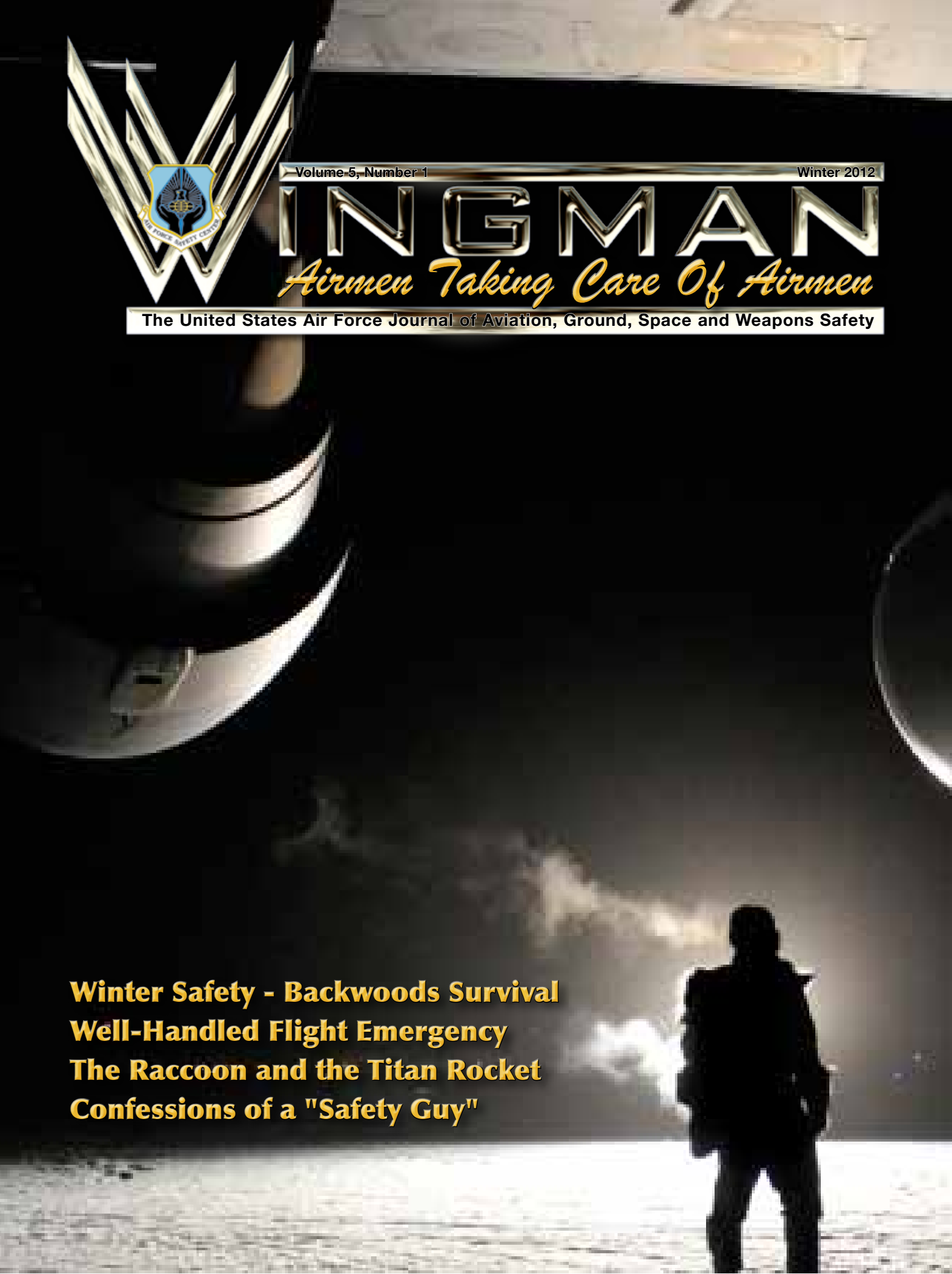
Volume 5, Number 1 Winter 2012

WINGMAN

Airmen Taking Care Of Airmen

The United States Air Force Journal of Aviation, Ground, Space and Weapons Safety



Winter Safety - Backwoods Survival
Well-Handled Flight Emergency
The Raccoon and the Titan Rocket
Confessions of a "Safety Guy"

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FEATURES

GROUND

Front cover: U.S. Air Force photo by Senior Airman Jonathan Snyder

AVIATION

SPACE

WEAPONS

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Commercial telephone: (505) 846-8179
DSN 246-8179 E-Mail—*afsc.semm@kirtland.af.mil*
24-hour fax: DSN 246-0931

Background photo by Tech. Sgt. Cecilio M. Ricardo Jr.
Photo illustration by Keith A. Wright

Holiday Festivities, Seasonal Risks Require Extra Measure of Safety

MAJ. GEN. GREG FEEST
Air Force Chief of Safety and
Commander, Air Force Safety Center
Kirtland AFB, N.M.

What a great time of the year! The holidays give us a chance to focus on our families and reunite with friends. Fantastic aromas waft from kitchens and football games are broadcast nearly nonstop. But this season also makes me contemplate as we barrel toward the end of another year. There's much, personally and professionally, for which we can all be thankful, including some great accomplishments.

As you know, the safety business is never done. As we enjoy the festivities of the holidays, we're challenged to overcome the inherent risks associated with the winter season. The snow and ice that look beautiful from the living room window aren't so attractive after you've slipped on the sidewalk or misplaced the windshield scraper.

It's absolutely critical that we're prepared to avoid winter hazards or at least minimize their impact. Several articles in the ground section deal with this issue. The information is not only timely, it's basic to all the things you instinctively know, or have been taught, yet tend to forget over time. A few minutes spent reading the helpful tips will increase your chances of properly preparing for seasonal activities. That could very well save your life.

You'll also find an article about the 374th Airlift Wing's support of Operation Tomodachi following Japan's devastating earthquake and tsunami in March. The article is a lesson in how we must exercise and plan for almost unthinkable scenarios.

Another feature contains good reading about the thrill of aircraft racing and the skills required to compete safely. The aviation section includes an article about the importance of making smart decisions when thoughts drift toward completing the mission quickly. Additional articles highlight the importance of empowering less-experienced aviators to speak up when something looks wrong, and the initiative of a young safety officer determined to change the safety culture of his wing.

A space article underscores the importance of teamwork between operational testing safety professionals and the developmental safety and mission assurance communities. Another article provides a timeline of an almost unimaginable chain of events that caused people to lose focus on their primary responsibilities for resource protection and safety.

The weapons section offers a good overview of the nuclear surety staff assistance visit program and NSSAV teams' role in helping ensure weapons are safe, secure and reliable. Also, this section includes a good example of how every one of us must fight complacency, especially when we're absolutely certain we've got a task covered.

Lastly, I encourage you all to continue to be good wingmen for your fellow Airmen, friends and family members. That responsibility includes taking care of yourself and knowing when you need another Wingman's help.

Bridget and I thank you for all you do each and every day to make our Air Force a safer place to live and work. We wish you a joyous and safe holiday. ★★

Background illustration by Keith A. Wright
U.S. Air Force photo by Dennis Spotts

Being Prepared for Your Holiday Drive

MASAO DOI
Media and Force Development Division
Air Force Safety Center
Kirtland AFB, N.M.

It's the holidays and you decide to take some well-deserved time off to visit family and friends. Your children haven't seen their grandparents in a while and everyone is looking forward to spending the holidays together.

You'll most likely drive to get there. According to the American Automobile Association, more than nine out of 10 holiday travelers will take to the roads.[1] Including all forms of transportation, a typical holiday traveler averages 1,052 miles roundtrip.[2] For drivers, the miles equate to several hours on the road for at least one or two days, increasing your chances of a mishap. There are many steps you can take to help a safe arrival.

First, it's important to conduct needed maintenance and winterize your car before you begin your trip. Despite the best forecasts, weather often changes unexpectedly. Snow, wind and ice can lead to treacherous road conditions. The National Safety Council recommends taking steps to winterize your vehicle, including checking your car's battery and antifreeze, as well as tires for inflation, wear and tread depth. Also, read your owner's manual for regular tune-ups. Prepare an emergency kit to include life-saving items such as tools, a spare tire, shovel, first aid, jumper cables and non-perishable food.[3]

Once you've checked out your car, remember to get enough sleep the night before your trip. Getting more sleep reduces your risk of a mishap considerably. Sleeping less than five hours increases the risk four or five times more than sleeping eight hours or more.[4] Plan your trip and take the time to get there.

Background photo by Tech. Sgt. Cecilio M. Ricardo Jr. and Liquid Library
Photo illustration by Keith A. Wright

When you're on the road, remember to watch for the warning signs of fatigue. It's not uncommon to feel tired or even fall asleep behind the wheel.[5] The National Sleep Foundation found 60 percent of adult drivers have driven while feeling drowsy, while more than one-third have fallen asleep at the wheel. Fatigue slows reaction times, and the result can be fatal. The National Highway Traffic Safety Administration estimates there are 56,000 mishaps related to fatigued driving annually, resulting in 40,000 injuries and 1,550 deaths.[6] Demographics more likely to drive while drowsy include men between 18-29 years of age and adults with children.[7]

If you're feeling drowsy, pull off the road and get some rest or change drivers. Take frequent breaks and drink lots of water. Refrain from alcohol, large meals and medications that can make you feel tired.[8] Note that the most dangerous times for driving fatigue are from late night to pre-dawn hours and between 2-4 p.m. Remember that caffeine is not a substitute for getting some needed rest.

U.S. Air Force photo by Tech. Sgt. Matthew Hannen

Additionally, don't talk on your cell phone without a hands-free device. Better yet, pull off to the side or let someone else drive. To further limit distractions while driving, if you want to appreciate the beautiful scenery, let someone else do it for you. Your family in the car will appreciate it.

Most of all, take your time getting to wherever you want to go. Control your speed and drive appropriately for the road conditions. I'm sure your friends and family would rather see you taking a little longer to arrive alive than not arriving at all.

