

Summer Edition 2016

Combat Edge



ACC's Full-Spectrum Safety Magazine

THE
WINGMEN
YOU
DON'T
WANT





What's the worst that could happen?

Combat Edge

4 | FEATHERED WINGMEN ...

6 | RAPID D AT 50,000'

by Lt. Col. Brad Orgeron and Capt. Ezekiel Duran
67 FS and 18 AMDS, Kadena Air Base, Japan

10 | BIRD STRIKE RISK

by Jill S. Gross
Writer/Editor, Strategic Results

16 | INTRA GSC COMM

18 | ASAP

19 | FUNDAMENTAL FOCUS

20 | MAINTENANCE MINUTE

21 | WEAPONS WORDS

22 | MONTHLY AWARDS

23 | QUARTERLY AWARDS

24 | CHECK THREE

25 | STATS

GENERAL HERBERT J. CARLISLE
COMMANDER

COLONEL LAWRENCE A. NIXON
DIRECTOR OF SAFETY

MRS. BARBARA J. TAYLOR
EDITOR

MR. KURT REILLY
ART DIRECTOR

Volume 25 Issue 1, 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.

CONTRIBUTIONS:

PLEASE SEND ARTICLES WITH NAME, RANK, DSN PHONE NUMBER, E-MAIL, COMPLETE MAILING ADDRESS AND COMMENTS TO ACC/SEM COMBAT EDGE MAGAZINE.

ACC.THECOMBATEDGE@US.AF.MIL

TELEPHONE: (757) 225-7941

DSN: 575-7941

FAX: (757) 764-8975

THE EDITORS RESERVE THE RIGHT TO EDIT ALL MANUSCRIPTS FOR READABILITY AND GOOD TASTE.

DISCLAIMER: THIS MAGAZINE IS AN AUTHORIZED PUBLICATION FOR MEMBERS OF THE DOD. CONTENTS OF THE COMBAT EDGE ARE NOT NECESSARILY THE OFFICIAL VIEWS OF, OR ENDORSED BY, THE UNITED STATES GOVERNMENT, THE DOD, OR THE UNITED STATES AIR FORCE. INFORMATION CONTAINED IN ANY ARTICLE MAY NOT BE CONSTRUED AS INCRIMINATING UNDER ARTICLE 31, UCMJ.

THE COMBAT EDGE WILL RETURN THIS FALL

ACCent



Of Course It's Normal ...

Remember back when you first learned a new skill or activity, such as driving a car? Think about how you behaved. If you are like most of us, at first you probably strictly obeyed all the rules and techniques taught to you; for driving, these probably included items such as driving at the posted speed limit and keeping both hands on the steering wheel. Over time, as you became more comfortable and skilled, you might have strayed a little from these rules. At first you drove just a little bit over the speed limit, which you figured was still safe and out of the danger zone of getting a speeding ticket (after all, it's just a little over the posted limit). After a period of time of driving at this new "adjusted" speed limit, you realized nothing bad happened—no tickets or accidents. As a result, you adjusted your internal speed limit even a little higher because, face it, you're a great, skilled driver and have proven the actual posted speed limit is an artificial limit, may be there for less skilled, more average drivers, but not for an above-average one like yourself. This works great for a long time, maybe even a few years, until one day you're driving just a little too fast for the road conditions and lose control of your vehicle at a high speed ... with some friends and family riding as passengers.

The above scenario is an example of what is called the "normalization of deviance." In short, it's straying from the rules and standards; realizing nothing bad has happened, and then the new, deviant standards become normal ops. It may not happen quickly, and it impacts both organizations and individuals, but the end result can be catastrophic. Remember the Space Shuttle Challenger disaster? It's an example of this phenomenon. There was a known deficiency with the Shuttle's Solid Rocket Booster, especially in cooler air temperatures. Over multiple launches, however, nothing bad happened. Problems with the booster rocket were known, but nothing bad ever happened so the behavior continued. On the actual day of the mishap, a launch was initiated at much colder outside air temperatures than ever previously attempted. The result was a tragic mishap for the space program with the loss of a Space Shuttle and seven astronauts.

At the individual level, the results can be just as deadly. Think about texting and driving. You know it's bad—a deadly distraction, and hopefully never do it. However, you may think glancing quickly at an incoming text on your phone is not really texting (you're just reading after all) and it just takes a couple of seconds ... and you've done it hundreds of times and it's been OK. Until the day the couple of seconds of inattention delays your reaction to a sudden traffic slowdown right in front of you ...

Take a look at your daily habits and routines. You may be surprised at your own "normalization of deviance" in your activities—adjust back to "normal" accordingly at both work and home. Have a great summer!



Col. Lawrence A. Nixon
Director of Safety

Feathered Wingmen

Tragic mishaps involving bird strikes through the decades



Aircraft: US Airways A320
(destroyed/submerged)

Fatalities: 0

When: 2008

What Happened: Three minutes after takeoff a flock of geese struck the aircraft causing both engines to lose power. The pilot made an unpowered water landing in the Hudson River.



Aircraft: USAF HH-60
(destroyed)

Fatalities: 4

When: 2014

What Happened: During low-level night training the aircraft struck several geese causing loss of consciousness of the pilots and damaging the aircraft's flight control system.

Aircraft: USAF E-3 AWACS
(destroyed)

Fatalities: 24

When: 1995

What Happened: During takeoff the aircraft struck three dozen geese causing loss of controlled flight.



Photo by: Val Gempis

Aircraft: USAF F-15E
(destroyed)

Fatalities: 0

When: 2004

What Happened: Aircraft impacted a single vulture during a surface attack sortie. Aircraft became uncontrollable and crew successfully ejected.



Photo by: Staff Sgt. Aaron Allmon

Aircraft: USAF B-1
(destroyed)

Fatalities: 3

When: 1987

What Happened: During a low level training mission a large bird struck the wing damaging the aircraft's hydraulic system. Only 3 of the 6 occupants ejected safely.



Photo by: Master Sgt. Robert W. Valenca

Rapid D at 50,000' ... you have the aircraft



BY LT. COL. BRAD ORGERON and CAPT. EZEKIEL DURAN

The F-15C community has paid particular attention to cabin pressurization and oxygen delivery systems in the aircraft due to reports of an increase in Environmental Control System (ECS), Canopy, and other in-flight emergencies related to hypoxia symptoms. This rise in incidents also led to a Special Interest Item associated with rapid cabin depressurization, regulator, LOX, or OBOGS failure and recognition of hypoxia symptoms. Concern was magnified after an accident investigation board concluded Lt. Col. Morris “Moose” Fontenot had become incapacitated for an unknown reason prior to the aircraft impacting the ground on Aug. 27, 2014. Personnel of the 44th and 67th Fighter squadrons in Okinawa, Japan, were acutely affected by this tragic loss as Moose had recently relinquished command and accepted a position with the 104th Fighter Wing at Barnes Air Force Base, Mass. Fontenot was an inspirational leader and friend to many pilots still

stationed at Kadena Air Base, and his loss affected many on a personal and lasting level.

It was within this context that I conducted an Operational Check Flight for an aircraft that had a recent history of environmental control system and cabin pressurization failures along with pilot reported hypoxia events. Prior to the flight, I received an excellent briefing from maintenance on what systems were repaired or replaced and was informed that the jet had passed all cabin pressurization checks on the ground with no failures identified. Maintenance and I were confident the jet was good to go and we had good fixes for the previous problems. The flight profile was to test the aircraft throughout the flight envelope to ensure all systems were operating and the aircraft could return to the flying schedule as a fully mission-capable aircraft.

Ground ops, take-off, departure and en route checks were all uneventful. Every system in the jet was

operating normally as I read out the aircraft altitude and cabin pressurization into my tapes to document the pressurization schedule was working properly. Once I reached FL500, I leveled off and continued to record that the cabin was pressurizing properly and all systems were operational. Just before initiating a descent to start my RTB, everything went quiet in the cockpit and a rapid decompression occurred. I looked at the cabin pressure as it began to rapidly rise as fog filled the cockpit and I simultaneously “gang-loaded” the oxygen regulator to Emergency-100 percent, rolled inverted and pulled to approximately 60 degrees nose low and began a Mach 1.3 descent. It was during this maneuver, that I experienced some temporal distortion as the next couple of seconds seemed to last about one minute.

As I continued to pull the nose down, I had the sensation that I could not breathe and I began to experience significant light loss. The only thing I felt I

could focus on was the ADI or cabin pressure gauge ... as if I were looking through the proverbial soda straw. My lungs felt like I could not move any air; like there was negative pressure and I was suffocating.

