above: Members of the Green Knights Military Motorcycle Club Chapter 3 pose for a picture at Joint Base Lewis-McChord, Wash. The club focuses on motorcycle safety and mentorship to teach motorcycle riders of all skill levels.

USAF PHOTO BY A1C KEONI CHAVARRIA

GREEN KNIGHTS MILITARY MOTORCYCLE CLUB MISSION STATEMENT:

Addressing the needs and concerns of military and DoD civilian riders, through education, safety knowledge, and the shared joy of riding.

capacity obviously intertwines with Green Knights activities.

"Here at McCord, several of our club members are motorcycle reps for their squadrons, and we all want the same thing—to bring in new riders and young Airmen, take them under our wing, and teach them how to ride properly so they are safe. We show them the ropes so they're not out there doing 100 miles per hour or popping a wheelie down the highway."

Even though he is an instructor, SSgt Kies has learned a lot from the organization about group riding, low-speed handling, and other skills he continually practices and passes along to others.

"One refresher class, for example, is half a day on an obstacle course, and we ride out Highway 7 toward Mt. Rainer the second half of the day," says SSgt Kies. "The ride back after lunch incorporates all of the skills that we cover throughout the day in the course—navigating tight corners, dealing with traffic, riding in a group, stopping, and all the other skills you need on a motorcycle."

While the Green Knights members share a love of motorcycle riding, he says there is more to the group than meets the eye.

"We are also about camaraderie, mentorship, and taking care of each other," he continues. "In one case, someone broke down hundreds of miles from home, and other chapters rallied. One guy put the bike on a trailer and drove north for 200 miles, and then put it on a different trailer, and so on all the way north to get the guy home. I think he got from Florida to New York with the Green Knights." In another example, a member who left the military became a truck driver, so members volunteered to store his bike while he is gone.

According to SSgt Kies, the camaraderie continues between the group at JBLM and other chapters, as well as with other motorcycle groups. He specifically called out the Red Knights (a firefighter motorcycle club) and the Blue Knights (police officers). He says there is even an annual Knights of the Round Table meeting of all the 'good guy' clubs, as he calls them.

Green Knights groups' frequent participation in fundraising and charitable rides is further testament to the character of the members.

FOR MORE INFORMATION

Visit the JBLM Green Nights MMC Facebook page at **www.facebook.com/GreenKnightsMMCChapter3**. The Green Knights international organization—now 136 chapters worldwide—maintains a Facebook page at **www.facebook.com/greenknightsinternationalmmc**. Both pages display information about rides and meetings, fundraisers, club events, safety tips and videos, and other announcements or items of interest.

SSgt Adam Kies is the Motorcycle Safety Representative for the 62d Maintenance Squadron at Joint Base Lewis-McChord and president of the Green Knights there.

Top photo: The VC-137C Air Force One (SAM 26000) at the National Museum of the United States Air Force on April 15, 2016.

USAF PHOTO BY KEN LAROCK

Middle photo: Douglas VC-54C "Sacred Cow" at the National Museum of the United States Air Force.

USAF PHOTO

Bottom photo: Lyndon B. Johnson takes the oath of office aboard Air Force One at Love Field Airport two hours and eight minutes after the assassination of John F. Kennedy in Dallas, Texas. Jackie Kennedy (right), still in her blood-soaked clothes, looks on.

Charting the History *of* AIR FORCE ONE

By MS. RITA HESS, Staff Writer

Air Force One is an easily recognizable symbol that represents American leadership. Technically, however, it isn't a single aircraft. Instead, *Air Force One* is **any** aircraft carrying the U.S. president—a small but important detail, as many planes have had that honor over the years.

Early Presidential Air Travel

The first aircraft configured for presidential use was a C-87A called *Guess Where II*, but safety concerns restricted its use to mostly White House staff. Its replacement was a Douglas VC-54C Skymaster nicknamed the *Sacred Cow*. Modest by today's standards, the unpressurized cabin had a conference room, desk, lavatory, fold down bed, bulletproof window, and a refrigerator—a rare luxury in the mid-1940s. An elevator allowed President Franklin Roosevelt to board the plane in his wheelchair.

