

Combat Edge

Fall 2018

Air Combat Command's Safety Magazine



Still Alive and Well Today

*Part three of a four-part series that will
explore non-military aviation mishaps*

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Combat Edge

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Volume 26 Issue 5, ACC SP 91-1

THE COMBAT EDGE

(ISSN 1063-8970) IS PUBLISHED QUARTERLY, BY AIR COMBAT COMMAND, HQ ACC/SEM, 220 SWEENEY BLVD (BLDG 669, RM 203), JOINT BASE LANGLEY-EUSTIS, VA 23665-2714. PERIODICAL POSTAGE PAID AT HAMPTON, VA 23670 AND ADDITIONAL MAILING OFFICES. POSTMASTER: SEND ADDRESS CHANGES TO HQ ACC/SEM, 220 SWEENEY BLVD, BLDG 669, RM 203, JOINT BASE LANGLEY-EUSTIS, VA 23665-2714.

DISTRIBUTION: F. OPR: HQ ACC/SEM. DISTRIBUTION IS BASED ON A RATIO OF ONE COPY PER 10 PERSONS ASSIGNED. AIR FORCE UNITS SHOULD CONTACT THE COMBAT EDGE STAFF TO ESTABLISH OR CHANGE REQUIREMENTS.

ANNUAL SUBSCRIPTIONS: AVAILABLE TO NON-DOD READERS FOR \$51.00 (\$71.40 OUTSIDE THE U.S.) FROM THE SUPERINTENDENT OF DOCUMENTS, PO BOX 371954, PITTSBURGH PA 15250-7954. ALL SUBSCRIPTION SERVICE CORRESPONDENCE SHOULD BE DIRECTED TO THE SUPERINTENDENT, NOT HQ ACC/SEM.

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COVER PHOTO BY STAFF SGT. PETER THOMPSON

ACCent



Col. Steven G. Owen
Director of Safety

Wow! Another year drawing to a close, and it has been a wild one. Fiscal year 2018 was an unusually tragic year across the Air Force, and ACC was not spared the loss of 19 valued Airmen. An uptick in mishaps across all services, including some high-visibility events with multiple fatalities caught the attention of all of us as we worked to investigate what happened and how to break the mishap chain. We completed an Air Force chief of staff-directed operational safety review to pause and examine all aspects of flying and maintenance operations, focusing on “gaps and seams” that might lead to mishaps. Wings took time to reflect on leadership engagement, training, mission planning, risk management and experience levels, and provided candid and meaningful feedback up the chain of command. Turn to page 10 to learn more about the results of the operational safety review.

We in ACC Safety also looked at mishaps across the board to see where we could make any required adjustments to improve our mishap prevention efforts. In most areas, ACC mishap numbers have remained fairly constant, with minor increases or decreases in almost all categories over the last five years. We experienced a slight increase in Class C aviation ground operations mishaps and automobile mishaps, and a decrease in sports and recreation mishaps. Our aviation rates actually declined slightly, although with the acknowledged increase in aviation fatalities.

The operational safety review highlighted concerns over issues including manning, high operations tempo, training, lack of time to focus on basics, and a cultural tendency to always execute the mission. These challenges continue to remain part of our operating environment. A look at ACC's Class A aviation mishaps reinforced the point that bird strikes, hazardous weather and foreign object damage are threats that must be respected and honored on each and every mission. Human factors also continue to play a role in all of our mishaps to some extent. ACC Safety recently hosted a training event to hone skills in that important role of mishap investigation and analysis. To learn more, turn to page 20 and read “Human Factors.”

As this year draws to a close, please take time to conduct your own review. Involve all your personnel, supervisors and subordinates alike. Focus on your own people and your own mission, and don't forget to emphasize the basics. And as our commander, Gen. Mike Holmes, has said, “Work to make sure we are doing ordinary things extraordinarily well.” Enjoy the holiday season, and fly safe.



Still Alive and Well Today

BY COL. BRANDON W.J. DEACON

This is the third installment of a four-part series that explores historic non-military aviation mishaps. The previously published installments explored aviation mishaps from Feb. 3, 1959, and Nov. 11, 1965. The first was a crash of a light airplane that claimed the lives of the aircraft pilot and three iconic American musicians, and the second was a crash of a Boeing 727 passenger plane that was responsible for 43 fatalities. For this case study, we will dive into the factors that contributed to the July 16, 1999, crash of a Piper PA-32R-301, Saratoga II, that tragically took the lives of two passengers and the pilot when the aircraft descended and impacted the ocean during a night flight.



Photograph of the accident airplane taken within three months of the accident. (Photograph provided by the previous owner of the accident airplane.)

Similar to the accidents discussed in the first two parts of this series, an accident investigation board convened to provide context, factors and recommendations related to the mishap. The National Transportation Safety Board's Aviation Accident Final Report provides insights into the pilot, the aircraft and the circumstances of the mishap flight.

The board's report tells us that 15 months prior to the crash of the Saratoga II aircraft, in April 1998, "The pilot obtained his private pilot certificate for 'airplane single-engine land' ... He did not possess an instrument rating. He received a 'high performance airplane' sign-off in his Cessna 182 in June 1998 and a 'complex airplane' sign-off in the accident airplane in May 1999."

Although the pilot's most recent logbook at the time of the incident could not be located, the investigation board used other documents to estimate the pilot's total experience, excluding simulator time, at around 310 hours. Of those 310 hours, the board estimated around 55 hours were flown at night. The pilot's estimated total time of flying without an instructor on board was a little over 70 hours. As of the day of the accident, the board estimated the pilot's total time in the actual accident aircraft to be "about 36 hours, of which 9.4 hours were at night. About 3

hours of that flight time was without a certified flight instructor (CFI) on board, and about 0.8 hour of that was flown at night and included a night landing."

The pilot's initial training in 1998 was relatively uneventful, and he passed his private pilot flight test April 22. "The designated pilot examiner who administered the checkride stated that

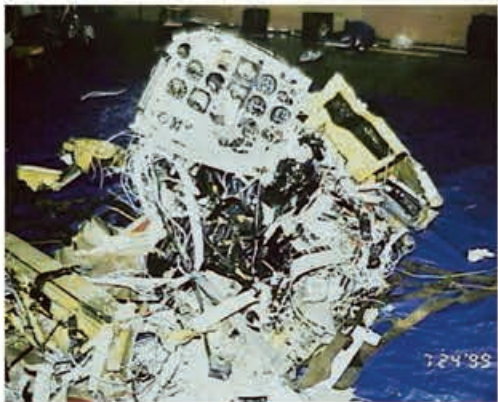
as part of the flight test, the pilot conducted two unusual attitude recoveries." About a year later, in March 1999, he took a written Federal Aviation Administration instrument exam and received a score of 78 percent. Soon after, he began his aircraft instrument flight training.