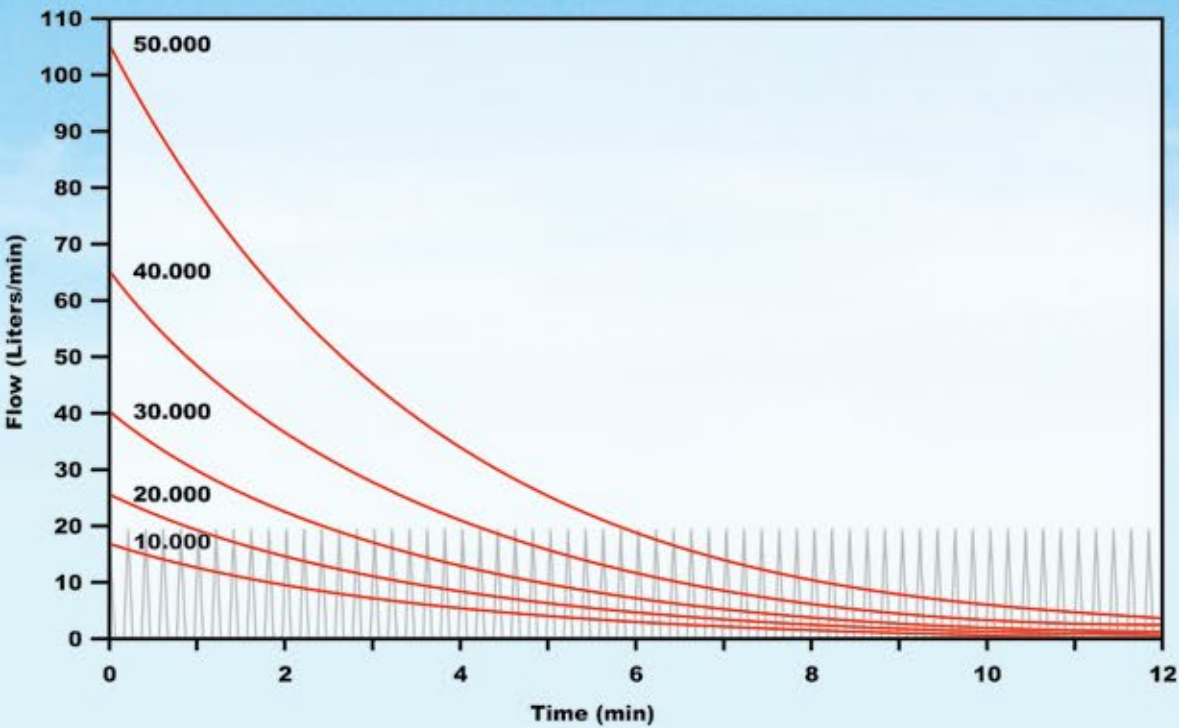
Passing through FL300 I remember looking at the cabin pressure gauge as it was still climbing through 40,000' and thinking to myself, “I need to pull the emergency oxygen bottle” and taking my hands off the throttle quadrant to try and find the “green ring.” However, before I reached it, I felt positive pressure from the regulator with good oxygen in my mask and almost immediately my vision returned. From tape review, it was almost 13-to-14 seconds from where I initiated the descent until you can hear positive pressure in my oxygen mask over the intercom and radio. Once I leveled off at 14,000', more than one minute had passed and apart from being a little excited, everything was fine. The cabin had re-pressurized and was holding at 8,000'. The ECS system, which pressurizes the cockpit, appeared to be operating normally and I could breathe just fine. The remainder of the sortie was uneventful.

That afternoon, I sat down with our Aerospace & Operational Physiologist, Capt. “E.Z.” Duran, to review my HUD tape. Our discussion led to recommended training and actions for pilots to consider if they encounter similar system failures:

- 1) Pilots do not receive ACES-II ejection seat hands-on training requiring you to pull the emergency oxygen bottle “green ring,” disconnect from the aircraft supply, and physically experience what pressure the bottle will provide.
 - a. First, the “green ring” is difficult to find in an emergency for a couple of different reasons.
 - 1. The ring sits in the aft left portion of the ejection seat next to the pilot’s hip.
 - 2. The position of the survival kit buckle, g-suit hose and JHMCS cables are all in the same area possibly overlapping the “green ring.” Physically locating the “green ring” should be an important step in the “PRICE” check in order to have that muscle memory during an IFE. This is currently being emphasized in initial emergency oxygen training that is provided at Kadena AB and will be emphasized again during the five-year physiology refresher. The “green ring” is the pilot’s last resort if he/she were to

have a decompression and simultaneous regulator failure. There is limited time (seconds) depending on altitude to locate the “green ring” and activate it. See chart below:

- b. As a result of no emergency oxygen bottle hands-on training, there can be a misunderstanding of the pressure it delivers. The emergency bottle will provide a pressure dependent on the cabin altitude. At lower altitudes (under 5K ft.) there can be a sensation that the pilot is “sipping” oxygen rather than it being forced through the mask. Positive pressure will be experienced if they are flying at or above FL200 which is similar to what was experienced in the altitude chamber. The emergency oxygen bottle at ground level provides approximately 10 minutes’ worth of oxygen with an initial flow rate of 10-to-12 L/min which decreases as pressure decreases. The emergency oxygen equipment is activated by pulling the “green ring” in a straight-out direction with a force of 12-to-20 pounds. When the ring is pulled (.5 inch) the cable will not disengage from the bottle as a parachute ripcord does, but will remain attached. The altitude flow performance chart below shows the LPM flow rate dependent on altitude. Flying at FL300 to FL500 you can see that flow rate can range from 40-to-105 LPM, more than what was experienced in the chamber.

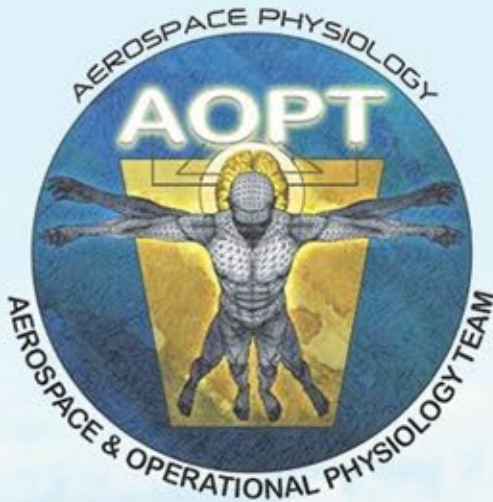


- 2) Pointing at the ground from 50,000’ during a rapid decompression and hypoxia event may or may not be the best idea. Even going supersonic, it will require more than one minute before you can get back down into an oxygen-rich environment. The time of useful consciousness with a rapid decompression at this altitude is a matter of seconds.
 - a. If the aircraft’s regulator is not immediately providing positive pressure and hypoxia symptoms still exist, pull the “green ring” and disconnect from the aircraft’s supply in accordance with checklist procedures. Just be prepared to breathe slowly and calmly while you continue trouble shooting. When fighter/attack pilots go through their initial and refresher physiology training they should be aware of how many breaths of oxygen it takes for them to recover and feel their hypoxia symptoms reside. In a real situation where pilots are required to “gang load” their regulator and don’t feel their symptoms reside in said number of breaths, they know to pull the “green ring.” We highly recommend that the CAF conduct this initial training for pilots to be familiar with how the emergency oxygen bottle works and what type of pressure it delivers.
 - b. Instead of pointing at the ground, consider setting approximately 10 degrees nose low and attitude hold. This allows for more time to recover from hypoxia symptoms if the last thing you do is “gang load” and or pull the “green ring” before losing consciousness.

Extensive maintenance troubleshooting following my flight determined that several factors contributed to the rapid decompression and resultant physiological symptoms. A faulty ECS flow control valve coupled with an oxygen system leakage were identified as the primary causes. Furthermore, with concern over oxygen delivery, the aircraft regulator control panel was tested and eventually changed; however, it’s undetermined why gang loading the regulator didn’t provide immediate pressure. Working with the 18th Component Maintenance Squadron’s Electrical & Environmental (E&E) section, we developed an easy process to deliver initial training to the pilots. Utilizing an Egress section training seat, the E&E section was able to install and remove emergency oxygen bottles from the seat trainer to provide realistic training, which helped our pilots enhance their situational awareness of their oxygen equipment. Through this collaborative training effort, we were able to answer equipment and or altitude threat questions giving pilots an accurate perception on using the emergency oxygen bottle. Now, our Hypoxia Familiarization Trainer (HFT)/ Reduced Oxygen Breathing Device (ROBD) is modified to conduct this training and is provided by our Aerospace & Operational Physiology Team. As we focus on the ever more complex tactical problems of today while maintaining unparalleled standards for instrument procedures and emergency checklist discipline, sometimes we tend to overlook a basic inherent risk involved in our occupation ... hypoxia. Unfortunately, the loss of one of the most respected fighter pilots in our community has helped focus our attention and identify aircraft systems which fighter pilots naturally take for granted and to better understand and overcome failures in those systems. Fighting Cocks Rule ... Period! Kill Migs. 🗡️

Time of Useful Consciousness

Altitude
FL430
FL400
FL350
FL300
FL280
FL250
FL210
FL180



Exposure Time
9-12 seconds
15-20 seconds
30-60 seconds
1-2 minutes
2.5-3 minutes
3-5 minutes
8-10 minutes
20-30 minutes

A rapid decompression can decrease TUC by a 1/3 to 1/2

A large flock of birds, likely geese or similar migratory species, is captured in flight against a bright, overexposed sky. The birds are silhouetted in black, creating a dense pattern of V-shapes and wing shapes. Below the birds, a dark, silhouetted landscape is visible, featuring a prominent, rounded hill or mound. The overall scene conveys a sense of mass movement and natural power.

BIRD STRIKE RISK

BY JILL S. GROSS

Every year thousands of Air Force planes collide with birds, injuring Airmen and causing millions of dollars in damages.

Bird strikes are a risk year round, but at no time is the mishap danger greater than on crisp fall days and nights.

Temperate September and October conditions make perfect traveling weather for migrating birds, dramatically increasing the risk that flocks will fly through aircraft training routes on their journey south.

