



# MOBILITY FORUM

THE MAGAZINE OF AIR MOBILITY COMMAND | FALL 2021

**AMC During 9/11/01:**  
The 20th Anniversary of  
the Terrorist Attacks

**Air Minimum  
Control Speed—  
The Ever-Present  
Assassin**

**MOBILITY GUARDIAN**

**2021**

Advancing Air  
Mobility Command  
Capabilities to  
Prepare for the  
Future Fight

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Volume 30, No. 3  
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A C-17 Globemaster III assigned to the 62d Airlift Wing rests on the flight line at Alpena Combat Readiness Training Center, MI, May 20, 2021, during MOBILITY GUARDIAN 2021.

USAF photo by SSgt Joseph Pick

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Lt Gen Mike Minihan

## AMC Set to Greet New Commander This Fall

In July 2021, Lt Gen Mike Minihan was nominated and confirmed for promotion to general and assignment as the Commander of Air Mobility Command (AMC). He is set to succeed Gen Jacqueline Van Ovost, who has been nominated to serve as Commander of the United States Transportation Command.

Prior to assuming command of AMC, Minihan served as the Deputy Commander of U.S. Indo-Pacific Command, Camp H.M. Smith, Hawaii. He directed and enabled activities and operations that supported the Combatant Commander's priorities and promoted U.S. interests in the Indo-Pacific region through peace, crisis, and war.

Minihan entered the Air Force in April 1990 after receiving his commission

through the ROTC program at Auburn University, Alabama. He completed undergraduate pilot training in 1991 and served as an Aircraft Commander, Instructor Pilot and Evaluator Pilot in the C-130 Hercules. He has commanded in garrison, crisis, and combat and at the squadron, wing, and task-force levels. He also held staff assignments at Headquarters Air Force, U.S. Transportation Command and Pacific Air Forces. During his distinguished career, Minihan served as Chief of Staff for United Nations Command, U.S. Forces Korea, and then U.S. Indo-Pacific Command, Camp H.M. Smith, Hawaii.

Minihan is a command pilot with more than 3,400 flying hours and qualifications in C-130 Hercules, KC-10 Extender and C-32 aircraft. 🇺🇸

# AMC Safety Welcomes New Director

The Air Mobility Command Safety Directorate recently welcomed Col Charlie M. Velino as the new Director. Velino entered the Air Force through Officer Training School in March of 1995 and, following Basic Computer Officer School, was assigned duties in systems management and software engineering. In 1998, he was selected to attend pilot training and completed Undergraduate Pilot Training in April of 1999.

Velino transitioned to the C-17 and has filled multiple squadron, group, and wing positions and was deployed to Rhein-Main Air Base (AB), Germany, Al Udeid AB, Qatar, and Karshi-Khanabad AB, Uzbekistan, supporting operations in the Middle East. He has been

a Wing Chief of Safety twice and has commanded at the Squadron, Group, and Wing level.

Velino has served in a variety of staff duties at the 618th Tanker Airlift Control Center, the U.S. Transportation Command (TRANSCOM), and most recently at Headquarters Air Mobility Command where he served as the Deputy Chief of Staff. In that position he directly supported the Chief of Staff in the management of the Headquarters' daily battle rhythm and the prioritization and optimization of staff activities. 🇺🇸



## So Long, Fellow Mobility Airmen



BY COL BRANDON HILEMAN

It has certainly been my honor and privilege to serve with such a phenomenal safety team the past few years. Fortified by outstanding leadership support and advocacy as well as the incredible efforts of safety professionals across the enterprise, the command has achieved a fantastic safety record and received

numerous accolades in recognition of its accomplishments. AMC earned the Major General Benjamin D. Foulois Award for best flight safety program three out of the past four years and garnered the Secretary of the Air Force Safety Award for the best program in the Air Force an unprecedented three years in a row! These awards pale in comparison to the amazing mission mobility Airmen safely accomplish every day across the globe. Our business, however, requires steadfast focus on managing risk effectively and making sound decisions every single time.

Relatively low mishap rates have enabled the command to continue focusing on proactive versus reactive safety to mitigate hazards and manage risk as it delivers Rapid Global Mobility. Proactive safety programs like Line Operations Safety Audit (LOSA) have expanded beyond the

traditional aircraft focus as AMC conducted observations and analyzed aggregate performance data for Aerial Port, Aeromedical Evacuation, and C-17 Maintenance operations. Application of these proven aviation LOSA processes shows tremendous promise in reducing risk and improving safety in other functional areas across our enterprise. The command also leads the Air Force in Airmen/Aviation Safety Action Program submissions, Military Flight Operations Quality Assurance analysis, and Aviation Operational Risk Management. These efforts have yielded historic results with a nearly 60 percent reduction in serious flight mishaps (damage costs over \$500,000) from the previous decade. As I transition, I look forward to watching the command continue to successfully and safely accomplish the mission.

So long and stay safe! 🇺🇸



# AIR MOBILITY COMMAND WELL DONE AWARD

Presented to  
SRA RIGEL LOCKETT  
and  
A1C AUGUSTINE WILLIAMS



Left to right: SRA Rigel Lockett, Col Charlie Velino, A1C Augustine Williams

**O**n April 9, 2021, as a C-17 taxied into its parking spot, a fire erupted in the left wheel well area. Fortunately for the crew onboard, SRA Rigel Lockett and A1C Augustine Williams from the 437th Airlift Wing, Joint Base Charleston, SC, noticed the fire, quickly retrieved a flightline fire extinguisher, and attempted to extinguish the fire. The duo thought it had been fully extinguished, but the fire, fed by hydraulic fluid, reignited. Determined to not let the blaze get out of control, Lockett and Williams then retrieved a second extinguisher and continued to fight the fire until the fire department arrived minutes later. Thanks to the actions of Lockett and Williams, the crew onboard egressed safely, and it is likely their efforts saved the aircraft from being a total loss. 🇺🇸

# The Flight Safety NCO: Your Safety Liaison

BY MR. LALO MAYNES, HQ AMC FLIGHT SAFETY

## WHO IS THE FLIGHT SAFETY NONCOMMISSIONED OFFICER (FSNCO)?

Your wing FSNCO is a maintainer, usually from your wing, selected because of his or her knowledge and expertise with AFI 21-101, *Aircraft and Equipment Maintenance Management*, and the organizational structure of the maintenance complex. The FSNCO is assigned to the Flight Safety Division of the Wing Safety office, typically for two or three years. After completing the Aircraft Mishap Investigation Course and Aviation Safety Program Management course, the newly trained FSNCO will soon become key to continuity within the Flight Safety (SEF) office. He or she reports to, and works with, the Flight Safety Officers, who report to the Chief of Safety for the wing. In addition to conducting aviation mishap investigations, the FSNCO is an invaluable asset to each wing through historical mishap data and analytics, customized training and briefings, robust inspections, safety program oversight, proactive safety advocacy, and expeditionary capabilities for global impact.

Your FSNCO is a key source of historical mishap data and is connected with personnel at the Air Force Safety Center at Kirtland Air Force Base (AFB), NM, and more specifically, with the Air Force Safety Automated System. This system database is where safety professionals can query mishaps as far back as 1980. For example, the FSNCO can give the Flight Chief of a maintenance tire shop a list of aviation mishaps and personal injuries that were due to under- or over-inflation of an aircraft tire. The FSNCO can further identify

mishap trends due to manufacturing issues, storage of a component, or the shelf life of a particular part. Utilizing historical mishap data and analysis is vital to proactive mishap prevention by all Airmen.

As with any organization, high-quality training is critical to preventing mishaps. The FSNCO can assist agencies in the Maintenance Group (MXG), such as Quality Assurance (QA) and Maintenance Training (MAT), or give roll call safety briefings. Your FSNCO should work hand-in-hand with the MAT flight instructors. Maintenance training teaches, qualifies, and certifies students enrolled in the aircraft maintenance qualification program. In the training environment, FSNCOs are able to give safety briefings to students, sharing statistics and trends on mishaps related to skills they are currently being taught.

In accordance with AFI 91-202, *The U.S. Air Force Mishap Prevention Program*, the wing FSNCO inspects multiple areas within the MXG and Operations Group (OG). Specifically, for the MXG, a few focus areas for the FSNCO include QA, the Foreign Object Damage Program, Product Improvement, and the Functional Check Flight Program. Within the OG, FSNCO inspection focus areas center on flying squadron safety programs and the airfield environment, generally in conjunction with Airfield Management. Airfield inspections typically include surveying stressed and unstressed pavements on the airfield for deterioration, airfield lighting systems, airfield markings to include runway markings, distance markings and taxi lines, obstructions, construction and improvements,

wildlife hazards present on the airfield, vegetation, and airfield drainage.

At the wing level, SEF has several aviation safety programs that must be established, maintained, and reviewed annually by the Chief of Safety, and the FSNCO has an active role in each, including the Bird/Wildlife Aircraft Strike Hazard (BASH) program. As the title indicates, it pertains to any birds or wildlife on or near the airfield that may present hazards to aviation. Wildlife found on airfields may include moose in northern-tier states, alligators in the south, and coyotes almost everywhere, and includes endangered species as well. For instance, Streaked Horned Larks have made their home in the infield at Joint Base Lewis-McChord, WA. Most would think the aircraft have the right-of-way when on a military airfield; however, that is not the case when it comes to animals on the endangered species list or designated “wetlands” areas. Eradication and depredation of wildlife is the last effort in most BASH programs. The FSNCO, along with U.S. Department of Agriculture representatives, is a key figure in the often precarious balance of executing operations while being good stewards of local natural resources.

As a proactive safety advocate, the FSNCO focuses on more than just mishap investigation. For example, he or she briefs maintenance and operations personnel on the Airman Safety Action Program (ASAP) to encourage their participation. The ASAP is a voluntary, identity-protected (can be submitted anonymously), web-based program used to report hazards by Airmen of all functional areas. If you witness an incident or hazard that

## FLIGHT SAFETY NONCOMMISSIONED OFFICERS FROM THE 22D AIR REFUELING WING FLIGHT SAFETY OFFICE AT MCCONNELL AFB, KS



MSgt Danielle Barnette



MSgt Daniel Dioguardi



MSgt Trenton Lackey



MSgt Elijah Lopez



TSgt Shane Baker



TSgt Daniel Torrio

has the potential to cause an injury or damage to equipment, you can submit an ASAP report at <https://asap.safety.af.mil>. At home, at work, or from your deployed location, you can submit an identity-protected ASAP report with the assurance that your Major Command will be investigating the information you submitted.

In addition to the robust capabilities FSNCOs provide their home station wing, they also provide an essential expeditionary capability to Combatant Commanders. Their knowledge of safety programs, mishap investigations, risk management, and the ability to share information with Flight Chiefs, QA, and MAT to prevent mishaps is invaluable. MSgt

Danielle Barnette from the 22d Air Refueling Wing Flight Safety office at McConnell AFB, KS, is currently deployed to Prince Sultan Air Base, Saudi Arabia. I recently asked her, "Being away from home station, what different challenges do you face as the FSNCO at your location?" She replied, "There are two main challenges I've come across. My whole career has consisted of a heavy/tanker airframe background, but fighters speak a different language, and with that, you will have to adjust your thought process. And [the] second [challenge is], performing tasks or filling positions that I had support for back at home station. For example, filling the role as the Flight Safety Officer and even the Chief of Safety." Her response

is reflective of what all deployed FSNCOs encounter: opportunities to utilize their unique skillsets to overcome various challenges, as well as expanded responsibility based on demonstrated capability, competency, and consistency.

Uniquely, the FSNCO position is not a separate Air Force Specialty Code. FSNCOs maintain their current specialties while also being liaisons between maintenance and the Wing Safety Office, and are integral figures in any wing, both at home and abroad. I encourage you to contact your wing FSNCO and request that he or she comes to your office, shop, or hangar to give the next roll call safety briefing to your Airmen. Be safe! 🇺🇸



## Air Minimum Control Speed— The Ever-Present Assassin

BY MR. WARREN THOMAS, HQ AMC C-130J MFOQA ANALYST

First, let me state that I am an old C-130 pilot, a biology major—and not an engineer of any kind. I retired from the USAF in 2011, but I am still hanging on to government employment as the senior C-130J Military Flight Operations Quality Assurance Analyst at Headquarters, Air Mobility Command. I was fortunate to fly four models of the C-130 during my USAF flying career. The order of flight was C-130E, C-130H, C-130E, C-130B, C-130E, and C-130J. My favorite aircraft was the B-model, but that is a story for another day.

I was trained to fly C-130s in 1975 by high-time Instructor Pilots at the Rock (Little Rock Air Force Base, AR), still fresh from their Vietnam flying experiences. They were outstanding pilots and mentors, full of good and

bad flying habits learned the hard way during combat flying throughout Southeast Asia. All of them described what an extraordinarily strong and reliable aircraft the C-130 was. The advice that stuck with me for the rest of my flying career, however, was the four primary ways the aircraft could kill you, or you could kill yourself: propellers, bleed air, minimum control speed, and fin stall. Today's C-130J pilots are fortunate that the "J" incorporates numerous safety measures. These safeguards include (1) a different, less mechanically complex propeller; (2) Advisory, Caution, and Warning Systems that warn us of impending stalls and sideslips; (3) right/left rudder instructions to bail us out of a fin stall; and (4) perhaps the most important of all—the Automatic Thrust Control System (ATCS) that will automatically assist the pilot in

avoiding "below" minimum control speed issues following engine failure after takeoff. To counter the potentially deadly asymmetric power effects of much higher thrust-producing engines and propellers, the ATCS will automatically reduce power on the symmetrical engine following an engine failure, thereby lowering the minimum control speed to a more reasonable/achievable airspeed.

