

The background of the cover is a photograph of a woman in a military flight suit working on the interior of an aircraft. She is looking upwards and to the right. In the background, there are various aircraft components, including a large American flag and a sign that says "EXIT".

THE MOBILITY FORUM

THE MAGAZINE OF AIR MOBILITY COMMAND | WINTER 2018-2019

AMC
with the Hat Trick!
Fatality Free from
2016 to 2018

Air Mobility Command
Welcomes New
Leadership

Three Days of Learning and Inspiration at
AMC's Safety Conference 2018

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SrA Christa Stankovic, 816 EAS, hangs U.S. flags onboard a C-17 Globemaster III during an airdrop mission over Afghanistan.

USAF photo by SSgt Keith James



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Happy Holidays from Air Mobility Command Headquarters!

AMC enables the joint fight every day of the year, in every corner of the globe. In 2018 we sustained operations in Afghanistan, delivered the fight in Syria, and carried hope to those affected by tragedy in Florida after Hurricane Michael. As this year draws to a close, I want to take some time to thank you and talk about where we are headed in 2019.

AMC operates more than 600 sorties per day, 365 days per year. Our total force team of Air National Guard, Air Force Reserve, civilians, and commercial partners sustains a global enterprise in combat and in austere locations. We do all of this with a cadre of Mobility Airmen that are the best in the world. Your expertise and passion to serve is the fuel that drives our mission and is critical to our success.

Heading into the New Year, I ask you to focus your efforts on improving our readiness for operations in contested environments. As we increase our training intensity and tempo, safety in our daily operations must remain at the forefront of our efforts.

Every AMC Airman is vital to enabling Rapid Global Mobility, both on duty and off duty. As you take some well-deserved time off during this holiday season, I ask that you remember our Airmen that are deployed and their families. For many, this time of year is difficult because of family separation. A phone call, a holiday party invitation, or even just a smile and a kind word can show those we serve alongside that we care.

Every single
AMC Airman
is vital to
enabling Rapid
Global Mobility,
both on duty
and off duty.



You are the engine that drives AMC, and I am thankful for your commitment and sacrifice. Together, we can make a difference. I wish you and your family safe, restful, and happy holidays!

- Gen Maryanne Miller



Air Mobility Command Welcomes New Leadership



AMC COMMANDER

Gen Maryanne Miller is the Commander, Air Mobility Command, Scott Air Force Base, Illinois.

On September 7, 2018, Miller became

the first Reservist in history to achieve four-star status and lead AMC. In 2016, she became the first female Chief of the Air Force Reserve and Commander of the Air Force Reserve Command.

Miller was commissioned in 1981 as a distinguished graduate of the ROTC program at The Ohio State University. She is a command pilot with more than 4,800 flying hours in numerous aircraft such as the T-37, T-38, C-141B/C, C-5A/B, C-9A/C, C-40C, KC-10A and C-17.

Miller has commanded two wings and held numerous staff leadership positions at the unit, air staff, and joint staff levels. Prior to her current assignment, she was the Chief of Air Force Reserve, Headquarters U.S. Air Force, Arlington, Virginia, and Commander of Air Force Reserve Command, Robins AFB, Georgia.



AMC DEPUTY COMMANDER

Lt Gen Jon T. Thomas is the Deputy Commander, Air Mobility Command, Scott Air Force Base, Illinois. Thomas graduated from the U.S. Air Force

Academy in 1989. He has commanded operational flying units at the squadron, group, and wing levels, and is a command pilot with more than 4,000 hours in aircraft such as KC-10A, T-38A, C-17A, C-130E/J, C-20H, C-21A, C-37A, C-40B, T-38C, KC-135R.

His previous assignments include Chief, Program Integration Division, Headquarters United States Air Force; Deputy Director for Future Joint Force Development, Joint Staff/J7, Suffolk, Va.; Commander, 86th Airlift Wing, Ramstein Air Base, Germany; and Director of Strategic Plans, Requirements, and Programs, Headquarters Air Mobility Command, Scott AFB, Ill.

Prior to his current position, Thomas served as Director of Operations, Strategic Deterrence and Nuclear Integration, Headquarters U.S. Air Forces in Europe and Air Forces Africa, Ramstein Air Base, Germany.



EXPEDITIONARY CENTER COMMANDER

Maj Gen John R. Gordy II is Commander, U.S. Air Force Expeditionary Center, Joint Base McGuire-Dix-Lakehurst,

New Jersey. The Expeditionary Center is the Air Force's center of excellence for advanced combat support training and education. It provides operational control of the Expeditionary Operations School and administrative control for five wings and two groups within AMC.

Gordy received his commission through the ROTC program at the University of North Carolina-Charlotte in 1988. His career includes numerous operational and staff assignments, and he has commanded at the squadron and wing levels, and served as both a wing and numbered Air Force Vice Commander. He is a graduate of the United States Air Force Weapons School and National War College. Prior to his current assignment, he served as the Senior Defense Official and Defense Attaché to Turkey.

Gordy is a master navigator with more than 4,700 flying hours in the C-130 E/H and T-43 aircraft.



18th AIR FORCE COMMANDER

Maj Gen Sam C. Barrett is the Commander, 18th Air Force, Scott Air Force Base, Illinois. As Air Mobility Command's sole warfighting

numbered air force, 18th Air Force is responsible for the command's worldwide operational mission of providing rapid, global mobility and sustainment for America's armed forces through airlift, aerial refueling, aeromedical evacuation, and contingency response.

Barrett received his commission after graduating from the U.S. Air Force Academy in 1988 with a Bachelor of Science in General Studies. A command pilot with more than 4,400 flying hours, he has commanded an air refueling squadron, was Deputy Commander of the 22nd Operations Group at McConnell AFB, Kansas, served as the U.S. Transportation Command Liaison to North American Aerospace Defense and U.S. Northern Command, and was Commander, 15th Wing, Joint Base Pearl Harbor-Hickam, Hawaii. Prior to his current assignment, he was Director of Operations, Strategic Deterrence and Nuclear Integration, Headquarters Air Mobility Command, Scott AFB, Illinois.



618th AIR OPERATIONS CENTER COMMANDER

Brig Gen John D. Lamontagne is the Commander, 618th Air Operations Center, Scott Air Force Base, Illinois. The 618th AOC is responsible for operational planning, scheduling, directing, and assessing a fleet of more than 1,000 aircraft in support of combat delivery and strategic airlift, air refueling, and aeromedical operations around the world.

Prior to assuming his current position, Lamontagne was the Deputy Director of Operations, Strategic Deterrence, and Nuclear Integration.

Lamontagne received his commission from the U.S. Air Force Academy in 1992.



Left Seat Out: A U.S. Air Force Pilot Envisions the End of an Era

1 Lt Courtney Roepke, 21 AS C-17 Globemaster III pilot, performs pre-flight checks on a C-17 at Davis-Monthan AFB, Ariz. The aircraft and crew departed Travis AFB Oct. 10, 2018, and were staged at Davis-Monthan to support civil authorities during Hurricane Michael relief efforts.

USAF Photo by MSgt Joseph Swafford

**BY LT COL JASON HANSBERGER,
89th AIRLIFT WING CHIEF OF SAFETY**

Most of us assume we will have driverless cars long before we will be able to fly on a pilotless airplane. However, thanks in large part to a more favorable operating environment, pre-existing automation, and the nonlinear adaptation of new technology, pilots will likely go before drivers do.

Let's start with the operating environment. The tech and auto industries are attempting to overcome the inherent mismatch between a computer's ability to recall and crunch static data, and the dynamic environment where humans simply get in their cars and drive, responding to variables in real time. Conversely, the well-planned, low variable flight environment—with standardized arrivals, departures, and en-route clearances—plays well to a computer's strengths.

Existing aircraft automation already meets the three primary capabilities required of a pilot: the physical

capacity to fly; extensive knowledge of aircraft systems, procedures, and aviation rules; and sound judgment. When it comes to flying, no human can replicate the precision and accuracy of the autopilot. And unlike a computer's capacity for data storage, pilots commit to memory only the routine information they encounter every day and the rarely encountered emergencies practiced in simulators and evaluated on check-rides. By contrast, as long as the data and programming is available, a computer is equally competent in the most routine and rare situations, requiring no training or currency for either.

Even without advanced artificial intelligence (AI), computers are already competing with humans on judgment. According to the Federal Aviation Administration and Boeing, approximately 80 percent of aviation accidents and close calls are a result of pilot error. Human factors such as fatigue, crew dynamics, poor decision-making, physiological problems (e.g., vertigo and visual illusions), and disregard for regulations, are common causal factors in aircraft accidents.

Judgement errors are compounded by our limited number of sensors—eyes, ears, inner ears, and hands being the primary, yet fallible ones—and the time required by the brain to process the data presented through the aircraft's flight instruments and warning displays into usable information. Computers, on the other hand, apply uniform and immediate judgement based on a multitude of independent and redundant flight and system sensors, follow checklists, and immediately cross-tell experiences and lessons systemwide.

Although far more people have died due to pilot error, events like the Miracle on the Hudson show that rare occasions will require some level of adaptability in an autonomous aircraft. However, the level of AI required to fly will be far less than that required to drive, and the airlines and manufacturers have terabytes of data based on millions of flight hours from which to teach the algorithms.

Predicting exactly when planes will fly without a pilot on board is difficult since people do not adapt to



Roepeke flies a C-17 after departing Travis AFB, Calif.

USAF Photo by MSgt Joseph Swafford

technology linearly. Adoption follows a geometric path with a few early adopters followed by a steep curve up. People used to think traveling faster than a horse would kill a human. However, railcars quickly dispelled that myth, and people adopted the technology overnight. So where are we on the autonomous curve? It is unlikely that flight engineers or navigators saw their demise coming more than 10 years before computers took their place, and pilots have probably already entered that window.

Yes, psychology and security are two conspicuous hurdles to passengers boarding autonomous aircraft, but concerns will ease as familiarity grows. Riding in driverless cars will knock down psychological barriers to flying without a pilot and vice versa. Cybersecurity also remains a concern, however, a computer is able to defend an aircraft from hackers more effectively than human pilots. For a pilot to override a hacker's attempt at controlling the aircraft, he or she must both recognize the hack and, lacking a mechanical override, electronically disconnect computer control.

In the end, safety and economics will force the change. Although flight in autonomous aircraft will be safer than manned aircraft, the first move will likely come from the military and cargo companies that do not have to worry about the psychology of paying passengers. Economics will also motivate cargo companies, which can reduce the need for system redundancies and the heavy, expensive life support equipment keeping pilots alive. Passenger airlines will still require redundant systems and life support equipment, but autonomous flight will eliminate the need to pay pilot salaries, benefits, training costs, and travel expenses.

Flight attendants' roles in emergencies should make them feel secure that it will be much longer before robots are moving down the aisles. But with an empty flight deck, they will be burdened with the duties of making destination weather announcements and appreciating you for choosing their airline. 🛩️



USAF Photo by MSgt Joseph Swafford



Maj Nathan Masdon, 21 AS C-17 Globemaster III pilot, performs pre-flight checks on a C-17 at Travis AFB, Calif.
USAF Photo by MSgt Joseph Swafford

Professional Aviators and ASAPs

BY MSGT MIKE THOMAS, OPS RAMS

Professional aviators often become fearful of how an error is going to affect them individually. *What if someone finds out? Will I be downgraded? What will others think of me?*

Rather than viewing a mistake as a lack of judgment, maybe we should focus on what we could have done better. This story is from an experienced C-17 crew flying a training sortie. After a potentially catastrophic event, they shared their experience so others could learn from it.

ASAP 5330 (LEGACY ASAP 2945)

My crew was part of an exercise that practiced high-altitude operations; contested, degraded, and operationally limited navigation; and blue air integration to infil/exfil a semi-prepared airfield (dirt runway). The crew was comprised of three highly experienced instructor pilots, each with multiple landings on semi-prepared airfields. We landed uneventfully, completed a turnaround at the end of the runway, and back-taxied to take off in the same direction as landing. The pilot flying (PF) checked the takeoff and landing data (TOLD) and noticed that V_{go}, V_{rot}, and V_r were all equal at 102 knots-indicated air speed (KIAS), noting that in case of a reject, immediate braking would be required to validate the TOLD. There could be no delayed braking because the brakes were already heated from the previous alternate landing zone landing.

After completing our turnaround at the departure end of the runway, the landing zone control officer (LZCO) said the airfield was simulated “under attack” and we needed to take off ASAP. The crew had started the Ops

Stop checklist on the taxi back in preparation for a simulated offload. Following the simulated offload, the PF called for the lineup checklist, and the pilot monitoring (PM) immediately moved the flap handle to the slats extend/flaps 1/2 position. The PF directed the PM to move the handle to the slats extend, flaps up position in accordance with the Alternate Takeoff Procedure, which the PM did. The lineup checklist was completed except for setting the flaps to 1/2, per the 1C-17A-1 alternate takeoff procedures for unpaved runways. The crew reconfirmed they were cleared for takeoff with the LZCO.