While the majority of recent bird strikes have not caused serious damage, their potential cost in property damage and even lives cannot be overlooked. For example, in January 2014, four Air Force Airmen died after their HH-60 helicopter struck multiple birds and crashed.

Not all tragedies are preventable, but there are steps that Airmen, and even families, can take to help pilots, crew members and aircraft return to base safely, starting with understanding the risks.

"As a waterfowl hunter, knowledge of the relation between weather, season, time of day, species and migratory patterns can mean the difference between [an abundance of] birds or no birds. As an aviator, that same relational understanding can make the difference between an uneventful flight and disaster," said Lt. Col. John P. Sapp, 188th Wing chief of safety.

Understanding the Risk

Bird strikes spike each year during fall migration. From fiscal year 2011 through fiscal year 2015, ANG averaged 99 bird strikes a month from August through October compared with an average of 41 strikes per month the rest of the year.

Strikes then dipped with the temperatures after the fall migration, averaging 13 a month from December through February before climbing to an average of 55 a month from March through May. Spring migration is likely more staggered than it is in the fall, resulting in lower numbers, said Dr. Carla Dove, program manager of the Smithsonian Institution Feather Identification Lab.

The lab analyzes strike evidence for the Air Force, including ANG, as well as other branches of the military and the Federal Aviation Administration, to determine the species of birds involved.

That effort to report all bird strikes and identify the species involved is one way safety officials are gaining a better understanding of the hazards so they can enhance mishap prevention during migration and throughout the year.

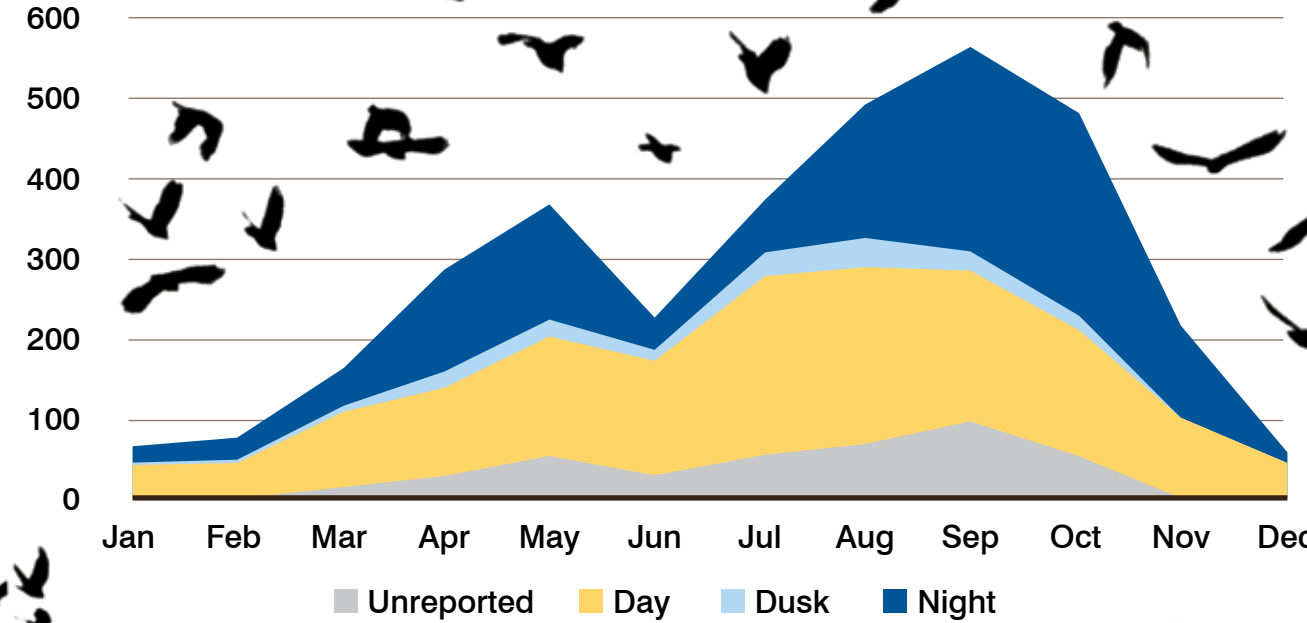
Large birds that migrate in groups, such as hawks and pelicans, are more problematic during migration, Dove said. Because of their weight, larger birds generally have greater

potential to cause serious damage to planes.

However, planes also frequently strike mixed-species flocks of perching birds that migrate in large groups, which can be problematic too.

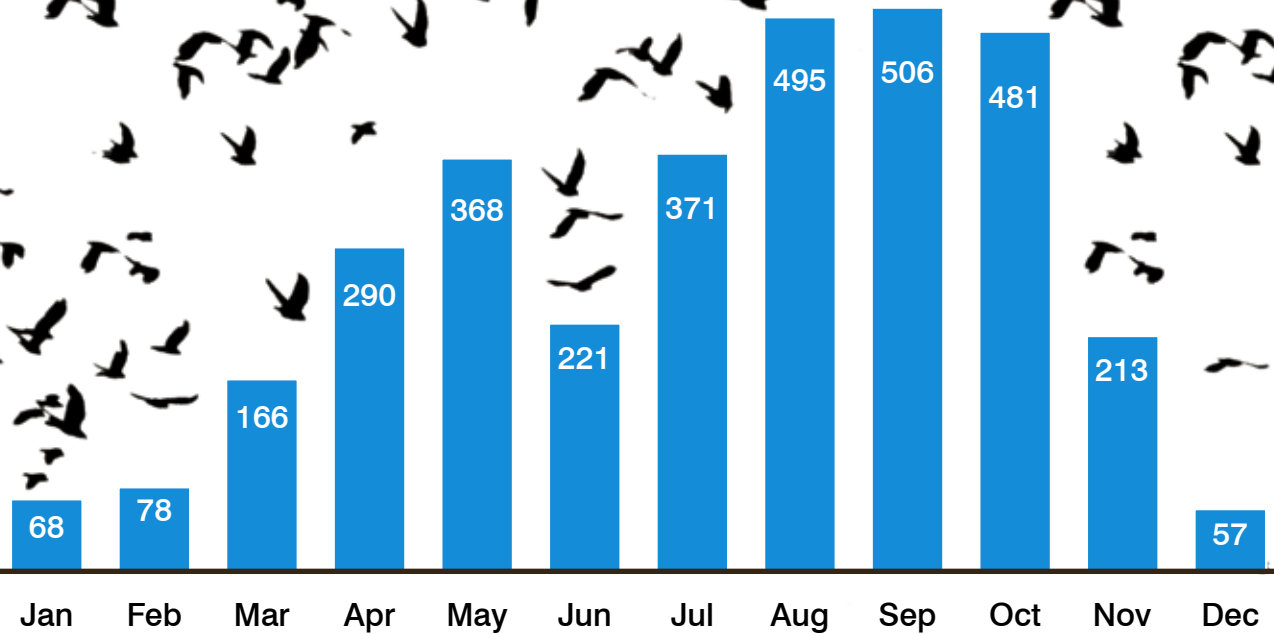
During prime migration months from fiscal year 2011 through fiscal year 2015, an average of 39 ANG bird strikes a month involved perching birds, compared with an average of 16 strikes the rest of the year, yielding the greatest reported increase. Single species showing the largest increases during fall migration were swallows, killdeer and chimney swifts.

Number of Birdstrikes by Time of Day (FY11-FY15)



Many species of birds migrate at night, and recent ANG data show nighttime bird strikes are more common than daytime stikes in the Fall.

Number of Birdstrikes by Month (FY11-FY15)



The last five years of ANG bird strike data show a notable increase in strikes during the prime fall migration months from August through October.

The timing of the risk can also shift during migratory periods to a different time of day. Despite a common belief that birds don't fly at night, Dove said many species do migrate after dark. In fact, ANG's recent strike numbers show that nighttime strikes are more common than daytime strikes during the fall migration period, with 43

percent of reported strikes at night and 37 percent during the day. The remaining strikes occurred at dusk or dawn or did not have a reported time. During prime fall migration months, watching the weather can also offer clues to days when the strike danger is likely to be the

highest. Many birds will take flight the first day after a strong cold front passes, bringing cool, dry air and northerly winds, according to the Cornell Lab of Ornithology and National Audubon Society's eBird website. Like pilots, birds like to take advantage of favorable tailwinds for their long flights.

Photo by: Airman 1st Class Kenna Jackson



Minimizing Strike Risk

To limit the risk of strikes, every base has a Bird/Wildlife Aircraft Strike Hazard (BASH) plan, which outlines a variety of prevention techniques, such as turf management and active dispersal. Monitoring current bird activity using models such as the Bird Avoidance Model and U.S. Avian Hazard Advisory System is part of the risk-management assessments prior to flights.

Once migration season approaches, airfields move from normal operations to Phase II of their BASH plans, during which time they may

adjust their flying schedules or routes and step up other strike-avoidance measures. Each airfield's plan determines what measures to take and the timing of when they begin based on the historical migration trends and local issues, said Lt. Col. David A. Paulsgrove, ANG BASH program manager.

For example, Paulsgrove said Dover Air Force Base does not allow practice approaches before 8 a.m. and further restricts all arriving aircraft during Phase II operations due to large numbers of migrating

geese. The base is located just off the Delaware Bay in one of North America's four major migration "flyways," areas that are considered the major north-south corridors for migration.

Because bird activity is generally highest within an hour before and after sunrise and sunset as birds move to and from their roosts, the Air Force always recommends avoiding flights that aren't mission essential during those hours.

