

Summer 2019

Combat Edge

Air Force's Safety Magazine



KEEPING COOL

Over Salt Lake

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Combat Edge

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COVER PHOTO BY
SENIOR AIRMAN ALEXANDER COOK

ACCent



Col. Steven G. Owen
Director of Safety

How Will You Handle the Heat?

Welcome to the Summer 2019 edition of The Combat Edge. As we enter the warmer months, it's a great opportunity to light up the BBQ grills, hit the beach and enjoy the great outdoors. It's also a great opportunity to reflect on the increased environmental threats that the summer months bring. Warm, humid air moves in from the coastline and meets up with cooler fronts from the mainland, resulting in severe thunderstorms along the East Coast and the Gulf of Mexico. In the Midwest, extreme thunderstorms with heavy rains, hail and tornadoes can form quickly. Hurricane season is also underway once again and will continue through November.

If you are familiar with "Murphy's Law," you know that mishaps can – and most likely will – happen at the worst possible times. Your aircraft cooling system will fail on the hottest day of the year – check out "Keeping Cool Over Salt Lake" on page 4. Your aircraft will go "lost link" right when you reach minimum fuel, just as it did for Captain Decker – see page 10 to find out what happened. Summer's higher temperatures and extreme weather patterns only serve to amplify these hazards.

Although these threats can be severe, they pale in comparison to the threats we introduce to ourselves when we are complacent in our own personal risk management. A bomb fin will catch the tear in your glove and try to rip your finger off AFTER you decide it's not worth walking back to the shop to get a serviceable glove – check out "Bombs and Broken Bones" on page 16. The wind will kick up and blow chemicals into your face AFTER you decide that it's too inconvenient – or too hot – to wear your personal protective equipment, or PPE – just like it did for Sergeant Smith. Read his story on page 14. For off-duty activities, the day you choose not to wear your PPE will be the day you end up having to lay your motorcycle down for the car that pulled out in front of you. Your car will break down in the middle of the desert BEFORE you realize you don't have any potable water or cell phone coverage.

Summer road trips introduce additional hazards with the tendency to "push" a little further than our normal sleep cycles allow in order to get to where we're going as soon as possible. ACC recently experienced an extremely tragic off-duty mishap where we lost the life of an Airman, in addition to the lives of the Airman's spouse and two children. After the family had driven approximately 3,500 miles over a period of six days, the driver of the vehicle fell asleep, veered off of the road and crashed into a ravine, killing everyone onboard.

Last year, Air Force Chief of Staff Gen. David Goldfein mandated all aircrew within the Air Force to review a flight safety video highlighting multiple flight safety trends that had contributed to several recent mishaps. These trends included poor real-time risk management and flight discipline. Although this video was intended for aircrew, the trends identified and lessons learned apply daily to on-duty and off-duty risk management as well. You can't always control Murphy's Law, but you can control how you prepare to manage summer threats when they arise. Knowing your aircraft systems, maintaining discipline to use the proper PPE – even when it's 110 degrees on the flight line – and applying sound risk management during off-duty activities are the key to staying "cool" when it gets hot.

Fly Safe! – Grit

KEEPING COOL

Over Salt Lake

BY CAPT. JONATHAN LOWELL

The day started like any other Thursday fly day. We briefed, put on our flight gear and stepped to the jets. Startup, taxi, takeoff and departure to the airspace all went as planned. Upon reaching the outer limits of Salt Lake City airspace, I felt the cabin depressurize, the air conditioning stop and a warning tone announce in my headset and on the panoramic cockpit displays. While maintaining aircraft control and keeping a safe distance from my flight lead, I looked at my Integrated Caution and Warnings, or ICAWs, and saw that I had an “IPP FAIL” warning along with an advisory telling me that I was now using the auxiliary oxygen bottle instead of the Onboard Oxygen Generation System, better known as OBOGS.

In the F-35, loss of the Integrated Power Package, or IPP, means loss of OBOGS, cabin pressurization, cooling functions to many vehicle systems, backup generator power, and numerous other functions. From my emergency procedures training, I knew the first steps in the 11-step checklist were to descend below 17,000 mean sea level, manually turn on the backup oxygen system, bring the throttle to idle for five seconds, and actuate the flight control system/engine reset switch. These critical steps made sure I wasn't exposed to any physiological effects from the cabin depressurizing or losing the OBOGS, and hopefully reset the IPP without further troubleshooting.

Unfortunately, these initial actions did not reset the IPP, so I radioed my flight lead to let him know what was happening. He confirmed that I had completed the initial checklist actions, gave me the lead and backed me up in the checklist. I saw no other abnormal indications other than the IPP warning, so I began the process to manually reset the IPP. At this time, there was no urgent need to land, so we maintained our flight plan to the airspace with hopes a successful reset would

allow us to continue our mission. I began the reset procedure, and after a few minutes, the IPP FAIL went away, indicating that the jet believed I had a successful reset; however, things did not seem right in the cockpit. The air conditioning seemed weak, and I did not feel or see the cabin pressurize as expected. Realizing this, I pushed my power up to military power, or MIL, and within a few seconds got a second IPP FAIL warning.

After the second failure, my flight lead and I concurred that we needed to return to base quickly. It was a warm day in September, and degraded aircraft cooling could be an issue. He took the radios and began coordinating with Salt Lake Center Approach while I finished up with the checklist. I turned my cabin pressure switch to RAM, or ram air, which allows for outside air cooling for flight critical systems and also turned off my nonessential avionics to reduce the cooling load. We declared an emergency, approach cleared us to our normal recovery pattern, and we began to prepare for landing at Hill Air Force Base, Utah.

As we pointed to our recovery point, another ICAW annunciated, indicating degraded cooling to my flight control system. This ICAW was expected when the IPP failed; however, when I opened the checklist, I initially went to the failed cooling page, which told me to land as soon as possible. I told my flight lead, we pointed directly to the field for a visual straight-in approach, and I began to dump fuel – something I should have considered prior to this point due to still having roughly 13,000 pounds of fuel, well above what I wanted to land with. We switched to the supervisor of flying, or SOF, frequency and updated him on our plan. The SOF backed us up

and made sure we were all on the same checklist. This was when I realized that I needed to reference the degraded cooling checklist, which was right next to the failed cooling checklist. It did not change our game plan, but it was something I could have handled better during the emergency procedure.