During my C-130J initial cadre training at the Lockheed Martin Corporation in early 2000, I took particular interest in the ATCS as explained by the Lockheed Martin instructors and engineers. We received detailed training on the much higher air minimum control airspeeds caused by greater engine/propeller thrust, with only minor changes in the flight control authority of the airframe



A C-130 Hercules from the Nevada Air National Guard's 152d Airlift Wing conducts flight operations at Travis Air Force Base, CA. The C-130 Hercules is a workhorse for the Air Force. It has been in service for more than half a century.

USAF photo by Heide Couch

Unless the heightened minimum control airspeed dangers are recognized by C-130H aircrews, along with receiving realistic simulator training on how to react to and safely fly out of an engine failure immediately after takeoff, there will be high risks ahead for some of our C-130H aircrews.

design and control surfaces. I thought back to my Vietnam-era instructors and how much they would have appreciated an ATCS backing them up during those short runway, middle-of-the-jungle takeoffs.

I recently read about a C-130H Class A Mishap where flying below air minimum control airspeed and turning into an inoperative engine were listed as factors in the mishap. I thought how great it would be if all C-130H model aircraft in the USAF inventory had ATCSs to protect them during the potentially catastrophic engine failure immediately after takeoff scenarios.

Hence the purpose of this article. I have recently discovered that some USAF C-130H aircraft are, or will be, modified with higher thrust-producing, eight-bladed propellers (NP2000)—adding a purported 20 percent greater thrust during low airspeed situations. In addition, some aircraft will receive the more efficient 3.5 engines along with the new propellers. These modifications

apparently come without ATCS additions or changes in airframe design and/or flight control authority. Unless the heightened minimum control airspeed dangers are recognized by C-130H aircrews, along with receiving realistic simulator training on how to react to and safely fly out of an engine failure immediately after takeoff, there will be high risks ahead for some of our C-130H aircrews. The old “raise the dead and step on the ball” mnemonic might not be enough to counteract the increased asymmetric thrust unless safe airspeeds are achieved or symmetric engine thrust is correspondingly reduced. The safest way to achieve these goals is through realistic simulator training, and, if weapon system trainers are not available, very careful practice in the aircraft itself under strict instructor supervision.

In conclusion, my USAF C-130 flying career began at a time when C-130 aircraft malfunctions and system deficiencies caused nearly

as many fatal mishaps as aircrew-induced mishaps. Newer model C-130s with systems and engineering improvements and built-in safeguards have virtually eliminated fatal aircraft malfunctions. My final message as retirement looms on the horizon, and 46 years of corporate C-130 memory departs the fix, is a warning for current C-130H and C-130J crewmembers. Always remain aware that when pushed out of its envelope, the “very capable” and forgiving C-130H/J can turn into a handful of uncontrollable terror and quickly end the lives of everyone on board. Therefore, be aware of and prepared for the low-air-speed engine failure immediately after takeoff, and recognize the serious threat associated with dropping below critical air minimum control speed during the recovery. The 60-plus-year flying history of the C-130 airframe is littered with below-minimum control speed-related fatalities, so how many more times will this lurking killer claim our crewmembers in the future? Do not let it happen to you! 🇺🇸

# The 618th Air Operations Center and Commercial Augmentation: Strategic Support

BY MS. SOFIA SCHATZ, STAFF WRITER

The 618th Air Operations Center (AOC), located at Scott Air Force Base, IL, plays a prominent role in implementing Air Mobility Command's (AMC) mission to provide rapid, global mobility and sustainment for America's armed forces.

How significant is this role? The indispensable 618 AOC is tasked with the enormous job of overseeing AMC's flights worldwide!

The job entails the planning, scheduling, and directing of a fleet of nearly 1,100 mobility aircraft, including the C-5 Galaxy, KC-10 Extender, KC-135 Stratotanker, and more. It can also involve working with commercial contractors on an as-needed basis—a practice known as Commercial Augmentation. Commercial Augmentation is a successful tactic for the 618 AOC, which has always kept strategy at the forefront of every endeavor.

Initially known as the Tanker Airlift Control Center, the 618 AOC became operational on April 1, 1992. Air mobility leadership had wanted to streamline worldwide mobility because of previous extensive operations. Nearly 20 years later, on April 1, 2007, the centralized organization was redesignated as the 618 AOC. Now comprising

approximately 800 members, the 618 AOC has continued to be a strategic partner for today's and tomorrow's expeditionary Air Force.

In fact, in 2020, the 618 AOC proved its strategic mindset by implementing its largest, full-scale organization transformation. "The transformation was a monumental shift ... for the future success of mobility operations," said Brig Gen Jimmy Canlas, the 618 AOC Commander at that time.

In late 2020 and early 2021, under the current leadership of Brig Gen Daniel DeVoe, the 618 AOC sprang into action during the COVID-19 pandemic, transporting patients with COVID-19, as well as vaccines and equipment, around the world. Commercial Augmentation supported the 618 AOC in the effort and continues to be vital to the operations and success of AMC.

AMC can reduce the operational demand on aircrews through the continued support of commercial carriers and provide greater flexibility when supporting our warfighters downrange.

The partnership between the 618 AOC and commercially contracted carriers creates greater flexibility and availability for mobility forces. The civilian air fleet provides an invaluable

Airmen assigned to the 305th Aerial Port Squadron load the COVID-19 vaccine onto a Boeing 757 assigned to Air Transport International at Joint Base McGuire-Dix-Lakehurst, NJ, Jan. 13, 2021.

USAF photo by A1C Azaria E. Foster

service to the mobility mission, augmenting 90 percent of passenger movements and 30 percent of all cargo airlift—all carried out with safety in mind. When conducting operations, the 618 AOC utilizes the civilian air fleet in accordance with the national airlift policy. This practice means personnel work around the clock to assess cargo requirements, airfield capabilities, and aircraft availability to determine the best means for supporting the mission.

The flight managers and personnel at the 618 AOC are experts at balancing the operational needs of the mission while ensuring military aircrews are getting the training and experience they need to maintain readiness.

This seamless coordination ensures that the mobility forces are ready to respond whenever and wherever they are needed.

It is evident that this collaboration between the 618 AOC and commercially contracted carriers is successful. This partnership ensures that AMC continues to provide Rapid Global Mobility around the world. 

# The Responsibility of Risk

BY MSGT STEWART MITCHELL,  
WEAPONS SAFETY MANAGER, 92 ARW

In the weapons safety world there cannot be enough emphasis on the involvement of responsible commanders. Commanders at all levels may be responsible for some facet of weapons safety, whether it is an Additional Duty Weapons Safety Representative (ADWSR) program or a commander who owns the assets within a quantity distance (QD) arc. The job of the Weapons Safety Manager (WSM) is to understand and apply weapons safety principles to provide accurate guidance to responsible commanders. At the squadron level, the WSM also ensures ADWSRs are able to communicate the details of their own mission-specific requirements to their respective commanders.

So why is all this safety information important? Risk mitigation. One thing that makes the Profession of Arms relatively unique compared with the civilian sector is the propensity to operate with, or in close proximity to, ammunition and explosives (AE). Even if you do not work in a career field that typically handles AE, if you are on a military installation, chances are there is at least one area in which AE is stored. The introduction of AE into any location inherently comes with risk, whether from a safety or a security standpoint. The goal of the weapons safety program is to reduce that risk to the lowest level possible while still allowing the mission to continue.

As a WSM, it is vital to accurately assess and communicate the risks AE poses on an installation to its respective commanders. A WSM's job

is not to tell commanders what they can or cannot do, but provide multiple courses of action and illustrate the pros and cons of each. At the end of the day, commanders will do what they think is best for the mission—it is the WSM's responsibility to help them choose wisely.

The risk from AE will never be zero. At some point, a commander will need to make a decision between the potential loss of resources versus mission success. The decision may not be easy, and the potential result of a mishap may not be pretty, but such is the nature of command responsibility. Fortunately, commanders have a pool of subject matter experts (SMEs) to call on for advice, including the installation Safety Office. The Judge Advocate Office is another excellent resource for commanders and WSMs alike, as many weapons safety risk decisions must take the legal "do's" and "don'ts" into consideration as well. Other SMEs who may be included in making sound command risk decisions include Security Forces, Airfield Management, Maintenance, and Civil Engineering personnel.

Not only should the WSM be familiar with each of these helping agencies, but the familiarity should also be reciprocal. For example, if Civil Engineering is planning a construction project that falls within a QD arc, they need to make the WSM aware early on so the explosives site planning process can be initiated. No WSM succeeds on his or her own; weapons safety is truly a team effort involving all the helping

agencies on base that have a stake in the AE mission. In turn, the helping agencies involved make up the team that provides the best advice possible to the responsible commander so he or she can make a good risk decision when the time comes.

Another consideration the WSM must take into account is the responsible *level* of command for a given risk. Some AE risk decisions involve a great deal of risk that cannot be mitigated without degrading the mission. In all cases, the level of command that should be making that risk decision must be accurately determined. The greater the risk, the higher the level of command that is responsible for making the decision. In many cases, that decision will be at the flag officer echelon. As a general rule of thumb, in the event of a mishap, ask who will ultimately answer the mail. Consider not only resources on base (such as personnel, equipment, and infrastructure), but possible effects off base as well.

As you can see, weapons safety is a multifaceted environment, but it all boils down to managing risk. Commanders may be as involved or uninvolved as they see fit; however, it is the WSM's responsibility to be as involved as possible to ensure all AE-related risks are defined and mitigated within reason. With the assistance of a team of ADWSRs and helping agency SMEs, the WSM provides an essential link between commanders and successful mission accomplishment. 🇺🇸

The sun rises over a C-17 Globemaster III aircraft on the flight line at Dover Air Force Base, DE, April 23, 2021.

USAF photo by A1C Stephani Barge



## ASAP 16302: High-Speed Approach Miscommunication

BY MS. KATHY ALWARD, STAFF WRITER

Recently, C-17 Instructor Pilot Major Evin Negrón, Dover Air Force Base, DE, learned things do not always go as planned when requesting a high-speed approach during routine training. No stranger to the Airman Safety Action Program (ASAP), he knew the miscommunication with air traffic control should be documented and shared with fellow aircrews.

Initially everything went according to plan, said Negrón. However, when they returned to home station some unexpected weather started to develop close by. They were able to avoid the inclement weather, which according to Negrón is necessary for a smooth

approach, complete the first landing, and perform the Full Stop/Taxi Back checklist. The flight crew planned to terminate the training exercise; however, after landing, the severe weather was rapidly moving away and conditions improved enough to continue, said Negrón.

At this point Negrón said they adjusted the training back to their original plan. The communication breakdown occurred, according to Negrón, when one of the pilots mentioned that he had heard at a recent briefing that high-speed approaches could be approved on a case-by-case basis. The Federal Aviation Administration's general rule in the national airspace, stated Negrón, is that pilots cannot exceed 250 knots

below 10,000 feet altitude unless their plane, like almost all their operations, requires it.

Under normal conditions, it is safe to fly a C-17 at the slower speed, so the higher speed is not requested as it is unnecessary; however, in uncertain environments it may become necessary to increase the plane's speed to ensure a safe landing, so practicing the procedure is essential. At this point Negrón decided to fly at the normal slower speed on the first takeoff and approach because he wanted to be sure the weather had cleared.

The clouds had gotten higher and they had the required airspace to fly faster, so on the second takeoff

**Although this is one instance in which things did not go according to plan, progress was made by the ASAP that Negron submitted.**



approach and landing Negron requested the high-speed approach below 10,000 feet, and the tower granted them permission. The flight crew then flew two high-speed approaches, which Negron said was good training because their turning radius is bigger, so the approach had to be revised accordingly.

It was not until the third request for permission to execute a high-speed approach that the miscommunication occurred. Air traffic control told the crew to maintain Visual Flight Rules (VFR), which according to Negron was not an answer to the request. He was instructed to maintain clearance from the weather. Negron said they asked air traffic control a second time for permission to execute a high-speed

approach, and he again was given direction to maintain VFR. During a third request the crew was told to maintain normal speed, which was an indicator that the air controller was apprehensive about another high-speed approach.

Coincidentally, that was their last planned approach so they landed and debriefed as a crew. "During the debrief, the crew discussed the events and agreed that prior to requesting high-speed work in the future they would confirm with tower that a formal policy was in place allowing speed restrictions to be deleted," said Negron. The flight crew realized at that point that they should have obtained written approval before conducting the high-speed maneuver.

Negron also reviewed AIM 4-4-12 and 14 CFR 91.117 as the governing regulations for this situation. Because the guidance is somewhat ambiguous, Negron debriefed the crew that they should not request high speed below 10,000 feet until further clarification was gained. The crew discussed the case-by-case approval mentioned on board and realized it may have been erroneous word-of-mouth information.