Sadly, his only flight aboard the *Sacred Cow* was to the Yalta Conference in Russia in February 1945. Months later, Roosevelt suffered a stroke and died. His successor, Harry Truman, used the aircraft extensively for a few years before replacing it in 1947 with a C-118 Liftmaster he named the *Independence* after his Missouri hometown. Its main cabin could seat 24 passengers or be made into 12 sleeper berths. The aircraft looked distinctly American, with a bald eagle head painted on its nose and feathers painted on its tail.

Our next leader, President Dwight Eisenhower, introduced two Lockheed C-121 Constellations (*Columbine II* and *Columbine III*). The call sign *Air Force One* originated under his command in 1953 when *Columbine II*, which was carrying Eisenhower, suddenly shared airspace with a commercial airliner using the same call sign: 8610. In the late 1950s, the Air Force added three Boeing 707 jets designated SAM [Special Air Mission] 970, 971, and 972. Though retired from primary service in 1962, they flew other dignitaries for many years.

Members from the 54th AS and the 73d AS have integrated into one team and are responsible for flying executive airlift for the United States' key leadership and providing them with safe, comfortable, and reliable transportation. In 2016, the team traveled to 85 countries.

USAF PHOTO BY TSGT MARIA CASTLE

Into the History Books

Air Force One planes have all played a role in history, but one was perhaps more significant than the others. When a VC-137C with the tail number 26000 was purchased for service, President John F. Kennedy approved a new look and insignia—striking blue and white colors, the words UNITED STATES OF AMERICA in tall capital letters along the body, and a U.S. flag on the tail. Andrews AFB officially became the "Home of *Air Force One*" in 1962.

The following year—on November 22, 1963—SAM 26000 carried President Kennedy to Dallas, Texas, where he was shot and killed. Later that day, during the return flight, Vice President Lyndon Johnson took the oath of office and assumed the presidency. Emotions undoubtedly flooded the aircraft when it landed at Andrews and the slain president's brother ran on board to console the first lady, who was still dressed in bloodstained clothing.

WHAT'S IN A NAME?

- When the Vice President is on board instead of the President, the aircraft uses the call sign *Air Force Two*.
- United Airlines is the only commercial airline to operate *Executive One*, the call sign for a civilian flight carrying a U.S. President. In 1973, President Nixon and his family flew as commercial passengers on a United DC-10 from Washington Dulles to Los Angeles International Airport.

That flight also carried the President's body back to Washington. At his funeral a few days later in Arlington, Virginia, the pilot flew *Air Force One* over the cemetery, saluting the nation's fallen leader by tipping SAM 26000's left wing.

President Johnson traveled extensively aboard SAM 26000. His successor, Richard Nixon, flew historic voyages in it to the People's Republic of China and the Soviet Union, and had a "Spirit of '76" logo painted on the plane's nose to commemorate America's bicentennial.

In 1990, after flying 13,000 hours in 36 years and serving eight sitting presidents, SAM 26000 left the presidential fleet but continued flying government officials. Visitors to the National Museum of the U.S. Air Force in Ohio can now walk through the aircraft. Images and videos are also available online at **https://goo.gl/21KZYg**.

SAM 27000, 28000, and 29000

Soon, three more aircraft would take their place in history. After telling the nation he intended to resign the presidency, Nixon flew on SAM 27000 (a VC-137) to California. The call sign was reportedly changed mid-flight from Air Force One to SAM 27000 because Gerald Ford was sworn in. Two presidential 747s were delivered in 1990 during George H. W. Bush's presidency. The new planes included secure phone and computer systems, enabling the Commander in Chief to perform duties while airborne if the United States was attacked. That is exactly what happened on September 11, 2001, when a younger Bush was in office.