Per procedure, the co-pilot set 1.15 EPR, released the brakes, and called for flaps. The PM acknowledged and moved the flap/slat handle. The PM called 80 knots, which the PF acknowledged. A few seconds later, the PF asked the PM to confirm the lineup checklist was complete. The PM realized the flaps were not extended, immediately moved the flaps to 1/2, and called “Abort, abort, abort.” The call was just prior to V_{go}, and the PF immediately initiated a reject. After the aircraft safely decelerated, the left additional crew member (LACM) mentioned the elevated brake temperatures. The crew taxied back to the departure end again, using inboard engines at idle reverse to minimize braking while mitigating possible foreign object damage (FOD). They discussed an immediate takeoff to cool the brakes before they reached peak temperatures but decided it was wiser (based on the previous landing and reject) to stay on the ground and regroup. The crew waited about 20 minutes, letting the wind cool the

brakes so a second reject would be possible without hot brakes. They completed a normal takeoff and returned home uneventfully.

In debrief, the crew said they rejected due to the aircraft being in the improper configuration but could not agree what the configuration was. Some thought they saw the flaps moving up; others thought they were already up. We also could not determine what caused the flaps to move up, thinking perhaps they had not been set in the detent and popped back up into the slats extend/flaps up detent by bumps on the runway. We discussed that at our weights, our rotate speed was 12 knots below slats extend/flaps up stall speed (taking away the 30 percent buffer). We asked to see the Military Flight Operations Quality Assurance (MFOQA) data. Surprisingly, it indicated (a) our configuration prior to V_{go} was likely clean, with flaps up and slats retracted; and (b) just after brake release, the flap handle had moved up to the slats retract (clean) detent.

Here are some takeaways from the crew.

1. Limitations of the human brain/reliance on habits. We learned in a high-tension environment, even experienced pilots can revert to old habit patterns. First, when the lineup checklist was called, the PM moved the flaps to 1/2, which is standard procedure but did not match the pre-briefed alternate takeoff procedure.

Second, when the brakes were released and the PF called for flaps, it appears that the flap handle



Capt Jamie LaRivee, 21 AS C-17 Globemaster III pilot, simulates aircraft procedures at Travis AFB, Calif.

USAF photo by SrA Sam Salopek

moved to the slats retract (clean) detent. The only other time a C-17 pilot moves the flaps to the 1/2 position while rolling down the runway is during a touch-and-go. This is a likely scenario because the PM stated “tracking” when moving the flaps, the same callout technique suggested by the Air Force Tactics, Techniques, and Procedures (AFTTP) 3-3.C-17 during a touch-and-go.


Finally, after the PM realized the incorrect position and called for the reject, he stated “Abort, abort, abort” rather than “reject,” which is taught in pilot training and is standard for many other aircraft. It is also used for C-17 rejects on formation takeoffs and aborting a combat offload. Our difficulty reconstructing what may have caused the configuration issue can also be attributed to confirmation bias. MFOQA was a powerful tool filling in memory gaps. We knew what we expected to see, so we potentially ignored a warning that could have tipped us off earlier—the “slats” caution,

advisory, and warning system (CAWS) alert in addition to the expected “flaps” CAWS alert (provided the aircraft was acting normally). The crew overcame the bias because the lineup checklist was not called complete when expected, and a crewmember verbalized that to get the crew to diagnose the problem in time to reject safely.

2. **Understand TOLD.** By definition, an airplane is accelerating when a decision is made to reject. The C-17 TOLD builds in a 1.5-second pilot reaction time, but acceleration in that time should be included in discussions of hot brakes during a reject. Though the reject was initiated just below V_{go} (102 knots) and the PF saw about 105 knots at first brake application (which correlated with MFOQA data), MFOQA also showed a top speed of 114 knots after the reject was initiated—perhaps partially because of winds gusting to 20 knots on takeoff. Also, the reject procedure calls for brakes as required, so you must know what distance from

the end of the runway maximum braking must be applied to stay on the runway. We were at a safe taxi speed with 500-1000 feet of runway remaining, but a slight hesitation in braking could have sent us off the end of the runway.

3. **Trust CRM.** Several times, “crew saves” have avoided improper procedures, potential damage, and perhaps destruction of a C-17 and its crew. No one is perfect. Having the humility to admit mistakes and call for the appropriate corrective action was critical. Also, the PM could not communicate the reason for the reject to the PF until after the reject was initiated because of the speed at which the issue was recognized. Many emergencies in the C-17 allow a few minutes to process and discuss courses of action. This was a split-second, life-or-death decision. We must trust the person in the seat next to us and be the pilot that other crewmembers can trust.
4. **Train for non-standard procedures.** We must do dangerous things sometimes, but we do them so often that we mitigate the risk with repetition. We generally have one annual simulated semi-prepared runway operations (SPRO) takeoff. Although it would be profitable to practice this more in the sim, there should be training opportunities in the aircraft because many aspects of SPRO can’t be properly replicated in the simulator.

This ASAP submission resulted in adding the scenario as a briefing item during Phase 1 simulator training. It provided great talking points and prevented others from making the same errors. Mistakes happen. It’s important to acknowledge them, learn from them, and move on. The real problem is ignoring mistakes—or worse, trying to hide them. 



Air Force Chief of Safety and Commander of the Air Force Safety Center Maj Gen John Rauch



Maj Jonathan Weaver with Safety Conference presenter SMSgt (ret) Harry Miller



Col Leslie Maher; 375 AMW/CC

Three Days of Learning and Inspiration at AMC'S SAFETY CONFERENCE 2018



Col Brandon Hileman presenting Col Laurel "Buff" Burkel a framed cover of *The Mobility Forum*



2018 AMC Safety Conference attendees

STORY AND PHOTOS BY MS. KIM KNIGHT, STAFF WRITER

On September 11, 2018, safety professionals from around the world assembled for the Air Mobility Command Safety Conference held in Fairview Heights, Illinois. Throughout the first day, those in attendance paid solemn tribute to the 17th anniversary of the national tragedy, which serves as a reminder of the importance of our steadfast dedication to upholding our nation's security and safety.

This three-day event was packed with informative sessions on a well-devised, wide range of topics for the various safety divisions—occupational, flight, and weapons. AMC safety staff reached out to several agencies and noteworthy speakers for a diversity of themes,

including cutting-edge initiatives and innovations, education, leadership perspectives, Safety Investigation Boards, and safety cross-tell.

Air Force Chief of Safety and Commander of the Air Force Safety Center Maj Gen John Rauch kicked off the conference by discussing Air Force-wide safety strengths and weaknesses. He talked candidly about the root issues behind sound risk management, saying often those making decisions involving mishaps are inexperienced.

Airmen have much to look forward to in the near future—mission planning improvements, software upgrades, removal of some additional duties, and improvements for direct hiring so there is no lapse in personnel. Publication fatigue is being addressed, numerous Air Force Instructions have been pulled,



AMC safety staff from Scott AFB, Ill. Back row, left to right: Mr. Steve Panger, Lt Col Chris DeWinne, Mr. Harry Lasell, Maj Joshua Miller, Maj Jonathan Weaver, MSgt Clinton Hammons, Ms. Allison Brown, MSgt Dustin Hayden, and Mr. Tom Kelly. Front row, left to right: MSgt Daniel Alejandro, Mr. Roberto Aguilar, Mr. Chris Davis, Mr. David Miller, Col Brandon Hileman, SSgt Nancy Lee, Mr. Dennis Lee, Mr. Mike Wahler, CMSgt Sydney Parker, Mr. Kevin Sluss, and Ms. Jennifer Yates

and publications will be moving to electronic format.

Maj Gen Samuel “Bo” Mahaney the current Chief of Staff, Air Mobility Command, Scott AFB, Illinois, stressed good communication, saying feedback is important and information flows both ways.

“Airmen ... should provide useful feedback, so changes can be implemented,” he said.

Brig Gen John Lamontagne, the Commander of the 618th Air Operations Center (AOC) at Scott AFB, talked about rebranding the AOC and reflected on his assessment of the Air Force over the last three decades by comparing it to a three-legged stool.

“The legs are mission, readiness, and squadron vitality,” he said. “We have prioritized mission in the past and are shoring up the other two now.” He also reassured attendees that every commander has his complete support for safety of flight calls. If Airmen get pushback, he said it is important to stand firm for the lives at stake.

In 2015, while aboard a British helicopter en route from the Kabul International Airport to the NATO


headquarters, Col Laurel “Buff” Burkel endured what no one wishes—a crash that resulted in five fatalities. Once out of the twisted wreckage, her serious injuries were not visibly apparent. However, first responders stabilized her and she was later treated for a broken neck. She spoke of the causes and findings of the safety investigation that followed. Burkel returned to work only 11 months after the crash and is back on flight status. Her story is one of perseverance and personal strength on the road to full recovery.

Col Leslie Maher of the 375 AMW/CC reflected on what she called the most gratifying, yet challenging work of her more than 30 years in the Air Force—a deployed contingency operation in Haiti. In the wake of Hurricane Matthew in 2016, Maher led the 621st Contingency Response Group as it brought much-needed food and medical care to the hard-hit Haitians. Functioning from an overcrowded international airport to disperse goods and equipment across unsound infrastructure was not an easy task, but the team accomplished the mission in 18 days.

Lt Col Bridgette Kennedy, Safety Investigation Board President, discussed a large-scale, Class A occupational investigation and the

difficulties and challenges experienced from start to finish. She stressed that one of the keys to a successful operation is to remember that the team is not functioning alone. Her team prevailed through determination and by reaching out to all those in AMC’s Safety directorate who helped by providing direction and support throughout the investigation.

Mr. Brian Udell, former Air Force Captain and F-15E fighter pilot, shared his incredible story. He was one of a few individuals to survive ejection at 780 miles per hour. He was stranded in the Atlantic Ocean, his body so extremely injured that he could only partially use one arm. He had no life preserver in the 60-degree water in the pitch black of night. Fighting against the odds, he used his training and willpower to survive four hours before the Coast Guard helicopter rescue.

The 2018 AMC Safety Conference leveraged innovation, leadership, and cross-tell, resulting in an invaluable experience for safety professionals across the Air Force. As we look ahead, let AMC Safety know about speakers, instructors, and topics that would be meaningful to you at future conferences. AMC strives to keep safety interesting, relevant, and an integral part of everyday Air Force culture. 



Airlift/Tanker Association Symposium Welcomed 900 Mobility Professionals

BY TSGT JODI MARTINEZ, AMC PUBLIC AFFAIRS

The 50th Airlift/Tanker Association Symposium and technology convention kicked off Oct. 25 near Dallas, Texas, where Air Mobility Command aimed to develop Total Force mobility professionals across the world.

A/TA is the Mobility Air Force's premier professional development training event with approximately 900 Airmen in attendance this year.

Holding true to this year's theme, "Heritage, Heroes, and Horizons," Vice Chairman of the Joint Chiefs of Staff Gen Paul J. Selva opened the symposium with an address reflecting on Mobility Air Force's predecessors and recognizing current Mobility Airmen who continue the mobility legacy.

"Look around the room," said Selva. "You are all extraordinary. The work you do every day helps us define this nation. There isn't a single place that you won't go; there isn't any place you can't take us that allows us to do our mission. Everything that defines mobility is defined by you."

Gen Maryanne Miller, Air Mobility Command commander, highlighted the need to continually evolve to keep up with a changing world.

"Our forces must be prepared and ready to operate in any environment," said Miller.

"Agility is key, partnerships are vital, and innovation and investment in our people are absolutely essential."

Professional training forums, such as A/TA, represent an investment in Airmen, and offer opportunities for senior leaders to shape understanding of issues and ensure enhanced understanding of expectations and roles associated with the mobility force—taking a look at the past to present day.

Secretary of the Air Force Heather Wilson recognized past logistical feats like the Berlin Airlift, whose 70-year old legacy remains one of the greatest airlift successes of the nations' history.

She also commended mobility forces who swiftly responded to Hurricane Michael, enabling Tyndall Air Force Base to be rebuilt and restored quickly and safely. Mobility capabilities, Wilson said, stretch across the globe, where Mobility Airmen have the ability to build airstrips that may not have been there a day before, or extend the strength and power of the nation at any time.

"So, where do we go from here?" Wilson asked. "First and foremost, air refueling is a no fail mission for a global power."