After the debrief, Negron immediately spoke to his squadron Director of Operations (DO) and later discussed it with his squadron commander. Negron's squadron DO contacted the tower supervisor and was informed that no formal policy existed, so Negron shared the valuable information with the crew and other squadron members.

Negron then submitted the ASAP and suggested "Clear communication to pilots that high speed (above 250 kts) should not be requested in airspace unless a letter of agreement is created and approved to allow for such training. I have contacted tower and informed them that pilots will not make such requests, and I will contact our counterparts and inform them of the same."

Although this is one instance in which things did not go according to plan, progress was made by the ASAP that Negron submitted. There is now clarification that a letter of agreement must be created and approved to allow for high-speed (above 250 kts) training in the airspace.

Mr. Tim Grosz, Chief, Operations Risk Assessment and Management System, said, "Thank you for your ASAP. As was demonstrated, word-of-mouth information is not always correct and needs to be confirmed. Your ASAP will help other crews comply with the local procedures." 



# AMC During 9/11/01: *The 20th Anniversary of the Terrorist Attacks*

BY MR. GARY ELL, STAFF WRITER

On the morning of September 11, 2001, the Secretary of the Air Force, Public Affairs team from New York City (NYC) had arrived at McGuire Air Force Base (AFB) in New Jersey to have their official photos taken. It was an ordinary day, and I looked forward to networking with our friends from NYC. They used our services for fun assignments, such as when an Air Force officer threw out the first pitch at Yankee Stadium. The very least I could do in return was to provide them with exceptional studio photography for their official photos.

At about the same time, al-Qaeda terrorists hijacked four commercial passenger airliners—with a dastardly agenda. We were alerted to turn on the television sometime during the portrait session, and we watched as the first plane crashed into the World Trade Center. The team from NYC frantically watched, worried for their loved ones who were somewhere in lower Manhattan during the attacks. One officer knew that her school-age child was near the vicinity of the World Trade Center. With tears streaming down her face, she stated that her cell phone was not working.

Unbeknownst to us at the time, the attack had cut cellular service from the transmission tower on top of the collapsed north tower.

A KC-135 Stratotanker had already been launched to refuel the F-15s that were pursuing the hijacked aircraft before the second plane hit. Then the third plane crashed into the Pentagon, and the fourth plane crashed into a field near Shanksville, PA. It was terrifying as we watched with tears flowing down our faces, followed by fears of the unknown. What the hell was going on? Were we at war?



Search-and-recovery operations in progress on September 24, 2001.

USAF photo by Gary Ell

In Air Mobility Command (AMC), the response to the attacks was immediate. “AMC’s response to the terrorist threat simultaneously proceeded in different directions to provide for homeland defense in the first 48 hours after the terrorist attacks,” the AMC Office of History states. “As soon as the FAA [Federal Aviation Administration] directed clearing skies of aircraft, AMC ordered to land the fleet. At the same time, they coordinated with the FAA to put assets in the air to protect the homeland, to support national leadership, and to provide disaster relief.” It also meant that AMC was to support movement for President George W. Bush.

And that is exactly what we did. At McGuire AFB (now named Joint Base McGuire-Dix-Lakehurst), I

managed the visual information services function, a small team of highly skilled aircrew-certified photojournalists that would be at the epicenter, documenting the missions as they unfolded. Search-and-rescue teams and medical supplies were airlifted by AMC aircraft and crews on September 12. McGuire became the staging center, designated by FEMA (Federal Emergency Management Agency) to house and feed urban search-and-rescue teams operating in New York City. The base also established a combat support hospital and a tent city for evacuees, in case they needed it. McGuire also assumed from Andrews AFB the designation as FEMA’s mobilization center for the aerial port of debarkation. Our team of photojournalists would now be supporting NORAD (North American

Aerospace Defense Command), FEMA, and President Bush.

During the first 48 hours following the attacks, aircrews in AMC and its gained assets flew 37 airlift missions in support of homeland defense. Operation Noble Eagle also began on September 11, and AMC was right in the middle of the support effort. Noble Eagle’s core mission is the air defense of the U.S. homeland. The dilemma that I had was how to cover all those taskings coming in from NORAD, FEMA, Air Force Special Operations Command, and AMC with only four photojournalists—at least until the 1st Combat Camera could deploy assets from Charleston AFB to relieve us.

Lt Gen Brad Webb, Commander of Air Education and Training Command



Fireman Frank Quilles.  
Photo by Gary Ell



Photos of Ground Zero by Gary Ell

FEMA members transitioning from McGuire AFB, NJ, to Ground Zero.

USAF Photo by Scott Spitzer



(you may recognize him as the guy sitting next to President Obama in the Situation Room during the Bin Laden raid)—then Lt Col Webb—was serving as an MH-53 Pave Low pilot. When the attacks occurred, crews from the 20th Special Ops Squadron from Hurlburt Field, FL, were on a TDY at Fort Bragg, NC. “We had just completed a night cycle when I heard about the first plane hitting the World Trade Center,” Webb said. “I had just woken up and was watching the news when the second plane hit. I think everyone realized then it was not a mistake.” The detachment of Airmen rallied and prepared to respond immediately to the crisis. With air space shut down all over the country, the crews were on standby. “At the time, we thought the mission would primarily be recovery of the people who were

injured or affected by the 9/11 attacks,” Webb said. “We had no idea how devastating the attacks were.” Just before midnight, the aircrews arrived at McGuire AFB and prepared for the next day’s uncertainty. “Our instructions were very clear and direct: Go help Americans,” Webb said. “And that’s what we were focused on.”

On September 13, FEMA tasked our team to provide aerial images of Ground Zero. I met Webb and the crews of the MH-53s, and we were on our way. It was haunting as we buzzed over an empty Verrazano Bridge that was closed to traffic and, a few minutes later, flew into the acrid pillar of smoke that engulfed lower Manhattan. In a dramatic twist of events, our helicopters landed on the USS Intrepid Museum. Webb

had contacted the Intrepid’s curator before we arrived and formulated a plan to move the static displays to one side of the flight deck so the MH-53s could land. Due to the limitations of civilian helicopters, we did not have information on the actual locations affected at the site. The agencies on the ground needed situational awareness of the disaster site and where to best concentrate the firefighting. We linked up with FEMA on the ground and developed a plan to provide the first pictures of the area since the devastation occurred. The aerial perspective left us feeling aghast. Between the smoke, the acrid smell, the chaos on the ground, the lost innocent souls, and the massive destruction site, it was very hard to digest what we just experienced. I laid my head between my shaking knees



Above, left to right: Gary Ell; Scott Spitzer; Kenn Mann; MSgt Monica Lopez, 514th Air Mobility Wing Public Affairs, McGuire AFB, NJ; TSgt Michael O’Conner, 305th Air Mobility Wing Public Affairs, McGuire AFB, NJ.

Photo by Jarrod Needle

as we headed back to McGuire. It was right after sunset, and I looked up at the very second that my pilot buzzed the Statue of Liberty. In that flash, the window framed only the loving, beautiful eyes and smile of the statue, which was recorded and permanently archived in my memory. I was at a low, but she was still bravely standing there in the harbor, giving me a smile and the nod that I needed. In that moment, I knew we would be OK.

Our team consisted of me as lead, Kenn Mann (USAF Aircrew-Certified Photographer), Scott Spitzer (USAF Aircrew-Certified Photographer), John DeStefano (Graphics Illustrator), and Carlos Cintron (Support Photographer). Because Combat Camera folks were deployed in the field, I brought a support

photojournalist, Jarrod Needle, from the U.S. Naval Submarine Base New London in Groton, CT.

On just one day, September 14, we covered President Bush’s historic visit to Ground Zero via McGuire, Combat Air Patrol refueling missions over Manhattan, FEMA aerial photography of Ground Zero, search-and-recovery operations, and FEMA support personnel transitioning.

The 305th Air Mobility Wing Public Affairs team from McGuire AFB brought in support staff from the 108th and 514th Air Force Reserve Squadrons. MSgt Mark Haviland (USAF/Ret.) served as Non-Commissioned Officer in Charge of the Base Public Affairs office. He stated, “We took over the McGuire

AFB Officer’s Club and established a media center following the attacks. We responded to more than 2,000 media queries in the days following the attacks.”

By the end of 2001, tanker aircrews, flying both KC-135s and KC-10 Extenders, had completed 3,199 missions, and their receivers numbered 9,822. On one peak day in 2001 while supporting the operation, tanker aircrews flew 74 missions in a 24-hour period.

“During those first months of the contingency, AMC also had 228 airlift missions, delivered 2,189 passengers, and moved more than 1,490 short tons of cargo,” AMC history shows. 🇺🇸

Airmen from the 60th Aerial Port Squadron prepare to load COVID-19 supplies onto a C-5M Super Galaxy as it sits on the flight line at Travis Air Force Base, CA, April 28, 2021.

USAF photo by SrA Jonathon Carnell

## Travis Air Force Base, CA, Airlifts Emergency Medical Supplies to Combat COVID-19 Surge in India

BY MR. GARY ELL, STAFF WRITER

Significant progress has been made against COVID-19, but it is still a pandemic. As part of a whole-of-government effort to slow and eventually end the pandemic, the United States sent medical supplies and equipment to India starting on April 28, 2021, as that country battled a devastating outbreak.

Quick thinking and expert problem solving made the difference to allow the flight team to be ready for immediate takeoff as the men and women of the 618th Air Operations Center (AOC), Scott Air Force Base (AFB), IL, rapidly mobilized military aircraft to airlift lifesaving medical supplies to the people of India. The 618 AOC immediately identified a primary and backup aircraft at Travis AFB, CA, and put their assigned crews into crew rest before the cargo arrived on-site to be loaded onto the aircraft to ensure a quick departure.

Once the supplies arrived, local teams moved quickly to palletize and prepare the cargo to be loaded on the aircraft in less than 24 hours by opening an additional security gate that is typically locked so delivery vehicles could drive onto the base and proceed directly to the tarmac without delay.

Additional time was saved when the 618 AOC directed the aircraft to fly the eastern route instead of the typical western flight path from California. An available crew in Djibouti replaced the original flight team while the aircraft was being refueled on the ground to ensure an immediate takeoff. The C-5M Super Galaxy was loaded with oxygen cylinders and regulators, N95 masks, and COVID-19 rapid diagnostic kits. The following day, a C-17 Globemaster III also departed Travis AFB, CA, bound for India, carrying additional oxygen cylinders and diagnostic kits.

The medical supplies were donated to India by the U.S. government through the U.S. Agency for International Development (USAID). USAID leads international development and humanitarian efforts to save lives, reduce poverty, strengthen democratic governance, and help people progress beyond assistance.

Through a massive mobilization effort, the U.S. government delivered on its commitment to stand with the people of India as they fought a devastating second wave of COVID-19. In less than 1 week, the U.S. government rapidly deployed six planeloads of lifesaving supplies to New Delhi and mobilized

its partners in India to increase surge support immediately. The combined U.S. government assistance to combat the current crisis is approximately \$100 million. In addition, the United States is working closely with Indian officials and health experts to identify and respond to emerging trends in this ongoing crisis.

**“This is what my troops train for: to represent the United States of America in a humanitarian crisis or a national defense contingency.”**

- John Buchanan, 60th Aerial Port Squadron Civilian Operations Officer

The generosity of the American people will have significant, lifesaving impacts for critically ill patients battling COVID-19. The six emergency airlifts to India, deployed in only six days, delivered the following:

- › 20,000 courses of Remdesivir (125,000 vials) to help treat critically ill patients.
- › Nearly 1,500 oxygen cylinders to address India’s critical oxygen

shortage, which can be repeatedly refilled at local supply centers.

- Nearly 550 mobile oxygen concentrators that obtain oxygen from ambient air. These units have a lifespan of more than 5 years and can serve multiple patients at once, depending on their oxygen needs.
- 1 million rapid diagnostic tests to quickly identify COVID-19 cases and prevent community spread.
- Nearly 2.5 million N95 masks to protect healthcare professionals and other frontline workers.
- A large-scale Deployable Oxygen Concentration System that can provide oxygen to treat 20 or more patients at a time.
- 210 pulse oximeters to measure oxygen levels in a patient's blood to determine whether a higher level of care is needed.

At the request of the Government of India, USAID provided these urgently needed supplies to the Indian Red Cross Society to ensure they reach those in need as quickly as possible.

The six U.S. government shipments were made possible by a USAID-led whole-of-government effort, which included the Department of Defense; Department of State; Department of Health and Human Services; Travis AFB, in partnership with California; National Airlines; and United Airlines.

In addition to the airlifted supplies, USAID immediately allocated funding to purchase locally 1,000 mobile oxygen concentrators to be used in hundreds of primary healthcare facilities to address India's critical oxygen shortage. USAID also supports the Government of India's efforts to stand up 150 Pressure Swing Adsorption oxygen generating plants,

allowing 150 healthcare facilities to generate oxygen for years to come.

This surge of immediate assistance builds on the United States' 70-year development partnership with India and USAID's ongoing response efforts in India since the beginning of the COVID-19 pandemic.