As I flew to a 5-mile final, my flight lead told me to focus on flying a good final and adhering to all normal checklists. The last thing either of us wanted was to make an emergency situation worse by flying a bad approach. At 5-mile final, I put my gear handle down and the gear extended normally. Seconds after putting my gear down, I

heard another warning tone and saw another ICAW, this time indicating some serious cooling issues had occurred to my voltage converters, which are critical for several aircraft functions that allow us to land. This ICAW starts a worst-case, 14-minute timer for gear, brake and hook actuation. I did not have time to reference my checklist since I was already on 5-mile final, so I told my flight lead to confirm checklist steps with the SOF, primarily for immediate concerns and after-landing considerations. The landing was normal, and I elected to taxi clear of the runway and shutdown as soon as possible since I now had multiple cooling issues.

Overall, IPP FAILs are not common in the F-35, but they do happen from time to time, and we train frequently to emergency procedures in simulators to handle them correctly. As a young wingman in a single-seat fighter, I learned – and confirmed – five good lessons that I believe are applicable for any airframe and pilot:

1. Always maintain your composure and accomplish each phase of flight or emergency procedures one step at a time.
2. Take your time and maintain control of your aircraft before digging into a checklist.
3. Use the resources around you to back up your diagnosis and decisions. This will allow you to focus on the highest priority tasks. In this case, I had an awesome flight lead who took the radios and trusted my ability to handle what I was seeing. The supervisor of flying backed me up on checklist management and our game plan, and Salt Lake Approach Control got us where we needed to go in an expedited manner.
4. Checklist management is critical, especially in a single-seat, single-engine aircraft with hundreds of different checklists. I believe this was something I could have done better as we made our recovery back to Hill.
5. Once you are on final and prepared to land, focus on making a good approach and landing a bad aircraft, as to not make a bad situation worse. My flight lead did a great job reminding me of that and making sure my mind was in the right place as we approached final. ✈️



Photo by R. Nial Bradshaw



Daedalians present Air Combat Command Safety with National Award

BY SENIOR AIRMAN JORDAN GARNER

Retired U.S. Air Force Lt. Gen. Nicholas Kehoe, Order of the Daedalians national commander, presented the Air Combat Command Safety Directorate with the Maj. Gen. Benjamin D. Foulois Memorial Award on Joint Base Langley-Eustis, Virginia, April 2.

The safety office earned the award for its exceptional flight mishap prevention program during fiscal year 2018.

"This incredible work by every Airman across our command supports our mission to deliver combat power to Combatant

Commands across the globe," said U.S. Air Force Col. Steven Owen, Air Combat Command safety director. "Safety begins with leadership; risk management improves mission success and helps us maintain awareness of potential safety issues."

Foulois, the first U.S. Army pilot in 1908, was recognized for installing the first airplane seatbelt after a crash where he was almost thrown from the plane. In honor of his accomplishment, the Air Force chief of staff selects the

major command with the best flight safety record each year. The award is then presented to the command by the National Order of the Daedalians.

ACC's safety office directed flight safety programs for the Air Force's lead combat force provider, which safeguarded 1,200 aircraft and \$50 billion in combat assets. The directorate also reduced aviation Class A mishaps by 40 percent while coordinating more than 400 recommendations from mishap investigations.

This is ACC's second time earning the prestigious award since the command's creation in 1992. Tactical Air Command, ACC's predecessor, was presented with the award five times.

"Commanders are establishing a safety culture that enables every Airman at every level to identify hazards and mitigate risk," Owen said. "Moving forward, the key to a successful flight safety program is ensuring each member understands the importance of their role and how it contributes to the ACC mission." ✪

Learning From LOST LINKS

BY CAPT. MATTHEW DECKER



The day started out like any other day as I prepped to go in for the night shift. I would be sitting as the operations supervisor, which on most nights was an uneventful job, ensuring that the pilots and sensor operators were current and qualified to fly the mission. That wasn't the case this night.

I walked into our Global Hawk operations center, also known as the GHOC, to find that the weather was very bad in one of the areas that we were flying in. There were thunderstorms all over the local airspace and over the airfield where our aircraft was trying to land. The mission control element pilot of the aircraft, better known as the MCE pilot, had already elected to come back to base early to try and beat the storms, but he didn't return soon enough.

This is when I realized I was going to be in for a very busy night. The RQ-4 doesn't operate from very many bases, so this limits our options for diverting to other locations. Knowing how

much of a struggle it would be to coordinate and land with one of our divert bases, I spoke with the launch and recovery element pilot, also known as the LRE pilot, who was stationed downrange, and see what his leadership wanted to do. Their push was to try and get the aircraft back to base if a hole in the weather appeared. So wait we did.

Over the course of the next five hours, the aircraft orbited outside the local airspace. Both pilots made one attempt to get the aircraft into the base, but the weather closed in too fast so they continued to orbit, hoping for another opportunity. As time went by, fuel became an issue. I spoke with the MCE pilot to see how much fuel he had left and how long he would be able to stay before we would have to make a decision on where to land the aircraft. He gave me his minimum fuel that we could fly to, and at that point he would coordinate to land the aircraft at one of our alternate fields. So wait we did.

With still no break in the weather at the base and our fuel reserves now depleted, it was

time to look at where we could land our aircraft. I went and talked to the weather person who sits with us to see what the weather was like at our alternates. Unfortunately, our primary alternate now had crosswinds that were out of limits for our aircraft, but our other alternate was perfectly clear with calm winds. Well, this shouldn't be too big of an issue ... or so I thought. I called the LRE pilot, told him the plan and requested he have the maintenance team there start coordinating with the transient maintenance team at our divert location so that they could be prepared to recover the aircraft and safely tow it off the runway. I, working with my director of operations, called the airfield manager and airfield operations to prep them as well as talking to the air traffic control tower so that they were aware that we would be landing there. Little did I realize that making a million phone calls was not going to be the most challenging thing I did that night. So wait we did.



drawbacks: we wouldn't be able to use the aircraft's radio to talk to the tower; we wouldn't be able to monitor the aircraft through the approach and landing; and we wouldn't be able to give any sort of override should something happen and we needed to discontinue the approach.