Colonel Mark Tillman, the senior pilot of *Air Force One* that day, quickly took off after President George W. Bush abruptly ended his visit to a Florida elementary school. Not certain what might happen next—and with the President hundreds of miles away from the capital—Col Tillman and the plane's staff kept President Bush safe throughout the day so he could monitor the changing situation.

Current *Air Force Ones* have 4,000 square feet of interior floor space. Accommodations include a conference room, a space that converts into a medical facility if needed, six lavatories, galleys that can provide 100 meals at one time, and state-of-the-art communication and navigation systems.

On the Horizon

The next *Air Force One* will be Boeing's 747-8. At a cruise speed of .855 mach and a length of 250 feet and 2 inches, it is the fastest and longest commercial jet in the world. We can't predict the technology in the coming decades or who will be aboard, but future historic events will have to be quite significant to match those we have already witnessed aboard the many *Air Force One* planes.

Water:

The Fickle (and Deceptive) Element

By MS. RITA HESS, Staff Writer

Water is an interesting element. Too little of it can kill us within a few days because our body weight is predominately comprised of water. In this instance, water sustains life.

On the other hand, too much water can kill us. The same liquid we need to survive can take our life in seconds when it roars down hillsides or overflows roads, bridges, or levees. In this scenario, water is deadly.

Animals seem to know instinctively how to sustain themselves during an abundance or shortage of water. Fortunately for humans, our species is highly developed enough to also know how to survive those times. When we are thirsty (or ideally, before we become parched), we drink more water. And when it might flood, we—we—we what?

You **DO** know how to survive a flood, don't you? Okay, good! But let's review for people who may not know what to do or may have forgotten. First, a few facts:

- Flooding is a coast-to-coast threat to the United States and its territories in all 12 months of the year.
- Approximately 75 percent of all presidential disaster declarations are associated with flooding.
- In the United States, floods kill more people each year than tornadoes, hurricanes, or lightning.
- Flooding causes more damage in the United States than any other severe weather related event—an average of $5 billion a year.

Now, let's debunk a few flood myths.

Myth #1. It can't happen here ...
For those who think flooding can't happen where you are, consider this. I live in an otherwise non-descript area of the country surrounded by wheat growers and cattle ranchers (and a nearby Air Force base). But one evening in October 1973, it began to rain. The storm dumped 15 to 20 inches in this county; some say most of it came within four hours. Ditches and drainage systems filled to capacity and overflowed, flooding entire neighborhoods. Some people left home and clung to treetops in the darkness, crying for help. Residents with boats launched them from their previously landlocked yards and attempted daring rescues. When it was over, nine people had died, including a mother and child. Please, never say it can't happen where you live. If it can happen here, it can happen anywhere.

Myth #2. I can drive through water because I have a pickup (or an SUV).
Wow! You are special! But nearly half of all flood fatalities occur in vehicles, so whatever you have probably isn't enough. As little as six inches of fast moving water can sweep a vehicle off a roadway, and two feet of flowing water can carry away most pickups and SUVs. Yes, even yours. The bigger issue is that you can't see the road under the water, so you don't know what is (or isn't) there.

Has the road washed out? Is there now a huge sinkhole where asphalt

Prepare a family disaster kit, and develop and practice a disaster plan. For more information, see **www.ready.gov**.

once was? Are you sure? Are you willing to drive through it to find out—to prove your point?

Sorry, no personal vehicle is indestructible in the face of flood waters. Good luck if you attempt it, but smart Airmen follow the "Turn Around, Don't Drown!" mantra.

Myth #3. We had a 100-year flood last year. It won't happen again for 99 years.
That is downright wrong! A 100-year flood is a climatic average, which means there is a one percent chance a 100-year flood will happen in any given year. It does not mean a flood of that magnitude can only occur every 100 years.

Myth #4. The local TV station will tell us ahead of time if it's going to flood.
Maybe. But as hard as they try, they sometimes get it wrong. (See Myth #1.)

Everyone—especially Airmen who are new to an area—should check with base and community emergency managers and with the local National Weather Service office (**www.weather.gov**) to learn about flooding history and potential in the area.