USAID will leverage its experience with a range of private-sector partners—from manufacturers to investors, from multinational companies to small- and medium-sized enterprises—to meet the critical needs arising from the COVID-19 pandemic.

**“Right now, this is the number one mission for Travis [AFB],” said Buchanan. “Thousands and thousands of people need help. It is about the bigger picture.”**

“India is a major defense partner to the U.S., and providing assistance is just something partners do,” said John F. Kirby, Pentagon press secretary, during a press briefing in May. “The United States deeply values our partnership with India,” Kirby said. “We are determined to help the people in India as they bravely combat this outbreak.”

During a visit to India in April, Secretary of Defense Lloyd J. Austin III stressed the importance of the United States' alliance with India. “As the world faces a global pandemic and growing challenges to an open and stable international system, the U.S.-India relationship is a stronghold of a free and open Indo-Pacific region,” Austin said. “And it is clear that the importance of this partnership and its impact [on] the international, rules-based order will only grow in the years ahead.” 



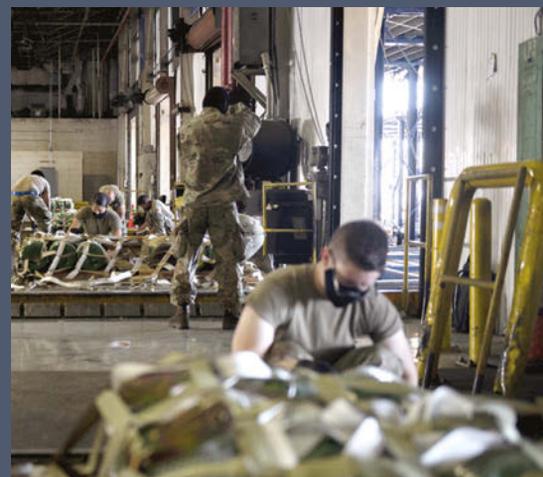
Airmen assigned to the 60th Aerial Port Squadron organize cargo April 28, 2021, in the 60 APS Warehouse at Travis Air Force Base, CA.

USAF photo by SrA Jonathon Carnell



Oxygen cylinders and other COVID-19 supplies sit in a C-5M Super Galaxy at Travis Air Force Base, CA.

USAF photo by SrA Jonathon Carnell



Airmen assigned to the 60th Aerial Port Squadron strap down cargo in the 60 APS Warehouse at Travis Air Force Base, CA.

USAF photo by SrA Jonathon Carnell



# MOBILITY GUARDIAN 2021: Advancing Air Mobility Command Capabilities to Prepare for the Future Fight

BY MS. LAUREN SCHATZ, STAFF WRITER



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In its third year, MOBILITY GUARDIAN 2021 successfully marked a pivotal moment in Air Mobility Command (AMC) history.

Conducted biennially, MOBILITY GUARDIAN is AMC's largest and longest enterprise-wide training event. This year, more than 1,800 mobility, combat, and reserve forces, as well as forces from the U.S. Army, were in attendance.

MOBILITY GUARDIAN originated from the AMC RODEO, an international airlift competition that has been hosted by the United States Air Force AMC since 1962, making it a strong part of AMC tradition.

Along with the name change in 2017, MOBILITY GUARDIAN's training exercises were restructured with new objectives in mind. Rather than have trained teams compete, the exercises were set up to challenge Airmen's readiness in various situations.

This year's 13-day MOBILITY GUARDIAN took the challenge of readiness a step further.

"MOBILITY GUARDIAN 2017 was at [Joint Base Lewis-] McChord, [WA], and 2019 was at Fairchild [Air Force Base, WA]," said Lt Col Brian C. Thomasson, Exercise Director, MOBILITY GUARDIAN 2021. "There are a lot of benefits to operating out of an AMC base or a more established base. The support that you have there, and just the familiarity with that operating environment, but we really wanted to challenge our Airmen by bringing it into an unfamiliar place."

This year, the exercise participants found themselves operating out of several locations, including the Alpena Combat Readiness Training Center, MI; the Oscoda-Wurtsmith Airport, MI; and Volk Field, WI.

The location change may seem unusual because the training is typically held on AMC bases, but a closer look reveals meticulous strategizing behind the selection. Planned in the midst of the COVID-19 pandemic, the expert team of planners also faced the challenge of incorporating concepts, such as Agile Combat Employment (ACE), that will prepare AMC for the road ahead.

1 MSgt Lee Bostson, 621st Contingency Response Group Contingency Location Team Lead, tests a new virtual reality system during Exercise MOBILITY GUARDIAN 2021 at Alpena Combat Readiness Training Center, Alpena, MI, May 17, 2021.

USAF photo by SrA Lawrence Sena

2 Soldiers assigned to 1st Battalion, 182d Field Artillery Regiment, Michigan Army National Guard, operate an M142 High Mobility Artillery Rocket System at Volk Field Air National Guard Base, WI, May 19, 2021.

USAF photo by SSgt Joseph Pick

3 A Loadmaster and members of the 321st Contingency Response Squadron strap down an MRZR all-terrain vehicle on the back of a C-17 Globemaster III during Exercise MOBILITY GUARDIAN 2021 at Alpena Combat Readiness Training Center, MI, May 24, 2021.

USAF photo by SrA Aaron Irvin

4 Aeromedical evacuation team members unload simulated patients off of a C-17 Globemaster III May 24, 2021, at Alpena Combat Readiness Training Center, MI, in support of MOBILITY GUARDIAN 2021.

USAF photo by SrA Charles T. Fultz

5 Capt Zachary Robinson, 39th Airlift Squadron Pilot, checks a map while flying over Michigan during MOBILITY GUARDIAN 2021, May 20, 2021.

USAF photo by SrA Aaron Irvin

6 TSgt Joe Campbell, a Loadmaster assigned to the 300th Airlift Squadron, guides an M142 High Mobility Artillery Rocket System off of a C-17 Globemaster III assigned to the 62d Airlift Wing at Volk Field Air National Guard Base, WI, May 19, 2021.

USAF photo by SSgt Joseph Pick

7 SrA Spencer Young, a Loadmaster assigned to the 8th Airlift Squadron, waits to perform an engine check on a C-17 Globemaster III assigned to the 62d Airlift Wing at Alpena Combat Readiness Training Center, MI, May 20, 2021.

USAF photo by SSgt Joseph Pick

8 Special Tactics Operators communicate while controlling an airfield during MOBILITY GUARDIAN 2021 at Alpena Combat Readiness Training Center, MI, May 24, 2021.

USAF photo by TSgt Sandra Welch

9 SSgt Paul Gomez, 87th Logistics Readiness Squadron Fuels Laboratory Noncommissioned Officer in Charge, tests fuel prior to off-load during MOBILITY GUARDIAN 2021 at Oscoda-Wurtsmith Airport, Oscoda, MI, May 18, 2021.

USAF photo by SrA Lawrence Sena

10 Aircrew members assigned to the 41st Airlift Squadron and Air Transportation Specialists assigned to wings throughout AMC prepare to load container delivery systems onto a C-130J Super Hercules assigned to the 19th Airlift Wing at Alpena Combat Readiness Training Center, MI, May 21, 2021.

USAF photo by SSgt Joseph Pick

11 TSgt Lance Oakes, Fire Team Lead assigned to the 621st Contingency Response Squadron, activates a semi-autonomous quadrupedal unmanned ground vehicle during MOBILITY GUARDIAN 2021 at Alpena Combat Readiness Training Center, MI, May 22, 2021.

USAF photo by A1C Matthew Porter

SrA Austin Hayden, 62d Aircraft Maintenance Squadron Crew Chief, aims his M4 Carbine training weapon as part of Force-on-Force training during Exercise MOBILITY GUARDIAN 2021 at Alpena Combat Readiness Training Center, Alpena, MI, May 22, 2021.

USAF photo by SrA Lawrence Sena



An A-10 Thunderbolt II conducts aerial refueling with a KC-135 Stratotanker assigned to the 6th Air Refueling Wing above Michigan, May 25, 2021.

USAF photo by SSgt Joseph Pick



Aeromedical evacuation team members conduct CPR on a simulated patient May 24, 2021, at Alpena Combat Readiness Training Center, MI, in support of MOBILITY GUARDIAN 2021.

USAF photo by SrA Charles T. Fultz

“In the past, the event has been at bases that were already established and AMC-based,” said Brig Gen Roy W. Collins, Headquarters, U.S. Air Force Director of Security Forces and Deputy Chief of Staff for Logistics, Engineering, and Force Protection. “This one had to take a lot of different factors into account for ACE and challenge our Airmen in an unfamiliar place.”

Collins said this MOBILITY GUARDIAN certainly had many “firsts,” which were key to preparing Airmen for the next 20 or 30 years.

ACE is a concept designed with highly capable adversaries, such as China or Russia, in mind and involves spreading out and moving quickly among smaller operating bases—often called a “lift and shift.” It calls for Airmen to be proficient in many skills necessary to support air operations, referred to as multi-capable Airmen (MCA). The universal capability can be crucial for the quick movement involved in ACE.

Collins and the team involved in the event’s 18-month planning process felt the remote locations with less air traffic simulated more realistic training environments and thus more potential challenges to overcome.

The “Edison approach” of trial and error was highly encouraged at this year’s MOBILITY GUARDIAN so any kinks could be worked out during training.

“We’re not just testing what we’re already good at,” explained 28th Mission Generation Squadron Commander and 54th Air Refueling Squadron Operations Director Lt Col Benjamin Davidson. “We’re exercising things we’ve never done before and learning from any obstacles that arise. Failing forward is really the big picture for this event.”

One training scenario for the crews at Oscoda was a silent launch. This term refers to complete radio silence during a takeoff, which can be challenging but vital for keeping key information away from an adversary’s ears. During a silent launch, Lt Col Daniel Richardson, 821st Contingency Response Squadron, made time to speak with us. Thoroughly versed in contingency response, he reflected on operations from the past 20 years but stressed that it was the past and that today’s mobility force must pivot in a different direction for tomorrow’s fight.

Richardson said, “If we are serious about preparing for a fight against a near-peer adversary, we must change the way we train to look more like this. One step at a time. This is a great first step. I did not appreciate how big of a first step this was until I got out here. My hat’s off to the exercise design team; from a conceptual standpoint, it is rock solid, in my opinion.”



Team Dover Airmen load cargo into a C-5M Super Galaxy at Dover Air Force Base, DE, prior to departure for MOBILITY GUARDIAN 2021, May 16, 2021.

USAF photo by A1C Cydney Lee

## MOBILITY GUARDIAN 2021 BY THE NUMBERS

Total Personnel: **1,900**

Sorties: **172**

Air Cargo: **297.7 TONS**

Line Haul Cargo: **718.6 TONS**

Pax Gray Tail: **785**

Pax Commercial/POV: **708**

AE Patients Moved: **523**

JET-A Issued: **+1M Gallons**

Force Bladder at Oscoda:

**1.4M Lbs Loaded**

The exercises served to drive myriad outputs: command priorities, focus areas, force development, force posture, training development, and resourcing decisions. The training educates Airmen and Soldiers on the importance of the operational evolution needed to prepare for tomorrow's fight.

This mindset created a spirit of camaraderie among the many varying groups in attendance at MOBILITY GUARDIAN 2021. Due to the large crowd, leaders selected a doctrinally correct but new concept and relationship structure that included appointed, temporary leadership—or “mayors.” Other commands have already taken an interest in this innovative structure, said Col Colin E. McClaskey.

The high morale was especially evident in Oscoda, despite the conditions of the base. The remote airfield, which was once home to Mobility Air Command aircraft, is where participants lodged in a “tent city” for the exercise. These accommodations meant days of tent showers, latrines, and Meals Ready to Eat to parallel conditions in an austere location.

Nevertheless, there was an atmosphere of teamwork and excitement at the base, whether it was demonstrated through everyone pitching in to put up tents, picking up a couple hundred pounds of foreign

object debris, or simply distributing essential supplies. It was truly the MCA concept in motion.

Jeanie Hood from Headquarters (HQ), AMC Flight Safety could not resist showing the Airmen some appreciation for their extremely positive attitudes and hard work. From handing out cold Gatorade to those standing in the heat to passing out more than 80 hamburgers (that she personally paid for) to those doing tiring work, such as the refueling team, the genuine kindness exemplified by Hood was matched in each and every Airman who strived to help one another succeed.

Apart from the treats, Hood and the team from the safety office also worked hard behind the scenes to ensure the event went off without a hitch and that everyone stayed safe. Preparing to be at these locations posed a challenge, however, not only to exercise participants but also to operators and staff.

“Executing air mobility operations in an austere environment challenges the traditional safety tenants employed at the established operational bases [to which] we are accustomed,” said Lt Col Adam King, Chief, HQ AMC Flight Safety. “However, as new operating concepts emerge, so do more innovative mindsets. Safety is fluid, and thus we adapt to these changes to ensure that everything is executed as safely as possible.”

King noted that these changes also place more responsibility on each Airman.