During his instrument training, the pilot progressed at a normal pace; however, about halfway through the program, he displayed considerable difficulty using on-board navigational aids while working with air traffic control. It took the pilot four attempts before he successfully completed that particular instructional lesson. "The CFI stated that the pilot's basic instrument flying skills and simulator work were excellent. However, the CFI stated that the pilot had trouble managing multiple tasks while flying, which he felt was normal for the pilot's level of experience."

The pilot received further instrument instruction in his new aircraft — the one involved in his fatal crash, the Piper Saratoga. One CFI who flew with the pilot in the Saratoga a few times noted that "the pilot's aeronautical abilities and his ability to handle multiple tasks while flying were average for his level of experience." Another CFI who flew with the pilot at night observed that "the pilot used and seemed competent with the autopilot." That said, the

instructor also noted that "the pilot had the ability to fly the airplane without a visible horizon but may have had difficulty performing additional tasks under such conditions. He also stated that the pilot was not ready for an instrument evaluation as of July 1, 1999, and needed additional training." Remember: July 1 was 15 days before the crash. A third CFI who had flown the same route flown on the night of the crash on previous occasions and under similar conditions "stated that the pilot had the capability to conduct a night flight to [the destination] as long as a visible horizon existed."

The mishap flight was planned to be flown at night, departing from Essex County Airport in Caldwell, New Jersey, to Martha's Vineyard Airport in Vineyard Haven, Massachusetts, for a passenger drop-off, and concluding at Barnstable Municipal — Boardman/Polando Field in Hyannis, Massachusetts. At 2038:39, Essex Tower cleared the aircraft for takeoff with a right downwind departure. The pilot's acknowledgement of the downwind departure was the last recorded communication between the pilot and air traffic control. The aircraft proceeded northward past White Plains, New York, then eastward toward Bridgeport and New Haven, Connecticut, then past Point Judith, Rhode Island, and across the Rhode Island Sound. The aircraft data recovered for the



Airworthiness - Photo 1. View of the cockpit and cabin area. (NTSB-B2)

time after passing Rhode Island paints a picture of erratic altitude, airspeed and heading changes that would indicate a situation of significant confusion, loss of situational awareness and misdirected attention:

The aircraft "began a descent from 5,500 feet about 34 miles west of MVY [Martha's Vineyard]. The speed during the descent was calculated to be about 160 knots indicated airspeed (KIAS), and the rate of descent was calculated to have varied between 400 and 800 feet per minute (fpm).

About 2138, the target began a right turn in a southerly direction. About 30 seconds later, the target stopped its descent at 2,200 feet and began a climb that lasted another 30 seconds. During this period of time, the target stopped the turn, and the airspeed decreased to about 153 KIAS. About 2139, the target leveled off at 2,500 feet and flew in a southeasterly direction. About 50 seconds later, the target entered a left turn and climbed to 2,600 feet. As the target continued in the left turn, it began a descent that reached a rate of about 900 fpm. When the target reached an easterly direction, it stopped turning; its rate of descent remained about 900 fpm. At 2140:15, while still in the descent, the target entered a right turn. As the target's turn rate increased, its descent rate and

“ As the target's turn rate increased, its descent rate and airspeed also increased. The target's descent rate eventually exceeded 4,700 fpm. ”



airspeed also increased. The target's descent rate eventually exceeded 4,700 fpm. The target's last radar position was recorded at 2140:34 at an altitude of 1,100 feet ... On July 20, 1999, about 2240, the airplane's wreckage was located in 120 feet of water, about 1/4 mile north of the target's last recorded radar position."

The investigation board discovered that the pilot made preflight weather observation requests for points along the intended route of flight as late as around 1830 hours on the evening of the crash. However, there was no indication that the pilot asked for the forecasted conditions in the flight area for the actual planned flight time. The observations at the time of the request indicated no less than 4 miles of visibility, with mist or haze, and relatively clear skies. At 1930, a little more than an hour before takeoff, the forecast for Nantucket indicated temporary conditions during the flight time down to 2 miles

visibility with mist and scattered clouds down to 500 feet. Similarly, a forecast for Hyannis was issued at the same time that called for temporary conditions of 4 miles visibility with haze.

Another pilot who had flown over Long Island Sound about two hours prior to the crash " ... stated that he encountered visibilities of 2 to 3 miles throughout the flight because of haze. He also stated that the lowest visibility was over water, between Cape Cod, Massachusetts, and eastern Long Island." A second pilot operating in the area that night told the investigation board that "...over land, he could see lights on the ground when he looked directly down or slightly forward; however, he stated that, over water, there was no horizon to reference. ... He further stated that, between Block Island [Rhode Island] and Martha's Vineyard, there was still no horizon to reference. ... He was about 4 miles from Martha's Vineyard when he first observed the airport's rotating beacon."

So, what's the big deal with restrictions to visibility when flying at night and you can't see anything anyway? Technically, if you can't see anything, then the flight should be conducted with extensive references to the on-board flight instruments to ensure the aircraft stays on altitude, on course and on airspeed. However, on a night visual flight, pilots can often use cultural or city lights, moonlight reflections off of terrain and buildings, and other visual cues to stay on track as long as visibility is good enough to see those cues. When visibility distances drop because of rain, snow, fog, mist, haze or other obstructions, continued flight with reference only to those visual cues becomes much more challenging and sometimes impossible. Continued visual-reference flight in those unfavorable conditions puts the pilot or aircrew at an increased risk of spatial disorientation.

The FAA's Instrument Flying Handbook defines spatial disorientation as "The state of confusion due to misleading information being sent to the brain from various sensory organs, resulting in a lack of awareness of the aircraft position in relation to a specific reference point." In other words, what the aircraft is actually doing is mismatched from the pilot's sensory cues — things the pilot sees, hears or the forces felt in turns or other maneuvers. For example, a pilot with no visual cues who executes a rapid level acceleration may actually feel like the aircraft is in a climb due to the forces felt against the back of the seat. The same sensation can be felt by sitting in a car at a stoplight between two larger vehicles like busses or trucks. If one of the vehicles in your peripheral vision starts to roll backward, you may get the sensation that you are actually rolling forward into the intersection and then slam on the brake pedal even if you weren't moving at all!

The FAA Airplane Flying Handbook discusses night flying by stating that "Night flying requires that pilots be aware of, and operate within, their abilities and limitations." Although the handbook has since been updated, at the time of the accident, it also cautioned that "Crossing large bodies of water at night in single-engine airplanes could be potentially hazardous, ... because with little or no lighting the horizon blends with the water, in which case, depth perception and orientation become difficult." A cautionary note from an FAA Advisory Circular (later superseded by an update to the Instrument Flying Handbook) warned aircrews that "... spatial disorientation as a result of continued VFR [Visual Flight Rules] flight into adverse weather conditions is regularly near the top of the cause/factor list in annual statistics on fatal aircraft accidents."