Tankers are key to power projection in an era that is defined by the great power competition, said Wilson. The delivery of the Air Force's newest tanker, the KC-46 Pegasus, which is expected to be delivered to McConnell Air Force Base this year, is just one part in that mission. In an effort to deliver the mobility force the nation needs to meet future threats, the Secretary discussed the need to grow the force.

"The Air Force we need in the 2025 timeframe will need more tanker squadrons," said Wilson. "In fact, our analysis says we'll need 14 more tanker squadrons."

Additionally, the Air Force requires 386 operational squadrons across the force by 2030; 74 more than there are today.

Wilson said the Air Force is dedicated to revitalizing the Force, which includes addressing the 4,000-maintainer deficit that plagued the Air Force years ago. By the end of the year, Wilson said, that shortage will be eliminated.




Left to right: Sir Richard Branson, SSgt Travis Alton, Phoenix Spark Tank winner from 19 AW; TSgt Alex Aguaya from 437 AW; TSgt Eric Holton from 6 AMW; and TSgt Shawn Roberge from 92 ARW.

Photo by Ms. Kim Knight

In an effort to retain and grow maintainers, Miller indicated that they are a key area of focus.

"I plan to reach out directly to my maintainers," said Miller. "We have the number of maintainers required, but the skillset is slightly out of balance due to them just coming on board in our Air Force. We must grow, develop, and retain these young Airmen and talented maintainers."

Throughout the event, Mobility Airmen had the opportunity to continue to develop their knowledge of current operations and the mobility enterprise future through keynote addresses from Department of Defense leaders and 36 seminar opportunities. One of those seminars included the AMC Phoenix Spark Tank Competition, where AMC finalists unveiled their mobility innovations for a chance to represent AMC at the Air Force competition. Innovations that may help Airmen deal with an increasingly dynamic global environment.

"The National Defense Strategy clearly articulates the way the world has and continues to evolve," said Miller. "As the world rapidly changes, we must adapt and do our part to deliver joint force capability solutions wherever and whenever required. And we will." 



Photo, top left: Gen Maryanne Miller, AMC Commander. Top right: Gen Paul J. Selva, Vice Chairman of the Joint Chiefs of Staff.

Photos by TSgt Jodi Martinez

Photo, bottom left: Gen David Goldfein, Air Force Chief of Staff. Bottom right: Gen Maryanne Miller and Sir Richard Branson.

Photos by Ms. Kim Knight



Accident Investigation Board Determines Cause of the Puerto Rico Air National Guard Crash

BY MS. ALLISON BROWN,
HQ AMC OCCUPATIONAL SAFETY

On May 2, 2018, a WC-130H from the 156th Airlift Wing, Puerto Rico Air National Guard, crashed shortly after takeoff, killing all nine personnel on board. The mission was to fly the aircraft to the 309th Aerospace Maintenance and Regeneration Group at Davis-Monthan Air Force Base, Arizona (known as the “Boneyard”).

The aircraft had been in Savannah, Georgia for nearly a month for prescheduled fuel cell maintenance and unscheduled work on the #1 engine. During takeoff roll, the #1 engine speed fluctuated and did not provide normal flight RPM when the throttle levers were advanced for takeoff. Eight seconds before aircraft rotation, engine #1 RPM and torque dropped significantly. This loss of power initially went unrecognized by the crew. Moments before takeoff, the pilot applied rudder input to keep the aircraft on the runway’s centerline. As the aircraft rotated, it veered left and nearly departed the runway onto the grass. Approximately 15 seconds into flight, engine #1 regained partial power. As the landing gear retracted, the RPM and torque from the #1 engine dropped again, and the pilot

called for #1 engine shutdown. The pilot banked left into the inoperative engine, rather than continuing acceleration to three-engine climb speed, while the crew successfully shut down the engine. As the aircraft attempted to climb and turn left, the crew did not retract the flaps to reduce drag and the aircraft never achieved three-engine climb speed. The banked turn into the failed engine was well below the minimum air speed needed for proper control of the aircraft. The left wing lost lift and stalled, and the aircraft departed controlled flight and impacted the ground less than two minutes after takeoff onto Georgia State Highway 21.


The Accident Investigation Board determined:

- Engine fluctuations had been identified during a previous flight. Maintainers from the 156th Maintenance Group performed two engine runs on the aircraft, but did not follow Technical Order procedures. The #1 engine malfunction was misdiagnosed and the aircraft was cleared to fly without the appropriate repairs completed.
- The flight crew did not brief coordinated emergency actions or

Photo: on May 18, 2018, Airmen from the U.S. Air Force Honor Guard perform a dignified arrival at Muniz ANGB, Carolina, Puerto Rico for eight of the nine members of the air crew aboard a WC-130H, referred to as ‘Rican 68’ that crashed outside of Savannah, Ga. on May 2, 2018.

ANG photo by SSgt Michelle Y. Alvarez-Rea

an emergency return in accordance with the *Before Takeoff* checklist.

- Although there were several opportunities prior to takeoff for crew members to recognize the #1 engine malfunction, they did not reject the takeoff.
- After takeoff and upon engine failure, the crew did not complete the *Engine Shutdown* procedure, *Takeoff Continued After Engine Failure* procedure, or *After Takeoff* checklist. These procedures would have called for flap retraction after raising the landing gear, which would have increased airspeed, and recommended to avoid banking left into the malfunctioning engine.
- Ultimately, the pilot’s improper application of the left rudder, which resulted in the subsequent skid and left-wing stall, caused the aircraft’s departure from controlled flight. 

USDA Biologists Take Flight at Travis

BY CAPT SEAN HARTE,
60 AMW SAFETY OFFICE

At Travis Air Force Base, California, wildlife biologists Matthew Thomas and Matthew Stevens from the United States Department of Agriculture (USDA) are getting a bird's-eye view of the airfield they protect.

The two were recently given authorization to fly with crews on any of the base's aircraft in an effort to improve the wildlife mitigation program, a benchmark practice for Air Mobility Command. The flights are part of a proactive safety initiative embraced by the base's flight safety office, but it's merely a small piece of a complex wildlife management effort at one of AMC's largest bases.

Wildlife strikes cost the Air Force more than \$30 million in fiscal year 2017, so to say the biologists' job is important is an understatement.

"Our USDA biologists play a vital role in safe flight operations, so including them on local flights only enhances the wildlife mitigation program by

affording them a more comprehensive view of local area threats," said Maj Kimberly Bracken, the 60th Air Mobility Wing Deputy Chief of Safety.

"As an added benefit, the flights help our USDA members observe flight operations outside of Travis AFB," she said. "Observing low levels and other local airfields used by our crews allows our biologists insight into the bird strike risks our aircraft face off station."

Every day before sunrise and every night after sunset, the airfield is patrolled by "the Matts" as they're affectionately called. In general, their job includes airfield management from a wildlife perspective. This involves trapping and relocating wildlife, bird dispersal, and depredation.

Stevens recently flew with a C-17 Globemaster III crew and commented on the experience.

"It was eye-opening to see how busy crews are when they're

Capt Sean Harte, right, 60 AMW Flight Safety Officer, and Capt Doc Schumacher, 21 AS C-17 Globemaster III pilot, fly a C-17 over California during a safety office familiarization flight. The flight allowed Matt Stevens (inset photo), a U.S. Department of Agriculture airport biologist, who helps manage the Bird/Wildlife Aircraft Strike Program at Travis AFB, Calif., to get a firsthand view of what pilots see during training flights near the base.

USAF photos by MSgt Joey Swafford

flying," said Stevens. "Birds are just one of many concerns for pilots. When flying with crews in the local pattern, I have the opportunity to observe hazards around the airfield that I can't always see from the ground. Flying helps me spot trouble areas that I can address later."

The result is a wildlife mitigation program that has seen a 46 percent decrease in bird strikes. The Travis Flight Safety Office hopes their program can open the door for wildlife management personnel at other bases across the Air Force to begin flying with the aircrew members they support. In the meantime, the airfield and the skies above Travis are safer thanks to the enduring efforts of its USDA professionals. 🇺🇸

Lessons in Flight Safety, 68 Years in the Making

BY MAJ DAN MOSS, 374TH AIRLIFT
WING, YOKOTA AIR BASE, JAPAN

When I arrived at Yokota Air Base after my Air Education and Training Command tour at Randolph in May 2017, I expected to be flying the C-130J to locations across the Pacific. Instead, I learned I would be leaving the squadron to serve as the Wing Flight Safety Officer—and then learned the Wing Chief of Safety was departing and I would be filling in for at least a year. I reluctantly stepped out of the cockpit and into a cubicle, where I spent most of my time learning about occupational and weapons safety.

I desperately needed something to connect me to the flying world.

That's when Lt Gen (ret) Kosuke Yoshida of the Japanese Air Self Defense Force contacted me. He said hikers in the mountains west of Tokyo discovered an old propeller that appeared to be from a U.S. aircraft. He had pictures of it but no coordinates and no contact information for the hikers.

The three-bladed assembly was apparently in the forested 300-square-mile Mount Tanzawa region, but we didn't know if it was a combat loss or was due to an unknown mishap after WWII. The photo showed a

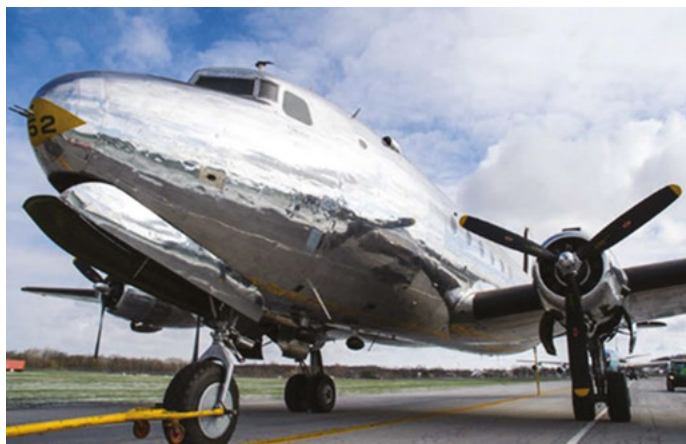
badly scratched blade depicting the text DWG. NO. 6507A-0, SER. NO. RR07986, MIN. 24, MAX. 93.

The drawing number—shown as DWG—told us the blade was used on a variety of aircraft, but the serial number did not provide evidence of its origin. Our research showed this particular mountain region had no combat losses but had five aircraft mishaps from 1947 to 1958—two of those on the same day.

Technical orders revealed six aircraft used this blade. One was naval R5D-1 aircraft, which matched the pitch settings stenciled in the blade: MIN. 24,

Propeller from U.S. aircraft found in Mount Tanzawa region, Japan.





C-54 Skymaster "Sacred Cow," features the same type of three-blade propeller found in Mount Tanzawa region of Japan.

Photo courtesy of the National Museum of the U.S. Air Force



May 2018 verification of propeller location. Left to right: Kawachi Masaki, Lt Gen Yoshida (ret), and Maj Dan Moss.

At the time of the C-54 incident, the Air Force averaged 37 non-combat fatal accidents per 100,000 flight hours. According to 2017 Air Force Safety Center statistics, that rate was 0.75 non-combat accidents per 100,000 flight hours.

MAX. 93. The Navy didn't lose any planes in the region, but the specifications, manufacturer, and technical orders for R5D-1 aircraft matched the specs for a USAF C-54 Skymaster.

We learned of two C-54 mishaps and a chartered L-1049 Super Constellation that went down carrying engines for C-54 aircraft. Severely bent and evenly damaged blade tips can mean a propeller was at a low angle of impact and a high RPM when it struck the ground. The even distribution of blade damage told us this one was likely part of a C-54 mishap.

We reviewed approximately 3,000 pages of material and scoured reports looking for clues that matched the propeller images to the incidents. A team dispatched to the sites could not locate any wreckage in the difficult terrain, making it seem as if the mystery would end without resolution.

As a Hail Mary of sorts, an online search of the propeller's serial number

revealed a Japanese blog showing the trail map of the hikers' discovery.

The spot was a half-mile north of the area searched after the April 1950 mishap. Using an array of sleuthing tools—the hikers' map, the original investigator's notes, geodata from aircrew planning software, and information gleaned from the hikers' photo—we calculated the approximate final resting place of the aircraft.


On May 23, 2018, Lt Gen Yoshida (ret) and I reached the area and soon found the propeller. Coordinates and photos confirmed it came from the April 1950 crash of a USAF C-54 from the 374th Troop Carrier Group at Clark Air Base in the Philippines.

I struggled to imagine the plane descending into the mountains, killing eight crewmembers and 27 passengers. Some of those aboard were members of General MacArthur's staff, including an aide, the aide's wife, and their two children. The aircrew had

misidentified its location and, without ground-based backup, relied solely on internal navigation.