In a year of firsts, this year also included the first-ever integration of the colossal KC-46 Pegasus into AMC's flagship exercise, which was a welcome sight for those on location. In addition, for many participants, ACE and MCA were new, forward-thinking concepts that support the National Defense Strategy. New technology, such as the Advanced Battle Management System, paired with the emerging concept of Joint All-Domain Command and Control, modernized the training environment as AMC prepared for the future high-end fight.

AMC Airmen met and exceeded each challenge throughout, and it was their willingness to embrace change that made it a success, which is why America relies on them to project strength and deliver hope. The robust and relevant training of MOBILITY GUARDIAN 2021 helped develop the force and accelerate needed change. The event helped the Mobility Airmen continue to be the single greatest comparative advantage the United States has against an adversary and ensure that America continues to have the best “home” and “away game.” 

# A Lesson Learned the Hard Way

BY MS. SOFIA SCHATZ, STAFF WRITER

Getting behind the wheel after drinking, even just one time, can have tragic consequences—for you and others. This grim reality is why Daltyn Ryan Stout shares his story. The young man went from looking forward to a bright future with a promising career to a 20-year prison sentence for murder after a tragic accident.

As a recent high school graduate, 19-year-old Stout had a promising future. He had a great job at an oil refinery and had just received a promotion. After work, he often hung out with his friends and would drink a few beers. Stout said alcohol was not a large part of his life. Even so, it soon became the reason his life changed forever—and for the worse.

At 1:42 a.m. on September 12, 2015, outside a small Oklahoma town, Stout and his friends were in a terrible auto accident. The sad outcome was the vehicle upside down in a ditch and the death of a young man. Tragically, one of Stout's friends, Cody Grantham, was critically injured in the crash. Grantham was missing at the scene, and when found, he was rushed to the hospital, where he sadly passed away. Grantham was only 22 years old when his life ended. He was survived by a loving family who said that he had been so

full of life, enjoying motocross, Frisbee golf, and fishing. Cody had the type of personality that wanted to make people laugh. He had so much ahead of him as he had started a career in a disability services company after graduating high school. Sadly, his untimely death could have been prevented.

Stout shared that they were not wearing their seatbelts, which played a significant role in Grantham's death. When driving, wearing a seatbelt is crucial for surviving a collision. According to the National Highway Traffic Safety Administration (NHTSA), 2,549 lives were saved in 2017 by wearing seatbelts. Grantham could have been saved if he had been wearing a seatbelt that morning. It is always important to buckle up, no matter the distance of the drive.

It was driving under the influence, however, that led to the reckless behavior that was the primary cause of the crash. Immediately following the accident, Stout gave a statement to the police about what happened. This report was the first of many times he would share his story. The young man admitted that he was driving after drinking five or six beers. Stout explained how he lost control of the vehicle and ended up rolling into a ditch. While on a curving road, he

began driving too fast, showing off the power of his truck for his friends. Tragically, the situation quickly got out of hand when the truck flipped into the ditch.

One of the effects of alcohol is that it can severely affect your vision. Additionally, it slows reaction times, making you less alert, drowsy, and unable to concentrate. It can also reduce how well you gauge the position of other cars on the road or objects nearby.

When Stout took a sobriety test, it showed that he was barely over the legal limit. You may think your friends will stop you from driving a vehicle if you have had too much to drink, but often they cannot tell, especially if they have also had a drink or two. They also may trust your judgment and want to avoid any awkwardness of confronting you or potentially taking your keys away. Bottom line: if you have had a drink, do not drive.

Having the mindset of invincibility is also often detrimental. You might think you are sober enough to drive because you are not showing any signs of inebriation, but remember, although Stout appeared fine, he still crashed his vehicle. You cannot underestimate your level of intoxication. You have to

think, "Better safe than sorry," even if you think you are sober enough to drive. Be aware that it is extremely difficult to gauge. If you are ever in a situation where you have alcohol in your system, even just one drink, please remember that the seemingly small decision to drive can change your life for the worse. Stout had to learn that the hard way.

Stout was not the only one to receive consequences, as drinking and driving, especially combined with underage drinking, are very serious issues. A young man named Joel Benjamin Kassen was also a passenger in the car, and he was charged with the second-degree manslaughter of Grantham. He had paid for the alcohol with Stout's credit card. Later, Kassen's charge was dismissed. Although Kassen may have thought his actions were harmless, this accident shows that there can be tragic consequences for contributing to the delinquency of minors. Several bad decisions in one night destroyed the lives of three young men and their families.

That is why it is critical to plan ahead. Know that you may easily make a poor decision when drinking. Select a designated driver ahead of time or have someone in mind to phone to give you a lift if you have had a drink. Then there is also the option of spending the night somewhere. If you are at a safe place, stay there, or find a nearby hotel and wait until morning to drive home. Even the simple act

of waiting to drive or calling a Lyft or Uber can save you from years in prison and other consequences. If you have a collision, you may lose your license, be fined, increase the cost of your car insurance, and, of course, receive possible jail time. None of these repercussions compare with living with the guilt of being responsible for someone losing his or her life.

Although Stout has faced harsh imprisonment and tremendous regret, he emphasized that he does not want pity or forgiveness; he wants people to mourn the loss of a beautiful soul whose life ended too soon. Stout wants his story to serve as a reminder to never get behind the wheel of a vehicle after consuming alcohol. He wants people to learn how to avoid his mistakes and to plan ahead when drinking.

This event is only one of many tragic stories of someone's life ending because of drinking and driving. According to NHTSA, more than 10,000 deaths per year are due to drunk driving. Sadly, frequently these deaths are children. In 2018, more than 230 children age 14 or under were killed in drunk-driving collisions.

Stout's story and the many untold stories teach us valuable lessons. One of the lessons is to surround yourself with the right people who encourage risk management and prioritize personal safety over a good time.

It may feel like you are going the extra mile to make the responsible

decision during certain situations, but that decision could significantly affect your future. The choices you make are your responsibility, and it is always crucial to think before you act because one small good decision can prevent a lifetime of pain. If you drink alcohol, please contact someone. Do not be afraid of bothering them because your safety and the safety of others outweigh any awkwardness or inconvenience. Choosing to do what you can to spread awareness about the effects of drinking and driving to others around you can save countless lives. Unapologetically sharing the message could help, even if you do not think it will make a difference—your voice matters. Talking with the next generation can help them understand the gravity of irresponsible drinking and help them adopt better decision-making skills.

Educating ourselves about the consequences of drinking and driving and sharing this incident with others can make a difference, even if we are not aware of it. Stout shares his story in memory of his friend, Cody Grantham. Stout wants others to know that one instance of carelessness can have life-long consequences. With this advice in mind, please develop safe habits so you can have a fun time without putting yourself or others in harm's way. It is easy to avoid by planning ahead before you have a night out. Keeping Stout's story in mind could potentially save your or others' lives. 



SSgt Kelly Jarrell, 19th Logistics Readiness Squadron Fuels Distribution Supervisor, prepares to load fuel into an Aerial Bulk Fuel Delivery System at Alpena Combat Readiness Training Center, MI, May 19, 2021.

USAF photos by SrA Aaron Irvin

## Fuel Management: The Heart of Airlift and Aerial Refueling

“Without fuel, the Air Force mission does not get accomplished,” said SSgt Garrett Huntoon, 374th Logistics Readiness Squadron Fuels Service Center Controller.

Fuel is an essential resource for Air Mobility Command (AMC) and the Air Force in times of peace, and if reserves run dry during war, there is no fight. To prepare for tomorrow’s high-end conflict, the Petroleum, Oils, and Lubricants (POL) Airmen, who are entrusted with the transport, monitoring, and use of this extremely valuable asset, honed their skills at the recent MOBILITY GUARDIAN 2021 exercise.

*The Mobility Forum* took a closer look at what it means to be a POL Airman while on location at the Oscoda-Wurtsmith Airport in Oscoda, MI, on May 20, 2021. The group was kind enough to give a tour and rundown

of their day-to-day duties, which revealed some fascinating, not to mention rare, equipment.

The main attraction, of course, was the massive Fuels Operational Readiness Capability Equipment (FORCE) mobile fuel bladder. During the exercise, the fuel bladder contained approximately 100,000 gallons of fuel; however, it holds more than 210,000 gallons when full. To put it into greater perspective—the maximum transfer fuel load of the KC-135 Stratotanker is slightly under 30,000 gallons, so in an austere location, the fuel bladder could keep 7 KC-135s in the air. In comparison, smaller aircraft, like the F-16 Fighting Falcon, can hold around 1,000 gallons of fuel, fully loaded, so FORCE has the capacity to fuel up to 210 of them!

Talk about heavy—each gallon of fuel weighs in at 6.8 pounds, which equates to 1,428,000 pounds at maximum capacity. In addition to the enormous

size and weight, FORCE held more interesting facts. For instance, one would think that more than 100,000 gallons of jet fuel sitting in the heat on a flightline might be cause for concern, but astonishingly, the precious contents remain a constant 62 degrees, even in the blistering sun.

All the equipment involved must be carefully monitored. Thankfully, safety is a top priority for the POL team, who are the best in the business. With jet fuel being extremely flammable, they recognize the importance of remaining sharp to ensure everything goes seamlessly. Built-in safety precautions, such as several cutoffs, are in place as well.

Despite its large size, the fuel bladder, which is used to refuel aircraft or as a refueling station for mobile trucks, is surprisingly portable in terms of setup and usability. It is generally set up in deployed environments, negating the need to build hardened tanks or



AMC Petroleum, Oils, and Lubricants Airmen pump fuel into a Fuels Operational Readiness Capability Equipment mobile fuel bladder during Exercise MOBILITY GUARDIAN at Oscoda-Wurtsmith Airport, Oscoda, MI, May 18, 2021. The 210,000-gallon fuel bladder is designed to be used in an austere location to refuel aircraft and mobile fuel trucks.  
**USAF photo by SrA Aaron Irvin**



Left: SrA Cody Crumbling, 19th Logistics Readiness Squadron Fuels Operator, prepares to pump fuel into an Aerial Bulk Fuel Delivery System at Alpena Combat Readiness Training Center, MI, May 19, 2021.  
 Right: An AMC Petroleum, Oils, and Lubricants Airman pumps fuel into a Fuels Operational Readiness Capability Equipment mobile fuel bladder at Oscoda-Wurtsmith Airport, Oscoda, MI, May 18, 2021.  
**USAF photos by SrA Aaron Irvin**



transport fuel trucks to a challenging location. This portability allows for fuel distribution anywhere around the world at a moment's notice.

This maneuverability is essential for a concept known as ACE, or Agile Combat Employment. ACE is a concept designed with powerful adversaries, like China or Russia, in mind and involves spreading out and moving quickly when the need arises. It calls for multi-capable Airmen proficient in the many skills necessary to support air operations. Universal capability can be crucial for the rapid movement involved in ACE.

This possible scenario is why the setup of the equipment must be quick. The 2021 MOBILITY GUARDIAN allowed

the POL Airmen to practice speed. Although this task typically takes 12 to 24 hours, the Airmen kept ACE at the forefront of their minds and completed it in only 9 hours—a tremendous stride toward this new strategy.

Before the fuel goes into FORCE, it must be tested in a lab for grade and quality. Usually, it is top quality, which would benefit the ACE environment if it is ready to go. If it does not have additives, however, it goes through an injector machine. Only a handful of these machines exist in the world. This state-of-the-art equipment adds three separate items: (1) fuel system icing inhibitor, which is an anti-ice additive; (2) corrosion inhibitor for anti-corrosion; and (3) static dissipator

additive (SDA), which prevents static buildup.

After going through the injector, the fuel then goes through filters to remove any impurities. Approximately 1,200 gallons of fuel can travel through the two filter separators per minute. For mobility, the fuel travels through a variety of hoses. For example, the R20 pumping unit comprises a total of four hoses: two 60-foot hoses and two 120-foot hoses.

The next time you are in awe of a gray tail flying overhead and its tremendous amount of power, think of the hard-working POL team, who help provide the readiness needed to carry out AMC's mission anytime, anywhere. 

# Remembering the Crew of the 1997 Midair Collision Between an Air Force C-141 and a German Tupolev Tu-154 Off the Coast of Africa

BY MR. GARY ELL, STAFF WRITER

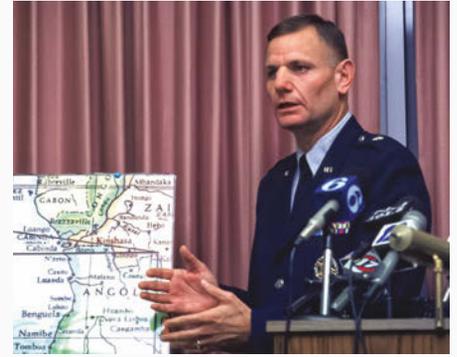
I was the Director of Visual Information Services and an aircrew-certified photojournalist assigned to McGuire Air Force Base (AFB), NJ, from 1996 through 2002. We were constantly jockeying to hop on missions to document and tell the story of the tanker and airlift squadrons (AS). We became very close with both the crews and the “bookies” and were always on the lookout for a good story. We would review flight/mission schedules, particularly during weekends, such as refueling B-2 bombers and FA-18s, or airdropping fun stuff like Humvees out the backs of a formation of C-141s. When we were not flying, we would take official photos and passport/visa/isolated personnel reports, document traffic accidents, and capture those usual grip-n-grin ceremonial events. We were also in tight with the loadmasters, as they would occasionally return our flip-top bottles to Ramstein Air Base, Germany.