What Should Airmen Do?

In addition to following all of the required and recommended risk-management procedures before flights, there are some simple steps Airmen and families can take to help limit the risk of dangerous strikes for everyone during migration and all year long.

- Don't feed the birds. Leave the bread at home—feeding ducks and geese at ponds near airfields encourages the birds to congregate and remain there, where they are more likely to fly into the path of an aircraft.
- Forgo the backyard fishpond. Backyard ponds attract lots of birds, including heron looking to feast on your fish, so don't install these water features if you live near the airfield.
- Choose landscaping carefully. Trees and bushes with fruit make tasty treats for birds. At homes around bases and airports, avoid decorative plantings that provide food for birds.

Pilots who enjoy flying off-duty should also take extra precautions to minimize the risk of strikes during migration periods. Because risk of strikes is greatest below 3,000 feet, pilots should minimize the amount of time flying below that threshold and slow down at those lower altitudes to reduce the force of any impact, Paulsgrove said.

While each airfield has unique concerns regarding bird activity during migration, awareness of the problem and possible solutions can help reduce injuries and costs due to bird strikes.



Sources:

The Air Force Safety Automated System (AFSAs) eBird, "Understanding birds and weather: Fall birding basics": <http://ebird.org/content/ebird/news/fall-birding-basics/>

"2013 Safety Office of the Year": <http://www.amc.af.mil/news/story.asp?id=123379131>

"USAFE-AFAFRICA releases investigation results on HH-60 accident": <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/486086/usafe-afafra-releases-investigation-results-on-hh-60-accident.aspx>

Air Force Pamphlet 91-212: http://static.e-publishing.af.mil/production/1/af_se/publication/afpam91-212/afpam91-212.pdf

Air Force Instruction 91-202: http://static.e-publishing.af.mil/production/1/af_se/publication/afi91-202/afi91-202.pdf

Intra GCS Comm

Crew Resource Management isn't just a grounding item with a class that makes you stay late after mids ...

BY MAJ. BURLEY

After instructing MCE and LRE ops, the common theme for every debrief is **CRM**. Because of the mix of officer-enlisted crews, communication within the GCS poses a unique challenge that is not seen anywhere else in the aviation community. Here are some of my self-derived rules that I have garnered in almost 5 years of RPA. Take them or leave them, but they have saved my bacon a couple of times.

Rule #1: Check your ego at the (GCS) door.

You are not the smartest guy or gal in the room. If you think you're the best, you're probably not. When crewmembers think they have reached the apex of performance, complacency sets in and the door opens for mistakes. So, create a professional, open environment for your pilot/SO within the GCS. Humble operators are more approachable and communicate far better than ones that think they know all the answers.

Rule #2: Create a shared mental model.

Get everyone on the same page! I harp on this in every EPE debrief. What's the easiest way? Thorough briefs, every time. Do not assume your pilot/SO knows what your plans are prior to flying a sortie. Verbalize the actions you would take as a crew to streamline communications in the GCS for when these situations actually occur.

Rule #3: Don't think your Pilot/SO has all the answers ... because he/she probably doesn't.

Regardless of rank or experience, if you have questions during the flight, your pilot/SO is probably thinking the same thing. Put these questions in the open early to prevent the issue or event from devolving into an unrecoverable situation.

Rule #4: Quantity does not equal quality.

Some pilots yammer throughout an entire flight without the sensor operator saying a word ... or vice versa. Too much talk can actually dilute intent and shut out the opposite crewmember. Therefore, during critical phases of flight, reinforce deliberate communication. Limit talk in the GCS to items that will keep your opposite crewmember actively involved in the fight.

Rule #5: Develop and reinforce contracts.

Make GCS communications substantive (thank you thesaurus)! Whether it's refining an attack heading, TOT, or airspeed on final approach, ensure that you are using pre-briefed measureable criteria (contracts) within your crew. Once these contracts are made, hold your crew accountable regardless of position. This reinforcement begets airmanship and CRM, which is the baseline for safe and effective ops.

This is not an exhaustive list. If you have any additional words of advice or questions, contact 432 WG/SEF. Fly Safe!

File an ASAP Today!

ASAP—Aviation Safety Action Program ... It's confidential and quick

Actual ASAP Submission.

This event did not result in a mishap, but provides valuable information worthy of sharing.

While executing the RTB after participating in an LFE, I was attempting to maneuver my aircraft and complete FENCEing out of the airspace. As I was attempting to move the power switch for my ECM pod from operate to standby, my cross-check became split between switch activation and monitoring the other aircraft in my formation. While maneuvering I placed my hand down on the panel near the ECM switch and moved the Main Power switch with the side of my hand which resulted in the generators falling offline and the EPU activating.

EPU activation was recognized and the power switch was placed back to the proper position and the EPU was manually reset/deactivated. An emergency was declared with approach on the RTB to allow for coordination with ground personnel to have the aircraft positioned properly and checked to determine if hydrazine had been expended. A normal st-in approach was executed and the aircraft was taxied clear at the end of the runway to the activated EPU parking location.

After engine shutdown, I exited the aircraft with the assistance of ground personnel and utilizing an oxygen mask. Maintenance determined that hydrazine had not been used and the aircraft was released to maintenance.

Submitter Suggestions

Delaying switch actuations/utilizing HOTAS to accomplish appropriate checklists and waiting until a less dynamic phase of flight would have prevented this situation. ECM switch actuation could have been delayed until after landing. While operating controls that are not in the normal field of view, visually verifying hand placement is required.

Do you have a lesson learned to share?

<http://safety-masap.com>

When was the last time you submitted an ASAP or checked out the ASAP scoreboard at <http://safety-masap.com>



THE RISK IS REAL

BY LT. COL. KATHRYN NELSON

Following a simulated single engine touch-and-go during a basic contact training sortie, the student pilot set throttles to MIL and retracted gear and flaps. Over the departure end of the runway and accelerating through 230 KIAS, the T-38 struck a bird that shattered the front cockpit canopy. The instructor pilot took control and started a climb while attempting to determine condition of the student pilot and slowing below 225 KIAS to minimize windblast. With throttles set to MAX, the instructor pilot began a right turn but noticed an engine warning notification and engine RPMs 70 percent to 80 percent. As the airspeed decreased below 185 knots, the instructor pilot rolled left away from inhabited areas as the aircraft began descending. At 450 feet AGL and over 20 degrees nose low, the instructor pilot initiated an ejection, 23 seconds after the bird strike and less than 5 seconds before impact. Due to the low altitude ejection, the instructor pilot had just 3-to-4 seconds under canopy while opening shock and ground impact occurred almost simultaneously for the student pilot. As a result, both pilots suffered

non-life threatening injuries. Analysis later verified engine #2 suffered a compressor stall and pieces of the canopy were found in engine #2. The aircraft never reached more than 900 feet AGL due to the combination of loss of thrust and increased drag from canopy loss.

Carrying almost 400,000 pounds of cargo and fuel, the C-5 crew initiated takeoff on runway 28 and accelerated normally. As the pilot flying lifted the nose of the aircraft off the runway, other crewmembers spotted a flock of seagulls taking flight just south of the runway. At 25 feet AGL, multiple gulls hit #1 and #2 engines. The crew observed a change in engine noise, blades piercing the cowlings and damage to the left wing and flap. They immediately set-up for a VFR approach and elected to fly a course reversal to runway 10 to expedite landing. The crew was able to climb to almost 2,000 feet and maintain 198 knots. Engine #1 indicated an overheat warning and was set to idle as both engines #1 and #2 continued to produce heavy vibrations. Approximately six minutes after the bird strike, the pilot landed deployed

spoilers and placed all engines into reverse idle. At 150 knots and 5,000 feet remaining, the pilot applied brakes to slow the 780,000 pound aircraft, taxied clear and ordered an emergency ground evacuation as the brakes immediately caught fire. All crew and passengers egressed safely.

Both of these mishaps show the catastrophic potential of bird strikes. Proactive and comprehensive BASH programs are the first line of defense and detailed mission planning can help minimize exposure to the hazard, but when bird strikes occur the effects can create complex and compound emergencies as happened in both of these mishaps. When dealing with elevated bird threats, mission plan and brief not only bird awareness and avoidance in the brief, but how you will handle any emergencies, particularly during a critical phase of flight. Be prepared for the bird strike to damage multiple systems and require a quick response. Fortunately, in these mishaps, the crews' quick actions saved the lives of all our Airmen, but even seconds of indecision could have cost lives. Fly smart and fly safe!



DON'T Throw Caution to the Wind!!

BY MASTER SGT. JEFFREY STULL

Most of us utilize the application of caution in our everyday lives without even knowing it. Sometimes when the hair on the back of your neck starts to stand up, you will take a mental "caution" break and examine the situation for potential dangers. Caution can be applied to aircraft maintenance as well. Warnings and cautions exist in the aircraft maintenance publications that maintainers utilize every day. Glazing over the important steps in the maintenance publications and not utilizing caution can lead to costly aircraft mishaps.