We reached the wreckage just before the United States celebrated Memorial Day. Although not downed in combat, this aircraft was providing diplomatic support for the betterment of the United States' position in the Pacific and the reconstruction of Japan. The crew and passengers risked their lives to improve two nations—not as glamorous as combat but nonetheless a heroic and selfless sacrifice.

Standing on the mountain with the propeller of the downed aircraft left me grateful for how far we've come in safety. Similar sacrifices in my 16-year Air Force journey involved close friends, but seeing the physical evidence firsthand in the location at which it occurred was an irreplaceable moment.

We often complain about a system with too many rules and too many hoops to jump through, but never forget that this same system has saved countless lives—probably yours and mine on at least one occasion. 

Reliability of the C-5M Emergency Escape Slides



Test participants from 436 AW at Dover AFB, Del., review deployment procedures during AMC Test and Evaluation Squadron's test of the C-5 Emergency Escape slides.

USAF photo by Lisa Elmo-Henske

BY MS. SUSAN G. GOTTA, AMC TEST AND EVALUATION SQUADRON,
JOINT BASE MCGUIRE-DIX-LAKEHURST

Airmen aboard the Lockheed Martin C-5M Super Galaxy, the largest cargo transport aircraft in U.S. Air Force service worldwide, expect the emergency escape slides will deploy as designed in the unthinkable event of an emergency that requires aircrew evacuation.

Recently, a test team from the Air Mobility Command Test and Evaluation Squadron (AMCTES), located at Joint Base McGuire-Dix-Lakehurst, New Jersey, completed an evaluation of the emergency escape slides deployment procedures aboard the C-5M aircraft. Testing the effectiveness of the slides helps ensure they will function as expected, if necessary.

"This request from AMC's Aircrew Training Division at Scott Air Force Base was prompted by three separate incidents in 2017 when AMC C-5M aircraft experienced ground emergencies requiring the deployment of multiple escape slides," said Air Force MSgt Robert Bello, AMCTES lead test director on the C-5 emergency escape slide operational test. "Those three emergency landings resulted in three [of five] slides failing to inflate as expected."

Bello added that the main objective of this test was to isolate tactics, procedures, and training that could be contributing factors in the slide failures. Mechanical and equipment factors were not within the scope

of this Tactics Development and Evaluation (TD&E).

In accordance with the test plan, this TD&E was executed in two phases, beginning in November 2017 at Dover Air Force Base, Delaware, with test participants from the 436th Airlift Wing at Dover providing support. Testing continued in December at Travis AFB, California, with support from the 60th Air Mobility Wing.

"At each test location, AMCTES test directors observed qualified aircrew personnel deploy all five emergency escape slides in accordance with Air Force tactics, procedures, and training under operationally representative conditions," said Bello.

In service since the early 1970s, the C-5M is fitted with five emergency escape slides to provide rapid egress from the aircraft during a ground emergency. Four slides are installed in the troop compartment, and one slide is installed in the relief crew compartment. The test plan called for the five emergency escape slides aboard the C-5M to be deployed three times each using one aircraft at Dover and three aircraft at Travis, for a total of 30 intentional slide deployments.

Aircraft safety manuals detail how each of the slides are contained in a rigid case attached to the fuselage by a metal bar. When the aircraft doors are opened in an emergency, evacuation procedures dictate that the slide case is to be positioned on the sill and then the entire slide case is to be tossed out the escape door. A lanyard attached to the door is designed to automatically discharge the air reservoirs that inflate the slide.

"This operational test was conducted in addition to, and separate from, the annual functional checks routinely conducted on all safety equipment," said Mr. Kerry Lloyd, 436th Air Wing Operations Support Squadron Aircrew Flight Equipment (AFE) manager at Dover AFB. "[For the AFE checks], each and every slide is removed from the plane, manually inflated in the shop, and inspected at least once per year. We check every inch of the slide for cracks, make any required repairs, then re-pack each slide before returning it to use."

All five of the slides are packed in cases that are different sizes and shapes, each specific to where they are located on the plane. The re-packing process is done by hand and typically requires several personnel to fold and work the slide back into the cases.

"Hopefully, it doesn't need to be used," said Lloyd, "but if it does, we do everything possible to ensure that it works."

The unique aspect of this AMCTES operational test was that the slides were deployed on the planes simulating an actual emergency, instead of during annually scheduled slide inspections like that done by the AFE shops.

"Aircrew were observed following recommended procedures and training to toss out the cases, pull the lanyard, and inflate the slides," said Bello. "Secondary measures were followed if the slide did not inflate, just like in an actual emergency situation."

Aircrews receive Emergency Egress Training every three years as directed by Air Force Instruction 11-301, *Aircrew Flight Equipment Program*, and in accordance with Technical Order 1C-5M-1. An overarching goal of this evaluation was to determine whether those procedures and training adequately prepare aircrew for an emergency.

"Some of the test participants were documented forcefully shoving the slide cases out of the doors, while others were tossed or dropped with less force. This may have affected how fast the slides deployed or whether they deployed at all," continued Bello.

Of the 30 deployment scenarios tested, there were five instances where issues prevented the successful, full deployment of the escape slides. AMCTES test directors analyzed all raw data collected at the two test sites and made 23 recommendations to improve functionality and enhance deployment procedures of the C-5M emergency escape slides, thus increasing personnel safety aboard the aircraft. Test directors

“Hopefully, it doesn’t need to be used, but if it does, we do everything possible to ensure that it works.”




Test participant SrA Nicole Harris from 436 AW at Dover AFB, Del., inspects and repacks a slide during AMC Test and Evaluation Squadron's test of the C-5 Emergency escape slides.

USAF photo by Susan G. Gotta

made specific recommendations in four areas: enhance aircrew procedures and documentation; improve human factors associated with the slide equipment design and its configuration aboard the aircraft; update maintenance guidance and training materials; and investigate hands-on slide deployment training exercises for aircrew.

This type of AMCTES evaluation provides a measure of assurance for the rigorous adherence to all safety protocols aboard the C-5M Super Galaxy.

Final published report details are available through the AMCTES Operations Division at Joint Base McGuire-Dix-Lakehurst. 



Left to right: Maj Brian Pugliese, TSgt Paul Carissimo, TSgt Steven Johnson, TSgt Diana Tamayo, Maj Matthew Zayatz, TSgt Kelci Richardson, and Capt Andrew Muench

SPOTLIGHT AWARD

The Total Force Association C-40 Crew of SPAR15 from 375th Air Mobility Wing, Scott AFB, IL

On January 30, 2018, the Total Force Association C-40 crew of SPAR15 departed Scott Air Force Base on an Executive Airlift mission supporting the Air Force Chief of Staff and the Commander of Pacific Air Forces. The mission facilitated timely and critical partnership building with Indian and Singaporean Ministers of Defense and their Air Force Chiefs of Staff.

Leaving Hickam AFB in Hawaii for Joint Base Andrews in Maryland, the crew was approximately three hours into the mission over the Pacific Ocean when they noticed an abnormal fuel imbalance with the #1 main tank. Oddly, it displayed 400 pounds more than its stated maximum capacity.

They immediately began troubleshooting an uncommanded fuel transfer and possible tank overfill. With no guidance in their publications, the crew called the 932d Operations Group Standardization/Evaluation, as well as engineers from Boeing, for assistance. Neither could pinpoint a cause nor offer a solution.

Approaching their equal time point—a potentially dangerous spot—without knowing why the fuel was transferring or from where, the crew declared an emergency above the Pacific Ocean and prepared to divert to Travis AFB in California. Flight attendants readied passengers for a possible evacuation and ensured a secure cabin before landing.

Due to suspected fuel venting, the aircrew, with support from home-station subject matter experts, opted to use a non-standard fuel pump position to drain any fuel that may have filled the vent box. Burning down the fuel in the vent box greatly reduces the chance of spilling fuel on the runway next to a still-running engine. Following an uneventful landing, the Travis AFB Fire Department Chief declared the aircraft safe.

After three days of rigorous maintenance, the crew successfully returned the aircraft back to home station. They subsequently shared their experience, which helped another C-40 crew diagnose a similar situation on a

high-level mission—this time carrying members of Congress. The non-standard fuel burn helped the second crew remain in a balanced fuel state, which ultimately led them to finish their mission safely and on time. 🇺🇸

THE CREW

From 54 AS, Scott AFB, Ill.:

Maj Brian Pugliese, Pilot
Maj Matthew Zayatz, Pilot
Capt Andrew Muench, Pilot
MSgt Dennis Morris, Flight Attendant
TSgt Suzanne Feely, Flight Attendant
TSgt Diana Tamayo, Flight Attendant
SSgt Kyleigh LaPoint, Flight Attendant
SSgt Kelci Richardson, Flight Attendant

From 65 AS, Joint Base Pearl Harbor-Hickam Hawaii:

Maj Brian Park, Pilot

From 932 MXG, Scott AFB, Ill.:

TSgt Paul Carissimo, Flying Crew Chief
TSgt Steven Johnson, Flying Crew Chief

75 YEARS ANNIVERSARY

Ground Safety Continues to Shine Like a Diamond!

BY MR. MONTE NACE, STAFF WRITER

In the United States, diamonds typically symbolize a 75th anniversary. They are also one of the toughest materials on the planet. Geologists believe diamonds first formed deep below Earth's surface millions of years ago, where the gemstones remained until volcanic eruptions forced them out.

Similarly, America's military history is an enduring reminder of this nation's toughness. We did not get here on a whim. Rather, our willingness to grow and change, even as we remain steadfast in our core values, is a shining example of "going the distance" and proudly getting the job done.


Ground Safety, which is a big part of that effort, celebrates its 75th anniversary in December. It began when Henry H. "Hap" Arnold, a three-star general in the U.S. Army, visited hospitalized crews in North Africa in 1943. He was surprised to see so many injured pilots and even more surprised to hear how the accidents happened. One said he was there due to a jeep rollover. Another had also suffered a jeep accident; this one from taking a corner too fast. And so it went—with pilot after pilot detailing incidents that happened on the ground instead of on planes!

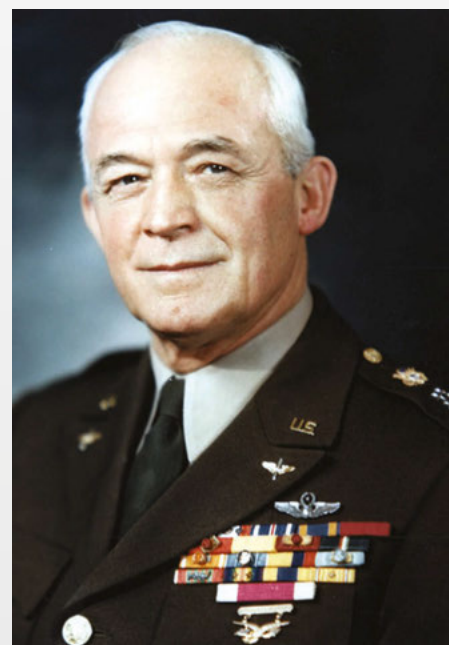
Realizing the impact that preserving lives had on mission capability, Gen

Arnold ultimately established Ground Safety in December 1943 and appointed Lt Col William Tubbs as its chief. The April 1945 edition of the Army Air Force's safety publication read:

"The primary purpose of Ground Safety in the Army Air Forces is to conserve personnel for the job of winning the war. The function of the Ground Safety Division ... is to organize, coordinate, and stimulate a safety program which applies everywhere except in the operation of aircraft."

Back then, the safety focus was on shops, flight lines, and automobiles; aircraft, and motor vehicle maintenance; and traffic safety education. That hasn't changed much, nor has Ground Safety's basic mission: preserving life and combat capability through mishap prevention. The most notable difference is how safety messages travel. We have gone from letters, meetings, and briefings to constant and instant communication via emails, social media, and other tools.

Congratulations to Ground Safety professionals who continually develop and deliver impactful programs and relevant messages that resonate with Airmen. Doing that for one year would be a great achievement. Doing it for 75 years is the epitome of accomplishment! 



Gen Henry H. "Hap" Arnold

DID YOU KNOW?

The Mobility Forum, much like the Army Air Force publication, has a long history of promoting ground safety. It began as *The MATS Flyer* [Military Air Transport Service] magazine 64 years ago, transitioned to *The MAC Flyer* [Military Airlift Command] in 1966, and still strives to deliver the same vital message today.

Four “Must Have” Items for Cold Weather Ops



BY MS. RITA HESS, STAFF WRITER

In the throes of winter, I like to daydream about warm, sunny beaches. My summertime essentials—whether I am seaside or landlocked—include sunscreen, sunglasses, large quantities of water, and a beach towel. Actually, my packing list for winter is much the same (minus the beach towel). Let me explain.