While there, I got to know Capt Gregory Cindrich, who graduated from the United States Air Force Academy in May 1991 with a Bachelor of Science degree in history. He completed his Undergraduate Pilot Training (UPT) assignment at Reese AFB, TX. After graduating from UPT in 1992, he was assigned to Andrews AFB, MD in the 89th Mission Support Squadron. In 1995, he joined the 15 AS at Charleston AFB, NC, as a C-141 pilot. He became

a top-notch pilot and was especially proud of the humanitarian missions he had flown. Among them was the medical evacuation of several Khobar Towers bombing victims and the medical evacuation of an Air Korea crash survivor from Guam to a burn center. He had been reassigned to the 13 AS at McGuire in late 1996 when he came into our office to work on “graphics” on our self-help workstations. When Cindrich entered our office, we were scanning imagery pertaining to Khobar Towers, and a lengthy discussion took place, as he was eager to share his story. As we were mutual history buffs, the topic extended into American history, and we became friends.

In the latter part of September, another friend from the 13 AS, Capt Peter Vallejo, set up appointments for the assigned crew to get visa photos for a short-notice humanitarian airlift mission to Africa. Many of these nine crewmembers were known to me because the 13 AS frequented our services regularly. Capt Cindrich was among the nine. They would never return from the mission.

On Sept. 13, 1997, a German Air Force Tupolev Tu-154M observation aircraft and the McGuire C-141B aircraft were destroyed in a mid-air collision while cruising at 35,000 feet (11,000 m) off the coast of Namibia, Africa. All 33 people on board both aircraft were killed. At



Brig Gen Craig Rasmussen, Commander of the 305th Air Mobility Wing, McGuire AFB, NJ, conducts a press conference on Sept. 16, 1997, to announce the disappearance of a C-141B Starlifter off the coast of Africa. The aircraft was reported missing on Sept. 13, 1997.

USAF photo by Gary Ell

the time of the collision, the Tupolev was flying on a southerly route from Niamey, Niger, to Cape Town, South Africa, while the C-141 was heading northwest from Windhoek, Namibia, to Ascension Island.

Neither aircraft was equipped with traffic collision avoidance systems (TCASs). Although both crews had filed a flight plan, the German aircraft was not in contact with Namibian air traffic control (ATC), and controllers were unaware of its presence in Namibian airspace. Furthermore, the Tupolev was flying at the wrong altitude according to its flight plan and the semicircular rule.

The subsequent USAF inquiry concluded that the German crew was responsible for the accident, citing pilot error and inadequate ATC that contributed to the fatal lack of separation.

A year before the accident, the International Federation of Air Line Pilots' Associations stated that, from a safety point of view, 75 percent of African airspace was “critically deficient.”

On Sept. 26, 1997, Gregory M. Cindrich and the crew were declared dead after a 13-day, multinational



C-141Bs assigned to the 13th Airlift Squadron at McGuire AFB, NJ, in flying formation, perform heavy equipment airdrops in 1997, around the time of the accident.

USAF photo by Gary Ell

## THOSE LOST FROM THE C-141

Capt Peter C. Vallejo, Pilot,  
Aircraft Commander

Capt Gregory M. Cindrich, Pilot

Capt Jason S. Ramsey, Pilot

SSgt Robert K. Evans, Flight Engineer

SSgt Scott N. Roberts, Flight Engineer

SrA Gary A. Bucknam, Flight Engineer

SSgt Stacy D. Bryant, Loadmaster

Amn Justin R. Drager, Loadmaster

SrA Frankie L. Walker, Flying Crew Chief

search-and-rescue effort in response to the midair collision of his C-141 and a German Air Force Tu-154 off the coast of Africa.

### NOTES

*"The C-141 had flown from Ascension Island to deliver United Nations humanitarian supplies to Windhoek, Namibia, in southwestern Africa. They were scheduled to return that evening. The German Air Force Tu-154M had departed Cologne for Cape Town, South Africa, with stops in Niamey, Niger, and Windhoek, Namibia. The Tu-154 crew had filed a flight plan in Niamey, requesting an initial cruise altitude of FL350 with a subsequent enroute climb to FL390. They received a minor re-route while transiting the airspace of the Gabonese Republic. The crew never requested the enroute climb and remained at FL350 for the duration of the flight.*

*Passing western Africa, the course of the Tu-154 changed from westerly to easterly, requiring a change in flight level to comply with international ATC procedures. Neither the Tu-154 aircrew nor African ATC agencies requested a change in altitude. The C-141 crew departed on the return leg for Ascension Island at 1611 local time (1411 GMT).*

*Shortly after level-off, at FL350, the C-141 collided with the Tu-154, approximately 80 nautical miles off the coast of Namibia.*

*Cockpit voice recordings from the Tu-154 indicated that someone in the German airplane spotted the Starlifter just moments before the collision, but not in time to maneuver away.*

*The Tu-154 struck the C-141 in the lower fuselage. A French Air Force aircraft in the vicinity heard a single "mayday" distress call. A U.S. reconnaissance satellite reported a bright flash at position 18.8° South, 11.3° East at 1510 GMT, approximately one hour after the C-141 departed."*

In 1997, the Air Force appointed Colonel William H.C. Schell Jr. to lead the investigation into the collision. A final report with the board's conclusions was released in March 1998. The investigation blamed primarily the German crew, who were cruising at 35,000 feet in breach of the semicircular rule, which states that an aircraft heading in a southeasterly direction must fly at an altitude of either 29,000, 33,000, 37,000, or 41,000 feet. The German Air Force also acknowledged that its aircraft was at fault in the crash in its investigative report.

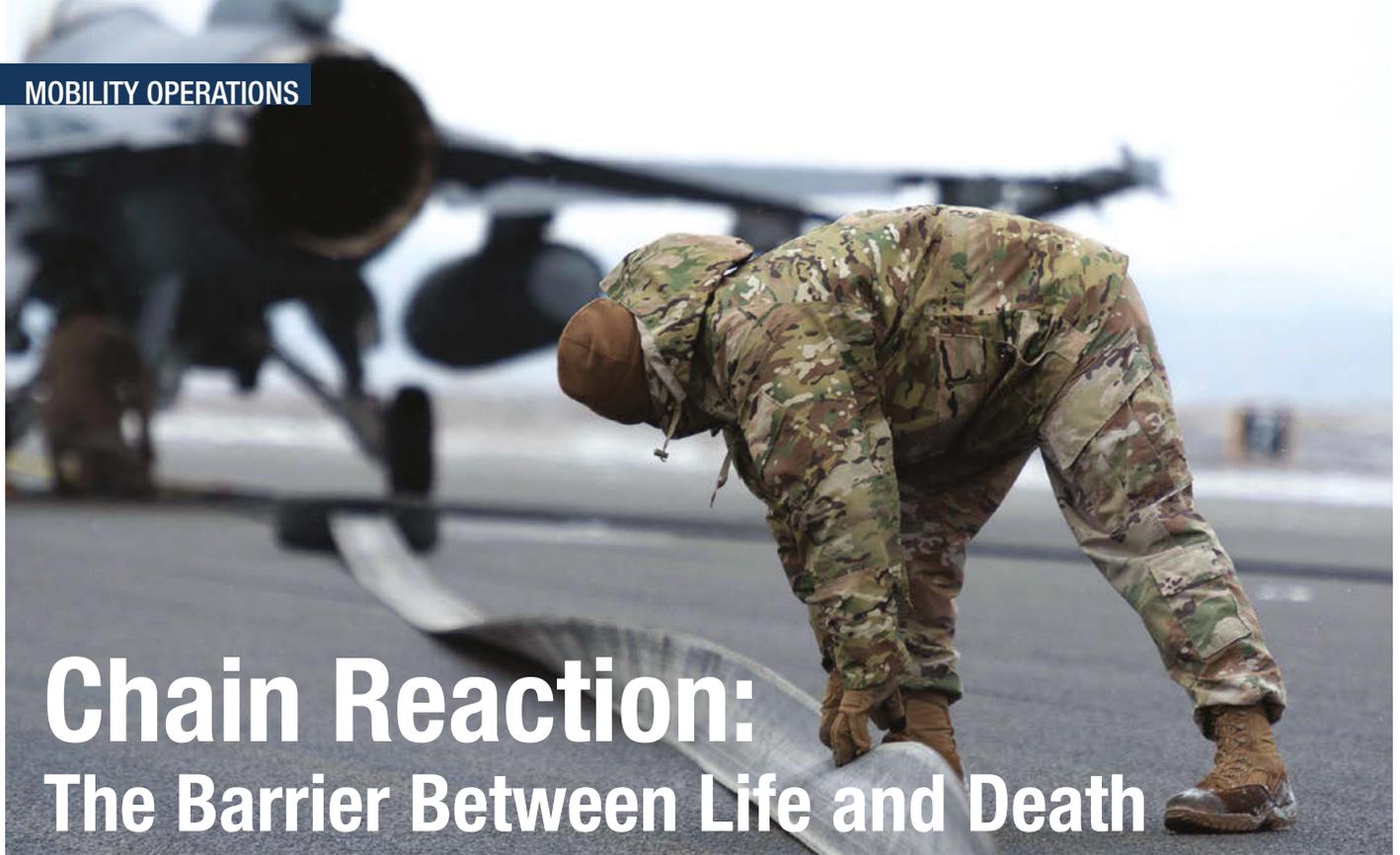
In addition, the report cited systemic problems in Africa's ATC system as contributing factors to the accident. It blamed faulty communications equipment that prevented the

German aircraft's flight plan from being transmitted through the proper channels and negligent controllers in Luanda who failed to pass on the aircraft's position to Namibian ATC. Another substantially contributing factor was the complicated and sporadic operation of the Aeronautical Fixed Telecommunications Network.

The report stated that if either aircraft had been equipped with a TCAS, it is highly likely the crash could have been avoided, reading, "The presence of a fully operational TCAS on either aircraft could have prevented the accident." One day before the release of the report, Secretary of Defense William S. Cohen announced that the military would begin installing TCASs on its aircraft.

The lack of a TCAS on the German aircraft brought considerable pressure on Germany to install collision avoidance systems on its aircraft. Despite being listed on the Project Objective Memorandum of the C-141B for 5 years, installation of the TCAS began on a small number of aircraft soon after the crash.

Capt Cindrich and the eight other Airmen onboard were interred in Arlington National Cemetery, Plot: Section 34 Site 1758. 



# Chain Reaction: The Barrier Between Life and Death

BY MR. GARY ELL, STAFF WRITER

The Chain Reaction article, published in *The MATS Flyer*, August 1955, highlighted the first time a land-based aircraft arrestment occurred. Following lessons learned during the Korean War, a need for a reliable land-based aircraft arresting system (AAS) arose.

The Korean War presented tremendous challenges for USAF engineers. Between World War II and the Korean War, several new aircraft were introduced into the inventory. The newer aircraft required longer and wider runways, larger taxiways and parking aprons, and more stringent design criteria for gradients, clear zones, and pavement thickness. Larger fuel storage and munitions facilities, as well as more maintenance and support facilities, were needed. Engineers had to accommodate ever-larger cargo aircraft and jet aircraft.

Even with longer and wider runways, jet aircraft continued to be lost during takeoff and landing operations. The USAF decided to test the application of an aircraft arresting barrier system

similar to barriers used on aircraft carriers. The system adopted by the USAF, the MA-1A, consisted of retractable stanchions that held the barrier in position and a heavy anchor chain to decelerate the aircraft when it engaged the barrier. During the first 6 months, 36 engagements were recorded with little or no damage to the aircraft. This success did not last long, however, as heavier and faster aircraft were put into service.

## THE B-52S UNDERGROUND

No, we are not talking about unreleased tunes from the 80s pop band. This B-52 is the B-52 Stratofortress! What do they have to do with arresting systems?

John Sherman Strance was a U.S. Navy engineer who worked on shipboard arresting gears during WWII. The U.S. Navy contracted with E.W. Bliss Company in 1953 to assemble a group of experienced Catapult and Arresting Gear technicians under the direction of John J. Byrne and Robert W. Cruger in Philadelphia. The group provided support aboard ships, at shipyards, and at various Navy facilities. In 1954, Strance was hired as the resident

TSgt Robert Miller, 435th Construction and Training Squadron Command Aircraft Arrest System Supervisor, inspects the nylon tape of the barrier arresting kit during an annual certification test at Ramstein Air Base, Germany, Feb. 9, 2021.

USAF photo by SSgt Emmeline James

engineer at the Puget Sound Naval Shipyard, where one of the first steam catapults was being installed and tested onboard the USS Hancock. After 1 year, Strance was returned to Philadelphia to work with Byrne and Cruger on a new venture to develop a safe and reliable, land-based arresting system. "We felt that world tensions would push the Air Force to base many new jet-powered aircraft at WWII airfields considered too short for safe operation. It was further believed that extensive experience in naval aircraft launching and recovery would provide a strong base from which to explore emergency aircraft overrun equipment." -John Strance.