And so, we have collected the building blocks of *this* fatal aircraft accident:

1. Four months before the crash, the pilot took the FAA's written instrument examination and scored 78 percent. (A passing score is 70 percent.)
2. The pilot was relatively inexperienced in the mishap aircraft, with about 36 hours total and nine flown at night.
3. Instructors noted the pilot had trouble managing multiple tasks while flying, and he had difficulty performing additional tasks while flying without a visible horizon.
4. An instructor noted 15 days prior to the crash that the pilot was not ready for an instrument evaluation and needed additional training.
5. The pilot was probably unaware of the forecasts for deteriorating visibility conditions during the time of his planned flight.
6. The pilot took off and flew into night darkness in misty, hazy weather and reduced visibility conditions.
7. Radar observed the plane making erratic altitude, heading and airspeed changes indicative of a presumptive loss of situational awareness and aircraft control prior to impacting the ocean and fatally injuring all occupants.



The accident report summarizes this tragic mishap succinctly. "The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain control of the airplane during a descent over water at night, which was a result of spatial disorientation. Factors in the accident were haze, and the dark night."

In our next — and last article of this series, we will revisit the causes and factors of the three mishaps we have now studied in depth. We will then explore whether those factors are still alive

and well today by comparing the three mishaps to more recent U.S. Air Force aviation accidents and look for similarities. Finally, we'll discuss mitigation strategies that can hopefully be used to ensure that mishap factors don't continue to be reborn over and over again.

Until then, you may be wondering why this particular spatial disorientation accident was selected to review. This mishap is particularly noteworthy in that the pilot who lost his life along with two passengers that night was John F. Kennedy Jr., the son of the 35th president of the United States, John Fitzgerald Kennedy. 🗳️

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Operational SAFETY

BY SECRETARY OF THE AIR FORCE PUBLIC AFFAIRS

Air Force units across all levels of command are addressing the issues identified by an Air Force-wide operational safety review, initiated this spring by the Air Force chief of staff.

“The review proved tremendously helpful as we continue to seek both high levels of safety with intense and realistic training,” said U.S. Air Force Chief of Staff Gen. David L. Goldfein. “As air superiority is not an American birthright; our training must continue to be challenging and meaningful. But I also want commanders to have the decision authority to determine how far to push,” he said.

Secretary of the Air Force Heather Wilson agrees.

“We lean forward every day to get the mission done – it’s what we do – but we must also know when risks associated with leaning forward outweigh the benefit,” she said. “General Goldfein and I will continue to empower leaders to take care of their people as we build the ready force we need.”

Air Force safety officials said the review identified several factors that require commanders’ continued focus. The Air Force disseminated the findings to the field, and flying and maintenance leaders at every level are addressing the issues and using the findings to inform their decisions.

The review pointed to several potential safety risks: Stress posed by high operations tempos; a lack of time to properly focus on flying basics; mission activities and training; the pressure to accept risk; cultural tendencies to always execute the mission; decreased aircraft availability; and the potential for complacency during routine tasks.

“We’re taking necessary steps to ensure our Airmen operate as safely as possible in an inherently dangerous business,” Goldfein said.

Goldfein recounted a story from Operation Desert Storm in 1991 that he said helps calibrate his approach to training and safety.

“On my first combat mission in Desert Storm as a captain and F-16 flight commander, we crossed into enemy territory, and the first thing we saw was anti-aircraft fire. Then we had a few surface-air-missiles launched at us. Then an F-15 shot down a MiG-29, and I watched it descend and hit the desert and explode,” he said.

“I’ll never forget that moment in combat. I realized that nothing I was seeing was new. It was the same formation, the same radio calls, the same threats, just real this time. I realized at that moment that I can do this. I had trained for it, and it was just like Red Flag,” he said.

Whether flying fighters, bombers, tankers or engaged in high-tempo ground operations of weapons loading or aircraft maintenance, Goldfein said he wants all Airmen to train so realistically that their training, experience and discipline protects them and the mission in both peace and in combat.

With this mindset, Air Force leadership provided wing commanders with focus areas to facilitate safety review discussions. The review examined leadership and supervision engagements; training; mission planning, briefings and debriefings; risk management; flightline operations; experience in the force; and fundamental focus.

According to Maj. Gen. John Rauch Jr., Air Force chief of safety and commander of the Air Force Safety Center, the Air Force sought to help commanders identify gaps and seams in each focus area.

Commanders then provided feedback through each major command to ensure senior leaders were aware of concerns across the force.

The Air Force has already initiated efforts to address some of the concerns, to include adding support capabilities back into the squadron, reducing additional duties, enhancing information

processes for aircrew mission planning, and reducing staff requirements.

“This review gave commanders the opportunity and time to focus on ensuring operations were safe by identifying hazards that could lead to mishaps,” Rauch said. “Our commander-led forums identified our Airmen’s unique concerns.”

Safety statistics in the past decade show Air Force Class A and B aviation mishaps trended downward. However, the manned aviation mishap rate increased since fiscal year 2018 began.

“So I want to train hard, and I want commanders to push themselves and their Airmen to achieve high levels of readiness. Sometimes the right answer is knock it off ... sometimes it is push it up,” Goldfein said. “Confidence in the air, safety on the ground and in the air – it’s commander business,” he said.

He also said that anyone on the team, no matter the rank or experience, can make that safety call without fear of reprisal. The safety review reinforced that message and continued to help integrate safety into the Air Force culture.

This review is an example, Rauch said, of Airmen taking care of Airmen to ensure operational safety and operational effectiveness. ✈

**USAF Aviation Class A Mishaps
(Manned/Unmanned)**





A TYPICAL MONDAY MORNING

... until it wasn't

BY CAPT. MATTHEW L. GUERTIN

That Monday morning started out like many I've had before. I woke up to my alarm around midnight, ate a quick breakfast and stole a kiss goodbye from my sleeping wife and daughter.

My squadron commander started the brief at 12:30 a.m. for our flight in order to beat the setting sun on the other side of the Atlantic. It was my first time taking a jet across the ocean and my first deployment to the Middle East. I was No. 4 out of six F-22s from the 94th Fighter Squadron, deploying from Joint Base Langley-Eustis, Virginia.

We launched with an additional two air-spares and another two "catchers' mitts" to assist in the event of emergency. All in all, it was a big movement and big morning for the squadron. The usual delays for tanker coordination and "redballs," or any last-minute maintenance on the jets before launch kept us on the ground for over an hour, but we all finally made it airborne around 5 a.m. local time. The six F-22s were divided between two tankers in a cell; jets No. 1-3 went to the first tanker, and 5 and 6 went to the trail tanker – leaving me the odd man out and last one to refuel from the trail tanker. The

two air-spares remained in trail, and the catchers' mitts remained near Langley as we flew up the coast eastbound. Most airfields were closed this early in the morning, but Atlantic City, New Jersey, was still usable as our divert field until we flew out of range. As I completed the final fuel system check and topped off my jet, the air-spares prepared to return to Langley.