Take for example a group of maintainers working to install a canopy on a fighter aircraft. The installation of canopies requires the use of a crane, as well as multiple maintainers to guide the canopy onto the aircraft. Extreme caution is required during this procedure to ensure not only the area of the canopy is clear of foreign objects, but the area below is clear to preclude injury due to falling aircraft parts and equipment. While lowering the canopy into place, the maintenance crew failed to notice the cannon plug had shifted onto the canopy frame. When the crew attempted to settle the canopy onto the aircraft, it became apparent that the canopy would not sit correctly on the airframe. Once the crew lifted the canopy from the canopy sill, the team noted a crushed cannon plug and the canopy frame cracked. Had the crew applied a little more caution during the marrying of the canopy to the aircraft, the \$129,000 mishap might have not occurred.

Sometimes several ignored cautionary steps culminate into aircraft damage. Take for instance several aircraft maintenance teams working on

an aircraft over a period of several days. Each day multiple maintenance procedures were performed and parts were removed from the aircraft. There are several cautions found in the aircraft technical guidance that warns maintainers to use caution when removing multiple parts from the front of the aircraft. Each aircraft has a specific center of gravity. When maintainers removed multiple parts, they failed yield to the caution that the aircraft center of gravity was changing further aft with each part that was removed. The lack of adherence of technical guidance warnings and cautions came to bear when a maintenance crew was required to remove an aircraft rudder. The previous maintenance actions moved the aircraft center of gravity further back than normal aircraft configuration. When the maintainers stepped from an aircraft stand onto the aircraft to remove the rudder, the aircraft began to tip backwards onto its tail. The aircraft came to rest on the engine nozzle. Maintenance recovery crews were required to safely right the aircraft back to rest on all three landing gear. The lack of caution adherence caused a \$96,000 aircraft mishap.

Aircraft technical guidance includes warnings, cautions, and notes that highlight essential operation/maintenance procedures, practices, and conditions that if not strictly observed, could result in damage. Thus was the case in the two previous examples. Caution is applied in most of our lives without thought, and that instinct can help keep most of us safe. That same application of caution is provided to maintainers in the technical guidance to prevent harm to personnel and damage to equipment. In these two instances, adherence to caution could have prevented \$225,000 in aircraft damage.



BY TECH. SGT. TAYLOR SAUM

Paper targets. Glass bottles. Refrigerators. Televisions. Folks use all types of objects for targets on shooting ranges all over the country. One of the most controversial and potentially dangerous new targets is the exploding type. Originally designed to confirm 'hits' during long-range shooting, these exploding targets can be purchased over the counter and found at most outdoor retailers. While they may seem harmless, exploding targets demand respect and a basic understanding of safety principles.

So, what exactly are these exploding targets made of? Sold under several brand names such as Tannerite and Shockwave, exploding targets are classified as binary explosives. Binary explosives are those which are comprised of two separate chemicals, neither of which are considered explosives by themselves, but create an explosive mixture when combined. As long as the chemicals are kept separate during the transportation process, they are not subject to the same regulatory requirements that standard explosives are held to. This is the reason the targets are legal for sale and not regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). This is also where things get a little blurry.

Although the binary chemicals are benign prior to being mixed, the final product is an explosive compound that rivals some military explosives. In the Explosives Ordnance Disposal (EOD) world, explosives are compared using what is called a Relative Effectiveness (RE) factor, or TNT equivalency. This formula compares the explosive strength of a given explosive to that of TNT. The chemicals used in Tannerite combine to create an explosive with a TNT equivalency in the neighborhood of one. You read that right ... one pound of Tannerite is close to one pound of TNT.



When used in accordance with the manufacturer's instructions, the targets can be a safe alternative to boring paper targets, but the implications of misuse are severe and can include federal prosecution, serious injury or death. There is no shortage of YouTube videos demonstrating the fun that exploding targets offer when used responsibly, nor is there a shortage of videos demonstrating unsafe and irresponsible use. If you're going to use exploding targets during your next trip to the range, follow a few simple common-sense guidelines:

- **Always** use in accordance with the manufacturer's instructions.
- **Never** mix binary explosives until you are at the range, ready to shoot.
- **Always** check with Range Safety Personnel or local law enforcement prior to using on public land.

HAPPY SHOOTING!

Aircrew Safety Awards of Distinction



- 1Lt Nicholas Caraballo, Maj Michael Cahill – 391 EFS, 380 AEW, Al Dhafra AB, UAE (February 2016)
- 1Lt Sean Gossner, Capt Timothy Anderson – 334 FS, 4 FW, Seymour Johnson AFB NC (March 2016)
- Lt Col Matthew L. Soria, TSgt John C. Kephart – 556 TES, 53 WG, Creech AFB NV (April 2016)

Crew Chief Safety Awards of Distinction



- SrA Blake T. Destasio – 380 EAMXS, 380 AEW, Al Dhafra AB, UAE (February 2016)
- SrA Tyler E. Bertapelle – 380 EAMXS, 380 AEW, AL Dhafra AB, UAE (March 2016)
- SSgt Zachary W. Wray – 20 AMXS, 20 FW, Shaw AFB SC (April 2016)

Flight Line Safety Awards of Distinction



- SSgt Joseph A. Newby, SrA Desmond L. Carwise, Ismaeljuito B. Santiago, A1C Jonathan D. Wasson – 4 AMXS, 4 FW, Seymour Johnson AFB NC (February 2016)
- SSgt Tynissha Cromer, SrA Ahsif Safdar, SrA Dominic Urrutia, SrA Seantae Gudger – 49 MXS, 49 WG, Holloman AFB NM (March 2016)
- TSgt Douglas A. Seeger – 27 AMU, 1 FW, Joint Base Langley-Eustis VA (April 2016)

Ground Safety Awards of Distinction



- SSgt Christopher J. Burke – 55 FSS, 55 WG, Offutt AFB NE (February 2016)
- Capt Rebecca M. Larson, Capt Woodruff B. Johnson, SrA Kellie M. Bryon, SrA Brandon T. McBroom – 336 FS, 4 FW, Seymour Johnson AFB NC (March 2016)
- MSgt Michael C. Piper, TSgt Kevin L. Riggleman, TSgt David W. Cook – 455 EMXG, 455 AEW, Bagram AB, Afghanistan (April 2016)

Pilot Safety Awards of Distinction



- Capt Michael R. Shaw – 79 FS, 20 FW, Shaw AFB SC (February 2016)
- Capt Harrison Garlick – 433 WPS, 57 WG, Nellis AFB NV (March 2016)
- Capt Troy E. Masserant – 55 EFS, 407 AEG, MUWAFFAQ Salti AB, Jordan (April 2016)

Unit Safety Awards of Distinction



- 6th Reconnaissance Squadron – 49 WG, Holloman AFB NM (February 2016)
- 9th Munitions Squadron-Munitions Flight – 9 RW, Beale AFB CA (March 2016)
- 27th Aircraft Maintenance Unit – 1 FW, Joint Base, Langley-Eustis VA (April 2016)

Weapons Safety Awards of Distinction



- SSgt Carlos R. Orantes, Mr. Kevin H. Johnson – 355 SFS, 355 FW, Davis-Monthan AFB AZ (February 2016)
- SSgt Klayton A. Lowrey – 388 EMS, 388 FW, Hill AFB UT (March 2016)
- SrA Derrin J. Hurt – 332 EMXS, 332 AEW, Diyarbakir AB, Turkey (April 2016)

Flight Safety



Capt. Jonathan G. Ferro, 6 RS, 49 WG, Holloman AFB, NM. Capt. Ferro served as the Pilot Member on a SIB for a Class A MQ-1B OCONUS combat mishap. His work resulted in seven recommendations to the COMACC/CV, which were accepted by ACC HQ. He accomplished two Class E Mishap Investigations in the capacity of SIO. One investigation identified a lack of Operations Supervisor guidance and led him to develop a new Emergency Action Checklist to aid aircrew in making correct decisions and guaranteeing all pertinent safety procedures are followed in the event of a mishap. Capt. Ferro debriefed the squadron on the mishap, highlighted proper procedures concerning the emergency, and provided additional techniques for mitigating the associated risks. Capt Ferro instilled a culture of safety within the squadron by updating the 6 RS Flight Safety in-processing briefing, ensuing that incoming personnel were immediately aware of hazards and squadron safety processes. He began an evaluation of the recently implemented RM process. With a goal to ensure RM procedures capture and present timely, accurate, and relevant information to the Operations Supervisor and squadron leadership, Capt. Ferro interviewed multiple Operations Supervisors and aircrew. He collected inputs at every level to identify any possible deficiencies and solutions. He administered annual Laser Safety Training to 59 squadron personnel highlighting the proper use of the MQ-1B's two lasers as it pertains to training operations at Holloman AFB. The result: zero laser safety incidents. In order to monitor day-to-day potential risks to the squadron's daily flying operations, Capt Ferro performed weekly inspections of 13 subareas.

Ground Safety



Tech. Sgt. Jenna L. Heck, 388 CMS, 388 FW, Hill AFB, Utah. As a USR, Tech. Sgt. Heck went above and beyond accomplishing an astounding 14 times the single required monthly spot inspection. This commitment to the inspection program identified and eliminated four workplace hazards, a 44 percent reduction in hazards from the previous month. After identifying those hazards TSgt Heck acted quickly by supplementing the required monthly safety briefing with weekly briefs aimed at averting future mishaps. During these briefings she focused on risk management and inadequate personal protective equipment (PPE) use in nine work centers, employing a total of 347 personnel. Her proactive approach identified the utilization of improper PPE for tasks containing caustic chemicals. Her discovery of the PPE deficiency aided in the procurement of the appropriate equipment, abating the potential for a permanent disability mishap. Her overall management of the mishap prevention program led to zero reportable mishaps for the month of November. Additionally, TSgt Heck ensured safety training remained the cornerstone of the program by not only reviewing, but maintaining a master copy of all nine section's Low Speed Vehicle Training, HAZCOM Site Specific Lesson Plans, Job Safety Training Outlines, and AF Form 55s. TSgt Heck showed commitment to continuous improvement of the safety program by completing the updated Management Internal Control Toolset in under 24 hours. She was able to not only identify the need for, but also created a 388 FW Duty Hour Limitation Policy.