## "BAK" TO THE FUTURE

Strance is credited for inventing the (Model 200) BAK-9 rotary friction arresting gear system, patented in 1961. The BAK-9 replaced chains as the energy absorber for the MA-1A

to accommodate hook engagements. This innovation was followed by the BAK-12 system, with increased energy capacity from 1962 onward. The BAK-12 remains the standard USAF aircraft arresting system today. It consists of two hydraulically actuated rotary friction energy absorbers (B-52 brakes), one on each side of the runway, which are connected by a cross runway hook cable or a net barrier. The systems are designed to safely stop an aircraft in an emergency or at airfields where conditions are not present for conventional landings. If an AAS is required during landing, the pilot deploys the aircraft's arresting hook to catch a cable suspended above the runway surface. As the aircraft's hook grabs the cable and continues forward, the cable unspools a thick nylon tape from a storage reel on an AAS absorber secured on each side of the runway. These reels are keyed to a common shaft that utilizes two four-rotor hydraulic (modified B-52) brakes. Originally, BAK-12 energy absorbers were fitted with a 60-inch purchase-tape storage reel. This design allowed the maximum energy expected to be imparted during an aircraft engagement to dissipate within a runout of 290 meters (950 feet) plus the length of the aircraft. Bliss later improved the BAK-12 to meet the increased demands of heavier and faster aircraft.

The BAK-12 absorber uses a static pressure accumulator to hold 175 pounds per square inch of pressure on the brakes. When the aircraft's pull exceeds the static pressure, the braking system switches to an integral hydraulic pump. As the aircraft slows to a stop, the reels turn more slowly, reducing the hydraulic pressure on the brake and preventing a "slingshot effect" at the end of the 1,200-foot runout. The engagement system (BAK-14 or Type H) is a bidirectional hook cable (pendant) support system used in conjunction with the BAK-12 or a comparable pair of arresting system

## Proper performance of these barriers is essential for pilot, crew, and aircraft safety.

absorbers to engage and safely stop a hook-equipped aircraft. The BAK-15 aircraft arresting barrier consists of a pair of electro-hydraulically powered steel masts that provide support and remote-controlled movement for a unidirectional nylon net barrier.

Other arresting systems in service within the USAF include textile brakes, which are specially woven textile tearing straps that absorb the kinetic energy generated during an engagement. Another option is a soft ground arresting system, such as the Engineered Material Arresting System, which Air Mobility Command (AMC) aircraft will encounter at commercial airports. It is a Federal Aviation Administration-approved soft ground system generally used for civil airports to mitigate short safety areas (less than 305 meters [1,000 feet] long) at runway ends.

### SAFETY FIRST

Proper performance of these barriers is essential for pilot, crew, and aircraft safety. The Air Force mandates that barriers must be overhauled or replaced every 10 years or 500 engagements. The Civil Engineer Maintenance Inspection and Repair Team (CEMIRT) has been the Air Force's premier center for the overhaul and repair of AAS equipment, including the BAK-12, BAK-14, and Mobile Aircraft Arresting Systems (MAAS). CEMIRT is a division of the Air Force Civil Engineer Support Agency, headquartered at Tyndall Air Force Base (AFB), FL, with operations at Tyndall and Travis AFB, CA.

### WE GOT YOUR "BAK"

This proven system provides high reliability under all operational conditions and is used across AMC and at any location where arresting systems are required. Some of the latest systems are electronic/hydraulic computer-controlled systems that directly and continuously measure aircraft location and velocity for automatic braking adjustment for variable run-out conditions—ideal for joint exercises and operations. The BAK-12 AAS may be installed on concrete pads above or below grade or in pits to suit specific site requirements or be trailer-mounted for mobility and transportability.

MAAS can be deployed anywhere in the world where fighter operations may be required from short runways or even those damaged by airstrikes. The MAAS is a pair of mobile units, each unit consisting of a BAK-12 arresting barrier mounted on a mobile trailer. The MAAS was originally developed and tested to accommodate the recovery of fighter aircraft that had to return to a battle-damaged airfield. In its unidirectional configuration, with either a 90- or 153-foot cable, the MAAS can be installed in as little as 2 hours. It can stop fighter aircraft in a 990-foot or 1,200-foot run-out zone, respectively. Each trailer contains a fixed BAK-12-based arresting system and all the tools and hardware necessary for installation. The system is air transportable.

### AIR MOBILITY COMMAND

Many AMC installations and Civil Engineer Squadrons maintain arresting systems, but why? AMC aircraft are not tailhook equipped. It is not like the KC-10 will be arrested by its refueling drogue during an overrun anytime soon. Runways that are primary divert facilities for bases operating tactical or training tailhook-equipped aircraft will typically have an emergency system in each overrun and an operational system on each end of the primary runway. Bases that



Airmen from the 786th Civil Engineer Squadron inspect the aircraft arresting cable support system during an annual certification test at Ramstein Air Base, Germany, Feb. 9, 2021.

USAF photo by  
SSgt Emmeline James

are occasional hosts to arrestment-capable transient aircraft should have an emergency system installed in each overrun of the primary runway or an operational system on each end of the primary runway.

#### RAMSTEIN AIR BASE, GERMANY

An annual recertification of the barrier arresting kit was conducted by the 786th Civil Engineer Squadron (CES) and 435th Construction and Training Squadron (CTS) at Ramstein Air Base (AB), Germany, February 9, 2021.

An F-16 Fighting Falcon assigned to the 52nd Fighter Wing, Spangdahlem AB, Germany, provided the fighter aircraft to support the annual certification of the aircraft arresting system. The two-part system is there for an aircraft experiencing an inflight emergency issue that prevents the pilot from safely landing. The BAK-14 is the support system, whereas the BAK-12 is the braking unit attached to nylon tapes connected to the cable that catches tailhook-equipped aircraft. As the aircraft transits the runway, it pulls the tape off the reel, which slowly increases the system's hydraulic pressure. This gradual increase in hydraulic pressure is what brings the aircraft to a safe and controlled stop.

"The system is capable of catching 65 million foot-pounds at about 180 knots," said TSgt Robert Miller, 435 CTS command AAS supervisor.

"It will pay out about 1,200 feet of tape when engaged." One foot-pound translates to the amount of kinetic energy it takes to move a one-pound object one foot. "It provides safety and security to any tailhook-equipped aircraft which may need to make an emergency landing," said TSgt Bryce Skawski, 786 CES power production craftsman.

Ramstein serves as the gateway to the world and is identified as a stopping point, or divert base, for a variety of transient aircraft. The airfield is only one of several rated for fighter aircraft in the European theater. "It [BAK-12/14] enables any mission tied to a fighter aircraft by giving them an additional area to land if another runway is unavailable," Miller said.

Certification of the BAK system reinforces Ramstein's partnerships with other bases and provides opportunities for personnel to become more familiar with the equipment and reset procedures.

**With BAK-12 systems installed worldwide, we do not know how many total aircraft and precious lives have been saved, but it would be an impressive number.**

Emergency landings occur far more often than most would care to believe. Sometimes they are more precautionary or due to environmental system issues or warning lights. Other times they occur due to far more invasive problems, such as when the loss of hydraulics or engine problems raise the stakes and prompt the pilot to drop the arresting hook for a barrier-assisted recovery.

With BAK-12 systems installed worldwide, we do not know how many total aircraft and precious lives have been saved, but it would be an impressive number. Safran Aerosystems, the original equipment manufacturer, claims that, with 5,000 active systems deployed in 72 countries, the BAK-12 stops an average of five aircraft per day. 🇺🇸

# Burn, Leaves, Burn

BY MS. ALLISON ELLIOT, STAFF WRITER

Emily Brontë, in her poem “Fall, Leaves, Fall,” described the autumn season well: “Fall, leaves, fall; die, flowers, away; Lengthen night and shorten day; Every leaf speaks bliss to me, Fluttering from the autumn tree.”

In a less romantic sense, fall means you probably have a yard full of dead leaves and fallen branches, and you need to clear it before winter comes and buries it under a pile of snow. Instead of hauling this organic matter to the curb for select yard waste pickup days, you may be tempted to burn it all in a fire pit. Make sure you know the laws and safety rules before you start a fire.

Begin by checking out the local laws concerning open fires for burning leaves. They vary across the country and are generally readily accessible if you search online. Some local laws outright ban<sup>1</sup> open fires, such as in Jefferson County, CO, when there is a Stage 2 fire ban. Others, such as Cook County, IL, require people who want to burn landscape waste to apply for and receive an open burning permit.<sup>2</sup>

Why is there so much regulation? Open burning is dangerous for many reasons. Fires can quickly spread out of control with a gust of wind or an errant spark and cause wildfires. In 2020, approximately 57,000 wildfires burned more than 10.3 million acres in the United States, up from 2019, when 50,477 wildfires burned 4.7 million acres.<sup>3</sup> Notably, in 2020, for 6 months, wildfires in the western United States

caused about \$20 billion in damage<sup>4</sup> and killed 25 people in California.<sup>5</sup>

Another dangerous effect of wildfires and open fires is air pollution. Those who saw the news coverage of the 2020 wildfires in the western United States may remember images of the skylines of major cities covered in clouds of smoke. In some areas, the sky even appeared bright orange.<sup>6</sup> This smoke can affect everything, from crops that rely on sunlight to grow to visibility for pilots.

On a micro level, open fires release tiny particles of matter into the air that can exacerbate asthma and other existing lung conditions.<sup>7</sup> For those without breathing problems, these fires can cause bronchitis, eye irritation, headaches, shortness of breath, and worse. According to an article by Atrium Health, “short- and long-term exposure to burning fallen leaves can even lead to an increased risk of asthma attacks, heart attacks, and carbon monoxide poisoning.”<sup>8</sup>

To prevent these safety hazards, experts have tips on how to burn safely if your local laws permit open fires for landscape waste.<sup>9</sup> First, only burn branches, leaves, and twigs, and nothing that is still green. Avoid burning thicker branches and logs, as they will retain the heat from the fire longer than you would expect. Also, burning branches that have had poison ivy, oak, or sumac can cause allergic reactions and inflame your lungs, so put those in a trash bag instead.

Then, create a small pile in an open area, at least 50 feet from any structure. Ideally, you will use a fire pit. Work in batches instead of lighting it all at once, and keep those piles separated by a sensible distance. Grab a working hose and keep it nearby in case you need to douse the fire for any reason. Lastly, make sure it is not windy, as that can cause a wildfire, as mentioned previously, or blow harmful smoke in your face.

As a community, there are safe practices designed to reduce the overall effect on the air quality, including burning leaves in a given neighborhood on the same day. Getting a green light from local officials to burn on a particular day allows those with lung issues to plan to stay indoors during the burning. Consider these practices, and feel free to research more to burn your leaves in a community-friendly manner.

We all need to work together to reduce the harmful effects of a mismanaged open fire by burning leaves safely! 

<sup>1</sup> <https://www.jeffco.us/528/Fire-Ban-Details>

<sup>2</sup> <https://www.cookcountyil.gov/service/open-burning-permit>

<sup>3</sup> <https://www.iii.org/fact-statistic/facts-statistics-wildfires>

<sup>4</sup> <https://www.ncdc.noaa.gov/billions/events>

<sup>5</sup> <https://www.nbcnews.com/news/us-news/man-woman-who-died-california-fires-were-ready-flee-stayed-n1240200>

<sup>6</sup> <https://www.scientificamerican.com/article/photos-show-massive-wildfires-devastating-oregon-and-california/>

<sup>7</sup> <https://www.scientificamerican.com/article/photos-show-massive-wildfires-devastating-oregon-and-california/>

<sup>8</sup> <https://atriumhealth.org/dailydose/2018/10/12/pc-is-burning-fallen-leaves-hurting-your-health>

<sup>9</sup> <https://www.thisoldhouse.com/yards/21541802/all-about-burning-leaves>

# Embrace Autumn— But With Care!

BY MS. BETTY NYLUND BARR, STAFF WRITER

**A**h, autumn! It is a time for fresh starts—a new school year, cooler temperatures that beckon one outside for a walk through crunchy fallen leaves, and just beyond, the winter holidays. It is hard not to like fall.

The season brings with it its share of dangers, however, so use common sense so you will still be around for winter!

## DRIVING IN AUTUMN

Those gorgeous, colorful leaves can be slippery on the road—even when they are dry. When they are wet, you really have to be cautious, or you will find yourself in a Slip 'n Slide situation, having lost control of your car and sliding into a tree, a ravine, or another car. Black ice is another possibility with the weather getting colder. Take it easy!

Remember that children are back in school, and as they walk to school or the bus stop, they may be enjoying the company of friends that they have not seen in months. As the one behind the wheel, you are the one who must watch out for *them*. Also, if you are behind a school bus with its lights flashing and the arm out, **YOU MUST STOP**. Period. It is the law—but it is not just the law; it is prevention for possibly the worst thing you would ever have to live with: killing a child.

Wildlife is more active in the fall, too. Many species have regular migration patterns, travel in herds, and are more visible now, and a collision with a large buck can lead to severe damage to your car and your body. According to the Farmers' Almanac, many animals are most active between 6 and 9 p.m., when drivers may be sleepier and less focused after working all day.<sup>1</sup> Add those factors to the next one, and you could have a hazardous result.