Thinking through all of this, I thought back to when I was deployed and we were trying to figure out a different issue that involved the loss of the links. We wanted to test it, but couldn't figure out the best way to remove all the links to conduct the test. So after playing around on our simulator, we figured out a way to trick the onboard computers into thinking they had lost all of their links, but in fact still had them and could still be used to control the aircraft. Knowing that, I told the pilot to try it. We would still have use of the radio, still could

monitor the aircraft through the approach, and could still issue overriding commands should we need to. Sure enough, once the aircraft "thought" it had lost all its links, it turned and descended toward the approach routing to the runway, and thankfully the aircraft landed safely without any other issues.

Having spent most of my 12-hour shift dealing with this issue gave me little time to reflect on what happened. Now that the aircraft was on the ground safely, I could look back to see that there had been so many people who had to come together to make this work. It may seem simple to just fly an aircraft to a different base and land it, but when it's an RQ-4, it's easier said than done. And we had done it! It wasn't easy, but we accomplished the mission. Now it was taking those lessons and passing them on.

In the months – and now years – since, I have used the events from that night to teach several students and fellow pilots to think outside the box when it comes to handling an abnormal or emergency situation. Although it's important to follow the required checklists and emergency procedures, it's not possible for every emergency situation to be covered by safety and security protocols. Sometimes the answers to a situation are not always black and white, and there may even be times when you have to come up with a solution because there isn't one. I often think back to that night and the events that transpired to see if I might have done something differently now that I hadn't done then. Each time, I find myself saying I wouldn't have changed a thing. ✈️

Knowing that the transit time from our primary base to the divert airfield was pretty short, I waited for word that we had landed safely so that I could pass it on to everyone. Well, the time that we should have landed had come and gone. Since it had been so long and I hadn't heard anything, I asked one of the other pilots in the GHOC what the status was, and he said they were still airborne. I thought, "That can't be right; why haven't they landed yet?" So I walked down to the mission control element where the pilot was flying the aircraft, poked my head in the door and saw the pilot, my director of operations, two other pilots and one of our contractors all in or around the shelter. This is where I learned why we were still airborne, and looking at the amount of fuel remaining onboard, we didn't have time to wait.

The pilot had informed me that the workstation he used to control the aircraft wasn't fully functioning. Specifically, he had lost the ability to give a "Go To" to the aircraft. What this means is sending a command to the aircraft to literally go to a waypoint. Without this ability, the pilot could only send heading commands to the aircraft to make left or right turns. Not having the "Go To" function, and thus the ability for the aircraft to autonomously land, makes it extremely difficult to safely land the aircraft. This is because the pilot is then forced to try and manually land, a procedure that is only briefly taught and rarely, if ever, practiced in the simulator. So now we had to figure out a way to land the aircraft without simply telling the aircraft to go to a point to intercept the approach into the airfield.

Now a Global Hawk, just like any other remotely piloted aircraft, has to have a link to it to control it. If it loses its links, then it flies a preprogrammed route to a designated airfield and conducts an approach and landing. Knowing that, the MCE pilot was talking about it with the LRE pilot over the phone. The contractor wanted to restart the workstation, and I was looking at the fuel number and thinking that we need to decide quickly. I looked at the contractor and asked how long it would take to restart the workstation. He replied about 20 minutes, but that's just the time until the pilot can start setting up the workstation to be able to fly. The setup itself can take 30 minutes, depending on what all has to be loaded. The fuel numbers didn't support that. So the next thought was killing the links to the aircraft. A simple process, but with some large





The Cost of Complacency

BY TECH. SGT. NOAH R. SMITH

For years, I thought that safety was a hindrance, and I thought most people felt the same way. It wasn't until I made a small mistake that my attitude turned around. As I hear more stories and opinions from people on safety issues, it becomes clear that we are battling something much worse than a physical hazard; we are fighting complacency. I had to overcome that state of mind early on in my career, and I might not have had a career at all if it wasn't for the mental shift toward the deliberate use of safety gear and practices.


My mistake was quite minimal, but it had enough of an impact on me that it felt like everything from all the safety training, quality assurance briefs and technical order guidance all came rushing into my mind all at once. I was working on the flight line as aircraft armament systems technician doing routine maintenance on a missile launcher. At this time in my career, I had accomplished hundreds of missile launcher inspections. It required the use of disposable gloves to keep your skin from absorbing the different chemicals used for cleaning and lubrication. Goggles were also used to prevent particles from coming in contact with your eyes. After doing this job so many times in the past, just longing for a break, trying to get as much done as possible as fast as I could so maybe – just maybe – I could leave work on time, I made a choice. I chose to not care; I became complacent.

I wear glasses, so in my mind – at the time – I figured I didn't need those goggles. I thought I was smart enough to not get anything on my hands, since I didn't have any more pairs of the disposable gloves and the walk back to the support section would take too long. I picked up the spray lubricant can, which worked much like a can of spray paint. I

taped off the launcher to make sure that the proper places were protected from the lubricant, unlike my face and hands. As I began to spray, a gust of wind came directly toward me. The lubricant particles, a mix of graphite and other minerals, flew straight onto my face. It covered my glasses; it was in my nose and all over my hands. I was shocked. No other time in my career have I had that sinking feeling. I quickly finished and went back as fast as I could to clean myself up.

This incident was minimal, the chemicals were mild and I had very little exposure to the spray. But this incident caused me to reevaluate everything I did. Day in and day out, I stopped caring about my own safety so much so that all I cared about was going home. I worked a minimum of 12 hours a day every day – as well as weekend duty. I hardly got to see my family, but I realized that I got lucky. I dealt with much higher hazards every day that could permanently remove me from the family picture. That hit me hard. My own actions were putting me at risk. Not the procedures, not the protective equipment, but my own selfish state of mind. I was putting my family at risk by making the wrong choices every day.