1. *AAA Forecasts a 3.1 Percent Increase in Travel During the Year-End Holidays.* (2010, December 15). Retrieved July 26, 2011 from http://www.aaanewsroom.net/main/Default.asp?CategoryID=8&ArticleID=816

2. Ibid

3. *Driving Safety Tips: Winterize Your Car.* Retrieved July 26, 2011 from http://www.weather.com/activities/driving/drivingsafetytips/winterize.html

4. *Facts and Stats: Drowsy Driving – Stay Alert, Arrive Alive.* Retrieved July 26, 2011 from http://drowsydriving.org/about/facts-and-stats/

5. Ibid

6. *Driver Fatigue is an Important Cause of Road Crashes.* Retrieved July 26, 2011 from http://www/smartmotorist.com/traffic-and-safety-guideline/driver-fatigue-is-an-important-cause-of-road-crashes.html

7. *Facts and Stats: Drowsy Driving – Stay Alert, Arrive Alive.* Retrieved July 26, 2011 from http://drowsydriving.org/about/facts-and-stats/

8. *Driver Fatigue: The Dangers of Driving While Sleepy.* Retrieved July 26, 2011 from http://www.tree.com/health/sleep-disorders-effects-driver-fatigue.aspx

Background photo by Liquid Library
Photo illustration by Keith A.Wright

Cross-Country Air Racing and Risk Management

MICHELE BOYKO
Media and Force Development Division
Air Force Safety Center
Kirtland AFB, N.M.

There we were in the briefing room … the plane on the tarmac in Pascagoula, Miss., and the clock ticking ... as my co-pilot and I waited to finish the 2011 Air Race Classic, the all-women transcontinental air race.

Cross-country air racing is exhilarating. Federal Aviation Administration waivers and rules ensure a fair and safe race, but it also takes concentration and flexibility to complete the race competitively. We were racing with general aviation aircraft with different capabilities and limitations. The Air Race Classic board members, officers and volunteers designed a well-organized program of home study and briefings to ensure we knew what was expected.

Weather is a huge factor in a racer's decisions. Once the race begins, it's up to the crews to decide when to race and where. It's a crew's responsibility to ensure the weather is good enough to fly, and the penalties for breaking the rules range from having a knot or two subtracted from your speed to being disqualified.

Fuel management is another important consideration. The more fuel you carry, the farther you can fly with fewer stops, but fuel adds weight to the airplane. The FAA requires 30 minutes for day visual flight rule reserves, but the Aircraft Owners and Pilots Association recommends the golden hour, and I agree.

With all the anticipation of a grand adventure, my co-pilot, Laura, and I left on a beautiful clear day and enjoyed the weather all the way to Omaha, Neb. The weather forecast for the next morning looked good so we anticipated an early hop to Iowa City, Iowa, the planned starting point. The sound of thunder woke us the next morning, so we delayed our departure a few hours and re-planned for a southerly approach to avoid the worst of the weather.

We arrived at the starting point hours late. The next days were filled with briefings, flyby study and inspections. As Start Day approached, it became apparent that flying on the northern legs wouldn't be possible. Originally, the route was planned from Iowa City to Brookings, S.D.; Jamestown, N.D.; Spearfish, S.D.; Rawlins, Wyo.; Alliance, Neb.; Great Bend, Kan.; Borger, Texas; Norman, Okla.; El Dorado, Ark.; and finally Mobile, Ala. The race organizers made the tough, but safe, call to move the race start to Alliance, cutting a full five legs off the route and delayed the start until noon the next day.

Photos courtesy of author
Photo illustration by Keith A. Wright

As the race began, crews launched and aligned their aircraft to allow spacing for timing and lateral separation. We watched the skies for other racers and monitored the radios for situational awareness. Because we carried about six hours of fuel, we continued on to the next flyby without stopping. We landed after the arrival flyby at Borger and were among many who had to secure our planes off of the prepared surface for the night. We asked for the tanks to be filled in anticipation of an early launch.

The next morning, I noticed the nose strut was extended almost three times more than usual but figured it would look normal when we pulled it back onto the asphalt. I continued the preflight, checked the fuel levels and loaded the plane. We pulled it back onto the taxiway and, sure enough, the plane settled down as expected.

The flyby at Norman was challenging but we continued on, expecting the winds to be less favorable as the day progressed. Everything was going as planned on our way to El Dorado … until the engine lost power. According to my fuel timers, I still had 10 minutes left in that tank. I began a climb to reduce speed to best glide while switching on the fuel pump and switching fuel tanks. After a second, the engine roared to life and we continued the flight. What had happened? How did we run out of fuel in that tank? Everything else about the plane checked normal. It wasn't until we reached El Dorado a short while later and I checked the remaining fuel tank levels that we deduced what had happened.

That extended nose strut at Borger was a clear warning that the aircraft was not level when fueled. The operating handbook is very specific that the plane must be level when fueled and when fuel levels are checked. We had about 30 minutes less fuel than we thought. Thank goodness we had been conservative.

The weather briefer told us about the low ceilings enroute and the thunderstorms in the Mobile area. Luckily, there was a break in the storms and the ceilings had lifted after lunch. All went as planned as we flew southeast to Alabama … until the green spots on the XM datalink weather on our Garmin 496 got darker over Mobile. Then the green filled in with yellow. By the time we got 30 miles north of Mobile, the yellow had filled in with red. Sure enough, there was a thunderstorm over our destination. We reluctantly started a left 360 turn to assess the storms that seemed to be moving slowly. We had enough gas to wait for about an hour but knew the storm could be unpredictable. We decided to divert. The datalink weather showed Pascagoula, Miss., was clear so we briefed up the airfield and started southwest with heavy hearts.

This adventure ended almost the same way it began: Laura and I were getting a weather update as the storms slowly approached with the plane on the ramp, now freshly refueled and our race clock still ticking. After 20 minutes, the storms had cleared and we re-launched for Mobile. We arrived over an hour later than planned, but we made the most of the flyby at two knots short of redline.

Our place? We came in last, thanks to our unexpected tour of Mississippi. All in all, it was an incredible experience. We learned a lot about the plane, the weather, off-duty risk management and our own personal limits.

(More information about Air Race Classic can be found at http://www.airraceclassic.org)

Preparedness is the Foundation of Safety

LT. COL. NORMAN WEST
Human Factors Division
Air Force Safety Center
Kirtland AFB, N.M.

March 11, 2011, started like any other spring day in Japan. The skies were blue, birds were chirping and school children were anticipating spring break. I was within three months of graduating from a good run on squadron command in the 374th Airlift Wing when our world was thrust into chaos.

Everything about March 11 was standard until 2:46 p.m. when the country of 127 million was bulldozed by a prolonged and violent earthquake that lasted about five minutes. Rapidly responding to the devastating 9.0-magnitude earthquake, deadly tsunami and the loss of coolant at the Fukushima Nuclear Power Plant, I was suddenly responsible for commanding a rapid response task force from five Air Force squadrons and the U.S. Army's 71st Chemical Company.

Just two hours earlier, the wing ended its comprehensive week-long operational readiness exercise. Our exercise goal was straightforward: evaluate the wing's competence to provide theater airlift for more than 104 million square miles of real estate, evacuate non-combatants and provide humanitarian assistance. Within minutes after the earthquake, Col. Otto Feather, commander of the 374th Airlift Wing, re-activated his senior staff and functional experts in his installation control and emergency operations centers to lead airlift operations and assist recovery efforts. This time, the stakes were high.

Even for a nation at ease with earthquakes, this one was immensely different. The epicenter was just a little more than 40 miles east of Honshu, the main island of Japan, at a depth of only 20 miles. The earthquake relocated the island more than eight feet eastward and unleashed a deadly 27-foot tsunami. More than 250 miles of coastline dropped more than two feet, allowing the wall of water and lethal debris to swallow everything in its path more than five miles inland. When the surging water retreated, more than 30,000 Japanese were dead or missing and 350,000 more were homeless. Within the first few hours, Japan was rocked by at least 50 aftershocks registering more than 6.0 magnitude!

Tokyo's Narita and Haneda airports were closed with the threat of more earthquakes and ensuing tsunamis. In the next two hours, 11 airliners with thousands of passengers were diverted to Yokota Air Base for safe haven: food, water, fuel and a place to sleep. Communications and transportation systems were in shambles with cell phone towers snapped, telephone lines severed and roadways to the hardest hit areas collapsed and blocked. Even train services were halted indefinitely with the unsettling news that trains travelling at speeds greater than 100 mph were missing. Massive numbers of Japanese would be stranded or forced to roam in the freezing mountain temperatures with no way in or out of the annihilated areas.

U.S. Air Force photo by 2nd Lt. Christopher Love

U.S. Air Force photo by Airman 1st Class Katrina R. Menchaca

U.S. Air Force photo by Osakabe Yasuo

U.S. Air Force photo by Airman 1st Class Katrina R. Menchaca

U.S. Air Force photo by Master Sgt. Jeromy K. Cross

U.S. Air Force photo by Staff Sgt. Jonathan Steffen

The prevailing thought was that everything will pass and things will revert to normal. We were hit with the realization three days later that the situation was worsening. Each lethal problem we targeted revealed other more deadly and complicated threats. As a result of mass flooding from tsunami waves, the Fukushima Nuclear Power Plant quickly overshadowed all else. The reactor's redundant cooling systems and safeguards were unstable and explosions resulted from the build-up of heat and subsequent high concentrations of hydrogen gas. A state of emergency was declared with the core of three reactors melting down, high levels of radiation in the immediate power plant area and nuclear fission products being released into the environment. The world was torn apart with the Japanese clinging to the hope that survival was possible if they could evacuate the hot zone and rebuild their lives.

Before I was reassigned and left Honshu, we completed more than 23,000 hours of radiation surveillance and decontamination missions, screening $4.2 million in assets, including 558 aircraft, 944 vehicles and 107 aircrew. Some 23 million tons of humanitarian relief and lifesaving cargo were airlifted to more than 320,000 dislocated survivors during Operation Tomodachi. The devastating earthquake, tsunami and ensuing catastrophe at the Fukushima Nuclear Power Plant would overwhelm Japan's economy and cost up to $309 billion in immediate recovery and long-term rebuilding efforts.

Although the catastrophic effects of the earthquake, tsunami and nuclear reactor core meltdown(s) couldn't be anticipated, the airlift wing was prepared to provide airlift and humanitarian operations because we'd developed and practiced challenging disaster response plans. In fact, we were able to balance scarce resources while shifting our attention to the volatile radiation environment created by the nuclear reactor accident only a short distance away. We surged to 24-hour operations for more than 43 consecutive days and completed all Operation Tomodachi missions safely and effectively due to a strong culture of preparedness.

U.S. Air Force photo by Airman John D. Partlow

U.S. Air Force photo by Staff Sgt. Samuel Morse

Lessons to ensure military success while balancing risk reduction

Preparedness is the Foundation of Safety

* Prepare a "Get Out of Dodge" (GOOD) bag. Food, water and documents required to start your life over are critical.

* Develop challenging but realistic exercises to sharpen your wing's preparedness. Include a plan to assist restoration efforts.