Congratulations

Koren Kolligian Jr.,
Trophy
Maj Jack A. Nelson
5 RS, 9 RW, Osan AB, ROK

Air Force Chief of Safety
Special Achievement Award
TSgt Jared K. Stonecipher
325 FW, Tyndall AFB, Fla.

Air Force Chief of Safety
Outstanding Achievement Award
for Weapons Safety
TSgt Lucas C. Long
366 FW, Mt Home AFB, Idaho

Air Force Chief of Safety
Aviation Maintenance Safety Award
9 MXS Accessories Flight
9MXS, Beale AFB, Calif.

Air Force Chief of Safety
Aircrew of Distinction Award
Lt Col Christopher M. Wachter
1Lt Patrick A. Walsh
Maj Andrew M. Lucchesi
Capt Michael P. Riddick
Crew of Bone 21, 28 BW,
Ellsworth AFB, S.D.

FY 2015 USAF Annual
Safety Award Winners

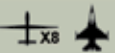



it works off duty.
it works on duty.
... it works well for ALL you do!

Mishap Statistics Scoreboard





FY16 Flight

As of 31 Mar 2016

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

FY16 Occupational

As of 31 Mar 2016

	Fatal	Class A	Class B
9 AF		1	0
12 AF		1	0
USAFWC		1	0
25 AF		1	0

FY16 Weapons

As of 31 Mar 2016

	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

Although we began FY16 with a slight improving trend, the ACC Aviation Class A mishap rate climbed a bit and we are now lagging last year's trend. We lost five valuable Air Force combat assets during the second quarter in FY16—one F-16, one MQ-9 and three MQ-1s, all performing operational missions in the AOR. In addition to watching out for increased bird activity during migration seasons, be vigilant about thunderstorm hazards over the summer. Fly safe!

Occupational Notes

Last year during the Critical Days of Summer (CDoS), ACC lost four members to fatal mishaps, (three were motorcycle accidents and one happened while swimming). The first mishap involved a motorcyclist that was hit by a vehicle that failed to yield the right of way. The second mishap involved a motorcyclist that chose to operate at 95 mph in a 45 mph zone and ran into a utility trailer. The third mishap involved a motorcyclist on a two-lane road who departed the roadway for an unknown reason and struck a sign. The final CDoS fatality happened when an intoxicated member drowned while swimming at a community beach. Unfortunately, ACC has never made it through the CDoS without a fatality—it's time we change this negative trend and we need your help! Don't become the next statistic—apply Check 3, GPS to all activities this summer and be a responsible Wingman.

Weapons Notes

ACC has shown a slight improvement since last quarter. We've experienced six total mishaps in the 2nd Qtr. of FY16—one Class C, two Class Ds, and three Class Es. The Class C was a result of equipment failure that caused damage to an F-15 gun system. The causes of the five remaining mishaps were related to human factors and lack of technical order (TO) usage. If we continue to ignore our TOs and do not pay attention to details, the results could be catastrophic. Let's dig in and make a conscious effort to eliminate mishaps by use of prevention techniques. Once tasked to perform an explosive operation, formulate a plan to execute efficiently and safely. Thanks for your continued emphasis on daily mishap prevention.

Symbols for Mishap Aircraft



Critical Days

**Danger Is All Around You ...
Always Check Three!**





What Could
Possibly Go
Wrong ...
Right?
WRONG!

OVER the Edge MAGAZINE

4 | **CRITICAL DAYS OF SUMMER**
by Mr. Rodney Robinson
ACC/SEG, JB Langley-Eustis, Va.

8 | **HAPPY FOURTH OF JULY**

10 | **WHAT FLOATS YOUR BOAT?**
by Tech. Sgt. Biagi C. Borrero
ACC/SEG, JB Langley-Eustis, Va.

12 | **ELECTRIC SHOCK DROWNING**

13 | **CHECK THREE CHAMPIONS**

14 | **DRIVER'S DIALOG**

15 | **RIDER'S RAP**

✓3 What is Check Three you ask?

Check 3 is a quick and easy method to assess any activity or event for possible hazards. The "Check 3" approach is assessing three areas referenced by the common acronym GPS. In this case, GPS is not referencing a navigation aid. Rather, GPS is: Gear - Plan - Skills.

This allows a quick review of your activity to highlight any issues or hazards. For instance, "G" (gear) may be your equipment, vehicle, or availability of drinking water. "P" (plan) may be the timeline, weather, sequence, and backup plans. "S" (skills) may be your rest level or overall experience level. If you see an issue or hazard in any of the areas, adjust an area to mitigate the hazard, especially the plan. Check 3 allows you to have a quick mental method to assess any activity.

Enjoy the Summer ...

(the right way!)



check3gps.com

Remember to Check
Three in all you do.



Critical Days of



BY MR. RODNEY ROBINSON

Memorial Day to Labor Day is normally the time of year when we experience higher than normal risks for off-duty mishaps. During the warmer months, our members are more active, participating in sports and other recreational activities. Taking some much needed time off is great for not only your mental wellbeing, but your morale as well. Recharge your battery, travel the country and enjoy your family. However, remember to keep safety and risk management at the forefront of what you are doing. Do your best to minimize distractions, especially in tasks that could be hazardous such as driving a vehicle or operating motorized equipment (lawn mower, yard tiler, etc.). And although much of the CDoS material is focused on off-duty safety, don't let your guard down while on the job.

The loss of a loved one is never good, especially in a needless mishap that could have been prevented by taking a few extra seconds. Tragically, last summer, Air Combat Command lost three valuable members during the Critical Days of Summer compared to four the previous year. Two of the three mishaps involved motorcycle operations, and the third was a member that drowned while swimming. Although this number may seem relatively low, it's not; we need to do our best to drive this number down to zero! Our mishaps in the Class B and Class C categories were both up over the previous year. Class B mishaps went from zero in FY15 to four in FY16 and Class C mishaps went from 175 in FY15 to 189 in FY16—a seven percent increase.

By practicing timely risk management, making good

decisions, and utilizing Check 3 GPS (gear, plan, skills), we can minimize the inherent risks during this more vulnerable period of the year. We all need to take it upon ourselves to be our biggest safety advocate—safety must begin and end with you! If you see something that just isn't correct, you are in the best position to correct it ... be a good wingman.

The Critical Days of Summer should not be a time we dread or feel something will happen and there is nothing that I can do about it. We can all enjoy these days and make it back to work at the end of Labor Day weekend without a needless loss of life. By taking an active role in things that are going on around you, you can decrease the chances things will and could go wrong. Watch out for your family, friends, and coworkers by reminding them to Check 3: wear the proper equipment, slow down, and be vigilant

for signs of heat exhaustion, fatigue, and dehydration. Don't take it for granted that they know something just because they have done the activity in the past. In many cases we find out this is the way they have always done it and guess what—it was wrong; engage and ask the tough questions!

Remember, if we all make good decisions and make safety a priority in our lives, we can survive this potentially deadly time of year. Keep in mind that many accidents are preventable and by staying alert, not drinking and driving, using the required safety gear along with proper risk management, we can all make it through the CDoS. So whether on or off the job, if you see something that doesn't look right don't be afraid to step in and stop the process, you may save a life. Remember, whatever the activity, always Check 3 GPS!

Stay safe my friend and see you in the fall. 🍂

✓3 Check Three

Summertime brings all kinds of activity.
Always make sure you have the right
GEAR, PLAN and SKILLS!



check3gps.com



HAPPY FOURTH of JULY

Fireworks are synonymous with our celebration of Independence Day. Yet, the thrill of fireworks can also bring pain, and even death.

- 230 people on average go to the emergency room every day with fireworks-related injuries in the month around the July 4th holiday.
- 67% of these fireworks injuries in 2014 occurred during the month surrounding July 4th.
- 9 people died due to 8 fireworks-related incidents. In at least 2 incidents, the victims WERE NOT THE USERS.

In 2014, the CPSC's staff conducted a special study of fireworks injuries from June 20 through July 20. During this study, more than half of the fireworks-related injuries involved hands and fingers, the head (including face, eyes, and ears), legs and arms. Children under the age of 15 years old accounted for 35 percent of the estimated injuries.

✓ ALWAYS CHECK THREE!

Death by Fireworks

A 19-year-old female died from smoke inhalation in an apartment fire. The fire started when an 18-year-old male threw a sparkler through a second floor window to get the victim's brother's attention. The victim's brother was actually sleeping downstairs at the time.

A 44-year-old male was killed when a mortar shell firework exploded. According to witnesses, after successfully launching three shells with the launching tube on the cement ground, the victim decided to launch the fourth shell while holding the launch tube with his arms extended and the tube pointed in an upward angle. The tube blew up from the back and hit the victim directly in the chest, knocking him backwards 8 to 10 feet into a fence. He died shortly after the explosion. Medical examiners found the tube's base plug, deep inside the victim's chest.