I urge all workers that have hazards in their workplace to stop and think about those potential dangers they encounter every day. It is really easy to fall into a routine. The accepted risk grows the more you are around a hazardous working condition. Please, reevaluate what you have accepted as OK and normal. Making deliberate changes in your state of mind takes time. Preparing for work tasks in the safest way takes time. Make sure you take the extra time to be deliberate in your own safety. Treat hazards like they should be treated, take your safety seriously and make it home to see your family. 🐦



BOMBS AND BROKEN BONES

BY TECH. SGT. STEPHEN LACEY

Weapons safety is a concept that is relatively new to me. Over the past year, I have learned all about the difference between Net Explosive Weight, Net Explosive Weight for Quantity Distance, the various degrees of required separation and the factors that determine them. During this time, I have also learned about mishap investigations. Working at my home base as well as in a deployed location has given me the opportunity to take all the knowledge I learned in the weapons safety schools, and apply them to real world situations. Every day, I learn something new and try to pass it on to everyone I work with.

At my first duty station in the Midwest, I was assigned to the conventional munitions maintenance section. I was a motivated young Airman, and I was eager to put my newly acquired skills to work. Fortunately for me, I was about to get the chance. Within my first month, we had received word that we needed to build 1,200 live “slick” MK-82 bombs and 1,200 live “high-drag” MK-82 bombs. The bombs would be used for precision bombing training sorties that would prepare the pilots for future deployments.

Early Monday morning, the bomb dump went into action. All the sections were involved in getting the required components to the preload location. The preload location was essentially a large open warehouse with 100-yard rails with trolleys on them. This was the location selected as the build site. The build site was set up like any traditional bomb pad or bomb build location. Bomb bodies were loaded on one end and on the other, they came

off as fully assembled bombs, ready to be loaded onto the B-1B Lancer. It was late November, and one would expect it to be bitter cold in the northern Midwest. But much to my surprise, there was no heat. We kept the bay doors open to allow easier and more expeditious access for the forklifts in the operation. After the munitions storage section had delivered all the required components, we were ready to build. The build site began to operate like a well-oiled machine. Each person in the operation had a specific duty and task they had been assigned. Each motion was predicated on the previous, and one task could not be completed successfully without the other. My section chief, who resembled Mr. Incredible, orchestrated the entire operation. As he assigned tasks he approached me and asked if I was cold. The only jacket I had at the time was the old battle dress uniform field jacket from basic training, which had no liner. I was frozen. He assigned me to drive the forklift and load the bomb bodies on the rails at the beginning of the assembly line. I was unimpressed with this task and demanded a better one. He quickly reminded me who was in charge and explained to me that the forklift had a heater and it was the warmest job of the build. After 20 minutes went by, I was grateful for his decision.

I spent nearly 12 hours every day that week loading bomb bodies onto the rails. It was a nonstop process. As soon as I put the bombs on the rails, I would return to the pallets outside and grab three more. Each time, the fuzeing crew was waiting for me – almost as if I was taking too long. Several times I had the urge to drive faster, or to not tilt the forks back quite as far. But the voice in my head reminded me to continue to drive slow and safe.

On Friday morning, the sun had decided to grace us with its presence. Mr. Incredible pulled me off the forklift and finally put me on the other end of the rails. My new job was to grab onto a single bomb fin as it was loaded onto the 40-foot trailer and roll it toward the front where we positioned the bombs to be tied down for transport. Gravity did most of the work and the process was fairly effortless. If the bomb started to veer off course, the lugs would strike the wooden rails and the bomb would straighten itself out. By this point, the low-drag bombs were long gone, and we had transitioned to the high-drag version. High-drag fins are a little more difficult to maneuver since the fins are smaller. On one portion of the fin, there is a small spring that enables the parachute to deploy. On occasion, leather gloves had been known to snag on these springs and get pulled off. It seemed a minor inconvenience after a tiring week of long hours. My own right-hand glove had a small tear on the pinky finger, which had several threads and strings protruding from it, but I chose not to trim the strings or get new gloves.

On one of our final loads, my patience was wearing thin, and I became a bit complacent. The public affairs office had sent an Airman to capture our accomplishments through some photographs, which would be used in an upcoming article in the base newspaper. This was no time for complacency: a young Airman at the end of a long workweek with PA on the scene ... there was no room for error.

While rolling the second or third bomb onto the trailer, part of the fin caught that little tear in my glove. I remember the bomb moving so fast that I couldn't stop it. I watched as the pinky portion of my glove twisted tightly around my finger. The bomb kept rolling and my glove continued to twist, contorting my finger and hand. At this point, it wasn't just my glove twisting – my arm began to twist as well. At the same time that I was running along the trailer to stay with the bomb, the PA Airman, who must not have seen what was happening, was attempting to get a photo from a lower angle. As he did this, I shouted for him to move as I ran toward him. At this point, my arm was no longer twisting with my finger. I inadvertently kicked the camera from the photographer's hand and heard a loud snap, realizing I had broken his camera. Almost simultaneously, the runaway bomb smashed into another, making a loud metal clank. My finger was all messed up, my wrist was in pain, and my arm was twisted behind my back.

A crew member came running to my aid, and surprisingly, my finger did not hurt that much. My wingman pulled at my glove for a few seconds before realizing how caught up it really was. He instructed me to take my hand out because if he pulled the glove, it could pop the parachute from

the fin. It took a little effort, but I was able to free my hand. As I pulled my hand out, blood spilled out of the glove and onto the cement. I was shocked how much blood there was and decided I should look at my finger. It was bent at a 90-degree angle, and everything you could imagine was there to see. It was at this point that the pain finally hit me, and it was nearly blinding. I was rushed to the hospital where I was treated for a broken finger. I spent the weekend in my dorm room, thinking about how my carelessness had resulted in a broken finger.

When Monday morning rolled around, I showed up to work fully expecting to be yelled at. Instead, Mr. Incredible called me in to his office and calmly talked to me about the incident. He was documenting everything to provide to the safety office. I told him I had become impatient and careless. His reply has stuck with me ever since. He said that munitions demand the highest degree of respect from us, and when a munition decides it is being disrespected, it will correct the issue any way it can. Luckily, this mishap did not turn into a catastrophic incident – but it easily could have. It took a broken finger for me to learn my lesson, and I have handled explosives with the utmost caution and respect ever since.

Though my experience turned out well for me in the long run, I wish that my supervisor had covered mishap prevention prior to the start of the explosives operation. Combat munitions training only covered primary weapons requirements and how to check out vehicles and equipment. In-depth safety principles were not covered.