* Understand the value of sharing information – even bad news. Take advantage of social media, town hall meetings and all other means of communication to keep the base, community and world informed.

* Have a plan to shelter in place. People are capable of barbarism and exceptional kindness. Generosity, however, is not unlimited.

* Identify alternative communication methods to mobilize manpower when telephone lines are down. E-mail and social media work well.

* Be aware that every leadership action is scrutinized when mass evacuation planning begins and food/water become scarce. Buying suitcases, pet carriers or cases of water may create undue panic.

U.S. Air Force photo by Staff Sgt. Jonathan Steffen

I double-dog dare you to read this. I do. I double-dog dare ya!

BILL "TOP" PARSONS
Air Force Chief of Ground Safety
Air Force Safety Center
Kirtland AFB, N.M.

I guess I've been a safety guy all my life. I remember when I was about 10 years old and my best friend was Bertee (pronounced Bert T). Bertee and I traveled the world together, or at least our world, which was about 4 square miles of dirt known as Harold, Ky. I was the kid who blended.

I could go anywhere and do anything because nobody knew I was there, but I got all the benefits because I was there. Yea, I was the kid who, when brought in for a lineup, was referred to as, "He was there but we didn't see him do anything." This allowed me to see what the big kids were doing, what the kids my age were doing, and, let's face it, I didn't care what the little kids were doing – like my younger brother, Ed, for instance. Ed was two years younger than I was and could get into more trouble by accident than I could on purpose. OK, so I finally come out at the age 56 and tell the truth – that I was teaching Ed how to shave when he cut the tip off of his nose. There, I've said it and it does feel better. Ed, I'm sorry.

I was the kid who would stand back saying, "Hey guys, I don't think I'd do that if I were you," and then watch the other guys break legs and arms, knock out teeth, and generally get skinned up. OK, so I would laugh when they did; nobody's perfect. I decided early on that getting skinned up was OK but that breaking stuff wasn't for me. So, I became the somewhat popular guy who made fun of the other guys who broke stuff.

Ultimately, when I learned you could actually make a living by telling folks not to do stuff, I thought, "You're kidding me! I love this country."

Fast forward about 45 years or so and I'm still doing what I love, but I've learned there is a downside to making a living as a safety and health professional. People get hurt, people die, and sometimes there isn't a damn thing I can do about it.

My point today … the Air Force truly cares about the military and civilian men and women who dedicate their lives to serving their country. **You know what it takes to be a good wingman, now do it.**

U.S. Air Force photo by Dan Harman
Photo illustration by Keith A. Wright

Winter Safety - Backwoods Survival

ROGER MUSE
31st Test & Evaluation Squadron
Edwards AFB, Calif.

Winter is the time when the world is transformed into a white playground. Children build snowmen, and sleds zoom down the hillsides. It's also the time when, across the northern portions of the country, people take to the trails on cross-country skis and snow machines. Traveling in the back country during the cold winter months brings its own set of concerns regarding personal safety.

As with any trip, planning is the key. You should never travel alone into the back country. There's safety in numbers. Before your group travels, be sure to get together to lay out a plan and make sure that someone who's not traveling with your group is aware of the plan.

Give a detailed explanation of exactly where you plan to travel and when you're expected to return. If nobody knows where you've gone or when you're expected to return, rescue will be delayed until someone notices you're missing.

In addition, ensure that you bring along essential survival equipment. This equipment should include anything you might need to keep yourself alive until rescue/search parties can find you if something goes wrong. Your survival kit should include the following:

- Cell phone, fully charged. Even if you're not in an area that gets cell phone coverage, it's best to be prepared should you actually find yourself within range of a cell tower. Keep the cell phone in a pocket inside your jacket. The heat will help prolong the battery life.
- Global Positioning System. GPS can provide your exact location which can then be relayed to rescuers, if your cell phone is working. It will also allow you to know how far you are from civilization and will aid your decision-making process if you decide to attempt self rescue.
- Flashlight. Never travel into the woods without a light source. A flashlight can be used to signal for help and can be seen for miles in the right circumstances.
- Shovel. There are survival shovels available that weigh very little, can be folded easily and stored in a backpack. Some have an edge that can be used as a camp axe. A shovel can aid in building an emergency survival shelter, clearing snow to build a fire or even cutting branches for firewood.
- Fire-Starting Kit. Ensure you have matches or some other fire-starting system in a waterproof container with flammable material to help build a fire. A fire will keep you warm and acts as a signal to alert rescuers to your position. Keep the fire burning until rescuers arrive or until you're forced to self rescue.
- Food and Water. If there's snow on the ground, water shouldn't be a major issue, assuming you can build a fire. A water bottle can be filled with snow and placed near the fire to melt. Food, however, will probably be limited to whatever you have with you. Calorie-dense, high-fat foods are usually the best for short-term survival situations. Calories are critical for generating body heat. Chocolate, nuts, peanut butter, granola bars or any other food you may have will help you survive until rescuers arrive.

The key to a safe backwoods winter excursion is planning for the worst so that you can enjoy the best that nature has to offer and still get home alive.

U.S. Air Force photo

Prepare Your Vehicles for Winter

SENIOR AIRMAN BOND H. LITTLE IV
513th Electronic Warfare Squadron
Eglin AFB, Fla.

The world doesn't stop turning just because winter arrives. We can still afford the extra time necessary to be careful and arrive at our destinations safely. That includes ensuring that our vehicles are fully prepared to handle the harsh winter weather. A few useful tips can help keep you safe and keep your vehicle intact during the winter months.

- The radiator system and antifreeze are crucial to keeping an engine block from freezing and ensures your vehicle a sure start. Have the radiator system checked and serviced, or check your antifreeze levels and add antifreeze as needed. Avoid contact with your eyes and mouth. Antifreeze is corrosive in certain concentrations, and as little as two tablespoons can cause death in children.
- Windshield wipers are another important winter weather tool. Have your windshield wiper blades inspected and replaced, if necessary. Visibility on the road is key to arriving safely at your destination. Also, prepare your wiper fluid with a winter mixture. Check the labels to ensure your fluid has a low freezing point.
- Check and/or replace worn tires for the best possible traction on winter roads. Always keep your tires' air pressure at the factory-approved levels to reduce wear. Tire chains are necessary in northern areas. Fitting your tires with chains is necessary. See your local dealer or mechanic for a proper fit.
- Keep your gas tanks nearly full to help prevent ice in the gas tanks and freezing fuel lines.
- Motorcyclists should bundle up tightly to avoid frost bite or hypothermia. Cyclists should wear bright colors during snowfall to be more visible to other drivers on the road. The best thing to do is to put your motorcycle in storage until warmer weather comes returns. If you must ride, ride safely.

Follow these tips and you'll get through winter safely and in one piece.

Follow these tips to store your motorcycle for the winter:

- **Complete oil change and lube**
- **Purge carb(s) from gasoline**
- **Wash bike and clean windshield**
- **Wax painted areas and frame**
- **Clean chrome and rims**
- **Adjust chain and belts**
- **Clean leather and vinyl; coat with conditioner**
- **Cover motorcycle**
- **Remove battery; clean terminals and check fluid**
- **Keep battery charged and store on a wood plank, not concrete**
- **Insert a clean cloth in exhaust pipe to keep critters out**
- **Remove temperature-sensitive gauges and insert clean cloth in holes**
- **Make a checklist for spring**

Christmas Tree Safety

SENIOR AIRMAN BOND H. LITTLE IV
513 Electronic Warfare Squadron
Eglin AFB, Fla.

Christmas time is a wonderful holiday full of festive decorations and holiday cheer. With its many types and endless decoration possibilities, the ever-popular Christmas tree is one of the most commonly used decorations. A few safety tips will help ensure your holidays are safe and full of holiday cheer and spirit.

- Think about your pets and small children when putting up your tree. Putting breakable glass ornaments on lower branches isn't safe. Put them higher on the tree and out of reach. Instead of using hooks, use longer bits of wire or pipe cleaners and wrap them around the branches.
- Avoid food-based decorations like candy canes or strings of popcorn and berries. Pets or small children may be attracted to them and could bring the whole tree crashing down, even if it's properly anchored, and cause injury to themselves or others. They may also pose a choking hazard.
- Wind all loose light cords tightly against the base of the tree to deter curious pets or children from playing with them. Don't let children turn on tree lights without proper supervision. Caution children to not tamper with the electrical outlets into which the lights are plugged.

More safety tips can be found online and from your local fire department. Know the facts and remember that knowing is half the battle.

U.S. Air Force photos

Safety on the Slopes and in the Backyard

TECH. SGT. DEREK MILLER
167th Airlift Wing
Martinsburg, W.Va.

It's that time of the year when Old Man Winter shows his frosty face. While most people choose to hibernate indoors and wrap up, there are some who embrace the freezing temperatures. These cold-weather activists are sometimes referred to as reckless, but I disagree. I believe many cold-weather activities can be enjoyed safely and without injury, as long as the participants are willing to follow a few guidelines.

The first thing one must consider before heading outside is the temperature and the forecast. Find out if there's a chance of snow or ice during the time periods you'll be out; knowing the temperature and the wind chill factor will help. The next step is making sure you dress appropriately. LAYER UP! Start with soft layers against the skin, but remember to avoid cotton because it traps moisture against your skin. Through convection, cold air and moisture work together to replace the heat that your body generates with cold energy. Use polypropylene or another synthetic material that's advertised to wick the moisture away from your skin. Finish layering with a nylon material that will challenge wind and rain. As the temperature changes, you can add or remove clothing that'll keep you just warm enough.

U.S. Air Force photo by Airman Laura Max
Photo illustration by Keith A. Wright

Wear a hat and gloves while outside. A common misconception is that a hat is needed only if your head feels cold. This is not only wrong, it can also be dangerous. Your body will close off circulation to your fingers and feet if your head gets cold. Your head won't feel cold but your feet will. By putting on a hat, you can warm up your head, and the circulation will return to your cold feet, making them warmer.