Prepare a family disaster kit, and develop and practice a disaster plan. For more information, see **www.ready.gov**.

Most importantly, listen to those emergency management and National Weather Service officials and heed their warnings. In Colorado's Big Thompson Canyon flood in 1976, it wasn't raining at the lower end of the canyon. Thus, despite warnings, many residents did not believe it could flood. When they later tried to escape in their vehicles, it was too late. The event claimed 145 lives.

A DEADLY LOOK BACK

On **May 31, 1889**, the Johnstown Flood (or the Great Flood of 1889) destroyed Johnstown, Pennsylvania. After a storm dropped 6-10 inches of rain in 24 hours, a dam break upstream from Johnstown released a 30-40 foot wall of water that killed 2,200 people within minutes. The massive wave also caused approximately $17 million in damage.

In late **July 1976**, a storm system dumped a foot of rain in Colorado's Big Thompson Canyon. Of the 145 people killed, some were never found. Dozens died trying to escape in vehicles. The car of an officer killed in the flood could only be identified by a Colorado State Patrol key ring. Governmental cleanup cost over $1.6 million.

More recently, Hurricane Katrina made landfall in the Gulf Coast states in **August 2005**. The 25-foot-plus storm surge, wind damage, and partial levee failure in New Orleans, Louisiana—as well as flooding in numerous other coastal and inland states—caused more than 1,200 fatalities and over $100 billion in damages.

How Hot are You?

By MS. JANET PURDY, Staff Writer

Please don't go bragging on yourself—physical attractiveness is not the topic. We're referring to heat-related illness. Whether on-the-job or during play, exertional heat-related illness (EHRI) can become life threatening if not recognized early and treated appropriately. There are varying levels of EHRI, and the severity may escalate when ambient temperatures and humidity levels are high. However, individuals respond differently to physical exertion and even the [perceived] most physically fit individual can succumb to heat-related illness in a relatively cool environment.

Heat-related illness, and specifically exertional heat stroke, is a significant occupational risk in the armed forces, especially for those who are rapidly deployed from a temperate climate region to hot climate regions. Recognizing early symptoms, preparing for the environment, and knowing your risk of EHRI are important keys to preventing escalation of heat-related illness.

Several variables affect heat illness, including duration and intensity of activity, acclimation to the environment, physical conditioning, and hydration status, as well as medications, sleep, and predisposition due to disease.

Mild symptoms of EHRI include heat-related rash and swelling. There is typically no increase in core body temperature, and symptoms subside quickly. Muscle cramps can be another sign of heat illness and may indicate muscle fatigue, dehydration, or low sodium concentration.

A more serious condition related to sodium concentration is *hyponatremia*. This occurs when the level of serum sodium is abnormally low, sometimes a result of "overhydration" during a long event, causing a dilutional hyponatremia.

RISK FACTORS FOR EHRI (NOT INCLUSIVE):

- Environmental conditions
- Medications
- Poor physical fitness
- Lack of acclimation
- Type of clothing
- Age
- Obesity
- Sickle cell trait
- Sweat gland dysfunction
- Poorly controlled diabetes
- High blood pressure
- Cardiovascular disease
- Cystic fibrosis

Most people have experienced delayed onset muscle soreness, the pain you feel a day or two after a new or strenuous activity. However, beyond that lies rhabdomyolysis, which may be life threatening. It is an acute condition where the muscle breaks down rapidly, causing pain, weakness, vomiting, and confusion. Electrolytes, myoglobin, and other proteins leak into the blood stream and can cause kidney failure. Prompt medical care is advised.

Many athletes know about exercise-associated collapse, which usually occurs after a strenuous activity. Symptoms typically diminish upon lying down and rehydrating. Avoid getting up too quickly or you may experience postural hypotension and find yourself back down quickly as your systolic blood pressure drops significantly.

Heat exhaustion is the most common EHRI and occurs when an individual becomes dehydrated in heat stress conditions. It requires discontinuing activity, lowering of body temperature, and rehydration. It is important to obtain core body temperature to rule out exertional heat stroke that is life threatening.