It would be nice to say that this problem only occurred at my first base, but sadly, that was not the case, and I noticed a trend as it continued through my next two overseas assignments. It was not until I arrived at my current duty station that anyone took the time to discuss mishap prevention with me. **As a newly assigned weapons safety manager, I make it a point to discuss mishap prevention with everyone I cross paths with in the explosives safety community.** I especially try to take the time to meet with new Airmen who are yet to develop bad habits. During training with additional duty weapons safety representatives, I emphasize the need for them to discuss mishap prevention throughout their units. Most people will go their entire careers without ever witnessing an explosives mishap, which is the goal for the explosives safety community as a whole. However, it will not continue if we do not instill mishap prevention and a safety culture starting with our newest Airmen and continuing to do so throughout every Airman's career. I am willing to bet that if someone had taken the time to discuss mishap prevention and really explain to me the importance of safety and risk management, I might have had one less broken bone on the record. ✪



Explosives Clear Zone Warning Signs

BY MASTER SGT. MICHAEL ULMEN



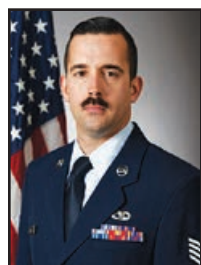
Have you ever seen signs – like the one pictured above – on your installation and wondered what they were trying to warn you about?

Most installations have isolated storage areas for large quantities of explosives. It's common for explosive clear zones, or the area

hazarded during an accidental explosion, to encroach roads on your installation. These signs serve two purposes: one, to ensure personnel are not unnecessarily exposed to the harmful effects of explosives in the event of an accident, and two, to ensure explosives safety criteria are met and enforced. Only mission-essential personnel are allowed to enter these areas, e.g., maintainers, emergency responders and quality assurance specialists. Those individuals have a duty or need to be present inside explosives clear zones. Nonessential personnel are prohibited from entering these areas.

Typically, you will encounter these postings along perimeter roads that encroach into or through explosives clear zones. If you come across these clearly posted areas, heed the warning and turn around or find an alternate route outside the explosives clear zone. Contact your weapons safety staff if you have questions about specific criteria, signage or activities near or within the explosives boundaries. For further guidance and information on explosives safety, clear zones and traversing routes exposed by explosives storage or operations, check out Air Force Manual 91-201. ✪

1st Quarter FY19 AWARDS



Crew Chief Safety
Staff Sgt. Zachary R. Hissem
4 AMXS, 4 FW
Seymour Johnson AFB, NC



Flight Line Safety
Senior Airman Jonathan W. Blaker
9 MS/MXMTR, 9 RW
Beale AFB, CA



Flight Safety
Tech Sgt. Erich J. Foltz
407 AEG/SEF



Pilot Safety
Capt. Keith O. Conway
357 FS, 355 WG
Davis-Monthan AFB, AZ



Safety Career Professional
Senior Master Sgt. Bilma L. Romero
55 WG/SE
Offutt AFB, NE



Unit Safety Representative
Tech. Sgt. James R. Calvin
4 CES/CEF, 4 FW
Seymour Johnson AFB, NC



Unit Safety
4 CES/CEF, 4 FW
Seymour Johnson AFB, NC



Weapons Safety
Tech. Sgt. Paul J. Napoletano
Master Sgt. Christopher A. Moon
4 FW/SEW
Seymour Johnson AFB, NC

Aircrew Safety
Ronin 80
45 RS/DOX
Offutt AFB, NE

Explosives Safety
Master Sgt. Jeremiah Webb
Staff Sgt. Cory Klosterman
Senior Airman Shay Conover
Senior Airman Nicholas Perez
Tech. Sgt. Brian A. Leatherman
355 EMS, 355 WG
Davis-Monthan AFB, AZ

Mishap Statistics Scoreboard

FY19 Flight

As of 31 Mar 2019

	Fatal	Aircraft Destroyed	Class A Aircraft Damage
1 AF			
9 AF			
12 AF			
25 AF			
USAFWC			
ANG (ACC-gained)			
AFRC (ACC-gained)			

FY19 Occupational

As of 31 Mar 2019

	Class A Fatal	Class A Non-Fatal	Class B
AFCENT		0	0
USAFWC		0	0
9 AF		0	0
12 AF		0	1
24 AF		0	0
25 AF		0	0

FY19 Weapons

As of 31 Mar 2019

	Class A	Class B
ACC	0	0

Legend

Class A - Fatality; Permanent Total Disability; Property Damage \$2,000,000 or more
Class B - Permanent Partial Disability; Property Damage between \$500,000 and \$2,000,000
Class C - Lost Workday; Property Damage between \$50,000 and \$500,000
(Class Description Effective October 1, 2009)

* Fatality ** Non-rate Producing *** Performing SOUTHCOM Mission

= Fatal = Fatal due to misconduct

Flight Notes

ACC had an outstanding quarter and did not experience any Class A mishaps across the command. In comparison, during the second quarter of FY18, we had two Class A mishaps (F-22A, repairable; HH-60G, destroyed) with seven fatalities. Continue your proactive approach to aviation safety to help identify risks and hazards early so we can have more successful quarters like this one!

Occupational Notes

The second quarter of FY19 was an AWESOME quarter for ACC – there were no deaths or serious injuries. This is a decrease over last year at this same time when ACC suffered one Class A fatal mishap when an Airman was working on his car along the side of road and another vehicle struck and killed him. Going a whole quarter without a fatality has only happened one other time in the last several years. Everyone should take credit for this success. It takes each of you doing your part in preventing such tragic mishaps. If we can do it for one quarter, there's no reason we can't do it for two quarters. I know with your help and focus on always applying Check 3 – Gear, Plan and Skills in everything you do, we can have another fatality-free quarter – if not, a fatality-free rest of 2019.

Weapons Notes

Congratulations on an outstanding second quarter of FY19. As we continue to support our individual missions whether loading explosives, storing or maintaining our systems, safety is paramount. This quarter, we have encountered an increased number of dropped munitions, ultimately resulting in loss as well as high repair costs. Complacency and improper handling procedures are becoming the repeating factors we see. As summer creeps up, bringing higher temperatures, and in most cases increased flying ops, attention to detail and taking the time to ensure safe munitions handling will decrease this pattern. Complacency endangers you and those around you. Thanks for all you do in support of the ACC Weapons Safety community.