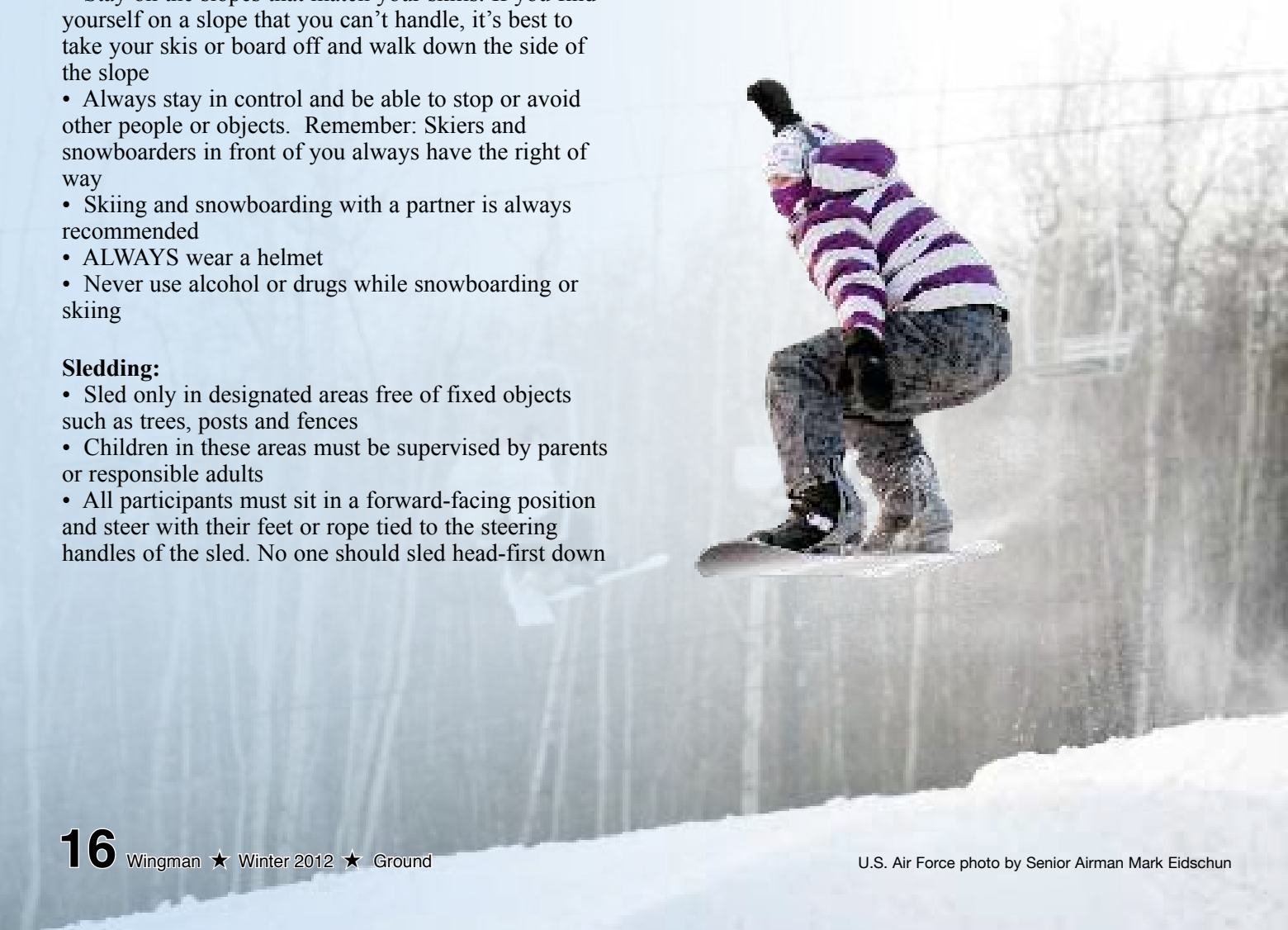
Also consider your food and water consumption during this active time. Your body will generate heat as it burns the fuel you have fed it. Eat foods that are high in fat content and calories. Remember that a calorie is actually a unit of measure that measures heat! Warm foods and hot drinks will really warm the soul on a cold day. Drink plenty of water because the air will draw moisture out of you when the temperature is below freezing. If you're dehydrated, it's harder for your body to keep you warm.

Following are a few additional tips:

Snowboarding/Skiing:
- Check all hardware on your equipment to make sure it's tight/secure
- Know your own abilities and skill level
- Stay on the slopes that match your skills. If you find yourself on a slope that you can't handle, it's best to take your skis or board off and walk down the side of the slope
- Always stay in control and be able to stop or avoid other people or objects. Remember: Skiers and snowboarders in front of you always have the right of way
- Skiing and snowboarding with a partner is always recommended
- ALWAYS wear a helmet
- Never use alcohol or drugs while snowboarding or skiing

Sledding:
- Sled only in designated areas free of fixed objects such as trees, posts and fences
- Children in these areas must be supervised by parents or responsible adults
- All participants must sit in a forward-facing position and steer with their feet or rope tied to the steering handles of the sled. No one should sled head-first down a slope
- Don't sled on slopes that end in a street, drop off, parking lot, river or pond
- Check all sleds for broken parts, missing parts and splits in wood or plastic
- Never use alcohol or drugs while sledding or while supervising children who are sledding

Facts of Life:
- In 2009 there were 100,359 hospital/emergency room visits for ski-related injuries in the U. S., according to data from the Consumer Product Safety Commission's (CPSC) National Electronic Injury Surveillance System (NEISS). NEISS is a probability sample of U.S. hospitals.
- The National Ski Areas Association (NSAA) reports there were 25 ski-related deaths and 13 snowboarder deaths in the 2009-2010 season in the U.S. This equates to a fatality rate of .64 per million visits. The majority of these 38 deaths were males (18 male skiers and 12 male snowboarders).
- In the 2009-2010 ski season, there were 39 serious injuries in the U.S., which includes paraplegia, serious head injuries and other serious injuries, according to NSAA data. Of those seriously injured, 16 were skiers and 23 were snowboarders. This equates to a serious injury rate of .65 per million ski/snowboard visits.



U.S. Air Force photo by Senior Airman Mark Eidschun

SURVIVAL KIT FOR WINTER EMERGENCIES

MASTER SGT. ANGELO AZANA
28th Test and Evaluation Squadron
Operating Location – Bravo
Davis-Montham AFB, Ariz.

Growing up in a tropical island environment, I was familiar with only two seasons – rainy and dry. The coldest it got was the low 70s. It was 92 degrees, with what felt like 200 percent humidity, when I departed the Philippines. When I arrived at Chicago's O'Hare Airport, the temperature was 16 degrees with a wind chill factor of zero. Bear in mind, the closest I'd ever gotten to freezing temperatures was when I periodically stuck my head in the freezer for 10 minutes to train myself for the impending move to the U.S. However, I was nowhere near prepared to deal with cold weather. Luckily, my father was ready for me with a big woolen coat and a few real-world tested tips to be implemented upon my cold-weather indoctrination.

U.S. Air Force photo by Airman 1st Class Nikiynecole Felder

It took a couple of weeks for my body to acclimate to the colder weather, and I discovered the fine art of layering clothes. As my body got used to the colder climate and temperature fluctuations, I was able to adjust my body's comfort level by simply peeling off or adding another layer of clothing. I also learned that our bodies lose a lot of heat through our head, neck and extremities, so ensuring those areas were covered and warm helped me to maintain body heat. Even now, when I run in cold weather, I keep these body parts warm so I can continue exercising outdoors comfortably.

One of the most useful tips that I learned from my father was to always have an emergency bag in the trunk of the car. His bag had a big empty coffee can that had candy bars, two candles, a box of waterproof matches, a couple of old blankets, a set of mittens, two pairs of wool socks, a set of long johns, a knit cap, a tin cup, two bottles of water and a bag of cat litter. He also had a folding shovel he picked up at a garage sale. He explained that, in an emergency, these items would keep you dry, warm, hydrated and fed until help arrived.

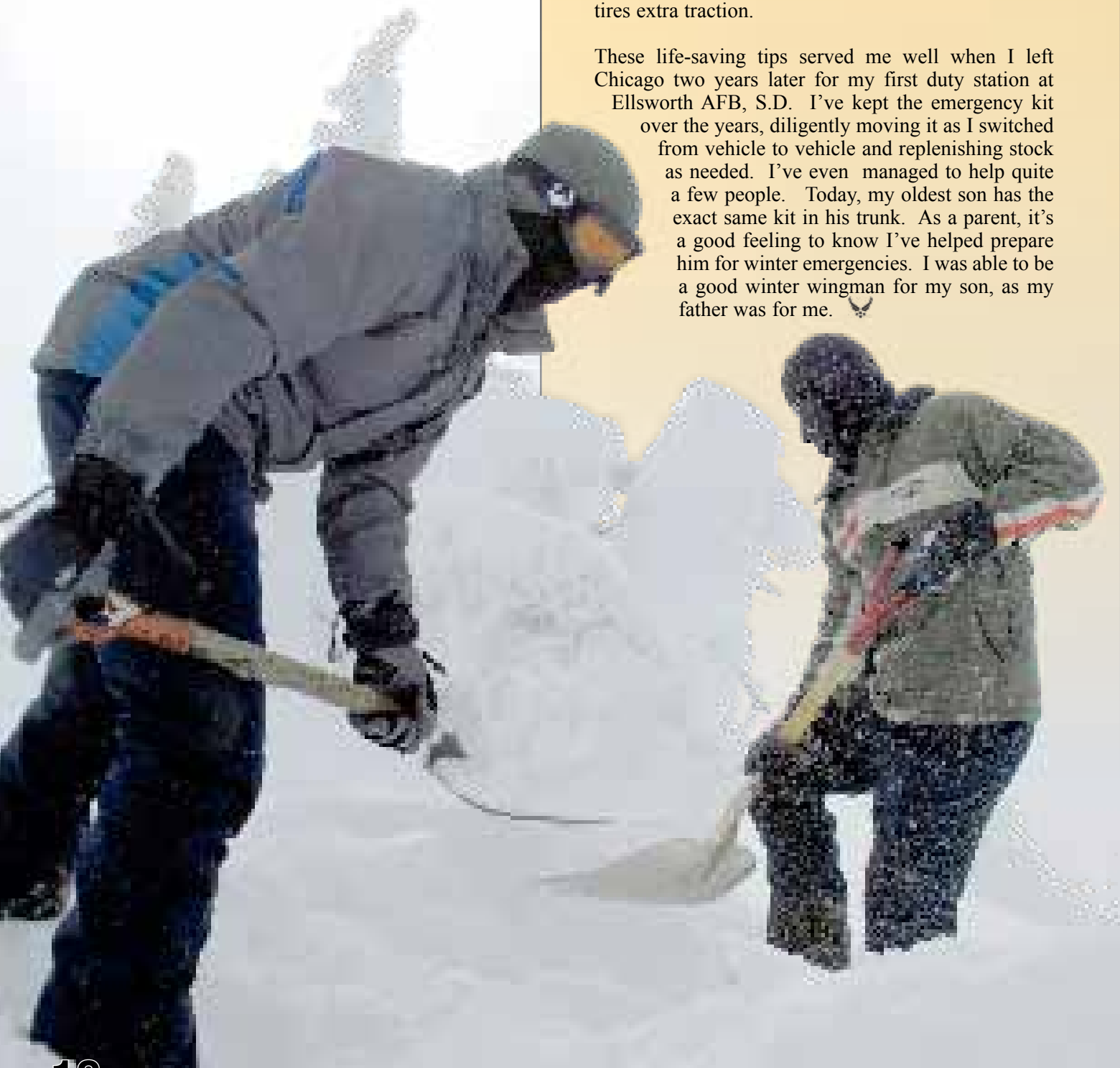
Here are a few ways to use the contents of this survival kit if you find yourself stranded in a snowy environment with help miles and/or hours away. The first rule is to stay in the car. It's the safest place and will provide shelter. If the car won't start, or you want to conserve gas for those really cold moments, use the blankets and extra clothes to give you immediate warmth. Light the candle in the coffee can and you've got a miniature fireplace that gives you additional heat. Crack a window to provide ventilation. The candy bars will

U.S. Air Force photo by Airman 1st Class Kristin High

... BE PREPARED

provide a bit of nourishment and hydration. If you run out of water, pack some snow into the tin cup and set it beside your little fireplace, and you've got water. If the car is still in good running order and you're just stuck, use the folding shovel to dig some of the snow away from the tires and along your path of escape. Then generously sprinkle cat litter under and around your tires and on the path you just dug to give your tires extra traction.