Poor visibility is another condition to be aware of when driving in the fall. With the changing of the season and the days getting shorter, you are more likely to be driving at dusk or dawn. When the sun is lower in the sky, or you are driving through half-light after driving through bright sunlight, seeing is more difficult. Morning fog may also be a factor. Be an intelligent driver, and drive more slowly if you cannot see. Better to have an irritated driver behind you than get into a car crash.

## BEING SAFE WITH FIRE

Who does not like to cozy up in front of a crackling fire? If you are lucky enough to have a fireplace, you must observe some safety precautions.

Never leave a fire unattended, and make sure that you completely extinguish it before you go to bed. Use a fireplace screen to prevent sparks from setting your carpet or other belongings on fire. Get both your

fireplace and your furnace inspected and your fireplace cleaned every fall.

In the same vein, take care using candles. They lend a warm, homey atmosphere and a lovely fragrance, but do not burn them near anything that could catch fire. The National Candle Association states that about 8,200 home fires each year are started with candles.<sup>2</sup> Extinguish candles before you go out or go to sleep, and keep them out of reach of children and pets. Keep them away from drafts and vents and at least 3 inches apart so they do not melt each other or create drafts.

Space heaters can be a godsend if your home never seems to get warm enough for you, but give them space. Sources recommend at least 3 feet of space around a space heater.

Burning that huge pile of leaves may seem like a great autumn activity and an efficient way to get rid of the leaves (now that many state and local governments ban yard waste from scarce landfill space), but did you know that burning leaves produce harmful elements? A brochure put out by the Environmental Protection Agency details the following air pollutants in the smoke from burning leaves:

- › particulate matter, which can make its way deep into the lungs, increasing the chance of respiratory infection, reducing



air intake, impairing the lungs' ability to use that air, and even triggering asthma;

- hydrocarbons—in particular, polynuclear aromatic hydrocarbons, some of them known carcinogens; and
- carbon monoxide, which is absorbed through the lungs and into the bloodstream, combines with red blood cells, and can reduce the amount of oxygen those blood cells can absorb and transport to body tissues.

Consider composting. It is better for your lungs and better for the environment—particularly your garden!

### PERFORMING HOME MAINTENANCE

Autumn is the time to trim trees and bushes after the growing season. When you do, however, make sure you know where the power lines are to avoid electrocution or even just a wicked shock. Also, if you are using a ladder, it should be on a flat, level surface, and your shoes should be nonslip.

Keep leaves, snow, and ice off sidewalks and driveways. Slips and falls are funny only in comedy routines.

### BOATING SAFELY

The beauty of autumn foliage is amazing when seen from a boat, but again, use caution, and you will be able to compare this year's foliage with next year's. A U.S. Coast Guard report<sup>3</sup> states that boating accidents during the fall are more likely to be fatal than those during the summer.

Fall is known for its warm days and cool to cold nights, so dress accordingly. We are talking layers, folks! You could suffer heatstroke and hypothermia on the same day if you do not dress appropriately. Also, do not forget rain gear and gloves.

Let others know about your boating plans. Fewer people are out on the water in the fall, so fewer people will be around to help should you run into trouble. Also, always wear a life jacket; if you fall overboard, you will lose consciousness more quickly in the colder water. Of course, make sure

that your cell phone is charged before you leave, and keep it in a waterproof pouch or container on your body.

### PREPARING FOR THE FLU

Get your flu shot. It is a no-brainer. Also, consider breaking out that mask that you wore during the COVID-19 pandemic. According to Healthline,<sup>4</sup> the measures we took to prevent the spread of COVID-19—wearing masks and social distancing—played a large part in keeping flu numbers unusually low last flu season. Maybe that is a positive takeaway from the pandemic.

No matter how you plan to enjoy yourself this fall, stay safe and love life! 🇺🇸

<sup>1</sup> <https://www.farmersalmanac.com/tips-avoiding-wildlife-collisions-28512>.

<sup>2</sup> <https://candles.org/fire-safety-candles/>.

<sup>3</sup> <https://www.uscgboating.org/library/accident-statistics/Recreational-Boating-Statistics-2018.pdf>.

<sup>4</sup> <https://www.healthline.com/health-news/covid19-is-surging-but-flu-cases-are-down>.



# How to Save a Life

BY MR. GARY ELL, STAFF WRITER

## MOTORCYCLE SAFETY TIPS FOR CAR DRIVERS

More than one-half of all fatal motorcycle crashes involve another vehicle. Most of the time, the car or truck driver, not the motorcyclist, is at fault. There are many more cars and trucks than motorcycles on the road, and some drivers do not “recognize” a motorcycle—they ignore it (usually unintentionally). Motorcycles are the smallest vehicle on the road, which means they are the hardest to see. Because of their size, they seem to be traveling faster than they are, so it can be difficult to spot motorcycles and gauge how far they are from our cars. When a motorcycle accident does happen, it is always serious because motorcyclists do not have the

protection that a car provides. There is nothing separating motorcyclists from the road or contact with your vehicle. When it comes to motorcycles, there is no such thing as a fender bender. That is why it is so important to remember these safety tips for sharing the road.

### 1. BEWARE OF YOUR BLIND SPOTS

Motorcycles are smaller than cars, so they can be doubly as difficult to see when turning or switching lanes. Be sure to make a visual check as well as use your mirrors when turning or merging. Because of its narrow profile, a motorcycle can be easily hidden in a car’s blind spots or camouflaged by objects or backgrounds outside a car, such as bushes, fences, or bridges. Take an extra moment to look for motorcycles, whether you are changing lanes or turning at intersections. Because of its small size, a motorcycle

may look farther away than it is. It may also be difficult to judge a motorcycle’s speed. When checking traffic to turn at an intersection or into (or out of) a driveway, predict a motorcycle is closer than it looks. To avoid accidents, always look in your rearview and side mirrors and quickly check your blind spots before changing lanes or turning.

### 2. SLOW DOWN BEHIND MOTORCYCLES

Motorcycles do not handle the road the same way as cars and can be much more sensitive to changes on the road. Motorcycles can also maneuver much faster than cars can, so slow your roll to make sure you have time to react. Motorcyclists often slow by downshifting or merely rolling off the throttle, thus not activating the brake light. Therefore, allow at least 3 or 4 seconds more following distance when you are

behind a motorcycle. To calculate this distance, find an object up ahead, like a tree. Start counting when the motorcycle passes the tree, and make sure you do not pass it until at least 4 seconds later. At intersections, predict a motorcyclist may slow down without visual warning.

### 3. DO NOT TAILGATE

Leaving room between you and a motorcycle in front of you is essential to help prevent accidents. Giving yourself room will give you time and space to react if the motorcyclist makes a quick, unexpected turn. Stopping distance for motorcycles is nearly the same as for cars, but slippery pavement makes stopping quickly difficult. Allow more following distance behind a motorcycle because you cannot always stop "on a dime."

### 4. USE YOUR TURN SIGNALS

Most motorcyclists are cautious and responsible drivers because they have very little between themselves and the road. As a result, bikers tend to drive defensively. Because they have to adjust their riding behavior on the basis of what you do, always signal your intentions. Regardless of whether motorcycles are on the road or not, you should always use your turn signals to help others on the road anticipate your next move. Turn signals on a motorcycle usually are not self-canceling; thus, some riders (especially beginners) sometimes forget to turn them off after a turn or lane change.

### 5. BE CAREFUL WHEN PASSING

If you need to pass a motorcyclist, signal first, then plan your move. Long before you approach the bike, move over to the next lane and stay in that lane until long after you have

passed. Be sure to avoid having the biker in your blind spot.

### 6. BE CAREFUL TAKING LEFT TURNS

With any turn, be aware of motorcycles on the road and how fast they are going if you are turning. Left turns can be particularly dangerous due to your blind spots.

### 7. WEATHER CONDITIONS. LOOK OUT FOR RAIN

Bad weather has more drastic effects on motorcycle riders than it does on automobile drivers. Rain, in particular, can make it nearly impossible for a motorcyclist to continue to travel. Windy conditions can make it difficult for motorcyclists to control their vehicles on the road. Also, remember that weather conditions often reduce your visibility, and it may be more difficult to see motorcycles. When it is raining, know that bikers are most likely having some trouble. Riding in the rain can be scary and dangerous, so they try very hard to stay focused and upright. Be respectful of this situation. You are protected from the rain, so take your time and give motorcyclists plenty of space. Do not crowd them or get frustrated if they are traveling at a slower speed.

### JUST BE NICE

Motorcyclists often have to change positions within a lane to be seen and to avoid road debris, passing vehicles, and strong winds. Understand they are driving this way for a reason and are not being reckless or showing off. Remember to be friendly and courteous, and share the road; motorcyclists have every right to be there. Even when a motorcycle is zooming past, please keep in mind that there is a human riding it, and we want everyone to get home safely. 🙏

**Leaving room between you and a motorcycle in front of you is essential to help prevent accidents.**



Allow at least 4 seconds of following distance.





# MISHAP-FREE FLYING HOUR MILESTONES

## 3,500 HOURS

### 70 ARS, Travis AFB, CA

Lt Col Jeffrey Guttman  
Lt Col Travis Kroll  
Lt Col Court Newkirk  
Maj Andrew Derwae  
Maj Christopher Johnson  
Maj Kevin Murphy  
Maj John Palicka  
Maj Benjamin Peterson  
Maj Matthew Simpkins  
Maj Dalston Spencer  
Maj Matthew Swaby  
Capt Joseph Ortega  
MSgt Robert Rossman  
TSgt Daniel Rufkahr

## 2,500 HOURS

### 70 ARS, Travis AFB, CA

Lt Col Sean Morgan  
Lt Col Kevin Snow  
Maj Jessica Hodson  
Maj Cody Martin  
Maj Jenalee Pelletier  
Maj Seth Pelletier  
Maj David Sullivan  
Maj Rebecca Sullivan  
Capt Christopher Dempsey  
Capt Justin Greenway  
CMSgt Matthew Fisher  
CMSgt Matthew McCoy  
MSgt Jeremy Downs  
MSgt Jessica Eagles

MSgt Ryan Phillips  
MSgt Mark Short  
TSgt Erik Esquerra  
TSgt Terryl Fenton  
TSgt Daniel Fortier  
TSgt Alan Greene  
TSgt Jon Pratte  
TSgt Christopher Thomas

1 Lt Riley Richards, a Copilot assigned to the 61st Airlift Squadron, and Capt Christopher Cruz, a Pilot assigned to the 61 AS, operate a C-130J Super Hercules assigned to the 19th Airlift Wing above Michigan during MOBILITY GUARDIAN 2021, May 22, 2021.

USAF photo by SSgt Joseph Pick



### TO SUBMIT MISHAP-FREE FLYING HOUR MILESTONES:

Send your request to: [mobilityforum@us.af.mil](mailto: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

## Line Observation Safety Audit (LOSA) Update

BY MR. KEVIN SLUSS, CSP  
AMC FLIGHT SAFETY

This past year, Air Mobility Command (AMC) hosted two Line Observation Safety Audit (LOSA) safety investigation boards (SIBs). The first was for the C-17/C-21/C-40 and the first-ever Aeromedical Evacuation LOSA, and the second was for the first-ever aircraft maintenance LOSA. These SIBs authored recommendations used to improve safety. The first SIB was initially scheduled for 2020 but was delayed due to COVID-19 concerns. The delay also changed the plan for AMC LOSAs going forward. For the upcoming year (2022), AMC is conducting LOSAs for air refueling (KC-135/KC-10) and, for the first time, the 618th Air Operations Center. That means AMC will need assistance for all the components of LOSA. For each LOSA, subject matter experts (SMEs) will be needed for each activity phase. The first phase is the

Threat and Error Matrix workshop that develops the threats, errors, and undesired states used for a specific LOSA. Next is the observer phase, in which observers are trained and then observe operational missions and record data concerning threats to the mission, errors noted, and aircrew response. The third phase is the Roundtable. Here the observations are validated by a panel of SMEs and categorized. The last phase is the SIB, which analyzes the observations (and other data, such as previous mishaps and LOSA recommendations) and makes recommendations to the AMC Commander to reduce mission threats and update command policies. Throughout the year, AMC Safety will send solicitations to seek personnel for each phase. For more information, contact the LOSA program manager, Jeanie Hood, at DSN 779-0930, (618) 229-0930, or [amc.sef@us.af.mil](mailto:amc.sef@us.af.mil).



A KC-135 Stratotanker from the 121st Air Refueling Wing sits on the flightline during sunrise at Rickenbacker Air National Guard Base, OH, Sep. 14, 2020.

ARNG photo by A1C Mikayla Gibbs

# A DAY IN THE LIFE



Airmen with the 621st Air Mobility Operations Squadron pose for a group photo April 24, 2021, at the newly renovated weapon system suite at Joint Base McGuire-Dix-Lakehurst, NJ. The weapon system suite empowers Air Mobility Command and Control experts to execute air operations remotely, supporting combatant commanders across a full range of military operations.

**USAF photo by TSgt Luther Mitchell Jr.**