All was normal.



As I cleared away from under the tanker, the first caution asserted on my left up-front display, or UFD, and a “deedle-deedle” blared in my headset, demanding my attention. The display indicated “L AMAD OIL P,” which meant there was a problem with the oil pressure in the left Airframe Mounted Accessory Drive tied to the function and power of the motor and generator. I remember glancing at my watch and making a mental note from memory of the checklist that I had 60

seconds to resolve the issue before shutting down the left motor.

I took a deep breath and said, “Four for five,” calling to my flight lead over the radio. “Go ahead four,” he replied.

I plainly stated the caution and paused. My flight lead immediately called up the air-spares to prevent them from clearing off, and I moved farther away from the tanker so I could see the whole formation in front of me. The left motor was in idle now, and I used military power – the most power I could get out of the engine without afterburner, on the right to compensate for the increased fuel weight. No. 7 flew past me on his way to the tanker as my e-checklist on my left multifunction display, or MFD, now directed me to shut down the generator. I noted my position, approximately 200 nautical miles northeast of Atlantic City, flipped the switch back and shut down the generator.

Unexpectedly, the e-checklist I was referencing turned bright white and then black. The whole cockpit went dark and quiet. I lost my bearing for several moments as I struggled to comprehend what had happened. I tried to force myself to stare at the left UFD, but I couldn’t process the scrolling list of cautions and advisories being displayed as the jet was sorting out several systems failures. I took a sharp breath in and felt only rubber suctioning to my face, so I instinctively reached up and dropped the right bayonet on my mask to breathe cabin air. With another deep inhale, I remembered my watch and realized the 60 seconds were up. With my right hand, I felt down in the dark, and from the feel of the switch, I turned the radio to the backup, keyed the mic and told my flight lead that I was shutting down the left motor. I carefully differentiated between the left and right throttles and deliberately brought the left throttle over the hump. As the

sound of the engine began to wind down, I could hear the flight leads coordinating a plan to get me home.

I finally processed a few key cautions and I cued in on “L GDC FAIL,” which indicated a failure of the left Generator Distribution Center -- a serious failure of the electrical bus. My exterior lights were inoperative, and No. 8 exclaimed that he was completely blind on me as he attempted to rejoin in the dark. We established different altitudes for deconfliction and both turned west until I caught sight of him and rejoined single engine. We pointed directly at Atlantic City, and the intensity of the moment slowly wore off as we switched to our own discrete frequency. The two catcher’s mitt aircraft near Langley joined in on our aux frequency to create a radio relay to assist the supervisor of flying in coordinating our emergency divert. Another consequence of the L GDC FAIL was apparent as the battery was now providing fill-in power for the radio, among other things. This meant the battery was bound to run out before we could make it back. With no navigation and a certainty of losing the battery, my only chance of recovering to Atlantic City was my wingman. We planned to minimize radio transmission in order to preserve the battery life, communicating only for flight and landing-critical considerations. In the meantime, I worked through several checklists.

In addition to the myriad checklists, there were several human factors now complicating the recovery. The only working MFD was the center display between my knees, so I had to read the checklists, looking down, while flying in formation at night. In addition, my on-board oxygen generation system had failed, so after several minutes of breathing cabin air, I manually turned on the backup system and put my mask back on. That was something I remember kicking myself for forgetting to do earlier. The cockpit cooling wasn’t great at this point, and my anti-exposure suit was stifling, but no adjustment of the air cooling system did any good, so I was forced to cope with beads of sweat running down my face for the next hour.

As we planned the recovery, the last major consideration was the two external tanks I was carrying. The tanks themselves were still half-full, and the weight and drag made it impossible to hold altitude and airspeed in less than mil power above 20,000 feet. My wingman and I were about 10,000 pounds different in fuel weight, which meant that he would barely make the field and I would be fat on gas. However, we were unsure if the jet could even jettison the tanks due to the electrical system failures. We resolved to burn down gas and to assess the controllability at lower weight and altitude. I decided to keep the tanks, which, in hindsight, I think was a mistake.



The “LOW BATTERY” advisory illuminated after several minutes, and I was then forced to drop my landing gear. The left main gear did not extend as expected, so I used the emergency gear extension and verified three good gear for the last time before the battery ran out, at which point such an indication would be impossible. I also had to drop my emergency arresting hook for a planned cable engagement since I had also lost redundancy in my braking system. With the gear and hook down, I decided to start my Auxiliary Power Unit, knowing that I would likely lose the battery. We slowed down to 250 knots, as we could just now see the lights of the city off in the distance. Still in the dark, I flew in closer formation as we descended. There was just enough twilight to pick out his jet

without night vision goggles, so I flew without them, focusing my concerns on the controllability of the jet. It was quiet for a long time, and finally, we descended through the weather. The weather penetration was quick, and beneath the cloud deck was the coastline.

As we approached Atlantic City, we finalized our fuel plan. I still needed to burn down gas in order to land slow enough to meet the maximum cable engagement speed of 150 knots. With our diverging fuel weights, I would use max afterburner single engine on the outside of a holding pattern over the field until either I reached a safe fuel weight, or my flight lead reached Bingo fuel. Either way, I would land and make it happen.

We overflowed the airfield, picked up the holding pattern and definitely woke up the entire city just before sunrise. The battery failed as we overflowed the field, along with my Auxiliary Generator, and I lost all radio communications. I manually calculated fuel burn over time with periodic verification in a roll out. I reached my desired fuel weight as my flight lead gave me a wing rock to rejoin to close formation. I gave him a “land immediately” signal, and he passed me the lead with the runway off the nose. We exchanged thumbs-up and a farewell salute as he peeled off on a minimum fuel divert profile to nearby Joint Base McGuire-Dix-Lakehurst, New Jersey. On final approach, I managed the airspeed while fighting a moderate crosswind to balance controllability and meeting the cable

engagement speed. The touchdown and cable were uneventful, and a fleet of trucks and emergency vehicles met me on the runway. I was relieved to say the least!

Taking a single-seat fighter across the ocean can prove exceptionally challenging when faced with compounding emergency procedures. The mantra of aviate, navigate and communicate takes on a whole new meaning when faced with engine and electrical malfunctions at night, over the ocean, far from divert bases, and an impending radio failure. In this case, it was a combination of systems knowledge, checklist adherence and exceptional airmanship by my wingman, operating within the constraints and expectations from those checklists that contributed to a successful return home.✈



“These things we do,
that others may live”

66th RQS Remembers Fallen Airmen 20 Years Later

BY AIRMAN BAILEE A. DARBASIE

The 66th Rescue Squadron recently paid their respects to their fallen brothers during a memorial marking the 20th anniversary of their deaths.