These life-saving tips served me well when I left Chicago two years later for my first duty station at Ellsworth AFB, S.D. I've kept the emergency kit over the years, diligently moving it as I switched from vehicle to vehicle and replenishing stock as needed. I've even managed to help quite a few people. Today, my oldest son has the exact same kit in his trunk. As a parent, it's a good feeling to know I've helped prepare him for winter emergencies. I was able to be a good winter wingman for my son, as my father was for me.



U.S. Air Force photo by Senior Airman Natasha E. Stannard

LARRY JAMES
Ground Safety Division Contractor
Air Force Safety Center
Kirtland AFB, N.M.

Sleepless on Ice

After dinner and a short nap on a cold winter evening, Person 1 (P1) left the family home and drove 15 miles to the site of the new home the family was building. P1 worked on the floors of the new house from about 8:30 p.m. until 2:40 a.m. During the hours that P1 worked on the house, a winter storm delivered a mixture of snow and ice to the surrounding area. P1 left the house at about 2:45 a.m. to go home and get some sleep before work. About half way home, P1 crested a hill to see vehicles involved in a traffic accident blocking the road. P1 tried to brake and maneuver to avoid the vehicles. Road conditions were poor and P1 crashed into the back of the tractor trailer blocking the lane. P1's vehicle went under the trailer and hit the axle. P1 was killed immediately. Alcohol was involved and the individual was fatigued.

Lessons Learned

P1 didn't follow good risk management principles on the night of the mishap. P1 often worked on the new home late into the night and ended up with a long-term sleep deficiency. There are many studies about the need for uninterrupted sleep to provide the rest your body needs. While a short nap might make you feel better, it doesn't provide the deep sleep that your body needs to rejuvenate. P1 also had a couple of drinks while working on the house. The alcohol wasn't enough to be over the legal limit, but enough when combined with the sleep deficiency to slow reactions and alter perceptions. With combined slower reactions, altered perceptions and too much speed for a snow/ice mix on the road, there was little chance that P1 could avoid the truck in the road. Get rest and be alert for unexpected things in your path. Fill the new home with your family, not sad memories.

U.S. Air Force photo by Airman 1st Class Joshua J. Seybert

Deadly ATV Night Ride

After a deployment to Kuwait, Person 1 (P1) decided to travel home for the holidays before returning to work. Following a 24-hour flight, P1 spent the next two days visiting family and friends and enjoying outdoor activities. On the second night at home, the family had a bonfire party in P1's honor. All of P1's friends and family were there, and holiday revelries ensued, along with song and drink. Around midnight, P1 got on an ATV and left the party for a night ride. P1 made an abrupt turn. The ATV flipped and P1 was ejected. The ATV landed on P1's head and back, causing unconsciousness, and the weight of the ATV prevented P1 from breathing properly. P1 was found deceased the following morning. Alcohol was involved and the individual was fatigued.

U.S. Air Force photo

Lessons Learned

P1 failed to follow sound risk management principles in many ways prior to the mishap. P1 was stationed far from home and didn't get to visit often. After a deployment, P1 went home for a visit and tried to make up for lost time with family and friends at the expense of rest. In the three days prior to the mishap, P1 had only 12 hours of sleep and had traveled halfway around the world. On the night of the mishap, P1 drank enough to exceed the legal limit by three and half times. That much alcohol, combined with almost no rest, can result in an inability to control an ATV. P1 wasn't wearing a helmet which meant that P1 was knocked out when the ATV struck the back of the head. Because he was unconscious, P1 was unable to maneuver from beneath the ATV which ultimately resulted in death. You cannot recover time that's already lost. Enjoy yourself when you go home to visit family and friends, but take care not to try to do too much. Remember your family and friends want to see you, not your headstone.

U.S. Air Force photo by Staff Sgt. Gina Chiaverotti-Paige

Engines Off

On a snowy winter morning, Person 1 (P1) reported to duty as a volunteer for the snow removal team. P1 had been a volunteer the entire winter and had been called on to aid in snow removal twice before. P1 was tasked with removing snow from the front of hangar doors with a walk-behind snow blower. After an hour, the snow blower's chute became clogged with snow. To finish and get out of the cold, P1 tried to clear the chute without shutting off the snow blower engine. When P1 reached into the chute, the fingers of the right hand were caught between the turning impeller and the snow blower casing. The end of the index finger was cut off, and the middle finger was severely mangled. There was no indication that alcohol and fatigue were involved.

Lessons Learned

P1 didn't follow sound risk management principles in the moments leading up to this mishap. The snow blower chute had several warning labels telling the operator that the machine had rotating parts and that severe hand injury could occur. It also warned never to clear the chute with the snow blower engine running. P1 failed to heed these warnings, lost part of one finger and severely damaged another. Your hands are wonderful tools, arguably they're the best tools, but they aren't always the proper tools for the job. Don't risk injuries for the sake of time; hurrying through a task always increases the risk that things can go wrong. The snow will come and go, but a lost finger will never come back.

Toe Hunting

Person 1 (P1) and Person 2 (P2) were hunting on a clear winter morning. After several hours of hunting without success, they decided to head for the base. As they got into the truck, P1 decided to unload the rifle. The rifle required the safety to be placed in the Off, or unsafe position, to unlock the bolt. The rifle fired when P1 pulled the bolt back, striking P1 in the right foot. P1 lost mobility in the toe and required several surgeries and months of physical therapy.

Lessons Learned

P1 failed to follow good risk management principles leading up to this mishap. By all accounts, P1 was a safe hunter, with several years of hunting experience and completing the state hunting safety course. But taking a borrowed, unfamiliar gun, on a hunt without becoming acquainted with the full operation, is a mistake. Unloading the gun is something that should have been done long before P1 and P2 were inside the vehicle. It can never be said enough that you should never point a gun in the direction of anything that you don't intend to shoot. Never point a gun at anyone or at yourself. All guns should be considered loaded and ready to fire. If you're going hunting, familiarize yourself with your weapon and follow gun safety rules. Come back with the game, not as the game.

U.S. Air Force photo by Keith A. Wright

Safety and Occupational

TERRY A. YONKERS
Assistant Secretary of the Air Force for Installations, Environment and Logistics
Washington, D.C.

Occupational Health and Safety is something all of us – as Airmen – need to take seriously. These words should not just be a slogan – they have to be a way of life, part of what we do every day – on or off the job! Moreover, being a wingman means that we look after each other – so, it's simply not enough to be self-conscious about our own health and safety. When we see a fellow Airman or family member doing something inherently dangerous – we need to step in – we need to take action to prevent a potential accident or death! We need to be mentors.

On a programmatic level, the Air Force has implemented Environment, Safety, and Occupational Health (ESOH) management systems and these have been in place for many years. And while we continue to refine these management systems, they're based on four very simple steps:

1. Plan
2. Do
3. Check and then
4. Act

This process and these steps have equal applicability to any job – whether it's tearing down an airframe in a depot or replacing an electric light switch at home. The planning step is one of the most important – because, while you're planning the job you likewise need to consider the potential health and safety consequences. For the light switch example, do you have the right tools? Is the breaker to the switch shut off? Is the working surface (both ground and wall) free of obstacles? Have you read and do you understand the replacement instructions?

ESOH management systems allow us to approach any job with the same rigor, precision and deliberation. Moreover, they help us track our ESOH performance across the Air Force and assess trends – improving on those areas/processes that need attention. They help us comply with the numerous environmental, health and safety regulations. They help us keep our workforce healthy and safe.

In 2000, Executive Order 13148, *Greening the Government through Leadership in Environmental Management*, tasked each executive agency to develop an Environmental Management System (EMS) – a strategic and systematic approach to meet our environmental responsibilities. In 2001, the secretary and the chief of staff jointly signed a memorandum directing Air Force-wide implementation of an environment, safety and occupational health management system (ESOHMS). The intent – to ensure commanders were provided a holistic view of these interdependent, yet separately managed and funded programs, and then take action to fix identified problems. Unfortunately, only the environmental portion of ESOHMS was fully implemented because the programmatic driver was E.O. 13148 which singularly addressed environmental management.

Now, a decade later, the Office of the Secretary of Defense is revising Department of Defense Instruction 6055.01, *DOD Safety and Occupational Health (SOH) Program*, to include a mandate to implement a SOH management system (SOHMS). A SOHMS sets the policies and processes for joint decision making – with both managers and employees involved in evaluating the worksite and risks, considering options and implementing the solution.

In anticipation of DOD's effort, the Air Force is revising Air Force Policy Directive 90-8, *Environment, Safety, and Occupational Health*. Our vision: **to be a world leader in ESOH management - to provide better care for our Airmen and our environment - to meet our mission in air, space and cyberspace.** Our goals and priorities: Comply – with all ESOH legal obligations, Reduce risk – ensure availability of workforce, natural and manmade resources by effectively managing ESOH risks and Continuously Improve – instill a culture of continuous ESOH improvement. And while we have achieved significant reductions in accidents and mishaps – our goal has to be zero – zero mishaps, zero deaths, zero violations.