Symbols for Mishap Aircraft



Without your stories, this is what The Combat Edge will look like.



Tell us your story.
757-764-8846

OVER the
Edge
MAGAZINE

**FIGHTING
TO FLY**

**Creech Airman
Thrives After Life-
Changing Crash**

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Survive Summer.



[we need you.]

OVER the
Edge
MAGAZINE

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ACC/SEG, JB Langley-Eustis, VA

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867 ATKS USR, Creech AFB, NV

The warmer weather brings a variety of outdoor activities for Airmen, their families and friends to enjoy. Although these activities can provide countless opportunities to “move, nourish, refresh and connect,” they may also pose risks. Check out some tips on the following pages to keep yourself and others safe while enjoying the summer season.

Celebrate Summer

SAFELY

BY MASTER SGT. MICHAEL EVANS



Fireworks

— Fireworks displays are an integral part of summer celebrations. Every Fourth of July, there are thousands of people injured using fireworks. Devastating burns, eye injuries, fires and even death are some risks associated with fireworks. On average, fireworks start more than 18,000 fires every year, including 1,300 structural fires, 300 vehicle fires and 16,900 outside and other fires. These fires caused an average of three deaths, 40 injuries and an average of \$43 million in direct property damage, according to the National Fire Protection Association. People can enjoy fireworks safely if they follow a few simple safety tips:

- Always have an adult supervise fireworks activities.
- Never allow children to play with fireworks.
- Never point or throw fireworks at another person.
- Light fireworks one at a time, then move back quickly.
- Never try to re-light or pick up fireworks that have not ignited fully.
- Never experiment or make your own fireworks. Make sure you only use fireworks purchased from a reliable licensed seller.
- Do not place your body directly over a fireworks device when lighting the fuse.
- Only use fireworks outdoors.
- Store fireworks in a cool, dry place.
- Make sure fireworks are legal in your area.

Heat — Summertime means activities and fun under the sun. Whether it is getting wet at the water park or working on the lawn, people enjoy a variety of outdoor activities during the summer. Planning outdoor activities without considering the higher temperatures could lead to heat-related illnesses like heat exhaustion or a heat-related injury like heat stroke.

Heat exhaustion is a heat-related illness that can occur after you have been exposed to high temperatures, and it often is accompanied by dehydration. Signs and symptoms of heat exhaustion include profuse sweating, weakness, nausea, vomiting, headache, lightheadedness and muscle cramps. Understanding the environment is perhaps the most important step in preventing heat-related illness. If possible, strenuous activities should not be performed in excessively hot or humid environments. However, people often have to work in the heat of the day or indoors in hot situations and need to make the effort to protect their bodies. These can include frequent breaks taken in cooler areas, adequate fluid intake and slowing the pace of work to decrease generating body heat.

Heat stroke is the most serious form of heat injury and occurs when the body's temperature rises rapidly, the sweating mechanism fails and the body is unable to cool down. Death or permanent disability can result without emergency treatment, according to the Centers for Disease Control and Prevention. Signs and symptoms of heat stroke include a core body temperature above 104 degrees Fahrenheit, fainting, rapid heartbeat, lack of sweating despite

heat, seizures, behavioral changes, such as confusion and staggering, and red, hot and dry skin. People can prevent heat stroke by staying in air-conditioned environments when the heat index is high. Those who must go outdoors should consider taking these steps: wear lightweight, light-colored, loose-fitting clothing, be sure to use a sunscreen with a protection factor of 30 or more and drink extra fluids. Avoid fluids containing caffeine or alcohol because both substances can make you lose more fluids and worsen heat-related illness.

Most individuals recover well from heat exhaustion and prevent heat stroke. The key to recovery is recognizing symptoms before they progress to heat stroke. The earlier the activity is stopped, the individual is cooled and hydration begins, the greater the likelihood that complications will not occur.



Water — When you think summer, it is hard to imagine it without water. Whether in a pool, lake or ocean, summer usually includes the water. Each of these bodies of water poses its own risk, but they also share one common occurrence: death.

According to the U.S. Coast Guard 2017 Recreational Boating Statistics Report, there were 658 deaths and 2,629 injuries from 2016 to 2017.

A common occurrence was the lack of a life jacket, but the leading factor was the use of alcohol in fatal boating accidents. Operating a boat under the influence can land you a BUI, or boating under the influence, and it has consequences similar to a DUI – fines, jail or loss of boating privileges, varying from state to state. As previously stated, the leading cause of death is the lack of a life jacket, which is required to be in the boat for the number of passengers aboard.

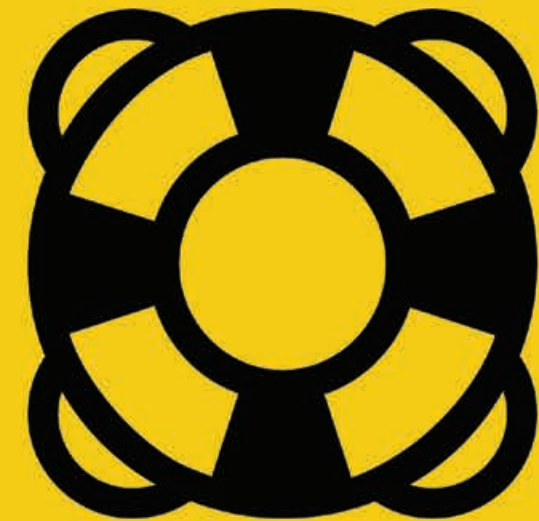
With swimming being one of the summer's most popular water activities, it is important to be prepared. If you are going to the coast, be knowledgeable of what the water conditions are like for the day. Natural bodies of water can have undercurrents, riptides, unknown depth and could suddenly drop. If you are attending with small children

or children that do not swim well, it is best to keep constant supervision of them at all times – even with lifeguards present. If you are ever in doubt, ask for a life jacket and remember, “Life jackets aren’t just for boats; they only work when they are worn. Young children and weak swimmers should wear life jackets whenever they are in, on or around the water, even at a pool or a waterpark. Put it on at the dock, deck or

shore and don’t take it off until you are on dry land.”