To help prevent incidents like these, the federal government, under the FHSA (Federal Hazardous Substances Act), prohibits the sale to consumers of the most dangerous types of fireworks. These banned fireworks include: large reloadable mortar shells, cherry bombs, aerial bombs, M-80 salutes, and larger firecrackers containing more than two grains of powder. Mail order kits designed to build these fireworks are also banned.

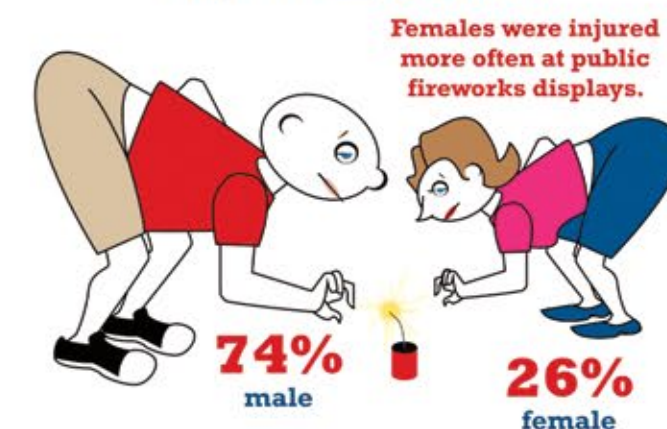
~ Courtesy of the US Consumer Product Safety Commission

IT'S A BLAST ... IT'S A BANG!

Injuries by Fireworks Type*

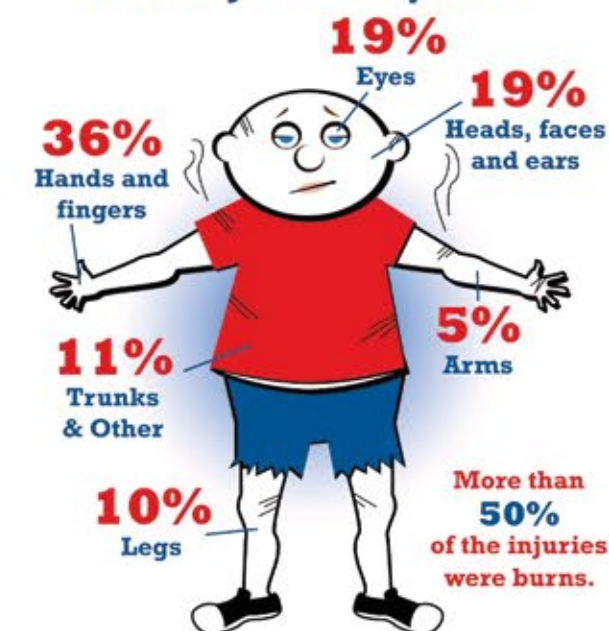


Injuries by Gender

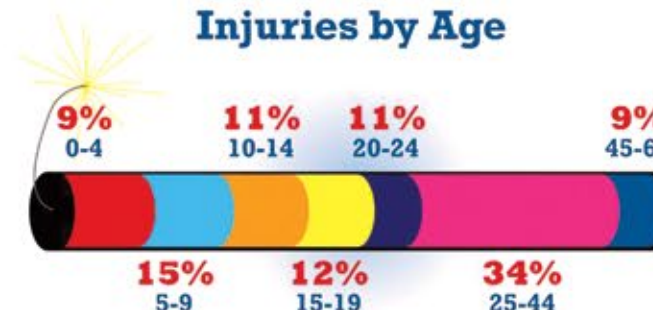


Males were most injured from firecrackers, sparklers, bottle rockets, novelty devices, Roman candles and reloadable shells.

Most Injured Body Parts



Injuries by Age



What Floats Your Boat?

BY TECH. SGT. BIAGI C. BORRERO



Summer is just around the corner; everyone is deciding how to have fun and take advantage of the great weather. One pastime that many people take part in is boating, whether you are on the pontoon with a group of

friends, fishing on a single engine boat or really getting the wind in your hair with a speed boat. Boating is a great way to spend time during the summer; however it can be a very dangerous time when the associated risks are not taken seriously. The U.S. Coast Guard reports that during summer months across the U.S. there is a huge spike in the number

of accidents, injuries, and deaths associated with recreational boating ventures. In the previous year, the U.S. Coast Guard counted 4,064 accidents that totaled 610 deaths and 2,678 injuries with approximately \$39 million dollars of damage to property as a result. In the Air Force, from 2012 to present there have been 46 mishaps involving boats, and of those, five were fatalities and two were permanent partial disabilities.

Before heading out on the water for some fun in the sun, follow these rules and tips to prevent you from becoming a boating statistic.

- Conduct semi-annual boating maintenance inspections on the boat prior to use.
- Be weather-wise; check the local weather conditions to ensure maximum fun.
- Keep a radio with you to listen to changing weather patterns while you are out; nobody wants to sail the stormy seas.
- Use a pre-departure checklist to ensure your gear, plans and skills are in order for pushing off the dock. Wow, that sounds an awful lot like Check 3 GPS.
- Use common sense; one of the most important parts of boating safety is to operate at a safe speed at all times and stay alert to potential issues while out on the water.
- Designate an assistant skipper; someone else that is familiar with all aspects of your boat's handling, operation, and general boating safety.
- Develop a float plan; to include the names, addresses, and phone numbers of all members aboard the boat including

you. Also, have boat and registration information, trip itinerary, and types of communication equipment aboard the boat.

- Make proper use of lifejackets, avoid alcohol, and learn to swim, take a boater's course, and consider a free vessel safety check.
- Life jackets – The U.S. Coast Guard and State Law Enforcement agencies require and/or recommend different types of lifejackets for different applications. Make sure you're aware of the requirements for your state before you select your life jacket.
- Licensure – The U.S. Coast Guard and State Law Enforcement agencies require that all members operating a boat need licensing and training. Please contact your local state law enforcement agencies for specific requirements in the area.

What floats your boat you ask? Safety! ... That's what floats your boat! Be safe and enjoy the summer.



Remember, before doing any activity Always "Check Three" *(here's how you could apply it prior to boating)*

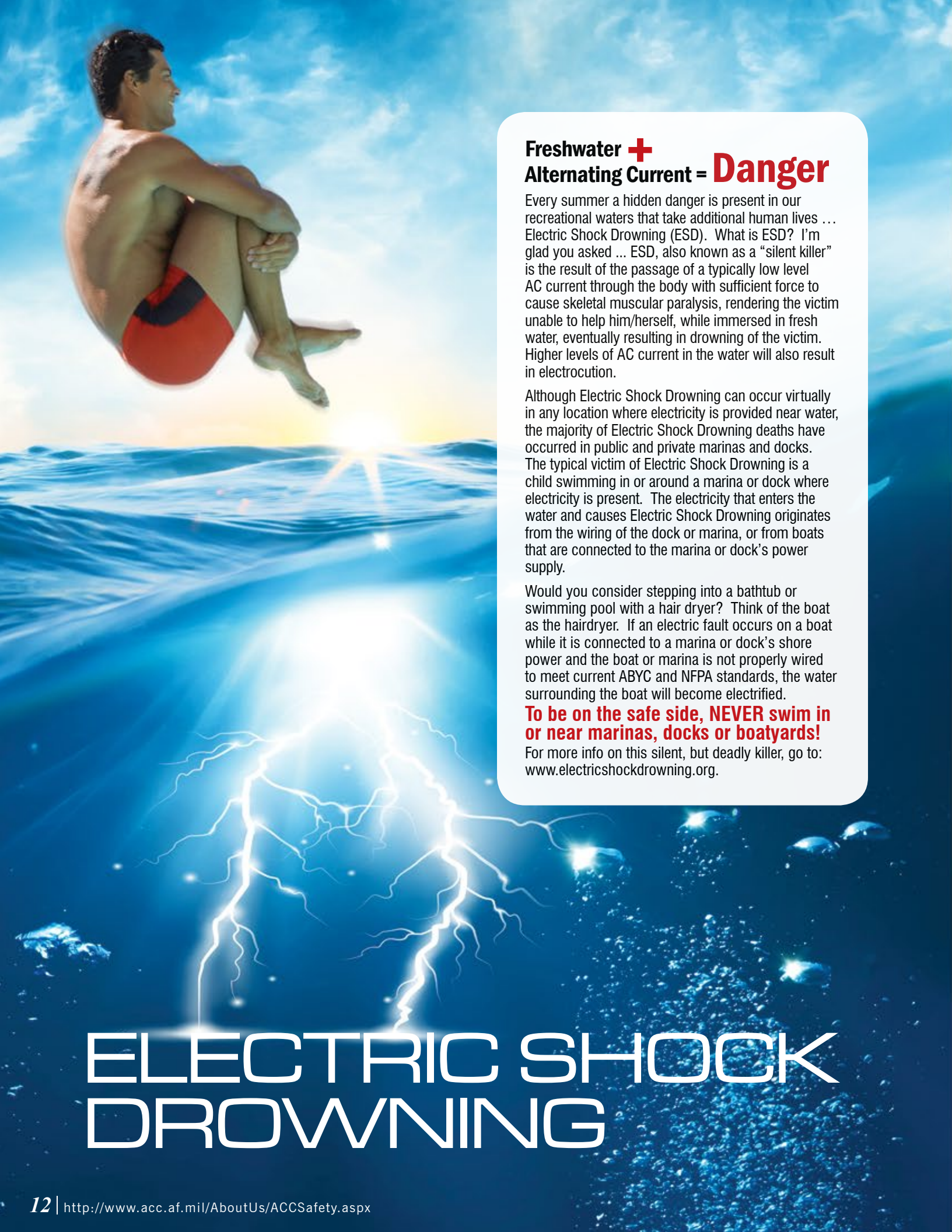
Gear: Make sure your boat is water worthy, all PPE i.e. lifejackets and radios are serviceable and have required batteries, all food and water supplies are ready. Don't forget to take your cell phone with you.