The management system approach is based on strategic policies and processes implemented with local instructions and documentation with a view to foster

Health Management Systems

continuous improvement. Fixing noted deficiencies is only the first step. Identifying the root cause of a deficiency or hazard is essential to prevent recurrence and reduce risk of injury or illnesses to our workforce. The Air Force already has the key elements of a SOHMS in place. We have the policies and processes along with the ESOH Council structure to monitor performance. The challenge will be to more consistently implement these policies and processes and effectively measure SOH performance to identify strategic improvement opportunities. This will be a focus area for the Headquarters Air Force ESOH Council this next year.

One very successful program that embodies the ideals and application of a SOHMS is the OSHA Voluntary Protection Programs (VPP). Several Air Force installations are well down this road and have reduced their injury and illness cases by as much as 50 percent. These results haven't been achieved in isolation – but through strong partnerships and active participation by managers, union representatives and every member of the workforce. Effective wingmen help eliminate hazards before they result in injury or illness. Recommendations for process improvement increase our effectiveness and efficiency. Your actions can truly affect your safety and health and that of all members in the workplace.

For those organizations pursuing SOH excellence through VPP, you are well ahead of the game. As a general Air Force policy, we encourage VPP at every air base and work site. A voluntary approach to health and safety embraces the wingman spirit, it encourages us to find and implement collective commonsense solutions to problems – across the workforce. This is not, and cannot be, viewed as just the domain of the supervisor or manager!

All of us have a part to play to ensure the safety and health of the workforce – on and off the job. While implementing a management system to SOH has proven results, the true breakthroughs will occur when every Airman executes his or her wingman responsibilities – when each one of us makes safety and health a priority and takes the initiative to act when we see unsafe conditions. A healthy workforce is paramount to meeting our national defense mission.

Tactical and Safe: Going

CAPT. ERIC G. JOHNSTON
15th Airlift Squadron
Joint Base Charleston, S.C.

Heavy aircraft weapons officers talk about the first approach being the most tactical. This makes sense. The enemy has only a couple of minutes to get all its weapons ready, target and fire while the aircraft is close to the ground. If you ever have to go around, the enemy then has time to gain the upper hand as an aircraft maneuvers around the pattern, setting up for a second attempt.

Air Mobility Command pilots especially hate to go around: it's loud, aircraft tend to fly around low and slow, their silhouette dramatically stands out against the sky, and all that fuel saved on the trip over goes out the tailpipe.

Then, after all the planning and a perfect descent, something happens … you see it develop and you're out of options. Going around is clearly the safe thing to do, and it clearly should be done, but whether it's pride, frustration or concern for what may happen on the next pass, pilots want to avoid it if possible.

Significant research concerning stabilized approaches and the results of unstable approaches suggests a pilot's threshold for accepting a less-than-perfect approach at the end of a long or complicated mission downrange may be a little higher.

One can assume this is due to a briefed or perceived threat around the airfield or the "get-home-itis." Sometimes after flying for six or seven hours, avoiding Hazardous Air Traffic Reports and active airspace, battling bad radios, being vectored around in the mountains and dust storms, then finally arriving on final, the only thing on a pilot's mind is to land, shut down and take a break before turning around to do it all over again on the return flight.

But, we can't think that way. We can't have our bodies on a 10-mile-high steep

U.S. Air Force photo by Staff Sgt. Taylor Worley

Around and Getting Out

final and our minds in the chocks. We should be pre-sprung to go around because, as Murphy would have it, when we most need that situational awareness and muscle memory to kick in, it won't be there.

Experience has heightened my sensitivity to the imminent, unplanned go around, and I hope it sticks with me for the rest of my flying career.

Once, saved by a safety check on short final, we realized the flaps didn't quite make it to the planned and briefed position. On another mission, we lost contact with the tower as we swapped between radar approach control and tower channels in the radio, and the frequency dropped out, not twice, but three times; we decided not to land without clearance.

Luckily, both times, the sky was clear, and the visibility was better than average. Both times, we had very experienced crews, and both times we caught the enemy napping. I will admit though, after buzzing the huts at the approach end low, heavy and with the engines roaring, the second approach was more worrisome than the first.

As ATC gets more and more robust in the AOR, and as traffic volume increases, we find ourselves sequenced in instrument arrivals and departures. Tactical arrivals are few and far between with vectors to the instrument landing system becoming the norm, but we must continue to fight complacency and keep mindful of visual flight rules as well as remotely piloted traffic.

So what can we do to make transitions through the more dangerous airspace safer and more tactically sound?

In my first case, I should've confirmed the flap setting as soon as they were done moving rather than at our 500-foot call. In the second case, we tried but didn't regain contact until we changed radios, but as a crew we decided in that busy pattern and ramp situation, going-around had been the right call.

We are effectively getting the mission done; our mission-focused safe operation is key to our success. I'm sure we've all heard it before but it bears repeating that "slow is smooth, smooth is fast." So keep it smooth and safe out there, Air Force.

There I Was ... Lightning

ANONYMOUS

As a young captain, I was deployed to Operation Enduring Freedom, flying the new U-28A. The typical Afghanistan weather for summer to early winter is categorized by high winds during the day and sporadic thunderstorms in the late afternoon. This is locally referred to as the 120 Days of Wind.

I sat one night as the co-pilot to one of my instructors on a simple mission from Point A to B. There were a few puffies along our intended route, but no major weather phenomenon on the radar. We flew at 24,000 feet over a large mountain chain and stayed well clear of any clouds or possible storms. Flying with our night vision goggles, we saw an inordinate amount of static discharge and some intermittent St. Elmo's fire, despite staying clear of any thunderstorm activity. Sitting in the proverbial state of fat, dumb and happy, I didn't think too much about the current weather.

All of a sudden … BAM!! The plane felt like it hit severe turbulence. The pilot and I were thrown up and forward in our seats; our heads hit the top of the aircraft and knocked off our NVGs. The cockpit went completely dark, and the communication system failed. We looked at each other, then toward the back to confirm the passengers were OK. While obviously startled, the men wearing seatbelts were fine. The only one not wearing his seatbelt quickly remedied the situation, no worse for wear. The electrical system quickly came back online and restored power to our navigation and communication systems. After a quick check of all our systems and stability, we surmised that we must have been hit by lightning, but that we would be able to safely fly home to finish the mission. With no suitable place to land within 60 nautical miles, it was our only real option. The plane was quiet again, and I continued an impromptu functional check flight. Then we encountered our next potential problem. While advancing and retarding the throttle, we heard and felt the engine whine and shutter slightly. Despite my concerns, the rest of the mission proceeded uneventfully. We flew the remaining 50 nautical miles back to our destination and shut down.

We debriefed with the pilot and maintenance, then checked every square inch of the plane for external damage. We couldn't find any sign of damage.

I hit the books soon after to find an explanation for what could have happened. Our initial guess of a lightning strike may well have been an electrostatic discharge. Air Force Handbook 11-203, Vol. 1, *Weather for Aircrews*, described everything we encountered and the weather to match. Electrostatic discharges are very similar in most respects to lightning, with one exception. These are caused by the aircraft itself. Charges build up on the aircraft when flying through any form of precipitation, dust or even turbulence. The aircraft's electrical field then interacts with charged areas of the atmosphere, resulting in a discharge. After further discussion, and the lack of evidence of an

Photo illustration by Keith A. Wright

or Electrostatic Discharge?

U.S. Air Force photo by Edward Aspera Jr.

actual lightning strike, we decided that we had, indeed, encountered an electrostatic discharge. I created the safety report for my leadership and briefed the rest of the deployed members on the events of the evening with a warning of similar situations they may encounter.

I was slated the next day to fly a similar mission in the same aircraft. After initial inspection, maintenance assured us the plane was OK and that it was no worse for wear. We heard and felt the same indications as the night prior following the initial engine run. For the first time in my short operational career with the 319th, I gave back to maintenance an aircraft that I claimed was broke before I even departed. Following further evaluation of the engine, maintenance found several bearings and parts welded together. They estimated the engine would've failed within the first hour if we had continued on a typical power setting for that mission. The engine was replaced within two weeks, and the plane was flying shortly thereafter. The amount of damage incurred by the event isn't typical of an electrostatic discharge, but then we can't rule out the possibility that we were actually struck by lightning. Either way, my luck bag is a little lighter, and my knowledge and experience bags are a little heavier.

WELL-HANDLED

CAPT. ERIC BARADA
40th Airlift Squadron
Dyess AFB, Texas

Twenty minutes after takeoff, the hydraulic pressure dropped below normal and turned our mission into anything but routine.

Of the C-130's three hydraulic systems, the utility is arguably the most important since it powers the flaps, half of the flight controls, landing gear, normal anti-skid brakes and nose wheel steering. Our hydraulic reservoir was empty.

The pilot confirmed she had the controls while the co-pilot declared an emergency and got vectors back home. We covered initial procedures and analyzed the emergency. The navigator got the Dash 1 manual out after confirming our heading and altitude. One loadmaster communicated to the passengers while the other removed armor to steward emergency egress. The engineer went back to the cargo compartment.
We circled the field on night vision goggles. After accomplishing the emergency checklist, we covered every possibility we could think of while burning down fuel. We lowered the flaps early in the emergency to ensure a normal landing. The landing gear showed down and locked; however, there was no guarantee it wouldn't collapse. The nose wheel steering wouldn't function, which could cause us to depart the runway. Emergency actions for both of these were covered by each crewmember.

At best, this would be a normal 50 percent flap landing. At worst, our gear would collapse, and the props would hit the ground. We notified tower of our intentions and accomplished normal checklists to land. The pilot set the airplane down softly to give the landing gear a fighting chance and rolled out to a stop on the runway. Everyone exhaled a sigh of relief. Maintenance found a leak between engine 1 and 2 – not something that could be found during routine inspections.

Although we had an uncommon problem, this was as close to a by-the-book as a C-130 emergency can get. How we used crew resource management is worth noting.

U.S. Air Force photo by Senior Airman Stephen J. Otero

FLIGHT EMERGENCY

Our crew had been deployed almost two months and had gelled into an experienced team. We knew we were approaching the time in the deployment when complacency is common for C-130 crews. We consciously fought this problem by applying discipline to pre-briefs and checklist items. Sometimes that took real work.

Communication and delegation were vital. When the navigator went heads down to read the Dash 1, he told the pilot exactly where we were headed and any obstacles in our flight path. The engineer did the same for the co-pilot to switch fuel tanks for fuel balancing. The loadmasters enlisted the help of passengers to remove armor covering the doors. The good communication and thoroughness were being constantly attacked by fatigue.

Other traits that helped us succeed were a deep knowledge of how the systems work and maintaining a respectful, honest crew. The aircraft commander set the tone. Crewmembers weren't hesitant to say what they thought, but it was tempered with respect. This came from taking the time to learn each other's job.