Exertional heat stroke is a major concern when performing intense physical exercise. It is indicated by a core body temperature over 104 degrees Fahrenheit and, if sustained for a long period of time, can result in complications and even death. Prompt recognition of symptoms and treatment are essential, including rapid cooling measures. Early signs mimic those of heat exhaustion—dizziness, nausea, headache, and stumbling. Symptoms may progress to apathy, confusion, and unconsciousness.

Each type of EHRI has the potential to affect physical activity, from a short disruption to permanent damage. Therefore, before engaging in strenuous work or exercise, take time acclimate to the temperature, gradually increase duration and intensity of activity, select proper clothing for the environment, be aware of medication effects, know your risk factors, maintain proper sodium intake, and hydrate!

DID YOU KNOW:

The Occupational Safety and Health Administration has an app for that?

Download the Heat Safety Tool to calculate the heat index and plan safely for outdoor activity.

www.osha.gov/SLTC/heatillness/heat_index/heat_app.html

TSgt Juan Cruz, 7th Logistics Readiness Squadron, takes a break from his 12-hour night shift to hydrate. The wing safety office recommends Airmen drink at least 10 to 12 eight-ounce. glasses of water during any shift to avoid heat stress.

USAF PHOTO BY SRA AIRMAN CAROLYN VISS

TYPES OF EHRI	CHARACTERISTICS
Heat rash	"Prickly-heat" appearance
Heat edema	Swelling in the extremities
Muscle cramps	Muscle twitches and spasms
Heat exhaustion	Low blood pressure, nausea and vomiting, dizziness, fatigue
Exercise-associated collapse	Inability to stand or walk without assistance. Lightheaded, faint, dizziness
Postural hypotension	Drop in systolic blood pressure when standing
Exertional heat stroke	Core body temperature above 104 degrees Fahrenheit
Rhabdomyolysis	Major muscle breakdown: muscle pain, soreness, stiffness, and swelling with loss of mobility and weakness
Hyponatremia	Reduced sodium levels and mental status changes; vomiting, confusion, wheezing that may progress to seizures, respiratory arrest, and other serious complications

Benchmark Cybersecurity Assessment on C-5M

By MS. SUSAN G. GOTTA, AMCTES Technical Writer

AMC Test and Evaluation Squadron (AMCTES) recently conducted a benchmark C-5M Cybersecurity Adversarial Assessment, the first test of this kind conducted on an AMC aircraft and among the first conducted on any Air Force Major Weapons System. AMCTES Test Directors coordinated the development of cyberattack scenarios, working with personnel from the U.S. Army Threat Systems Management Office (USA TSMO) and Lockheed Martin Avionics Engineers. This assessment was executed at Dover AFB, Delaware, aboard a C-5M aircraft on the ground, but operationally configured. Test participants included the 436th Airlift Wing, the 436th Maintenance Group, and the 9th Airlift Squadron. The Test Team from AMCTES, the sole operational test organization of HQ AMC/TE (Directorate of Test and Evaluation, Scott AFB, Illinois) facilitated all test activities.

Capt Ryan Tell, Senior Test Director at AMCTES, described the purpose of the test as, "an assessment to develop scenarios whereby access can be gained to disrupt or disable the aircraft to prevent the aircrew from completing its mission." It will provide a baseline to define and refine current threat protocols and anti-cyberattack procedures if vulnerabilities are detected. USA TSMO acted in a generic adversary role, whose goal was to create cyber effects that would inhibit or prevent the C-5 from performing its mission. Capt Tell further said, "The test parameters involved providing the cyberthreat team physical access to the electronic systems aboard the aircraft to allow them to attempt to gain logical access to systems that may compromise security."

The test was conducted in two phases. The initial phase provided the adversarial team access to the C- 5M system architecture, allowing the team to explore pathways to potentially exploit the systems, focusing the cyberattack on the most likely systems to be targeted by an adversary. The second phase

Capt Ryan Tell, AMCTES Senior Test Director, conducts cyber-security checks on a C-5M aircraft. The training is designed to prepare aircrew for cyber-attacks on the aircraft by simulating an opportunity to counter a simulated cyber-threat.