A total of 12 Airmen were lost when two HH-60G Pavehawk helicopters, call signs Jolly 38 and Jolly 39, assigned to the 66th RQS, were involved in a midair collision over the Nevada Test and Training Range during a routine night exercise Sept. 3, 1998.

Current members of the 66th RQS, 58th RQS and the 823rd Maintenance Squadron assembled at the Nevada Test and Training Range to clean and restore a memorial built in honor of Jolly 38 and Jolly 39.

“It is truly humbling to stand on this site to remember those who have gone before us,” said Lt. Col. Joshua Shonkwiler, 66th RQS commander. “We oftentimes forget how dangerous our work can be; unfortunately, we have lost many brothers and sisters in combat and training while preparing for or executing the most noble of missions.”

The memorial resembles two giant feet associated with the rescue mascot, the Jolly Green Giant. The cleanup efforts included removing weeds, collecting trash, painting and manicuring the site and surrounding area.

“We spent several hours cleaning up the memorial site so that the Airmen flying over this area of the range can recognize the giant feet and the sacrifice made 20 years ago,” Shonkwiler said.

Aside from cleaning the memorial, Airmen joined in prayer and had a moment of silence for the men who paid the ultimate sacrifice that night. During their remembrance, Shonkwiler reminded those gathered at the memorial that what they do is not only dangerous, but extremely vital to the Air Force mission, the nation and coalition forces.

The 66th RQS conducted a ceremonial toast to the 12 Airmen and unveiled a 20th anniversary shadow box, containing pieces from the crash site belonging to the aircrew and aircraft. The shadow box will be permanently displayed in the squadron as another reminder of the legacy and sacrifice of Jolly 38 and Jolly 39.

The combat search and rescue community motto, “These things we do, that others may live,” is a reminder of the sacrifice a rescue member is willing to make to ensure someone who’s having their worst day, doesn’t have their last day.

“These men died doing what they loved, training and preparing so they could help those in need,” said Shonkwiler. “On this day, we remember their sacrifice.”

Jolly 38

Capt. Gregg Lewis, pilot
Capt. Philip Miller, copilot
Staff Sgt. Kevin Brunelle, flight engineer
Staff Sgt. Kenneth “Kenny” Eaglin, flight engineer
Master Sgt. Matthew Sturtevant, aerial gunner
Senior Airman Jesse Stewart, pararescueman

Jolly 39

Lt. Col. William “Hal” Milton, pilot
Capt. Karl Youngblood, copilot
Tech. Sgt. Jeffrey Armour, flight engineer
Senior Airman Adam Stewart, flight engineer
Airman 1st Class Justin Wotasik, pararescueman
2nd Lt. Michael Harwell, mission essential personnel



Photo by Tech. Sgt. Nick Wilson

HUMAN FACTORS

BY TECH. SGT. NICK WILSON

Instructors from the Air Force Safety Center recently visited Joint Base Langley-Eustis, Virginia, to teach a human factor workshop.

In an effort to prevent future mishaps and fatalities across the Air Force enterprise, the course enabled the instructors to discuss the safety of various types of operations Airmen conduct. The workshop also gathered feedback from Airmen from a range of experience levels.

"The majority of this class consists of aerospace and operational physiology technicians and officers," said Maj. Heather Tevebaugh, Air Force Safety Center human factor workshop instructor. "By having them trained in mishap

prevention, our resources, Airmen and leaders are able to make decisions at the appropriate level for safe mission effectiveness."

Another key aspect of the workshop was to help attendees develop their own leadership skills as they investigate incidents and sharpen the skillsets and tools they can use to help their commanders.

"I think safety starts with the commander, but more importantly, I think it establishes the tone and the culture," said Lt. Col. Thomas Massa, Air Combat Command Aerospace and Operational Physiology Program Manager. "If you have a culture of safety, which is a term that is used quite a bit, everybody accepts that culture. And if they

accept that culture, they're more likely to accept the practices that are known – and the procedures and processes that are tried and true. It enables us to execute, but in the same sense, it enables us to take risk."

Taking risk falls under the Air Combat Command priority of "bringing the future faster." During the workshop, instructors and students discussed real-world and training-based scenarios where Airmen at all levels can play a role in how occupational safety impacts a commander's decision to take risk.

"As we know, there is risk in everything we do, but it allows us to take risk at the right levels," Massa said. "And our senior

leaders have allowed us to take risk all the way down to the squadron, so it's establishing that culture."

An established culture of Airmen who are adept in the realms of occupational safety can prevent the opposite, which is a culture of Airmen who ignore safety policies and take risks that can cause injuries or fatalities.

"As a leader, you go back and make sure your Airmen are wearing their safety goggles, that they have their proper protective equipment on, and that they're doing the things that you actually put in your policy," Tevebaugh said. "Otherwise, it's just a piece of paper and all you're going to get is coffee pots unplugged at the end of the night."

Safety mishaps can occur from any person at any age or rank. The workshop, which consisted of students varying from airman first class to colonel, helped empower leaders to properly apply occupational safety – regardless of their position.

"We want to dissolve that frozen middle," said Maj. Nancy Delaney, Air Force Safety Center human factor workshop instructor. "We need to be able to understand each other's perspective, so that the person that's out doing the tasks understands the supervisory requirements, and also the supervisor understands the worker bee requirements."

Overall, the information presented in the course not

only helps prevent mishaps, but also provides an opportunity for Airmen at all levels to meet the priorities set by their leadership.

"If you look at General Mike Holmes (commander of Air Combat Command), his No. 1 priority is readiness," Massa said. "So I think this workshop allows us to contribute to that to enable us to have ready Airmen. If we're practicing safety and we're using the human factors analysis to investigate what the common trends are, those trends can be used to ensure those mishaps or incidents don't occur in the future, and that ultimately equates to ready Airmen and the readiness to enable us to do our mission in ACC." ✈

3rd Quarter FY18 AWARDS



Pilot Safety
Lt. Col. Grant A. Raup
99 ERS, 380 AEW
Al Dhafra AB, UAE



Aircrew Safety
Crew of Phenom 6
16 ACCS
Robins AFB, GA



Flight Line Safety
Timothy A. Reed
Master Sgt. Andre D. Newsome
53 ATCS
Robins AFB, GA



Crew Chief Safety
Senior Airman James D. Wardlow
4 AMXS
Seymour Johnson AFB, NC



Flight Safety
Capt. Daniel G. Leong
455 AEW/SEF
Kandahar Airfield, Afghanistan



Weapons Safety
Tech. Sgt. Joshua C. Reyes
355 MXG, 355 FW
Davis-Monthan AFB, AZ



Unit Safety Representative
Tech. Sgt. Warrenette C. Mitchell
93 AGOW
Moody AFB, GA



Safety Career Professional
Tech. Sgt. Eric M. McGowan
355 FW/SEG
Davis-Monthan AFB, AZ



Explosives Safety
Tech. Sgt. Scott A. Roode
455 AEW/SEW
Kandahar Airfield, Afghanistan