1. SUNSCREEN

If you have ever been sunburned, you know it is painful and unattractive. It also increases your risk for skin cancer, particularly if your complexion is fair or you are not accustomed to being outdoors. Skin cancer is now occurring at epidemic levels, with more than **five million** new cases¹ diagnosed annually. Melanoma (the most serious form of skin cancer) is now one of the most common cancers among young people ages 15-29.²

The danger does not pass when temperatures change. Autumn months can be cool and cloudy, and winter brings ice and snow to many locations. Both of those can cause sunburn, which makes it critical to wear sunscreen year round.

Oh, and please don't stop grabbing the sunscreen. If you partake in cold-weather recreation that is

even remotely risky (i.e., snow skiing, snowboarding, ice hockey, snowmobiling), use appropriate safety gear. Healthy skin is great, but it will not protect you from broken bones.

2. SUNGLASSES

The sun can also burn your eyes, and that type of burn is equally nasty in the short term. Symptoms may include eyes that water or itch, feel dry and scratchy, or are sensitive to light. Long-term effects, according to the American Academy of Ophthalmology, can include an increased likelihood of developing cataracts.³

A wide-brimmed hat can help but may not always be practical, especially on the job. In that case, opt for sunglasses as part of your year-round outdoor gear whether skies are sunny, cloudy, or snowy. Make them mandatory for everyone in your family—even (or especially) children. Ask your eye doctor for sunglasses with the appropriate protection, and size matters, as larger frames can keep rays from creeping over the top or around the sides of your shades.

3. WATER

If you think increasing your water intake only applies to summer months, think again. In fact, winter activities can dehydrate you too. The problem is that people scale back on water in cooler months, perhaps because they don't sweat as much and simply do not feel thirsty. Dehydration, which is the body's lack of water, causes the same

symptoms in all seasons: nausea and faintness. It can also negatively affect your ability to resist the cold, and that can increase your chance of injury.

Dehydration can also increase your chances of becoming hypothermic. This potentially life-threatening condition occurs when the body's core temperature dips to less than 95 degrees Fahrenheit. Many people mistakenly believe it only happens due to prolonged exposure to cold temperatures. On the contrary, people can get hypothermia when temperatures are above freezing, especially if exposed to wet conditions for an extended period.

Something else you may not realize about increased water consumption is how helpful it can be when you are adjusting to higher altitudes. The older you get—and the larger the change from what you are accustomed to—the harder it can be to acclimate to a new environment. Listen to your body when going to a higher altitude, whether a permanent relocation or just a winter retreat. If you don't have a few days to adjust slowly, take ample rest breaks.

4. BEACH TOWEL

I don't really take one with me everywhere I go during the winter. But now that I think about it, I could use it to clean up the gunk I track in on my shoes or boots so nobody slips and falls in the puddles I create. Or I could use it as an added layer of warmth in case my car breaks down. Or I could just wrap it around my shoulders as I doze off on break and dream about that warm Caribbean resort I visited last summer ... ahhhhhhh! 🏖️

¹ American Cancer Society, *Cancer Facts & Figures 2018*, page 1, available at www.cancer.org.

² United States Environmental Protection Agency, www.epa.gov/sunsafety/health-effects-uv-radiation.

³ American Academy of Ophthalmology at www.aao.org/eye-health/glasses-contacts/sunglasses-3.

Tanker Team: the Crew of **PYTHON 62,** 22d Air Refueling Wing, McConnell AFB

BY A1C ALAN RICKER,
22d AIR REFUELING WING PUBLIC AFFAIRS

USAF photo by A1C Alan Ricker

“I was sitting in the boom operator station in the cockpit,” said A1C Hannah Clarke, 349th Air Refueling Squadron (ARS) boom operator. “Everything was normal until we rotated and I heard the pilots call out the high exhaust gas temperature. I went to look and saw that the high was in the upper 900s while climbing.”

High exhaust gas temperatures (EGTs) are 880 degrees Celsius at the highest during deployments in the desert. Late on the afternoon of June 7 at Al Udeid Air Base, Qatar, the crew of Python 62 had to act quickly as a team. A high EGT could cause damage, a fire, and/or an engine shutdown.

“Anything above 880 degrees and we start to worry,” said Clarke. “We never imagined we’d have an EGT of 1070.”

Capt Michael Gargano, 349 ARS KC-135 Stratotanker aircraft commander, recognized the initial EGT of 1070 degrees. He notified Capt Garret Dean, 350 ARS KC-135 pilot, who was in control of the aircraft during takeoff.

“Shortly after takeoff, the number one engine indicated a severe overheated condition requiring it to be shut down,” said Gargano. “This created large asymmetric

aerodynamic forces on the aircraft and reduced available thrust during one of the most critical phases of flight.”

Gargano explained that Clarke was involved within the first seconds of the in-flight emergency.

“We continued climbing and once we got to a safe altitude, they shut down the number one engine,” said Clarke. “I volunteered to go back and examine it for any indications of smoke or abnormalities.”

The crew made a request to dump fuel in flight to bring the plane to a safe landing weight.

“After securing the engine and completing checklists, the crew dumped fuel to get the aircraft light enough to land,” Gargano said. “It required additional checklists and crew coordination.”

Clarke headed toward the back of the KC-135 and ensured fuel was being released properly through the boom nozzle. The resulting weight—just under 225,000 pounds—was safe for landing.


Each crewmember had an important task during the in-flight emergency. Capt Jonathan Stevens, 350 ARS navigator, served as a communicator during the emergency and ensured all procedures and checklists were completed.

“While the pilot team was flying the aircraft and executing checklists, Clarke checked the engine from the cargo compartment, ensuring no visible damage or fire was present,” Gargano continued. “She knew her responsibilities and performed them in a calm, collected manner.”

The aircrew’s quick communication and response to the emergency allowed the team to successfully land at Al Udeid using three engines.

“Despite the desert heat and the stress that came with it, the entire crew worked seamlessly together, displaying textbook crew resource management,” he said. “Everyone on board did an outstanding job mitigating the emergency and safely recovering the aircraft.”

The crew of Python 62 worked as a team to safely land without any harm to themselves or the \$52 million aircraft.

“Safety and emergency procedure training begins day one at pilot, navigator, and boom operator training,” concluded Gargano. “In addition to the emergency situations we practice in our simulator and on training missions, regular conversation with other aircrew about lessons learned and specific emergency procedures helps grow experience across the fleet.” 

Deicing Operations in Alaska? BRRRR!

BY MR. MONTE NACE, STAFF WRITER

Aviation is the branch of engineering that is least forgiving of mistakes.

~ Freeman Dyson, American Physicist

Airplanes have changed a great deal since Wilbur and Orville Wright constructed theirs out of wood and fabric more than 100 years ago. We now fly around the world, day and night, in all kinds of weather—thanks in part to the advancement of deicing materials and procedures.

Today, deicing operations are extremely effective but require a great deal of precision, as we learned from MSgt Jeremy Paxton, Lead Production Superintendent of the 732d Air Mobility Squadron (AMS) at Joint Base Elmendorf-Richardson (JBER) in Alaska.

“Once winter comes in Alaska, we’re usually deicing aircraft through April. The process is conducted by a team of basket operators, deice vehicle operators, and chock walkers,” he said. “A supervisor leads the team and is responsible for the overall operation and ensures precautions are followed.”

Deice vehicle operators maneuver around the aircraft. Typical deice vehicles at Elmendorf are the Global 1800 and Global ER-2875. The 1800 is for smaller aircraft and the wings and/or fuselage of C-5M and C-17A; the ER-2875 is primarily for the T-tail section of the C-5M and C-17A but can also deice wings and fuselage sections.

“Basket operators probably have the best position,” Paxton continued. “They are in an enclosed, heated compartment. Their safety gear is a lap belt that buckles them into the seat and a radio for communicating with the deice supervisor. Depending on the aircraft size and available personnel, each deicing operation can have more than one basket operator spraying deicing fluid onto the aircraft.”

Paxton described chock walkers as safety observers who ensure a safe distance between the aircraft and

the deice vehicle. They marshal the vehicle around the planned route while carrying vehicle chocks, and they deice the underside of the wings where basket operators cannot reach. Highly reflective, oversized deicing suits protect them from possible overspray and help make them visible during the operation.

“Ideally, we deice just before engine start to maximize the effectiveness of the deicing fluid in Alaska’s harsh winter conditions,” Paxton added. “When it is complete, the aircraft commander performs a walk-around check to ensure a satisfactory operation.” To meet Air Force and Federal Aviation Administration policy, aircraft must be deiced to a “clean” condition—meaning no frost, ice, or snow on it.

Paxton said the determination to deice is usually an obvious call. When the decision isn’t as clear-cut, the aircraft commander and production superintendent usually make a joint decision. The ultimate responsibility, however, is on the aircraft commander.

Deicing the aircraft is vital to the safety of the aircrews and passengers. Paxton explained that ice formation




could reduce wing lift by as much as 30 percent and increase drag by 40 percent. According to the FAA's Advisory Circular 20-117, these changes in lift and drag will significantly increase stall speed, reduce controllability, and alter aircraft flight characteristics. Historically, aviation investigations indicate that not deicing an aircraft before takeoff can have catastrophic results.

Many people can't imagine a colder job than deicing aircraft in Alaska, but Paxton said you get used to it.

"Most of our folks wear thick insulated bibs for their pants with a fleece jacket under another thick insulated jacket, but that depends on how cold it is and how long an Airman has been in Alaska.

After a couple of winters, they're usually acclimated and the need for additional layers goes down."

Originally from California, Paxton is understandably proud of the role Alaska Airmen play in Air Mobility Command's Rapid Global Mobility mission in extreme conditions.

"Personnel of the 732 AMS 'Huskies' work to recover, repair, load, and launch AMC aircraft transiting Alaska—with support from Team JBBER," he said. "As the only AMC squadron in Alaska, they provide support for all strategic airlift aircraft and support both commercial and Department of Defense cargo aircraft that supply remote stations throughout Alaska." 

Airmen assigned to 732 AMS deice a C-17 Globemaster III out of Joint Base Lewis-McChord, Wash., while conducting flight operations at Joint Base Elmendorf-Richardson, Alaska. During the harsh Alaskan winters deicing keeps aircraft operational by removing layers of snow, ice, and frost that could adversely affect flight.

USAF photo by Alejandro Peña



At the 618th Air Operations Center (TACC), Winter is 24/7/365 for Global Mobility Weather Operations Directorate

BY MS. KIM KNIGHT, STAFF WRITER

Part of our country has mild winters, while it is freezing cold elsewhere. At the Global Weather Operations Directorate (XOW), a subordinate unit of the 618th Air Operations Center (AOC), Tanker Airlift Control Center (TACC), at Scott Air Force Base in Illinois, personnel provide weather support for Air Mobility Command (AMC) missions around the world. That means they must think about winter all year long.

XOW teams continuously monitor and relay global weather data, which helps AMC senior leaders make informed decisions. The group plays a vital role in both mission planning and execution because cold temperatures and winter weather phenomena can affect elements of any operation—personnel, equipment, and aircraft. It can dictate how long maintainers work and what types of equipment are needed (i.e., deicing trucks for aircraft, salt trucks for the airfield and runway). Other dynamic issues may include aircraft icing while in flight and weather condition changes at an arrival destination, but accurate forecasts allow time to plan around and adjust for these conditions.

Flight managers, also known as “virtual crew members”, work hand-in-hand with directorates such as XOW to compile critical information and provide accurate flight plans to AMC aircrew.

“While we are always safety conscious, we work with the crews and ground

support to keep the mission moving,” explained Flight Manager Randy Johns. “Potential hazards include cold temperatures on the ground or at altitude. While in flight, certain aircraft may need to descend a little to avoid extreme cold that can freeze fuel. Also, many cold weather patterns are associated with turbulence. This turbulence can be severe and is very common on oceanic crossings. Another significant cold weather hazard is aircraft icing which can be extremely dangerous during the most critical phases of flight, including takeoff, initial climb-out, and final descent.”

Johns and about 100 additional FAA certified flight managers within 618 AOC (TACC) work to mitigate weather hazards by getting urgent weather forecasts to crews wherever they are.

“For us, winter is every day of the year because our AOR [Area of Responsibility] is the entire world,” he explained. “We deal with cold, snow, and ice, even in August. Summer here means winter somewhere else.”

Several teams in 618 AOC (TACC) start gathering information two weeks before high-vis missions occur. For example, MSgt Jerrimy S. Erskine is Manager of the Weather Plans division. He and his seven-member team focus on medium- to long-range forecasts and mission planning efforts for Mobility Air Forces.

“We know about a week ahead where area storms may track,” he said. “The difficulty that far out is we might not know how it will affect a particular

base, but I start briefing leadership if we see something. It pays off, especially in winter, because we can still massage plans so we do not see a significant impact to operations even if a major system pushes through. As we come closer to the window of mission execution, that is when MSgt VanderSys comes in.”