PHOTO BY LISA ELMO-HENSKE, VISUAL INFORMATION SPECIALIST, AMCTES

The scope of the test involved all major aircraft systems and involved mission support systems that connect to the aircraft via removable media devices or data transfer interfaces.

involved operational aircrew and maintainer test participants conducting simulated attempts at launching an operational mission while the adversarial team attempted parallel cyberattacks. The scope of the test involved all major aircraft systems and involved mission support systems that connect to the aircraft via removable media devices or data transfer interfaces. Data regarding the ability of the test participants to detect, react, and restore systems on the aircraft in response to exploitation was collected.

Recent aircraft major system upgrades, with decreasing reliance on analog displays, has elevated the risk of cybersecurity vulnerability to interrelated software systems. The U.S. Department of Defense has recognized that the detection, exposing, and subsequent protection against these types of threats is a critical military function given today's global environment and has been steadily adopting protocols in its fight to thwart attacks of its IT systems. This Adversarial Assessment complies with the Secretary of Defense, Director of Operational Test and Evaluation policy memorandum directing the accomplishment of adversarial tests for all oversight information systems and weapons systems Air Force-wide.

Photo above: a test team from AMC Test and Evaluation Squadron out of Joint Base McGuire-Dix-Lakehurst, NJ conducts a benchmark Cybersecurity Adversarial Assessment on a C-5M at Dover AFB, DE, to practice real world application of cyber defense. Participants were tested by their reaction to a simulated coordinated cyber-attacks on the aircraft.

Photo below: Lockheed Martin Avionics Engineers, working with AMCTES Test Directors, test the cyber-security on systems aboard a C-5M at Dover AFB, DE.

PHOTOS BY LISA ELMO-HENSKE, VISUAL INFORMATION SPECIALIST, AMCTES

Trapped Below and **Running Out of Air**

By TSGT BRADLY PRESTON, Andersen AFB, Guam

On Memorial Day Weekend 2016, my friend Ben and I departed on a routine spearfishing trip. That afternoon was perfect for being on and in the water. We were catching fish like it was no one's business. At 4 p.m., we noticed a large parrotfish approximately 40 feet down near the bottom. The depth was well within my ability and training. I free dove down and hid behind a small reef and waited for the perfect opportunity. Approximately 60 seconds later, the fish moved closer and I had it in my sights. Approaching the end of my breath, I pulled the trigger and landed a direct hit.

As soon as I pulled the trigger, the spear passed directly through the fish and lodged itself in a reef. Short on air, I began my ascent to the surface and felt a sharp tug on my ankle. The line that was attached to the spear gun had tangled around my ankle and anchored me to the reef. That's when my training kicked in; remaining calm, I attempted to unwrap the line but was unsuccessful. I pulled as hard as I could to free myself, however the elasticity and 500 pound test of the line reacted like a bungee cord. Every time I swam toward the surface, the line stretched and pulled me back down. With the spear still stuck in the reef and the line wrapped around my ankle, I was running out of air and my vision began to fade.

After two failed attempts to free myself, I instinctively grabbed the knife that was attached to my leg and vigorously cut the line. When Ben noticed me struggling, he also grabbed his knife and began the descent to free me. A few seconds later, I was finally able to free myself and swim back to the surface.

As Ben and I both ascended, we recognized the benefits of our training. If it wasn't for that, I may not be alive today. No doubt we were seconds away from a bad situation.

Ben and I are both trained SCUBA divers and very comfortable in the water. During training, we were taught how to handle emergency situations while remaining calm. Entanglement is a known water hazard for divers, and they are instructed to carry knives as part of their basic personal equipment to combat this danger.

We were spearfishing as a team that day. Ben was already on his way down to help me when he noticed me struggling. Had my attempt to free myself failed, or had I blacked out, Ben would have been there to save his fellow Airman. It was comforting to know, in this unfortunate situation, that someone there had my back and knew how to respond to the situation.