Unit Safety
53d ATCS
Robins AFB, GA

Mishap Statistics Scoreboard

FY18 Flight

As of 30 Sep 2018

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

FY18 Occupational

As of 30 Sep 2018

	Class A Fatal	Class A Non-Fatal	Class B
AFCENT		0	0
12 AF	   	0	2
USAFWC		0	1
25 AF	 	0	1
9 AF	  	0	3

FY18 Weapons

As of 30 Sep 2018

	Class A	Class B
9 AF	0	0
12 AF	0	0
USAFWC	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

For FY18, ACC had eight Class A aviation mishaps, with a total of four destroyed aircraft. This was a decrease from FY17, when ACC had 15 Class A aviation mishaps, with a total of 11 destroyed aircraft. Tragically, with the eight mishaps came a total of eight fatalities, which was an increase from one in FY17. There was a significant drop in unmanned aircraft mishaps, down from eight mishaps and six aircraft destroyed in FY17 to two mishaps and two aircraft destroyed in FY18. We will continue to look for opportunities to identify and mitigate risk across all ACC-owned airframes going into FY19.

Occupational Notes

ACC suffered a total of nine Class A mishaps resulting in 11 fatalities for FY18. This was an increase from the previous fiscal year, where ACC suffered eight Class A mishaps with six fatalities. Out of the nine mishaps, three were a direct result of willful non-compliance – alcohol, excessive speed or a combination of the two. We also suffered an on-duty fatality for our second year in a row after four years of no on-duty Class A mishaps. The willful non-compliance mishaps could have been prevented by having a designated driver. The on-duty fatality could have also been prevented if workers would have strictly followed the written guidance in place. Please help us eliminate all fatal mishaps, but especially those that are preventable. Continue to strictly follow written guidance, never drive while impaired and always apply Check 3, GPS to everything you do!

Weapons Notes

As we complete yet another quarter with no major weapons safety mishaps, thank you! During our last quarter, we experienced numerous Class E mishaps due to exceeding drop criteria. Human factors and failure to use technical orders were major contributing factors. As we all know, explosives safety is paramount and ingrained into our daily ops; we must keep working to reduce negative trends. On another note, winter is coming faster than we would like to see or feel. The cold and the elements will bring additional challenges for us to face during explosives operations. Take a minute to slow down, warm up and remember to use proper risk mitigation and planning as the first step to reduce mishaps. Your efforts and contributions to ACC explosives safety are important as we push forward this year.

Symbols for Mishap Aircraft





Are you the
Tortoise
or the **Hare?**



Safeguard Airmen ... Protect Resources ... Preserve Combat Capability

Download the **NEW**
Airman Safety App
in your app store.



AIR FORCE SAFETY GOES MOBILE

BY KEITH WRIGHT

The Air Force Safety Center (AFSEC) released a mobile version of the Airman Safety App, enabling Airmen at installations Air Force-wide to voluntarily report safety issues using their devices as they encounter each issue.

A capability designed to advance the Airman Safety Action Program (ASAP), this simple proactive tool utilizes every Airman as a sensor to identify hazards in their workplace and throughout the installation for the purpose of mishap prevention.

"We are leveraging technology to capture those unintentional errors, hazardous situations and high-risk activities that may not be identified through traditional safety reporting channels," said Kevin Tibbs, Airman Safety Action Program manager for AFSEC. "The Safety Center receives more than 60 reports a month that may not have been revealed otherwise."

Submissions to ASAP using the Airman Safety App are designed to encourage open reporting of safety concerns and information that might be critical to identifying precursors to accidents.

This includes initiating reports identifying (1) the existence of hazards, (2) events or conditions negatively affecting nuclear surety, and (3) chronic, work-related occupational illnesses.

As of Nov. 1, more than 4,500 ASAP reports have been filed since 2009. Of those, 858 in FY18 were submitted via the URL-based app.

The Airman Safety App, which can be downloaded from the major app stores, is accessible anywhere, anytime and focuses on minimizing the most common obstacles to reporting, making the process quicker and easier.

"The main advantage of the downloadable app vs the web-based app is that it is self-contained," said Frank Svet, deputy chief of the Analysis and Cyberspace Operations Division at AFSEC. "It does not need a data connection or a browser to enter and store inputs to the application, while the web-based app requires a data connection to reach the URL initially via a browser, then the app is cached and can be utilized from that point on without a data connection."

The application brings a modernized touch to the Air Force's safety reporting by providing a paper-free connection between the submitter and the safety professional at their respective installation, saving countless hours in the process. Additionally, the report will be instantaneously available for that safety office to triage the issue and start mitigating identified hazards.

"Whether it's a young Airman at the gate or a pilot in the plane, feedback is important to closing the loop," added Tibbs. "Not only does the submitter receive a response to the issue through active messaging, but ASAP helps "next generation" Airmen by passing on valuable lessons learned across the force."

Air Force personnel with a common access card can access the ASAP Scoreboard on a protected website in order to see what others are reporting and to see what remedial actions have been taken to address those identified hazards.

While the majority of the functionality of the URL-based app will be replicated on the downloadable app, one enhanced feature will enable aircrew to default to aviation only questions. Another feature will enable users to submit test and practice reports to the Air Force Safety Automated System simulations environment.

The downloadable app was a cost-effective initiative developed and tested in-house by AFSEC to provide Airmen with advanced reporting options and improve the center's ability to capture hazards at installations around the world.

"Technology has transformed how Airmen send and receive information now more than ever," said Douglas MacCurdy, chief of AFSEC's Analysis and Cyberspace Operations Division. "This app capitalizes on these advancements and takes our mishap prevention efforts to the next level by providing users with real-time access to submit safety hazards and issues."

Download the Airman Safety App on the Apple App Store or the Google Play Store today.



3 | AIR FORCE SAFETY GOES MOBILE
by Keith Wright
AFSEC/PA, Kirtland AFB, NM

4 | ARE YOU THE TORTOISE OR THE HARE?
by Col. Steven G. Owen
ACC/SE, JB Langley-Eustis, VA

6 | MISSING DIGITS
by Occupational Safety Division
ACC/SEG, JB Langley-Eustis, VA

10 | LOOK AROUND
by Staff Sgt. Jaylon J. Williams
633 ABW/SE, JB Langley-Eustis, VA

12 | WEAR YOUR !@# \$ GLOVES!
by Master Sgt. Ryan D. Velarde
7 CES, Dyess AFB, TX

12 | WHICH ONE ARE YOU?
by Staff Sgt. Zachary B. Snider
9 ATKS/FIUT, Holloman AFB, NM

Are you the Tortoise or the Hare?