This emergency could have been much more difficult. We could've been too low on fuel to talk through the possibilities, or the weather could've prevented easy navigation over the airfield. The leak could've occurred inside the airplane, creating a health problem for everyone on board. These are the scenarios we should consider when things go well in order to build knowledge for the next emergency.

U.S. Air Force photo by Staff Sgt. Chad C. Strohmeyer

CALL ME ON IT!

MAJ. RYAN S. KENNEDY
58th Operations Support Squadron
Kirtland AFB, N.M.

"I didn't think we had done the checklist, but I didn't want to say anything."

It was a typical day sortie in the HC-130. We had done a low level, passed some fuel and provided training for the local HH-60s, accomplished airdrops, and then flew the pilot proficiency portion of the sortie. I was the instructor pilot tasked with completing the unit indoctrination for a newly-arrived instructor pilot (IP). I had been at the squadron only about four months myself and was just becoming comfortable with the local flying conditions. Except for the student loadmaster who had just spoken up, all the other crewmembers were mission-qualified instructors.

The flight was uneventful up to the point of getting instrument approaches for the IP undergoing indoc, as required by the syllabus. We'd worked with the approach controller to get as many different approaches into the field as possible. It was busy in the afternoon and meant we were vectored for what seemed like forever and then told to keep the speed up and configure late. The two hours of instrument work had apparently been enough to throw the crew out of our normal rhythms for checklist accomplishment. Our final approach to the full-stop landing was the last of quite a few, only this time neither of us piloting the aircraft remembered to check that the Before Landing Checklist had been called complete, and unfortunately the flight engineer missed the call, too. Luck was with us that day and, unlike several Air Force crews before and since, we had actually accomplished all the steps. That alone is what prevented a learning experience from becoming a mishap.

Once on the ground, the flight engineer realized he had never called the checklist complete. It was when we were in the debrief that the student loadmaster made his surprise statement, and I realized there had been at least one person on the airplane who could've prevented the entire discussion. The reason he hadn't spoken up is in the basics of crew resource management (CRM) taught in every refresher. As the junior member of the crew, he thought the instructors obviously knew more than he and he was afraid to speak up. In short, he had given us all halos.

Although no damage or injury occurred that day, I have

U.S. Air Force photo by Senior Airman Elizabeth Rissmiller

often used this example as a teaching tool for CRM and the whole-crew concept. It's up to instructors and higher-time mission crewmembers to ensure that the young aviator has been empowered to speak up if there's something out of the ordinary. Many of us assume that since that's what's taught in the standard CRM courses, those young aviators are empowered. My experience that day taught me that's not true. Whether on a crew airplane with a young enlisted troop or in a formation of fighters with a brand new wingman, it's the responsibility of those who've been flying for a while to point to the young guys and tell them face-to-face, "If it's dumb, dangerous or different, you call me on it." If our response is that we meant to do what we were doing, it's our further responsibility to explain ourselves fully in debrief so we don't inadvertently prevent that crewmember from speaking up in another time or place and preventing a real mishap. I'm just glad that the day that student loadmaster decided not to say something my gear was actually down, and I pray that next time I screw up there's someone willing to step out and call me on it.

"If it's dumb, dangerous or different, you call me on it."

U.S. Air Force photo by Staff Sgt. Tony R. Tolley

Safety

The stigma that surrounds a safety office and its staff is often that of naysayers or un-cool nerds. We're the crushers of fun or sultans of queep in many squadrons, but there's no place for that kind of culture in the safety world. That kind of culture can lead to people ignoring safety publications and safety boards, daydreaming during safety briefs and even disregarding the rules created to keep people safe. The goal should be to promote a culture of solid fundamentals through positive reinforcement.

When I became the squadron flight safety officer (FSO), our culture was on the fence. The base had made some safety and operational risk management changes that most people thought didn't make sense. Two examples were the new operational risk management (ORM) sheets and a safety program relegated to the shadows. On paper, we complied with all published guidance, but this compliance was superficial. Preflight ORM sheets were filled out with no extra thought or briefing time dedicated to the elevated risks. But the forms were turned in, as required, for all 350 sorties per day.

About the same time I got my appointment letter, the standardization and evaluation office got a new manager for operational risk management and crisis risk management programs, and the squadron commander became more involved with the safety program. He wanted an aggressive approach to let people know what was going on.

First, the ORM and crew resource management (CRM) manager realized our preflight ORM sheet wasn't being used with the intent that higher headquarters desired. Second, the squadron commander wanted to create a publication to highlight unusual occurrences in a humorous manner, yet still provide insight to some successfully handled in-flight emergencies and ways pilots could have handled them better. These two new directives lead to a two-pronged approach: to use humor to turn the safety culture around and to promote air discipline by emphasizing the importance of ORM during the preflight brief.

As a young lieutenant, I didn't have much experience with different safety cultures so I sought out experienced instructor pilots to discuss ways that they had seen safety promoted in their former units. A common trend was a simple one-page publication that poked fun at silly mistakes of a few as a learning tool for the rest. This bar talk became the spring board for my publication.

Our squadron already had an unusual-occurrence log

U.S. Air Force photo by Tech. Sgt. Jeffrey Allen

where pilots documented everything from in-flight emergencies to student air sickness. The safety unit from the other wing on base also published a monthly list of all ground mishaps so that safety officers can look for trends and help prevent future mishaps. Using both sources of information, I applied a 10-percent-truth rule and embellished the stories to create the Squadron Interesting Report. Once a month, I made the publication available in all the flight rooms and posted them at urinals and toilets around the wing.

The response was fantastic. The Interesting Report had everyone's attention at least a couple of times a day. These funny stories immediately let the squadron know that our culture wasn't going to be safety as usual. With this new credibility, I was able to attack the more serious problem of the disregarded ORM sheets.

It began with a push from the instructor pilots. I met with each flight's IPs before the morning brief to discuss the new goals. The main objective was to change the preflight conversation: "What's your ORM score? OK, it's in the green, let's press." I explained that the question to be asked should be, "Why is your score elevated? OK, let's talk about the common challenges of fatigue/weather/birds/ etc., and how we can mitigate those risks." Through face-to-face meetings, I was able to convince IPs that simply looking at overall scores was a way to prevent catastrophic events, but it was not doing anything to help the students' overall performance. Using fatigue as the example, I explained that when a student makes sleep deprivation a one-minute discussion of how normal habit patterns break down when we are tired, it would be beneficial to explain how we need to concentrate on checklist discipline as a way to help mitigate that one particular elevated risk and increase his or her performance and make the sortie safe. After all, our goal is to train smart aviators who are able to constantly assess increased risks and how best to combat them.

Ultimately, my main goal as an FSO was to maintain my Bro status with comedy, yet increase awareness of deficiencies in our daily operations. While I'm not saying this approach will work in every environment or every squadron, it was very successful in my squadron. People still look forward to the monthly Interesting Report and are now more open to listening to suggestions and policies that come from the safety office.

CAPT. ANDREW WEBSTER
517th Airlift Squadron
Elmendorf AFB, Alaska

Focus on

It's easy to dismiss ground operations as one of the easiest and safest portions of a flight. That isn't always the case, as evidenced by the two recent Airbus A380 taxi incidents. In the first incident, an Air France A380's wingtip struck the tail of a Comair CRJ 700 Regional Jet, spinning it around on the taxiway. In the second incident, an A380 dragged its wingtip through a building while taxiing prior to the Paris Air Show.

Some factors that cause ground mishaps are aircrew becoming complacent, aircrew feeling rushed during ground operations and lack of mission planning.

Ground operations can become routine and mundane when operating at your home base and familiar airfields. Pilots can become complacent after using the same standard taxi routes hundreds of times. Also, wingtip clearance can become an afterthought if a pilot gets accustomed to operating at home base with painted wingtip clearance lines. Problems can also arise quickly when operating at an unfamiliar, busy airport. Weather and low visibility further complicate the problem.

Being rushed during ground ops can certainly cause problems. Aircrew will try to get ahead and accomplish other things such as checklists or programming the flight management system. This might be fine when in a familiar, uncongested area, but all crewmembers should devote their attention to taxiing and looking outside the jet when in busy, congested areas.

Ground operations are often left out of mission planning, but they should definitely be discussed when flying to an unfamiliar or busy airport. Something as

U.S. Air Force photo by Airman 1st Class Stephanie Rubi
Photo illustration by Keith A. Wright

simple as looking at the airfield diagram and discussing the likely parking areas can avoid problems. Other mission planning factors that should be discussed include maximum number of aircraft that can be parked on the ground and taxiway width.

During my C-17 pilot initial qualification (PIQ) check ride, we were tasked to drop off a fire truck at Henry Post Army Air Field, which is pretty non-standard for an Altus PIQ check ride. During mission planning, the instructor pilot (IP) printed out the airfield diagram, and we went over our likely taxi route. We checked that we had our minimum 50 feet of taxi width, which we barely had, and discussed our most likely parking spot. On the check ride day, we were rushed due to a 45-minute window in which we had to drop off the fire truck. After the IP performed an assault landing, we turned off the runway to a 50-foot taxiway. Even though that is our minimum, it looked like the taxi lights were going to be pretty close to the main landing gear. Our IP made the call to stop and asked the loadmaster to look out the troop doors to check our taxi clearance. We ended up being good by a couple of feet, but I learned a valuable lesson that day: If taxi or wingtip clearance is in doubt, no matter how rushed you are, you should stop and have a wing walker or crewmember check. Ground incidents, such as dragging a wingtip through a bread truck, can happen quickly and can end up being costly.

Ground incidents are completely avoidable if aircrews devote the amount of attention to ground ops that is warranted. Avoiding complacency, keeping attention outside the jet and mission planning can help avoid these incidents.

Ground Ops

The Aviation Well Done Award

... presented for outstanding airmanship and professional performance during a hazardous situation and for a significant contribution to the Air Force Mishap Prevention Program

Lt. Col. Duke Pirak
Lt. Col. Jeremy Baenen
142nd Fighter Wing
Portland Air National Guard Base, Ore.