Plan: Check the weather or your local news and keep a radio with you for changes in the weather while you're out on the water. Use a pre-departure checklist, and most importantly, tell someone where you're going and what time you plan to return.

Skills: Make sure you are properly licensed and experienced with your boat and the area that you are boating in. Use risk management.

<http://www.discoverboating.com/beginner/safety/tips.aspx>
<https://bard.cns-inc.com/Screens/PublicInterface/Report1.aspx>

Checklist mentioned available below:
http://nmma.net/assets/cabinets/Cabinet464/7918_DB14_Pre-Departure_Checklist.pdf
<http://www.discoverboating.com/owning/maintenance/semiannual.aspx>



Freshwater + Alternating Current = **Danger**

Every summer a hidden danger is present in our recreational waters that take additional human lives ... Electric Shock Drowning (ESD). What is ESD? I'm glad you asked ... ESD, also known as a "silent killer" is the result of the passage of a typically low level AC current through the body with sufficient force to cause skeletal muscular paralysis, rendering the victim unable to help him/herself, while immersed in fresh water, eventually resulting in drowning of the victim. Higher levels of AC current in the water will also result in electrocution.

Although Electric Shock Drowning can occur virtually in any location where electricity is provided near water, the majority of Electric Shock Drowning deaths have occurred in public and private marinas and docks. The typical victim of Electric Shock Drowning is a child swimming in or around a marina or dock where electricity is present. The electricity that enters the water and causes Electric Shock Drowning originates from the wiring of the dock or marina, or from boats that are connected to the marina or dock's power supply.

Would you consider stepping into a bathtub or swimming pool with a hair dryer? Think of the boat as the hairdryer. If an electric fault occurs on a boat while it is connected to a marina or dock's shore power and the boat or marina is not properly wired to meet current ABYC and NFPA standards, the water surrounding the boat will become electrified.

To be on the safe side, NEVER swim in or near marinas, docks or boatyards!

For more info on this silent, but deadly killer, go to: www.electricschockdrowning.org.

ELECTRIC SHOCK DROWNING



Ironmen Ironman™

Colonel Don Borchelt, JB Langley-Eustis, Va.

Newly arrived at the 1 FW as Vice Commander, Col Borchelt will now fly once again with the Ironmen: The 71st Fighter Training Squadron, The Ironmen. Ironically, during his off-duty time, Col Borchelt trains and competes in both full and half Ironman distance races. His 2015 race achievements earned his selection into the Ironman All World Athlete Silver Level which is awarded to the top 5% of finishing times worldwide. "Safety is a top consideration when training for triathlons, Col Borchelt said. Always have a plan. Swim with a buddy. When riding, follow all traffic rules, and most importantly, BE SEEN by wearing the proper gear and using strobes and reflective lighting." In addition, Col Borchelt avoids riding very early in the morning or late in the evening. "The longer shadows make it more difficult to see and be seen. If I'm not staying on Langley AFB, I try to do my riding at least an hour or two after sunrise or before sunset. I also don't ride in the rain for an extra safety factor. Whether flying fighters or training off-duty, remember to Check 3: Gear, Plan, Skills."

YOU RUN HOW FAR? ... FOR FUN

Master Sgt. Eric Haselby, JB Langley-Eustis, Va.

If he isn't at his desk in the ACC/HQ Weapons Safety Office, you can probably find him logging miles around the base. With what started as a bucket list item, he has discovered a true passion for running marathon and ultra-marathon distances. In 2016 alone, Eric is scheduled to compete in four marathons, four ultra-marathons, and a dozen of 5K to half-marathon distance races. "The only way to complete these events safely is to train properly." His most daunting adventure of 2016 will be a run across the Grand Canyon with the US Military Endurance Sports (USMES) Team. Starting from the South Rim, Eric will run to the North Rim and back in a single day. Known as "Rim-to-Rim-to-Rim," this 48-mile trek includes over 20,000 feet of elevation change. "You can't fake it; training and preparation are key to survival. If you don't have the proper gear, plans, and skills, you may not make it out of the canyon alive."

Know of a Check Three Champion you'd like to highlight? Send us a photo and synopsis of their activity and how they Check 3 GPS in their day-to-day activities. ~Ed.





Do you snap in your seat belt as soon as you get in the car? Do your children have the right safety seats for their weight and age? If you've answered no, even just once, you need to read on.

It's been proven time and again, on back roads and superhighways: A seat belt can save a life in a car accident. According to the National Highway Traffic Safety Administration (NHTSA), more than 15,000 lives are saved each year in the United States because drivers and their passengers were wearing seat belts when they were in accidents.

5-Way Protection: "Seat belts prevent occupants of the vehicle from serious injury in five ways," says Angela Osterhuber, director of the Pennsylvania Traffic Injury Prevention Project. A seat belt:

- Keeps the occupants of the vehicle inside. "It's clearly a myth that people are better off being thrown clear from the crash," Osterhuber says. "People thrown from a vehicle are four times more likely to be killed than those who remain inside."
- Restrains the strongest parts of the body. "Restraints are designed to contact your body at its strongest parts. For an older child and adult, these parts are the hips and shoulders, which is where the seat belt should be strapped," Osterhuber says.
- Spreads out any force from the collision. "Lap-and-shoulder belts spread the force of the crash over a wide area of the body. By putting less stress on any one area, they can help you avoid serious injury," Osterhuber says. A shoulder strap also helps keep your head and upper body away from the dashboard, steering wheel, and other hard interior parts of the automobile should you stop suddenly or be hit by another vehicle.
- Helps the body to slow down. "What is it that causes injury? A quick change in speed," Osterhuber says. "Seat belts help extend the time it takes for you to slow down in a crash."



- Protects your brain and spinal cord. A seat belt is designed to protect these two critical areas. "Head injuries may be hard to see immediately, but they can be deadly," Osterhuber says. Likewise, spinal cord injuries can have serious consequences.

Buckle Up Correctly: Adjusting your seat belt properly is a must: Getting the right fit is as important as wearing it. The strap that goes across your lap should fit snugly over your hips and upper thigh area. "If the belt rides up on the stomach, it could cause serious injuries in a crash," Osterhuber says.

Shoulder belts should rest securely across your chest and shoulders between your breasts. Don't ever let the strap fall across your neck or face and never place the strap under your arms or behind your back. "Any one of these positions can cause serious injury," Osterhuber says.

A Clear Message: *It only takes a few seconds to buckle up once you get in the car. Why wouldn't you?*

This article was medically reviewed by Cynthia Haines, MD



Rider's vs. the Road

Numerous motorcycle accidents are the result of the bikers' own carelessness — they ride too fast, drive drunk, follow other vehicles too closely, or weave in and out of traffic. However, accidents could also be cause for reasons outside of the riders' control. Road conditions and hazards in the roads are a common cause of motorcycle accidents (i.e., a tree that fell across the road and the motorcyclist hit it or a rider that hit a pothole or an animal). We could look at all the statistics and see how many of the accidents were actually caused by the rider vs. the environment. Instead, let's take a look at some of the road hazards a rider may encounter and ways to avoid or handle the hazard.

- Rough or bumpy roads
- Gravel on the road
- "Edge breaks" (lanes of different heights, due to causes like resurfacing in progress)
- Gaps in expansion joints
- Open bridge joints
- Dogs, cats, deer, and other animals on the road — dead or alive
- Train and trolley tracks
- Pot holes
- Hub caps, tire treads rocks, branches, garbage, and other debris
- Blind / poorly banked curves
- Lack of appropriate lane markings; faded markings

What we can do. The first preventive measure would be to not introduce any of the above hazards to motorcyclists by developing and revising highway standards on all levels—federal, state, county, and local—to reflect the needs of motorcyclists and encourage motorcycle-friendly design, construction, and maintenance procedures. Anyone can report hazardous roadway conditions to the local authorities so maintenance workers can eliminate and/or correct the hazard as soon as possible. There could be working groups to recommend changes to highway standards to increase motorcycle

safety. Post specific warnings for motorcyclists where unavoidable hazards exist. Take steps to remove slippery sealants and repair substances applied to road surfaces. Educate road design and maintenance personnel about conditions that pose hazards to motorcyclists. Roadway engineers and other traffic designers need to elevate the placement of motorcycle safety dynamics as a consideration in design, construction, and maintenance of roadways at all levels of oversight. This action can benefit the safety of other vehicles as well.

Motorcyclists should educate themselves about the hazards created by common roadway defects and hazards in the roadway. Emphasize riding skills required to negotiate these hazards through education and training and have the skills necessary to detect and avoid roadway hazards.

Evaluation of crash avoidance skills training should include:

- Braking effectiveness in real-world traffic situations with the various existing and future braking systems
- Cornering skills and strategies on the road
- Swerving effectiveness on the road
- Development of essential mental strategies for safe riding judgment, including visual directional control and an active hazard search, and anticipation process
- Slow down and be alert

**MOTORCYCLES
USE EXTREME
CAUTION!**