BY COL. STEVEN G. OWEN

We've all seen them, the drivers who drive too fast, weave in and out of traffic, follow too close, and pass on the right – sometimes even on the shoulder. However, there are also a few drivers out there who maintain their lane, maintain a safe distance behind the car in front of them, and generally relax during their morning or evening commute. So which one are you? I would love to say that I am always the tortoise, but there are times that I have certainly been guilty of being the hare. The question we need to ask ourselves as we conduct our daily off-duty risk management is whether or not driving to save that few extra minutes is really worth the associated risks.

From a pure mathematical perspective, an extra 10 mph might seem like you are “making good time,” but the numbers show it doesn't save as much as you think. For an average 20-mile commute, consisting of about 4 miles of city traffic and 16 miles of highway, exceeding the speed limit by 10 mph only gains 3 ½ minutes. If you are really pushing it and driving 20 mph over the speed limit, the time difference is only 6 ½ minutes, and this assumes light traffic without any stoplights. If traffic is heavy, or you are driving on a road with multiple stoplights,

it is nearly impossible to maintain 10 mph or more above the average traffic speed. Driving aggressively in these conditions becomes much more dangerous while yielding even less of a time advantage.

On the other hand, the average time it takes for a police officer to write you a really expensive traffic citation is about 10 to 15 minutes. This pretty much negates any time advantage you would have gained by driving aggressively in the first place. Additionally, if you were really pushing it, you might get to spend a few extra hours of your time showing up in court and your insurance company will be perfectly happy to charge you significantly higher insurance premiums. If your aggressive driving results in a fender bender, it will take about an hour to call the police, exchange insurance information, and get back on the road – assuming you are still able to drive the car. Then you will have the long process of paying your fines, dealing with insurance claims, and getting your car repaired. Worst case, driving aggressively can get you killed or cause you to be responsible for someone else's death.

As the fall and winter months approach, take a minute to assess your daily commute and ask yourself: Do I have the right gear, plan and skills?

Gear

- How does my particular vehicle perform in fall and winter weather?
- Do I have adequate tires and windshield wipers?
- Am I “dressed to egress” if I am involved in an accident or I get a flat tire?

Plan

- How long does my commute normally take?
- How much time will adverse weather add to my commute?

Skills

- When was the last time I drove in snow and ice?
- ***Is three to five minutes really worth the risk?***

The fall and winter months also bring the holidays, along with the inevitable road trips to visit friends and family. Before hitting the road, take another minute to assess the external stressors that might cause you to become the hare and drive outside of your limits. Plan ahead, slow it down and arrive safely. You are a valued member of the ACC team and we need you.





MISSING DIGITS

BY ACC OCCUPATIONAL SAFETY DIVISION

By the close of fiscal year 2018, two people within Air Combat Command were short one digit each due to paper shredder mishaps. Further research uncovered a total of four finger amputations and two minor injuries from shredders throughout the command since 2014.

Was it complacency, violation of procedures, bypassing a safety feature, inadequate training or just plain lack of common sense? Or maybe it was a combination of all of them.



The common cause with all the mishaps was training, or lack thereof.

The workers were not trained on performing maintenance, cleaning or clearing paper jams. In some cases, the worker wasn't even trained on the safe operation of the paper shredder.

Supervisors must ensure that workers who are authorized to use paper shredders are trained on its safe operation. The training should include the manufacturer's instruction manual

and be included in the section's job safety training outline. During the training, workers should be notified whether or not they will be expected to clear paper jams or perform shredder maintenance.

Most shredders have safety features to prevent start up when the door is open or covers are removed. However, in one mishap, the safety interlock switch was bypassed by using a piece of paper to override the switch so that the shredder would continue to operate when the door was open. When the worker

decided to remove shredded pieces of paper from the blades, her other hand inadvertently pushed the button causing the blades to start rotating and pull her fingers into the blades.

Never bypass or disable built-in safety features on anything!

Was it a generational challenge or complacency? Not in these cases. Two of the four amputees were over 45 years old and the other two were under 26. So we can't point the finger at age as a factor in the mishaps.

Complacency usually sets in when you perform a task repeatedly for several months – or even years, but that wasn't the case in any of these mishaps either. It was just the opposite for these mishaps; these workers had never performed maintenance on a shredder. Maybe they thought that as long as they were careful, they'd be OK.

At first, you might say, "This is common sense; don't stick your fingers where they don't belong or where moving parts and pinch points are present," but not so fast. Not everyone has been exposed to a shredder or even similar type machinery. In these cases, people may not realize the dangers associated with removing a paper jam from a shredder.

Accidents can occur everywhere, even in the office. Be aware and be cautious when performing any job, even simple tasks like shredding paper. Never try to clean or dislodge paper jams while a shredder is still running or energized. Always unplug the machine before attempting any maintenance, cleaning or paper retrieval. Even if the shredder is unplugged, ensure to keep any body parts well clear of any sharp edges or nip points. If there's any doubt or uncertainty in successfully executing any of the above mentioned tasks, refer the task to the maintenance department.

Before You Start

- Review the information provided in the paper shredder operator's manual, paying particular attention to safety procedures.
- Always inspect the machine, electrical cord and plug for damage or disrepair.
- If the paper shredder fails the pre-use inspection, notify your supervisor, unplug and remove the shredder from service by attaching a sign that states **"UNSAFE - DO NOT USE."**

Operating Precautions

- Place the paper shredder and power cord outside of foot traffic areas.
- Paper shredders should be located at least 4 inches from walls or furniture to allow air to freely flow through ventilation slots.
- Always be alert and focus on the task when using a paper shredder.
- Keep jewelry, long hair or loose clothing, i.e., neckties, away from the paper shredder feed opening.
- Never put fingers or objects other than paper into the shredder feed opening unless the machine was designed for the material – e.g., some can shred discs or credit cards.
- Feed paper smoothly into the shredder. Never force paper into a shredder.
- Shred paper in small quantities to avoid jamming the shredder.
- If the shredder motor overheats, turn it off and allow the motor to cool for about 15 minutes before using again.
- Always turn off and unplug the power source before removing and emptying the waste box, cleaning the paper shredder, or removing jams.



LOOK AROUND

What do you see?

BY STAFF SGT. JAYLON J. WILLIAMS



The next time you're at a stoplight, take a look around. Look at the vehicle next to you, on your left and right. You might see the mother of two turned around, trying to give her baby a pacifier to stop the crying. Or you might see the businessman, dressed in a suit and tie, using his hands-free earpiece to talk on the phone while he eats his lunch. What about that young teenager who's texting his friend to tell him how awesome the movie was? Which one is the distraction? The cell phone? The car? The driver? There's only one distraction drivers can't control: sneezing. Driving distracted is a choice!

There are three types of distractions: visual, manual and cognitive. A visual distraction is one that takes your eyes off the road. It could be as simple as looking over at a passing classic car while you're driving. A manual distraction is one that takes your hands off the wheel while driving. Changing the radio station while driving is considered a manual distraction. Cognitive distractions take your mind off the road. Maybe you're going through some things in your personal life, and you space out while driving. Although all distractions can be considered dangerous, texting while driving is the worst.