When choosing a life jacket:

- Make sure it is the right type for the activity.
- Make sure it is U.S. Coast Guard-approved. Look for the stamp on the life jacket.
- Make sure it fits the intended user. Check the label on the life jacket for weight limits.
- Check buckles and straps for proper function. Discard any life jacket with torn fabric or loose straps.
- Put on the life jacket and practice swimming with it.
- Water wings, swim rings, and inflatable toys are not substitutes for U.S. Coast Guard-approved life jackets or adult supervision.





FIGHTING TO FLY

Creech Airman Thrives After Life-Changing Crash

BY AIRMAN 1ST CLASS HALEY STEVENS

Waking up in an unfamiliar place, having suffered numerous injuries, he couldn't believe the scene set before him. He waited for the curtains to be drawn to reveal the hospital bed and medical equipment attached to him were all fake. He thought to himself, "This is a crazy dream. What a crazy dream this is."

In the weeks that followed, the reality of a motorcycle wreck he experienced set in. He was left with a long list of injuries, including two skull fractures, a broken sternum and broken tibia.

Maj. Travis, an MQ-9 Reaper pilot at Creech Air Force Base, Nevada, wondered if he would be able to stay in the U.S. Air Force – and if he would get the chance to fly again.

Though lost to him are a month and a half's worth of memories, his family and friends explained the night as best they could.

"It was probably around eight o'clock at night," he said. "I was going to meet a friend and his sister for dinner. I guess I left my house around eight, and I went downtown."

When Travis hadn't arrived for dinner, his friends called the police and learned there was a reported motorcycle accident nearby.

He reviewed the photos from the scene.

"All the damage on the car was on the corner of the bumper and all the damage on my bike was on the side, so I think we may have come around and merged into each other."

Travis said he was thrown 70 feet from the collision, and amidst the uncertainty of long-term effects, he felt lucky just to be alive.

"You always hear 'Dress for the crash' or ... 'It's not a question of *if* you're going to wreck, but *when*,' and I was like, 'Ahh, not me,'" Travis said. "'I'll never have a wreck; I'll never crash,' and then sure enough – it happened, and I'm definitely glad I was wearing probably over a thousand dollars of gear."

That night, authorities called his squadron commander and explained the situation.

"(My commander) was on vacation at the time with his family, but it didn't matter," said Travis. "He and the shirt [first sergeant responsible for Airmen

and families' well-being] still took the appropriate action, notifying my family because I was in critical condition. Nobody was sure whether or not I was going to live or die at all, so time was of the essence."

Travis expressed immense gratitude for his leadership and his fellow squadron members as well as his family, who flew directly to Las Vegas to support him.

"The biggest thing that helped my recovery was definitely my family coming out, but then also my Air Force family, my friends in my squadron that helped support my mom, dad, brother and sister during that process," he said.



"I'd had Indy for several years," he said. "She was patient enough to help me take baby steps to work back to where I could just ride her all through the mountains and through the desert again."

Travis also noted how motivated he was to gain back the rhythm, comfort level and physical conditioning he'd once had with Indy.

"It was tough at times, knowing there wasn't much I could do but be by his side and be a friend," Joshua said. "However, seeing how determined he was and still is, is an incredible thing to witness. They say things happen for a reason, well I was chosen to be by his side – to have a friend for life."

While still in the hospital and on convalescent leave, Travis kept his thoughts on hope. Hoping there would be no permanent repercussions from the accident and hoping that he would be able to continue serving in the Air Force.

"I just remember something my little brother told me, who at some point grew into a wise man," Travis expressed with a smile. "He (said) 'You know, in this whole recovery process, you just have to focus on the next thing, just the very next step.'"

In just under two years, Travis has passed a full component Air Force fitness assessment, currently flies with friends who are licensed pilots, and is taking one step after another.

He continues to fight his battle, to pursue his dream of taking to the skies once more. ✨



"Travis and I were both in the 22nd Attack Squadron – on the same shift, but in different flights," said Maj. Joshua, Travis's family liaison officer. "He was going to replace me as assistant flight commander as I moved up to flight commander. Then I received a call in the middle of the night and spent the next month by his and his family's side, making sure Travis and his family never had to worry about anything other than Travis's well-being."

Travis admitted to being a little choked up as he recalled how Joshua and his other teammates were there for his mother after the wreck.

"In those times when my mom was alone – sitting in the hospital – sometimes in the evenings, sometimes late at night, my commander or his wife would come to the hospital and sit with her and keep her company while she was alone," he said. "She loves the Air Force for that."

After being released from the hospital, Travis began walking the path to build back his physical strength. Along with physical therapy and starting work in the commander's support section, he credits a large part of that recovery to his horse, Indy.



Photo by Airman 1st Class Haley Stevens



HEADWIND

HAZARD

BY AMANDA SUROWITZ

The first time Patrick asked if I wanted to turn our paddleboards around, it would have been smart to say yes. It was windier than we anticipated, not that either of us checked the weather. Hurricane Maria was somewhere over the Atlantic, far out of mind as we carried our boards into the water on a breezy, sunny day. We were the only ones on the Calibogue Sound in Hilton Head, South Carolina, oblivious to the wind advisory in effect.

As soon as we settled onto our boards, Patrick pointed us into the wind.

“You always want to go against the wind when you head out,” he said. “A lot of beginners get themselves in trouble because they let the wind carry them out, then use up all their energy fighting it to get back, and they get stuck.”

Paddleboarding was new to me, though I felt more skilled than a beginner after years of family canoeing trips. I tried to keep my ego in check as I listened to his warnings and instructions.

Despite my confidence, I immediately fell behind. I zigzagged across the water, struggling to angle my paddle correctly. Patrick eased ahead on his windsurfing board, stopping regularly to watch me paddle straight into the marsh grass, then stubbornly extract myself.

The wind was behind us when we reached a wide-open stretch. I set the paddle across my lap and checked my injuries; I'd fallen off my board almost as soon as I tried standing on it. My knee, shin and two toes were bloody with shallow scrapes. Only the toes worried me; I'd landed on them at an angle. Bruises were forming, and it hurt to curl them.

"Now I know to pack a first-aid kit when I take you out on the water," Patrick joked. "Probably should have brought one, anyway."