When you plan your activities, imagine having to deal with this emergency alone if separated from your buddy or if you don't have someone with you. The tendency to get complacent leads to a lower standard of safety. Do not be complacent; be vigilant and pay attention to your surroundings.

I almost didn't bring my dive knife with me that day because I have never had to use it. This last-minute decision saved my life. Before you go out on your next trip, have the right gear, a good plan, and the right training. These things saved my life, and I was able to return home to my wife and kids.

Word to Your Mother

By MS. KIM BRUMLEY,
Staff Writer

This is embarrassing and I really shouldn't admit it, but I probably hold some kind of record for the number of traffic warnings issued by a police officer or highway patrol. Yep, I used to get pulled over a lot. What was my problem? I was easily distracted. What distracted me? Everything!

For example, when one of my favorite "oldie but goodie" tunes—*Ice Ice Baby*—comes on the radio, it takes me back to my middle school days, so I crank it UP! (Yes, I love Vanilla Ice … that may be worse than admitting to the many traffic warnings I've received.) One particular time, I busted out some super uncool moves while I belted out every word loudly. The next thing I knew, I saw those colorful lights in my rearview mirror and I was being pulled over … again!

I glanced down at the speedometer and it didn't look like I had been speeding, so I was clueless as to why I was being pulled over. As I slowed to a stop on the side of the road, I turned the radio off and was able to actually hear the sirens from the highway patrol car. Then I proceeded to grab my license, registration, and insurance to have it ready for the patrol officer.

When I handed over the documents, I asked in the sweetest, most innocent voice ever, "Sir, why did you stop me?"

He glanced up from the documents he was examining and flatly said, "Ma'am, you were swerving."

I didn't realize I had been swerving! It must have occurred in the midst of the one-woman jam session I had going on while cruising along. Luckily, I received another warning and not a citation. It probably won't be much of shocker for anyone reading this to learn that it wasn't the first time I had been pulled over for swerving and had been oblivious to it at the time.

What made me finally change my ways behind the wheel, eliminate all the distractions, and get my act together? I realized that my actions and behavior affected and influenced people around me.

When I was teaching my daughter how to drive before she got her license, I thought she was the worst driver ever. Then it occurred to me that she had learned from watching ME for over 15 years. My careless driving and bad habits had impacted the next generation of drivers!

While I can't go into the past and make corrections at this point, I can admit my mistakes and talk with her about what I've learned along the way. And hey, I have another kid who will be driving in a few years, so there is a chance for redemption!

Just for the record, I haven't seen those colorful lights in my rearview mirror in a very long time!

MISHAP-FREE

Flying Hour MILESTONES

10,000 HOURS

139 AS, Stratton ANGB, NY

CMSgt Kurt Garrison

916 ARW, Seymour Johnson AFB, NC (AFRC)

SMSgt Barry R. Bradley

5,000 HOURS

126 ARW, Scott AFB, IL

Lt Col Robert Wunderlich

142 AS, ANG, New Castle, DE

Col Christopher S. Kilcullen
Lt Col Arne G. Kolbjornsen
Lt Col Andrew P. Sides

165 AW, Savannah, GA

Lt Col Christopher Davis

310 AS, MacDill AFB, FL

SMSgt Arturo Zavala

3,500 HOURS

21 AS, Travis AFB, CA

Maj Stephen E. Teeple
Capt Ryan J. McGahern

142 AS, ANG, New Castle, DE

Lt Col Jeremy M. Goodwin
Lt Col Daniel F. Sheridan
Lt Col Eric B. Young

165 AW, Savannah, GA

Maj John Kenard

310 AS, MacDill AFB, FL

Lt Col Marc Summers
Maj Christopher Marron
Maj Micheal Perry
Maj Nicholas Robbins
Maj Patrick Uhes
TSgt Kevin Sanchez

2,500 HOURS

21 AS, Travis AFB, CA

Maj Daniel T. Blum
Capt Ivan E. Bohlender
Capt Steven L. Fuhrman
SSgt Garrett J. Sicafoose

142 AS, ANG, New Castle, DE

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MSgt Mark Shaw

310 AS, MacDill AFB, FL

Lt Col Gregory Pleinis
Lt Col Anthony White

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

What's Your Sign?