It takes all three types of distractions to text while driving. You are looking at your phone, using your hands to text, and thinking about what you're going to type. This is why texting and driving is so dangerous and causes thousands of accidents a year.

**Distracted driving
took the lives of
3,450 people in
2016.**

Preventing distracted driving is easier than you think: Simply don't do it. It's the driver's decision to change the song, take their eyes off the road, or pick up the phone. There are apps on your phone that you can download to prevent distracted driving. "TextNoMore" is a cool app that provides you retailer coupons when you drive without texting, and there are many more apps that disable your phone while you're moving.

At the end of the day, the easiest option is to put the phone down until you reach your destination. You don't want to risk your life for a text.

Wear Your !@#\$ Gloves!

BY MASTER SGT. RYAN D. VELARDE

It's funny how you see things differently as you get older. It seemed as though when I was a young Airman, I was always questioning why we had to do certain things – like computer-based training, training days and safety days. I always thought it was such a waste of time. Didn't leadership understand that we had work to do? Shouldn't work come first? It wasn't until I saw my first huge safety accident downrange that it really opened up my eyes to why we emphasize safety and training so much. Now that I'm in a management role, I see things differently and understand the importance of doing things safely.

As an Airman, I didn't understand why my supervisor was always getting on my case for having a dirty job site or leaving equipment lying around. Why was he yelling at me for not having work gloves on? They're just gloves. My thought process was get the job done and move to the next. At the time, these things didn't make sense to me. Why drive all the way back to the shop and grab the lock out tag out when I can just shut the breaker off and fix it? Didn't they understand that I have done this a *million* times? I've got this!

Well, my way of thinking changed six months later.

I finally got my first deployment tasking to Iraq, and I was super excited. I couldn't wait to get out there and make a difference. I was going to be attached to an eight-man construction team that traveled all over Iraq, repairing infrastructure and supporting our sister branch, the Army.

Two months into the deployment, we arrived at Camp Adder to do some support work with base civil engineering. There was a call over the radio that said all of the environmental control units on the east side of base were down, so we knew that most likely a generator or secondary distribution center failed.

As we arrived on site, there were a number of people there from civil engineering. They were coming up with a game plan on how to fix the power outage. A technical sergeant, who I will not name, decided that something had to be wrong with the power panel or the cable itself. This sergeant didn't know that two days before, an Iraqi contractor installed a new power panel to feed that area, but he didn't ground it properly. The problem was that one of the main power leads came apart and touched the metal casing. Without being grounded correctly, the breaker never tripped, and the power was still on.

As he went over to isolate the cable from the power panel, I noticed he wasn't wearing any gloves, but why would he? We disconnect power cables without gloves all the time. Well this wasn't your normal time.

As soon as he grabbed the bulkhead, he received a shock, and after about five to 10 seconds, a big flash appeared and he fell back, shaking on the ground. In the end he was OK – he had some burns, and he was taken to the base hospital for evaluation.

This shocked me; I had never seen something like that. How could that happen? Then you start to think, what if he had worn his gloves? Is this the reason why we emphasize personal protective equipment and doing things safely – no matter how big the job? I started to think about all the times I had not followed proper safety procedures. What happened on that day was probably one in a million, but I guess all it takes is *one* time.

Now that I'm a section chief who's responsible for 50 Airmen, I understand the importance of safety and what can happen if you take it for granted. It's my job to make sure all my troops don't get complacent and that they make it home safe. Now I'm that old, crusty supervisor yelling at my troops to keep a clean work environment and put on some DAMN GLOVES!



Which One Are You?

BY STAFF SGT. ZACHARY B. SNIDER

There's an adage in the motorcycle community that says, *"There are two types of riders; those who have dropped their bike, and those who haven't ... yet."* On a Sunday afternoon in early 2017, I finally learned what that meant.





It was the weekend of my airman leadership school graduation, and I was ready to celebrate my accomplishment on some windy turns up in the New Mexico mountains. I got in touch with a friend, and invited her to grab her bike and enjoy the ride with me – her experience unknown to me.

On the day of the ride, I inspected my bike thoroughly – as I always do, but this time was even more important since it was the first long ride of the year. After finding no flaws, I put on my standard riding gear: jeans, my leather motorcycle jacket, a pair of Chuck Taylor high-tops, leather riding gloves and my Department of Transportation-approved motorcycle helmet.

After riding to our meetup spot, my initial jitters of riding for the first time in a while slowly numbed down, yet I could still feel them. My friend and I talked about our game plan and determined which roads we were going to ride and who was going to lead. My mentality was to let her lead, since this was her first ride in over a year, and I didn't know how much more of an experienced rider she was.

We began our ride into the mountains at a leisurely but decent pace. There were a few points where she would get a little ahead of me and I'd catch up, but nothing crazy. From the main highway, we turned onto a smaller highway – our designated “crazy turns” road that

we wanted to ride. As we turned onto the road, my friend changed performance levels as she took off well ahead of me. This was the moment I realized I was going to have to ride outside my normal experience level in order to keep up with her.

Foolishly, I took off and attempted to keep up with her. I started taking turns more and more aggressively as my nerves increased more and more, knowing how dangerous this was. In turns with a speed limit of 15, I was going 40. In 25 mph turns, I was going 55. At any point, I should have realized the risks I was taking to keep up with a much more experienced rider and slowed down to a pace better suited for me. Eventually,

I turned a corner and immediately saw the sign for the next turn at 15 mph – I was going 60.

It was at that moment that I realized I was not going to make it through the turn without dropping my bike. I slowed down as much as I could without locking up my tires in order to decrease my speed as much as possible before wrecking it. After getting down to 50 mph, I turned into the turn and managed to get about halfway around the corner when I went over the outside line, and my tires lost traction on the gravel. My bike low-sided, which meant it fell into the direction I was turning, and before I knew it, I hit the pavement, then boulders, then rocks, then came to a stop 30 feet

off the road in a ravine.

After laying there for a minute, I realized I had not endured any life-threatening injuries. I managed to move around a little bit to get myself off the rock I was laying on, and thankfully, a minute or two later, my riding partner showed up and called 911.

Luckily, I had worn all my gear because my gloves were shredded down completely – but my hands were untouched. My helmet had a gigantic crack in it where my head smashed into a boulder, but I did not feel any sort of head injury. The only thing to come out of this catastrophic crash was some serious road rash to my knees,

which required over a month of medical treatment.

I have taken the accident to heart, and share my experience with every motorcycle rider I meet. I emphasize the necessity of always riding with a partner or at least telling someone when and where you're going to ride. I tell them how I wouldn't be here today had it not been for all the gear I had worn. I tell riders no matter how short the ride, to always wear all their gear, all the time. A life lesson was instilled in me that day that I share wisely with those around me. Without doing all the things we were taught in safety courses, I wouldn't be here today.