"Weren't you telling me on the way over here that I shouldn't try standing on the board in shallow water?" I asked. "And what's the first thing you have me do – stand on it in 3-foot-deep water?"

"I didn't think it was possible to fall off with me holding it!"

Once I again reassured him I was fine, and we continued across the open stretch. Then the wind started to shift. At every opening in the marsh grass, Patrick asked if I wanted to head back. I didn't. I wanted to prove I wasn't as much of a beginner as we thought, but I also loved being on the water. I didn't want the adventure to end, and I had the strength to keep going. So that's what we did.

By the time we finally turned around, the wind turned on us. Choppy waves beat the underside of my board. I could barely hear Patrick shout from far ahead, "Are you okay?" over the wind. It wasn't like the deceptively pleasant breeze we'd started with; an 8-knot headwind had risen with a challenge.

Despite the obvious danger, I didn't panic. The shoreline was never more than 30 yards to my left. I could make my way to someone's backyard and apologize for my necessary trespassing. I had food and water with me. My arms weren't tired yet. I could keep going.

I progressed by inches. If I paused for a deep breath between paddle strokes, I slid back a foot. Twenty yards ahead, Patrick steered into the marsh grass and anchored himself with a handful of reeds. Part of me was afraid

I'd drop the paddle and have no choice but to untether myself from the board and swim to shore, or anchor in the reeds and wait for help. I held on tightly. My hands ached, but I couldn't let go, and I couldn't stop.

Inch by inch, I went along until I came to a private dock covered with seagulls, pelicans and rosy spoonbills. The wind suddenly blasted harder, and I went nowhere for what felt like 15 minutes. By the time I managed to get past the dock, I decided it was time for a rest. I headed straight for the reeds and grabbed a handful. Patrick turned his board from where he'd spent the last five minutes waiting and paddled toward me.

As soon as he stopped next to me, he said he was sorry.

"I shouldn't have brought you out in this. These are the kinds of conditions that get people killed."

"I'm not worried."

He smiled, but I could tell he thought I didn't understand how serious the situation was. I pointed out what I'd observed about the distance to shore and told him I hadn't yet reached my limit.

He kept close after that. We stopped a second time in a narrow channel between two masses of marsh grass to rehydrate. He apologized repeatedly for putting me in danger. I reminded him that I all but demanded to go out this far. We both laughed that my potentially broken toe was no longer a huge concern.

I had hoped the wind might die down a little; I wanted to paddle during lulls and rest in the reeds when the wind swelled again. Of course, the weather did not cooperate. More than once, the only way I made any headway

was by dragging myself along the marsh grass – one fistful at a time.

We covered the 2-mile distance with a 4-mile effort. When we passed briefly through a sheltered area where the wind wasn't as relentless, I finally felt the sunburn on my back and legs. We'd left our sunscreen in the car, confidently thinking we wouldn't be out long enough to need to reapply.

Bit by bit, we finally made our way back to the boat ramp. Tired, hungry, sunburned and smiling, we carried the boards back to Patrick's car.

"I think, after all that, your skills are at an intermediate level," he said. "If I haven't scared you off paddleboarding forever."

"Not at all. We'll just check the weather and plan a little better next time." 🗡️



Driving Under *the* Influence *of* Sleep

[or lack thereof]

BY 1ST LT. CHAD JACKSON

After a long weekend visiting family, my wife and I had finished a full day of family fun in the sun, hiking one of our favorite trails at Zion National Park with my nephew. Sadly, the weekend had to end, and we needed to get back to the reality of school and work the following morning.

By the time we dropped off my nephew and said our goodbyes, it was already past 8 p.m. coming up on 9 p.m., and we had a four-hour drive ahead of us. We knew there was a chance of getting tired during our travels; however, we needed to leave in order to make it back in time for my shift early the next morning. But we were feeling good and decided to just make the trip so we could sleep in our own bed.

The first half of the trip went by without any problems. We were getting tired but decided we could make it. My wife was dozing off, so I reassured her that she could go to sleep. It was already past midnight, and as I drove, I struggled to keep my eyes open. I thought about pulling over, but looking at where we were, I knew we only had about 30 to 40 minutes to go, and being so close to home, I wanted to “sprint to the end” and finish strong.

All of a sudden, I heard rumbling, and realized I had drifted into oncoming traffic and hit the rumble strip on the opposite side of the road. In a hurry to correct the error, my correction was a little too sudden, spinning the car out. Once we hit the gravel on the side of the road, we started sliding, and with the highway being elevated, we went off the 2-foot edge and rolled end over end about three times, according to police estimations.

We both had our seat belts on, and other than a few bumps, bruises, sore muscles and a totaled car, we were fine. Compared to what could have happened, it was a miracle.

Driver fatigue is not a new concept, and yet it's still a recurring safety concern that should not be taken lightly – especially for those who work shift work or long or irregular hours, which is a large portion of our fighting force. What can we do to mitigate this potentially deadly hazard?

It comes down to proper planning: getting a minimum of eight hours of sleep, mapping out proper rest stops and departing at an appropriate time to minimize travel during normal sleeping hours. These are just a few things that can be done in order to avoid drowsy driving. Additionally, drivers should not rely on caffeine to get through a journey, as with most outside

substances, there are side effects that can make the situation worse.

It's also important to be flexible with whatever plan is made. If a driver has done everything they could in order to mitigate fatigue and is still feeling tired, pull over and get a hotel. From someone who has experienced one of the better outcomes of something that could have turned out much worse, it is not worth the risk. If there is an obligation or an appointment, being late is a much better consequence than permanent disability or death. Driver fatigue is just as dangerous – if not more dangerous – than driving under the influence. If you find yourself in a situation where that little voice in your head is softly prompting you to do something safely or not do it at all, take a moment and listen; you'll never regret it. ✈



DROWSY DRIVING LEARN THE WARNING SIGNS

DRIVE ALERT AND STAY UNHURT.

- **Yawning** or **blinking** frequently.
- **Difficulty remembering** the past few miles driven.
- **Missing** your exit.
- **Drifting** from your lane.
- **Hitting** a rumble strip on the side of the road.

If you experience any of these warnings signs
PULL OVER TO REST OR CHANGE DRIVERS.
Simply turning up the radio or opening the window are not effective ways to keep you alert.