By MR. WAYNE BENDALL, HQ AMC
Occupational Safety and Health Manager

Have you ever wondered why people do the things they do? It's probably because they never "plan" to have an accident. They always believe accidents happen to the other guy. If only they had a crystal ball …

Imagine if people walked around with a sign hanging around their neck that described their behavior.

- I often drink and drive.
- I don't see anything wrong with texting and driving as long as I keep one eye on the road.
- I like to ride my motorcycle without my helmet.
- I like to see how fast I can go.

Have you ever ridden with someone and noticed, much to your dismay, the person texting and driving, or watched someone drive away who has been drinking? What about seatbelts? Do you insist that everyone who rides with you wear one, or do you take the easy way out and let your passenger decide?

There are times like this when more sensible people need to do the right thing and speak up. Don't just refuse to ride with friends who drink and drive or text when driving. It may be easier to keep quiet, but your friends are still placing their lives and those of others at risk. Offer to drive them. Better yet, insist on it. If you're friends "forget" to buckle their seatbelts, remind them.

Wear your sign proudly—the one that reads "I'm a really good friend who won't stand by and let you do dumb things."

Shortcuts = Potential Disasters

By MSGT DANIEL ALEJANDRO,
HQ AMC Weapons Safety Division

"You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics."

– General Dwight D. Eisenhower

Imagine you are hungry, exhausted, and at the end of a 12-hour shift. You have 10 more pallets to go and you're done. You've been consistently tying the load to the forklift mast to make sure it stays stable while moving, but you really want to speed up the process so you can get home. Maybe a quick way to do that is to not secure the cargo?

"It's only 20 or 30 feet from where I am picking up and dropping off. I'm sure it will be fine. I've done this hundreds of times and nothing ever happened. I'm sure it will be fine …"

Within the logistics community, transporting cargo is paramount for us to continue to "Execute and Sustain Rapid Global Mobility." But with transportation, there are inherent safety risks. One of the most essential things to remember is securing your cargo properly. We have experienced recent explosives mishaps within the command.

According to IAW AFMAN 91-201, *Explosives Safety Standards*, paragraph 8.2.8, and AMCI 24-101V11, *Cargo and Mail Policy*, paragraph 8.1.4, we must ensure that every explosive cargo movement is stable and secure prior to transportation. Even if it seems insignificant to cut out using a tie-down strap for a short movement, IT IS NOT.

Damaged cargo could affect critical mission types in the AOR. Worse yet, personal injury or death could occur. Taking the extra few seconds to ensure the safety and stability of your load will not only safeguard precious cargo, but also keep you and your wingmen safe.

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A DAY IN THE LIFE

Capt Sherry Reill, a critical care team member with the 514th Aeromedical Evacuation Squadron, prepares patient monitor equipment for a mannequin used to simulate a patient on a 305th Air Mobility Wing C-17 Globemaster III during aeromedical evacuation training for Airmen with 514th Aeromedical Evacuation Squadron and the 514th Aeromedical Staging Squadron at the Combat Readiness Training Center at Gulfport, Mississippi. The training's purpose was to teach flight nurses and aeromedical evacuation technicians how to respond to scenarios during the evacuation of sick or wounded personnel, and how to handle medical situations that might occur during the flight. Close to 700 AMC Airmen with the 514th Air Mobility Wing, the 305th Air Mobility Wing, the 87th Air Base Wing, and the 621st Contingency Response Wing are participating in the mobilization exercise Crisis Response 2017. The exercise's primary goal is for the four wings to deploy to an austere location and set up and sustain combat air mobility operations.

USAF PHOTO BY MSGT MARK C. OLSEN