MSgt Kevin R. VanderSys is the Manager of the Global Weather Operations division at 618 AOC (TACC). He oversees a 34-member team that disseminates up to the minute weather support for over 72,000 sorties a year. His team’s focus is on short-range forecasting, and he admits forecasting snowfall can occasionally be difficult.

“Systems sometimes change abruptly at or near takeoff,” he said. “The key is staying on top of it and relaying updates as we watch the mission from start to finish. As soon as we see something, we immediately walk over to the flight manager, who will initiate plans for added fuel and alternate locations. The aircrew may also contact us directly for additional updates.”

Diverting to an alternate location happens often during winter months, according to Johns.

“Many times, we plan for crews to carry additional fuel to ensure they have enough if they need to divert,” he said. “Fuel planning is important to make sure they can get to somewhere besides where they need to go. Sometimes the crews and I talk directly to mitigate an issue. We are

mission oriented, but we can cancel if we have to. “

Gathering all of the weather data is a collective effort. VanderSys says they get most of their information from offsite resources via the internet.

“We compile U.S. Air Force weather information with that from the National Weather Service and elsewhere—things like real-time data, satellite and radar images, hourly airfield observations, and forecast products. We monitor conditions all over the world constantly, watching for changes and looking to see what missions may be impacted.”

Learning to analyze and interpret weather charts, encode and decode alphanumeric products, and integrate that information into operations is not for everyone. Extensive training starts with an eight-month initial skills course at Keesler Air Force Base in Mississippi, where enrollees study those subjects and also learn about atmospheric dynamics and weather phenomena.

“Once they arrive at the AOC,” said VanderSys, “they receive more training. They also learn about the XOW’s mission in support of the 618 AOC—how to mitigate the effects of weather and its impacts.”

The 618 AOC, including the Global Weather Operations Directorate, is manned 24/7/365 and is rarely caught off guard by winter storms, thanks to the many real-time tools available to them. Rest assured, however, that if an unexpected winter event occurs, they will be hard at work with leadership and flight managers to make any necessary changes to keep Airmen safe. 🛡️

“Systems sometimes change abruptly at or near takeoff. The key is staying on top of it and relaying updates as we watch the mission from start to finish.”



MSgt Kevin R. VanderSys, left, speaks with an Airman about weather at the Global Mobility Weather Operations Directorate, 618 AOC, Scott AFB, Ill.

Photos by 618 AOC PA



“This is your Captain speaking... all four engines have stopped.”

BY MS. RITA HESS, STAFF WRITER

Those words can be frightening, regardless of whether you are a newbie or a seasoned flier.

Captain Eric Moody put a unique twist on that message when he delivered it to passengers headed from London Heathrow to Auckland, New Zealand, aboard British Airways 747 Flight 9 in June 1982.

Moody said, “Ladies and gentlemen, this is your captain speaking. We have a small problem. All four engines have stopped. We are doing our damndest to get them going again. I trust you are not in too much distress.”

WHAT HAPPENED

Flying above the Indian Ocean, the crew noticed an effect on the windscreen much like St. Elmo’s fire. This natural phenomenon can occur if planes fly through highly charged electric fields sometimes found in thunderclouds. Oddly, though, skies were clear that night. Within minutes, passengers reportedly saw brilliant lights outside the aircraft as it began to shudder, followed by flames coming from the engines.

All four engines failed, one by one, and did not respond to efforts to restart them. The crew knew they needed a plan—and a backup plan. They quickly pinned down their options: (1) they could try gliding 23 minutes (~91 miles) to Jakarta, Indonesia, for an emergency landing, or (2) try ditching in the Indian Ocean. Even as they proceeded to their first choice, Jakarta, they tried restarting engines. All efforts failed.

Thick smoke that reeked of sulfur accumulated in the passenger section.

At one point, oxygen masks dropped from the ceiling. Passengers were justifiably scared; some wrote notes to loved ones while others comforted fellow travelers around them.

Moody descended quickly to an altitude that allowed people to breathe. As the crew reached the point where they had to turn to attempt the ocean ditch, they again tried the engine restart procedure. Miraculously, the number four engine started and the pilot slowed descent. Soon, engine three successfully restarted. Shortly thereafter, the crew restarted engines one and two, and the pilot increased altitude to get above the mountains and head to Jakarta. Even as the windscreen issue returned and engine two shut down again, they managed to land the 747 heroically at Jakarta.

WHAT CAUSED THE INCIDENT?

Mount Galunggung, located southeast of Jakarta, had released a cloud of volcanic ash and smoke that did not show up on weather radar because the ash was dry. It entered the engines, clogging them, and then subsequently melted. Later, as each engine cooled and the airliner descended, the ash solidified and broke off, allowing air to again flow through the engine and start.

As a result, airspace around Mount Galunggung was closed. It reopened days later, only to be shut down again within weeks when a Singapore Airlines 747 descended more than 7,000 feet due to engine malfunction before power could be restored. Flight 9 was not the first plane to encounter ash from the eruption. A Garuda DC-9 experienced it two months earlier.

WHAT YOU SHOULD KNOW

Plumes of ash near active volcanoes are a flight safety hazard, especially at night when pilots can't see them. Like with Flight 9, the ash may not appear on weather radar. Even during daylight hours, pilots risk mistaking an ash cloud for a cloud of water vapor, especially if the ash travels far away from the eruption site.

Volcanic ash is abrasive and can scratch and "pit" windscreens, impairing visibility. It can damage and erode material, literally changing the shape of blades and affecting operability. Melted particles can stick to turbine blades, fuel nozzles, and combustors—which can stop cooling airflow and heat surrounding metal. Fine ash that enters electronic components can cause electrical failure—and on and on. Such issues are hard on aircraft and dangerous for personnel!

In 1991, the aviation industry established regional Volcanic Ash Advisory Centers (VAACs) to keep aviators informed of volcanic hazards. If a center detects ash clouds, it advises aviation and meteorological offices as needed. To learn about VAAC offices and coverage areas, go to www.ssd.noaa.gov/VAAC/vaac.html.

EPILOGUE

Captain Moody and the other crew on Flight 9 received a bounty of awards, and the incidents of that day are much easier to write about knowing that everyone survived.

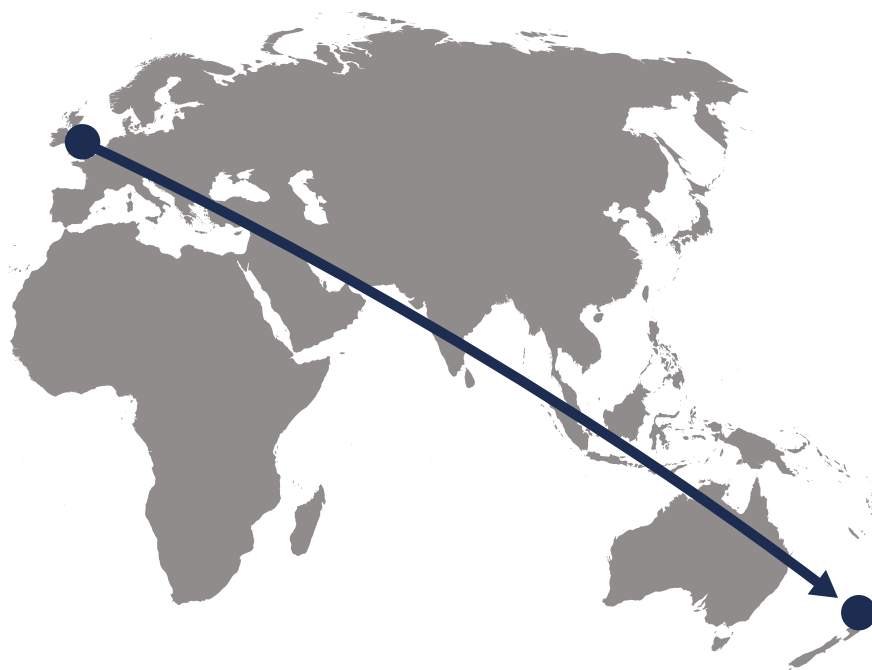
AMC crews do not fly for recognition, of course. You proudly serve your nation by deploying to all kinds of environments when needed. Ironically, that sometimes means responding to those in need after volcanoes erupt!

Regardless of where future missions take you, try to avoid volcanic ash and any other situations that—in Moody's words—cause you "too much distress." 🛩️



All four engines failed, one by one, aboard British Airways 747 Flight 9 from London Heathrow to Auckland, New Zealand in June, 1982.

Photo by Mr. Steve Fitzgerald



SURVIVING THE UNTHINKABLE

Other aircraft have lost all engines in the decades since the British Airways Flight 9 event. Total engine failure can also happen if, for example, a plane runs out of fuel or collides with birds. However, even those incidents can be survived.

In 2001, an Air Transat flight carrying 293 passengers and 13 crew members lost power in both engines over the Atlantic Ocean after leaking fuel for six hours. Pilots glided the powerless Airbus A330 for 19 minutes (about 75 miles) to a hard landing at Portugal's Lajes Air Base. No lives were lost.

And who could forget the Miracle on the Hudson, when Captain Chesley "Sully" Sullenberger landed an Airbus A320 after a flock of Canada geese took out its engines? Again, no lives were lost.



Leonard "Al" Jones, a.k.a. Dr. Love

USAF photo by Mr. Keith Wright

The Doctor Will See You Now (and Probably Make You Laugh!)

BY MS. RITA HESS, STAFF WRITER

If thinking about a doctor's visit (or planning a safety briefing) causes you anxiety, meet Dr. Love. His real name is Leonard "Al" Jones, and he is the Air Force Safety Center (AFSEC) Risk Management Program Manager at Kirtland Air Force Base in New Mexico. However, under the guise of Dr. Love—a character developed earlier in his career—he creates interesting, entertaining videos that prove to be a great tool for safety professionals.

"Years ago, on active duty, I had to send out instructions," he explained. "Rather than burden people with emails, I created Dr. Love's Advice for the Lovelorn. I made up letters, answered them, and sent them out. For example:

Dear Dr. Love: I am a pilot that nobody likes and I cannot make friends.

I would write back Dear Lonely Pilot: To make a friend, you must be a friend. Much like the Defense Travel System (DTS), to get your voucher paid, you have to ... then I would put the instructions on it."

In his current position, Al applies a unique twist to risk management. Instead of seeing it as strictly a ho-hum decision-making process, he says "This is what I want to accomplish. Now, what hazards might stand in the way or prevent me from doing it? How do I eliminate or minimize them to a point where I can proceed?"

More simply, it is weighing potential gain versus potential risk.

"In safety, before we start a project, we ask, what could go wrong? If it is a new airplane, what could fail? How long can we fly? What size crew do we need? We start eliminating potential problems and get it down to the lowest level of risk possible. We want our people to do that when they are

at work, with the family, or about to climb a mountain or go rafting—we want them to make good decisions."

Building on that, he created "Risk Management in 45 Seconds or Less," a video series starring the one and only Dr. Love.

"I maintained an instructor navigator rating throughout my 25-year career," he said. "We throw so much training at people, and it drove me to produce short little messages about risk management. We need the training, but making it a little funny is like a teaspoon of sugar—it helps the medicine go down. The videos were originally for unit safety reps, but then the American Forces Network [AFN] picked them up."

The productions have no budget and must be acceptable to play on the AFN. Thus, Dr. Love videos can have no sex or violence. Admittedly, some of his videos are a bit corny, but he's okay with that. If people talk about a corny ending to a message about seatbelts, at least they walk away with the intended message about the safety of seatbelts.

While he does not target specific groups of Airmen, he does consider seasonal topics or those that are statistically pertinent.

"If we are seeing more off-duty motorcycle accidents or machine guarding accidents, we may focus on those," Al said. "We might hone in on a specific age group if it makes sense, but we try to do videos that appeal to all ages."

Feedback from viewers is positive, according to Dr. Love.

"I think people like quick videos because they don't have to be tied down for a 10-minute lecture."

“The point is, the safety message gets out there.”

– Dr. Love

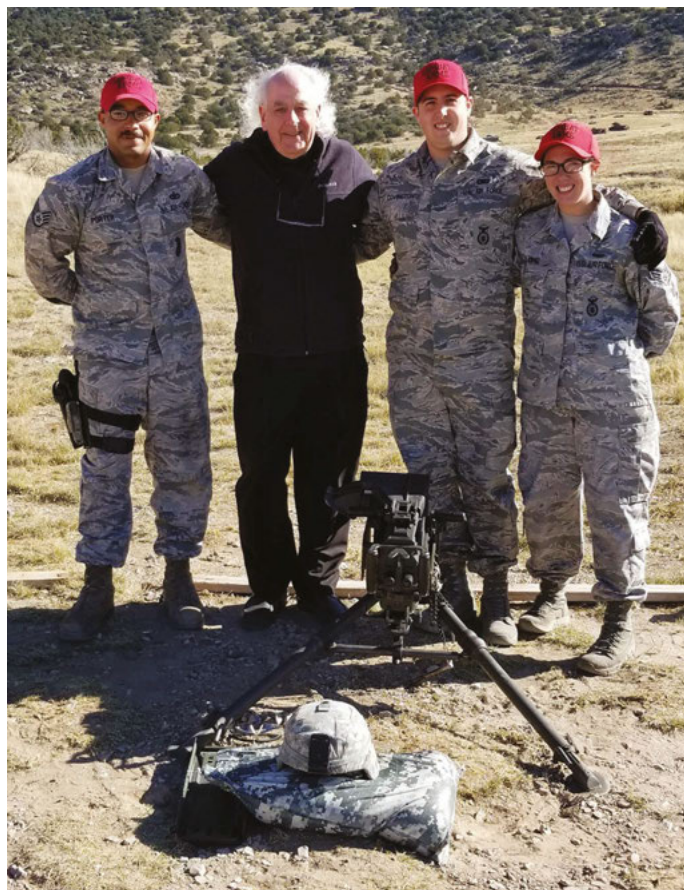


To see Dr. Love's "Risk Management in 45 Seconds or Less" videos, tune in to the AFN or go to www.safety.af.mil/News/Video



Dr. Love, shooting a video for the Air Force Safety Center at Kirtland AFB, N.M.

USAF photo



Dr. Love with Combat Arms Airmen at Kirtland AFB, N.M.

USAF photo

The humor also makes a lasting impression. In fact, he told of a recent visit to Germany where people stopped him on base to take selfies. During one encounter, a toddler actually quoted a line from one of his videos!

“The point is, the safety message gets out there,” he said. “The messages aren’t new, but we have new people joining the military constantly. Many times, it’s the same message but in another form.”

Keith Wright, from Public Affairs at the AFSEC, said the videos reach thousands of Airmen. The AFN broadcasts them around the world, and they are available on YouTube, Facebook, the AFSEC website, and the Occupational Safety SharePoint site—whatever platform gets the message out.


“A couple years ago,” Wright said, “when the Secretary of the Air Force and the Chief of Staff picked them up, views skyrocketed. I think humor relaxes people. It lets them breath a little and leaves them feeling good.”

Dr. Love confessed that because they produce the videos quickly, amusing outtakes occur frequently. One of his most memorable clips happened when he took a fashion risk by wearing white shoes and a white belt.

“I liked that one because the production value is so good. On a personal note, they brought a B-17 down to Albuquerque and graciously allowed us to be all over the plane filming one morning. Through research, I

discovered that particular bomber was in my hometown when I was 6 or 7 years old and used as a crop duster. As a little boy, I had been to the airport and seen it, so it was neat to be on the fully restored bomber years later.”

Is there a Dr. Love protégé on the horizon? Well, the 21st Space Wing at Peterson AFB won the recent video challenge with its entry, Know Your Emergency Tones. Al said it was clever with a good message and special effects, but it was tough to choose a winner because there were too many good entries to choose from. Will there be another challenge?

“Who knows?” he teased. “Another may be coming up in the future!” 

An Old-Fashioned Griswold Christmas

BY MS. RITA HESS, STAFF WRITER

Have you ever seen the movie *National Lampoon's Christmas Vacation*? In this holiday classic, Chevy Chase portrays Clark Griswold, an all-American dad who wants to provide an old-fashioned Christmas for his family, when comedic disaster repeatedly strikes. Watching him and his wife Ellen, daughter Audrey, and son Russ (along with a few other relatives) has become one of my favorite things to do in the holiday season!

Even though Clark has some difficulties transforming his image of the “perfect” Christmas into reality—and it is, after all, just a movie—we can learn a little something from some of the disastrous events that thwarted his efforts.

THE PROCRASTINATION

For starters, Clark waited until what seemed like late in the season to begin his holiday preparations, especially since he wanted so desperately to impress his loved ones. **DON'T** be like Clark. Start early so you do not feel rushed (and then tempted to take shortcuts)!

THE TREE

Their chosen tree was very large (okay, it was huge) when it stood so majestically in nature. However, the family's lack of tools to cut it down, followed by their attempt to uproot the darn thing and strap it to the car, spelled disaster from the beginning. When they finally arrived home, the issue was getting it inside and making it fit in the allotted space. **DON'T** be like Clark. Before you shop (preferably on a tree lot rather than in the country), measure your allotted space and think ahead about how to get the tree home safely.

THE SQUIRREL

That poor Griswold family ... and that poor squirrel! If you are buying a real tree, inspect it for critters (e.g., rodents, birds, bugs) before bringing it indoors. If the Griswold's had done that, perhaps they would have found that furry thing living in the branches before it ran wild in their home. Again, **DON'T** be like Clark!

THE CAT

Their cat added to the movie's hilarity by dangerously gnawing on a string of lights. No feline was harmed

PRETTY ≠ SAFE

The **National Safety Council**

(www.nsc.org) cautions that

emergency rooms see thousands of injuries involving holiday decorating every season.

- “Angel hair,” made from spun glass, can irritate your eyes and skin; always wear gloves or substitute non-flammable cotton.
- Spraying artificial snow can irritate your lungs if inhaled; follow directions carefully.
- Decorate the tree with your kids in mind; move ornaments that are breakable or have metal hooks toward the top.
- Always use a proper stepladder; don't stand on chairs or other furniture.
- When decorating with lights, make sure there are no exposed or frayed wires, loose connections or broken sockets; and don't overload your electrical circuits.
- Plants can spruce up your decorating, but keep those that may be poisonous (including some poinsettias) out of reach of children or pets. The national Poison Control Center can be reached at (800) 222-1222.
- Make sure paths are clear so no one trips on wrapping paper, decorations, toys, etc.

DON'T be like Clark!



during the filming of the scene and electrocution is uncommon, but animals do sometimes chew on cords in real life. **DON'T** be like Clark. Be sure your cords are in good shape with no exposed wires, and arrange them so they do not pose a danger to pets OR a human trip hazard. If you have new pets, don't allow them near decorations until you know how they will respond.

THE DECORATIONS

Adding fuel to the Griswold fire (no pun intended), Clark improperly attached thousands of lights inside and outside the house—plugging one string to the next and the next—including for the Santa and eight tiny reindeer on the lawn. He also used hammers and staples to attach cords instead of clips. If you want to live to see another Christmas, **DON'T** be like Clark. Instead, be smart about connecting electrical items, and follow manufacturers' instructions for all decorative elements. Also, use ladders appropriately and carefully year round.

THE HOLIDAY BONUS

Poor Clark had good intentions when he decided to give his family

a swimming pool for Christmas. He ordered it and planned to pay for it with his Christmas bonus. Unfortunately, that bonus didn't come, and didn't come, and didn't come. Even on Christmas Eve, Clark still felt sure a courier would ring the doorbell at any time and deliver his check. Turns out, his boss gave all employees a Jelly of the Month Club membership instead. **DON'T** be like Clark—don't overspend and don't finance large purchases in

hopes of a possible windfall. As corny as it may sound, that is not what the holidays are about anyway.

THE REVIEWS

Finally, let's celebrate something the movie got right. It opened December 1, 1989, but did not take the top spot at the box office for three weeks. Despite mixed reviews, it reportedly earned over \$70 million in theatres, and many people continue to love it today. 🎬

HOME FIRES SPIKE IN DECEMBER

According to National Fire Protection Association (www.nfpa.org) research, candles start more than one-third of home decoration fires, and 42 percent of decoration fires happen because the decorations are too close to a heat source. To prevent a problem during your Christmas celebration (or any time of year):

- Never leave burning candles unattended or sleep in a room with a lit candle.
- Keep candles out of reach of children and pets.
- Make sure candles are on stable surfaces away from trees, curtains, or other flammable items.
- Choose decorations that are flame resistant or flame retardant.
- Do not burn trees, wreaths, or wrapping paper in the fireplace.
- Check and clean the chimney and fireplace area at least once a year.
- Test your smoke alarms regularly, and tell guests about your home fire escape plan.

ICE

is Nice in Summer, but ...

BY MR. MONTE NACE, STAFF WRITER

Ice is nice in a cold beverage on a hot summer day, but ice on the road on a cold winter day is a different story. Even worse, invisible “black ice” on roads can be fatal to any driver, perhaps especially to those who sit inside comfy cars with heated seats and heated steering wheels, sipping on a hot latte and listening to their favorite tunes as they drive—unaware that road conditions have deteriorated.

WHAT IS BLACK ICE?

You might think you will recognize this enemy when it appears. The problem is, black ice can be difficult to see, and you may not know you are on it until it is too late. What is it exactly?

Black ice is a very thin layer of ice that **usually** shows up when it rains and the ambient temperature is **near** freezing. This causes the precipitation to freeze on impact. But it can also occur when sleet falls or when snow melts.

Notice I said it “usually” shows up as rain during “near” freezing temperatures? That is because road

surfaces can freeze before water does—particularly bridges, underpasses and overpasses, tunnels, and shady spots. Also, condensation from dew can freeze on roads, and sudden blasts of cold air can affect areas that do not usually freeze such as in the southern United States.

On January 3, 2018, a snow, sleet, ice, and rain storm engulfed Tallahassee, Florida, leaving it colder there than in Juneau, Alaska. In January 2014, over a million people jammed highways in Atlanta, Georgia, amid a few inches of snow. School buses were stuck in traffic until midnight, and several thousand students spent the night at school.

HOW CAN YOU AVOID BLACK ICE?

While black ice is tricky to identify, you can gather a few clues before you get in the car. Look around you. Is the pavement completely dry or do some spots shine? Because the ice is camouflaged against a backdrop of asphalt, tar, concrete, or other roadway material, your best bet when it is cold

is simply to assume that a shiny road equals black ice.

Once on the move, it helps to know where you may be more likely to find black ice. In addition to those mentioned previously (bridges, overpasses, etc.), watch for pavement that looks dry but appears slightly darker in color and for low-lying areas that may have water runoff. Also, stay abreast of local weather reports through traditional or social media.

Take care of your vehicle. Top off windshield washer fluid for those moments when passersby splash liquid onto your vehicle, and make sure your defrosters are working properly. Do not get too comfortable with your vehicle’s “outside temperature” display, either. Depending on where the sensor is located, it could be chillier than you realize and thus freezing.

WHAT IF YOU ENCOUNTER BLACK ICE?

Unlike snow, which can provide traction, it only takes a light glaze of

Back off, Jack! Maintain more than enough space between you and the vehicle ahead of you.



ice to wreak havoc on roadways. Once a driver starts to lose control, especially on a busy thoroughfare, those who follow may lose control as well, leading to a devastating multi-car pileup that can involve dozens of vehicles—sometimes a hundred or more.

You will know when you find a patch of ice. Hopefully, however, you are not going too fast when it happens. Instead, drive a safe speed—slower than you would otherwise think is necessary—and without cruise control. If your vehicle begins to slide, stay calm and remove your foot from the accelerator.

Do not apply the brake, and do not overcorrect by jerking the steering wheel! If your car starts to spin, turn the steering wheel gently in the direction of the spin. That tends to go against most people's gut instinct, so you would be wise to practice driving on ice if you have an opportunity and a safe place to do so.

The following additional tips may also improve your odds of safely navigating black ice:

- Maintain tires with good tread because it increases traction. If authorities recommend snow tires where you live, use them.
- Use four-wheel drive, if you have it. It will not keep you from sliding on black ice but it may help you recover.
- Even with excellent tires and four-wheel drive, proceed slowly and with caution. Remember, posted speeds are for "ideal" conditions. Black ice is never ideal.
- Back off, Jack! Maintain more than enough space between you and the vehicle ahead of you. An 8- to 10-second following distance allows extra time to stop and helps keep road spray from other vehicles off your windshield.
- Keep your lights and all windows clean. Black ice is hard to see in daylight and it is even less visible at night.
- Assume other drivers can't or won't stop at stoplights and intersections. This gives you a little extra time and distance to take evasive action. Sometimes "a little" time is enough!
- Buckle up and ensure passengers do, too.

Finally, do not be fooled into thinking you are such a good driver that dying in a car wreck is impossible. Remember that professional race car driver Dale Earnhardt died in a fatal collision, as did actor Paul Walker and Princess Diana. It can happen to anyone. A single moment of distraction or a single incorrect decision, especially on black ice, is all it takes to suddenly spell **THE END.** 🚔

AMC with the Hat Trick! Fatality Free from 2016 to 2018



BY MSGT CLINTON HAMMONS,
HQ AMC OCCUPATIONAL SAFETY

Sports Announcer 1 (John): “It looks like they are going to go for it! Can they do it Bill?”

Sports Announcer 2 (Bill): “I think they can, John.”

Sports Announcer 1: “AMC goes left ... now right ... they shoot ... Scoooooore!”

Sports Announcer 2: “That’s three in a row for team AMC, and the crowd is going wild after this amazing hat trick!”

According to the Merriam-Webster dictionary, a “hat trick” is “a series of three victories, successes, or related accomplishments” and that is exactly what Air Mobility Command (AMC) has done. September 3, 2018, marked the end of AMC’s Critical Days of Summer (CDS) campaign, and AMC had ZERO fatal mishaps during the campaign for the third year in a row. This is only the fourth time in the command’s history to have accomplished our goal of zero fatal mishaps during the CDS—the previous were 2008, 2016, and 2017. We would like to express our sincere thanks to all of AMC’s Airmen for your relentless efforts to ensure the safety of each of our on- and off-duty Airmen.

The 2018 campaign began, as many before it have, with a kickoff video from former AMC Commander, Gen Carlton D. Everhart, and the AMC Command Chief, CMSgt Larry C. Williams, Jr. In the video, they spoke of the importance of eliminating avoidable accidents that result from poor decision-making. They also revealed this year’s CDS theme, “Sound Decisions,” and encouraged leaders to speak to their units and discuss real examples of both good and bad decision-making.


AMC conducted a CDS video contest that encouraged Airmen from around the command to get involved with safety and create a 60-second or less video highlighting the command’s Sound Decisions theme. The winning video came from the 628th Air Base Wing at Joint Base Charleston,

South Carolina.

It was posted on the CDS SharePoint page where it could be used throughout the campaign to promote the theme and encourage Airmen to consider the consequences of their actions before making decisions.

Additionally, this year’s campaign included nine scenario-based guides intended for supervisor-led small group discussions. Each guide had a break just before members in the scenario made their decisions. This break allowed the supervisors and Airmen to discuss what they thought happened next and whether they would do anything differently. Then the scenario continued, revealing what actually happened and allowing further discussion on how the results could have been prevented. This challenged Airmen to consider whether they would have had the foresight and/or courage to make the correct decisions.

While AMC has had huge success over the last three years during the CDS campaigns, the Air Force as a whole has not been as fortunate. This year alone, the Air Force had 11 mishaps resulting in Airmen losing their lives.

So take a moment and enjoy AMC’s victory, but remember that just because our CDS campaign is complete, the battle against avoidable mishaps, unnecessary hazards, and risks is not over. Leaders, supervisors, and wingmen at all levels, from all areas, must continue to be vigilant and remain focused on sound decision-making and personal risk management. Despite the sports analogy at the beginning of this article, safety is not a game. It is life and death, and everyone needs to make “Sound Decisions.” 





Left to right: TSgt James Green, MSgt Cody Loyd, and SSgt Adam Enfinger

SPOTLIGHT AWARD:

317th Airlift Wing, Dyess AFB, Texas

Secretary of Defense James Mattis and Chairman of the Joint Chiefs of Staff Marine Corps Gen Joe Dunford have been sounding the alarm on the readiness of the Air Force Fleet to meet their obligations in the 2018 National Defense Strategy. Concurrently, Chief of Staff of the Air Force Gen David Goldfein points to the Air Force's withering full spectrum readiness and its ability to compete in the increasingly denied and degraded operating environment. The men and women of the 317th Airlift Wing (AW) at Dyess Air Force Base, Texas, heard these challenges and took to the flight line for action! In the spring of 2018, they organized, planned, and executed a full spectrum readiness exercise that included a complex multi-ship airdrop scenario under the threat of chemical, biological, radiological, and nuclear (CBRNE) attack. The safety culture within the 317th Aircraft Maintenance Squadron (AMXS), combined with the vigilance of a few maintainers during a challenging exercise in Mission Oriented Protective Posture (MOPP) level 4 gear proved that they could


operate in the full spectrum of C-130J operations while still maintaining a culture of safety.

On March 1, 2018, the 317 AMXS participated in a 317 AW exercise where they launched and recovered several aircraft that had been "slimed" over the course of their exercise and forced maintenance and aircrew to operate in MOPP 4 conditions. MSgt Cody Loyd, TSgt James Green, SSgt Adam Enfinger, and A1C Cameron Barlow were the maintenance team on duty when things began to go off script. Initially the team was on hand to marshal an aircraft in and out of parking to facilitate an engine running crew change (ERCC). However, this attentive and safety-conscience team identified a significant amount of fluid near the parking location after the aircraft had taxied to continue its mission.

Understanding the significance and complexity of the mission, the maintenance team swiftly utilized their chain of command to direct the aircraft to immediately land and return

to parking to prevent a potentially catastrophic hydraulic failure. The now airborne aircraft was contacted and expedited their return to parking for further maintenance inspections. Following the aircraft's safe return, the maintainers of the 317 AMXS expertly identified an out of tolerance leak in the left hand main landing gear and grounded the aircraft. The safety awareness and risk management demonstrated by this maintenance team directly prevented a potentially significant mishap and ultimately brought Air Mobility Command's first Full Spectrum Readiness emergency to a safe conclusion.

Please join us in congratulating the following safety minded maintainers from the 317 Aircraft Maintenance Squadron at Dyess AFB, Texas:

- › MSgt Cody Loyd (Production Superintendent)
- › TSgt James Green (Expediter)
- › SSgt Adam Enfinger (Crew Chief)
- › A1C Cameron Barlow (Crew Chief) 



MISHAP-FREE FLYING HOUR MILESTONES

10,000 HOURS

89 AS, Wright-Patterson AFB, OH

Lt Col Kurt A. Greenlee

7,500 HOURS

7 AS, JB Lewis-McChord, WA

MSgt Agustin H. Nalsen

89 AS, Wright-Patterson AFB, OH

SMSgt Allan E. Blackwell
MSgt Jerald R. Cremeens
MSgt Brian M. Dawes
MSgt Roberto G. Garcia
MSgt Lorenzo J. Law

709 AS, Dover AFB, DE

Lt Col Lonnie R. Schmidt

6,500 HOURS

7 AS, JB Lewis-McChord, WA

MSgt John D. Frisk
MSgt Joshua J. Watson

89 AS, Wright-Patterson AFB, OH

Lt Col Michael T. Baker
Lt Col Brett J. Manger
Lt Col Malcolm G. Quincy
Lt Col John F. Robinson
Maj Michael A. Shampine
MSgt Kelly B. Earehart
MSgt Craig R. Essert

5,000 HOURS

7 AS, JB Lewis-McChord, WA

CMSgt Ricky G. Marston
MSgt Jared D. Beadle
MSgt Zachariah B. Summers
TSgt Shaun P. Bowlin

89 AS, Wright-Patterson AFB, OH

Col Adam B. Willis
Lt Col Bryan M. Bailey
Lt Col Patrick J. Driscoll
Lt Col Thomas R. Fuhrman
Lt Col Jacob J. Miller
Lt Col Steven R. Shrader
Lt Col Christopher J. Sopko
Lt Col Douglas M. West
Maj Mark M. Hannon
Maj Joshua L. Springman
Maj Reese J. Swanson
Maj Benjamin R. Yoder
SMSgt Timothy M. Davis

709 AS, Dover AFB, DE

Lt Col David J. Bocchino
MSgt Robert E. Bottoms
MSgt David W. Finfinger

3,500 HOURS

7 AS, JB Lewis-McChord, WA

LtCol Michael S. Albers
LtCol Trace E. Dotson
LtCol William E. McDougall
LtCol Brandon J. Tellez
Maj Jared P. Baxley
Maj Nicholas A. Coblio
Maj Chrisjay S. Fontillas
Maj Jordan D. Ward
MSgt Tranquilino Herrera
TSgt Drew D. Czarnecki
TSgt Jeremy L. John

89 AS, Wright-Patterson AFB, OH

Lt Col David A. Atkinson
Lt Col Jeffrey S. Ciesla
Lt Col Matthew E. Middleton

Lt Col Michael M. Pelger

Lt Col Kevin C. Wuebker
Maj Jonathan A. Askins
Maj Christopher C. Costley
Maj Paul R. Dorrance
Maj Ryan C. Fallon
Maj Andrew W. Gambardella
Maj Dustin G. Johnson
Maj Matthew S. Judd
Maj Christopher P. Kojak
Maj Jeremy A. Mary
Maj Eric G. Palichat
Maj Michael W. Rubeling
Maj Richard M. Smith
Maj William G. Sterling
Maj Ryan L. Wellman
Capt Jeremiah S. Brown
MSgt Kimberly S. Naehring
TSgt Justin W. Bateman
TSgt Benjamin D. Fryman
TSgt Bronson L. Hibbs
TSgt Shaun A. Turpen

326 AS, Dover AFB, DE

Lt Col Matthew J. Wood
Maj Thomas D. Bockrath
Maj Matthew R. Gross
Maj Anthony J. Mione

2,500 HOURS

7 AS, JB Lewis-McChord, WA

Col Mark S. Fuhrmann
Maj Brian H. Anderson
Maj Colin J. Huber
Maj Brandy M. Johnson
Maj Michael J. Lucky
Maj Matthew S. Onxley
Maj Ashish P. Patel

Maj Jeremy W. Robinson

Maj Kristen A. Smith
Maj Bradley C. Willis
Capt Anne M. Kemp
Capt Theodore R. Kemp
Capt Andrew P. Lee
Capt David J. Terry
Capt Caroline J. Tetrick
Capt Michael R. Watkins
TSgt Thomas J. Litterer
SSgt Matthew S. Duck
SSgt Ashton R. Taylor

89 AS, Wright-Patterson AFB, OH

Lt Col Nathanael D. Crimmins
Maj Keith A. Buddelmeyer
Maj Dennis J. Cesarz
Maj Bobby J. Dempsey
Maj Eric D. Florschuetz
Maj David A. Gebbie
Maj Benjamin F. Hollett
Maj Aaron C. Port
Capt Zachary W. Balas
Capt Jeremiah S. Brown
Capt Dustin T. Cramer
Capt Jeffrey B. Guillotte
Capt Paul H. Kolk
Capt Ryan V. Scoggin
2Lt Travis R. Egger
MSgt Danielle A. Kremer
TSgt Phillip B. Lemaster
TSgt Robert F. Schnelle
TSgt Andrew L. Wagner
TSgt Zachary L. Webb

326 AS, Dover AFB, DE

Maj Kimberley A. Legans
Maj Joseph E. Purcell



**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

Aviation Safety InfoShare – What is it?

BY MS. JEN YATES,
HQ AMC FLIGHT SAFETY

I recently attended the Fall 2018 Aviation Safety InfoShare. Not familiar? I encourage you to attend.


InfoShare draws representatives from nearly every aspect of the aviation industry: maintenance, dispatch, cabin, ground operations, and flight operations. Members from the Federal Aviation Administration, National Transportation Safety Board, several domestic and international airlines, the civilian industry, and the Department of Defense attend and provide input and share experience. Topics range from cutting-edge technology to best practices and efforts in messaging safety and building safety culture.

Discussions/Briefings at Aviation InfoShare are treated as proprietary and protected. This safeguarding of information promotes open discussion and cross communication across all agencies. The initial sessions cover overarching topics relevant to almost all organizations. Later sessions break maintenance, dispatch, cabin, ground operations, and flight operations into more specific subjects relevant to that section.

You are not obligated to attend sessions only in your area of expertise. I attended sessions in maintenance, dispatch, and flight—all were interesting and engaging. It was great to get perspectives from all three on similar subjects but with different points of view and different approaches to addressing the matter.

Discussions/Briefings at Aviation InfoShare are treated as proprietary and protected. This safeguarding of information promotes open discussion and cross communication across all agencies.

On the final morning of the InfoShare I attended, an Air Force Safety Center team with members from across the Air Force Safety Enterprise led an open discussion on proactive safety initiatives.

I definitely learned new things and observed some interesting and innovative concepts. My biggest take away: we are all in this together! 



A DAY IN THE LIFE



SrA Erica C. Funke, an aeromedical evacuation technician with the 514th Aeromedical Evacuation Squadron (AES), 514 AMW, wears her self-contained breathing apparatus during a joint training mission with 514 AES, 45 AES, and 439 AES over the United States on Oct. 5, 2018. The 514th is an Air Force Reserve Command unit at Joint Base McGuire-Dix-Lakehurst, N.J. The 45th and the 439th AES are Air Force Reserve Command units from MacDill Air Force Base, Fla., and Westover Air Reserve Base, Mass.

USAF photo by MSgt Mark C. Olsen