The Aviation Safety Well Done Award is presented to Lt. Cols. Duke Pirak and Jeremy Baenen, 142d Fighter Wing, Portland Air National Guard Base, Ore., in recognition of their exceptional airmanship. On Nov. 9, 2010, while performing basic fighter maneuvers, Pirak's aircraft shuddered with an associated audible "bang" and the majority of warning lights illuminated on the master caution panel. With the aircraft vibrating erratically, he commenced an immediate descent and scanned all aircraft instrumentation for abnormalities. He moved the throttles to test for accurate tachometer indications; however, the other engine gauges didn't respond, and he assessed the aircraft had a double generator failure. Pirak coordinated with Seattle Center to communicate to Baenen since Pirak's No. 2 radio had also failed. He completed the Double Generator Failure checklist, restoring the right generator, but failures still existed, inconsistent with single generator operation. Pirak's basic instruments for instrument meteorological conditions flying plus all associated backup systems had failed, forcing him to rely on his wingman, Baenen, for the return to base. Baenen flew an outstanding approach through heavy rain, icing and moderate turbulence while Pirak remained on his wing. Baenen and Pirak visually acquired the field at 900 feet above ground level and performed a lead swap allowing Pirak to land first. Their exceptional performance and commitment to safety reflect great credit upon themselves, the Air National Guard and the U.S. Air Force.

Capt. James Kotowski
13th Expeditionary Fighter Squadron
Joint Base Balad, Iraq

The Aviation Safety Well Done Award is presented to Capt. James Kotowski, 13th Expeditionary Fighter Squadron, Joint Base Balad, Iraq, in recognition of his exceptional airmanship. On Nov. 5, 2010, Kotowski was 3.5 hours into a night combat mission over southern Iraq when his F-16 suffered a catastrophic oil system malfunction. Realizing that his engine could seize at any minute, he immediately pointed his aircraft toward Forward Operating Base Delta which was the nearest divert. Despite the heavyweight configuration, he decided not to jettison his stores over a populated area, avoiding unnecessary casualties. Kotowski climbed his aircraft to a sufficient altitude to perform a difficult simulated flameout approach and performed a flawless landing utilizing night vision goggles on a poorly lit runway. He taxied clear and informed his flight lead not to land due to the large amount of debris on the airfield. Kotowski then shut down and saved his aircraft per the checklist while waiting for the Quick Reaction Force to arrive. His correct and timely actions during combat operations ensured the safe recovery of a multi-million dollar combat aircraft, while preventing damage to a second aircraft. The exceptional performance and commitment to safety of Kotowski reflect great credit upon himself, Pacific Air Forces and the U.S. Air Force.

Tech. Sgt. Peter Mitchell Jr.
345th Airlift Squadron
Keesler AFB, Miss.

The Aviation Safety Well Done Award is presented to Tech. Sgt. Peter Mitchell Jr., 345th Airlift Squadron, Keesler AFB, Miss., in recognition of his exceptional attention to detail and initiative. On Oct. 22, 2010, Mitchell was detailed as part of a two-man team to inspect a C-130J with damage on the horizontal stabilizer resulting from a bird strike. Rather than simply remove and replace the damaged part, Mitchell took advantage of the opportunity and inspected the interior of the stabilizer, going beyond the normal requirements. During the inspection, he discovered several improper hardware pieces and loose connections and decided to extend his search, to include the other side of the stabilizer. Further exploration revealed anomalies throughout the areas inspected. To complicate the situation, the technical data was incomplete, vague and incorrect in one place. Mitchell relied on his instincts and requested further research until the complete situation could be fully analyzed. His initiative led to a base-wide inspection and eventually evolved into a Time Compliance Technical Order. Mitchell's actions also led to correcting and repairing numerous such deficiencies throughout the Air Force C-130J fleet. His professionalism and actions may prevent serious equipment failure and loss of life. Mitchell's exceptional performance and commitment to safety reflect great credit upon himself, Air Mobility Command and the U. S. Air Force.

Staff Sgt. Jonathan R. Perot
345th Airlift Squadron
Keesler AFB, Miss.

The Aviation Safety Well Done Award is presented to Staff Sgt. Jonathan R. Perot, 345th Airlift Squadron, Keesler Air Force Base, Miss., in recognition of his exceptional attention to detail and initiative. On Oct. 22, 2010, Perot was approached by two other crew chiefs who had discovered anomalies inside the horizontal stabilizer of a C-130J. Perot was approached due to his reputation as an expert in technical data research. During his investigation, he discovered several inconsistencies in the vague and incomplete data. Rather than simply accept these initial results, Perot's expansive knowledge and experience drove him to look further. He referenced data directly from the manufacturer, including some for other C-130 variants. The information he discovered made it clear that some of the insulation inside the horizontal stabilizer was contradictory to the manufacturer's own specifications. His initiative led to a base-wide inspection and eventually evolved into a Time Compliance Technical Order. Perot's actions also led to correcting and repairing numerous such deficiencies throughout the Air Force C-130J fleet. His professionalism and actions may prevent serious equipment failure and loss of life. Perot's exceptional performance and commitment to safety reflect great credit upon himself, Air Mobility Command and the U. S. Air Force.

U.S. Air Force photos

ENVIRONMENTAL SAFETY AND OCCUPATIONAL HEALTH IN ACQUISITION -

RODERICK A. EARL
Air Force Operational Test and Evaluation Center (AFOTEC)
Kirtland AFB, N.M.

A lot of people ask about the difference between developmental testing and operational testing. Simply put, developmental testers test new weapon systems as they are designed to be, where operational testers test new weapon systems as they really are. AFOTEC tests these new weapon systems in a battlespace environment that's as realistic as possible and practical while using live, virtual and constructive simulation. The purpose of operational test activities is to provide fact-based, decision-quality information for decision makers to make informed decisions. These evaluations focus on three key aspects:

- Effectiveness
- Suitability
- Mission capability

As safety professionals, the developmental and operational safety communities need to work together more efficiently to ensure risk-decision authorities get the operational truth in order to make informed decisions at critical milestones. Of the many guidance directives that cover this topic, the big guy is Department of Defense Instruction 5000.02, *Operation of the Defense Acquisition System,* and, in our case specifically, Enclosure 12, *System Engineering*, which contains Environmental Safety and Occupational Health (ESOH). There are several ESOH requirements in the DODI, but I'll draw your attention to the one titled, "Shared Responsibility." If you've read the instruction you know it states up front that it's the program managers' responsibility for almost everything … OK. Got it, but the reality is that they need help from the safety community!

In a fiscally restrained economy, system safety professionals on both development and operational sides need to become more integrated, working with each other earlier on, to make sure we, as an Air Force team, succeed. This isn't about who's responsible for what paragraph or who gets the credit, but about making sure the warfighters get the weapon systems they need to complete the mission and get back home safely. There are no other systems in the inventory that cross all boundaries and have the potential to put mission success at risk like space systems can.

As safety professionals, especially in the space arena, we must ensure we provide decision makers timely and accurate safety, hazard and risk information early and often, so they can make informed, prioritized decisions.

Safety professionals advise senior leadership and provide options, and the commander makes the call whether to accept the risk. We must work together as a community to ensure we provide commanders options that are timely and accurate and not wait until the system gets so far down the acquisition road that commanders have no choice but to accept an unacceptable level of safety or mission risk.

This is even more critical for space systems. Unlike an F-35 Joint Strike Fighter or an F-22 Raptor, once the space system is on orbit there is no return-to-base option to fix an anomaly. We need to ensure all developmental and operational safety issues are well understood and accepted at the appropriate levels. This means we need early and frequent communication between developmental, operational and mission assurance teams for the warfighters to win. Safety and

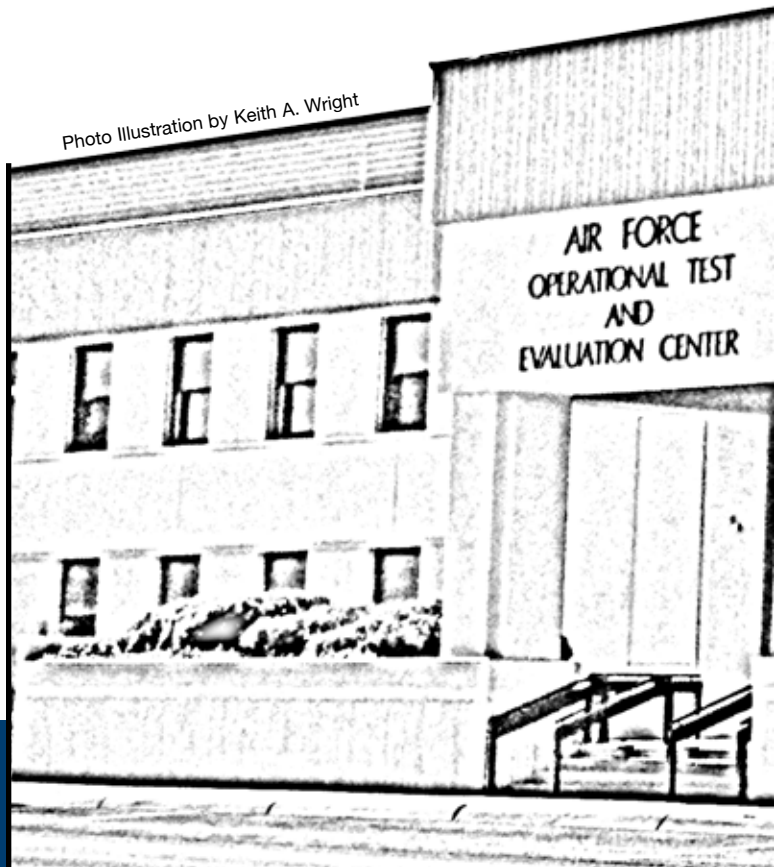


Photo Illustration by Keith A. Wright

HELPING DECISION MAKERS PRIORITIZE LIMITED RESOURCES

mission assurance communities need to join forces to ensure any accepted safety risk doesn't turn into an unacceptable mission assurance risk. We can't afford communication gaps between our communities that could potentially result in a loss or degradation of mission assurance; that's not acceptable, especially in today's war posture and budget deficit environment.

As operational safety testers, we strive to continually build bridges and get in earlier in the acquisition process to help our collective team identify potential shortfalls so we can correct them early at less cost and with minimum impact on schedule and performance. As an operational testing safety professional, I offer my hand to the developmental safety and mission assurance communities so that we, as a team, can work together to become more efficient as a safety-acquisition community and get the most effective, suitable and mission-capable systems fielded for our warfighters while being fiscally responsible.

The Air Force Operational Test and Evaluation Center (AFOTEC) was activated Jan.1, 1974, as a direct reporting unit to the Air Force chief of staff as a result of criticism of weapon system performance during the Vietnam War and congressional and DOD push for acquisition reform. AFOTEC is responsible for the independent test and evaluation of weapon systems procured in the Air Force acquisition system. AFOTEC doesn't test all Air Force programs but is mandated to test the larger dollar programs and all programs under Director of Operational Test and Evaluation (DOT&E) oversight.

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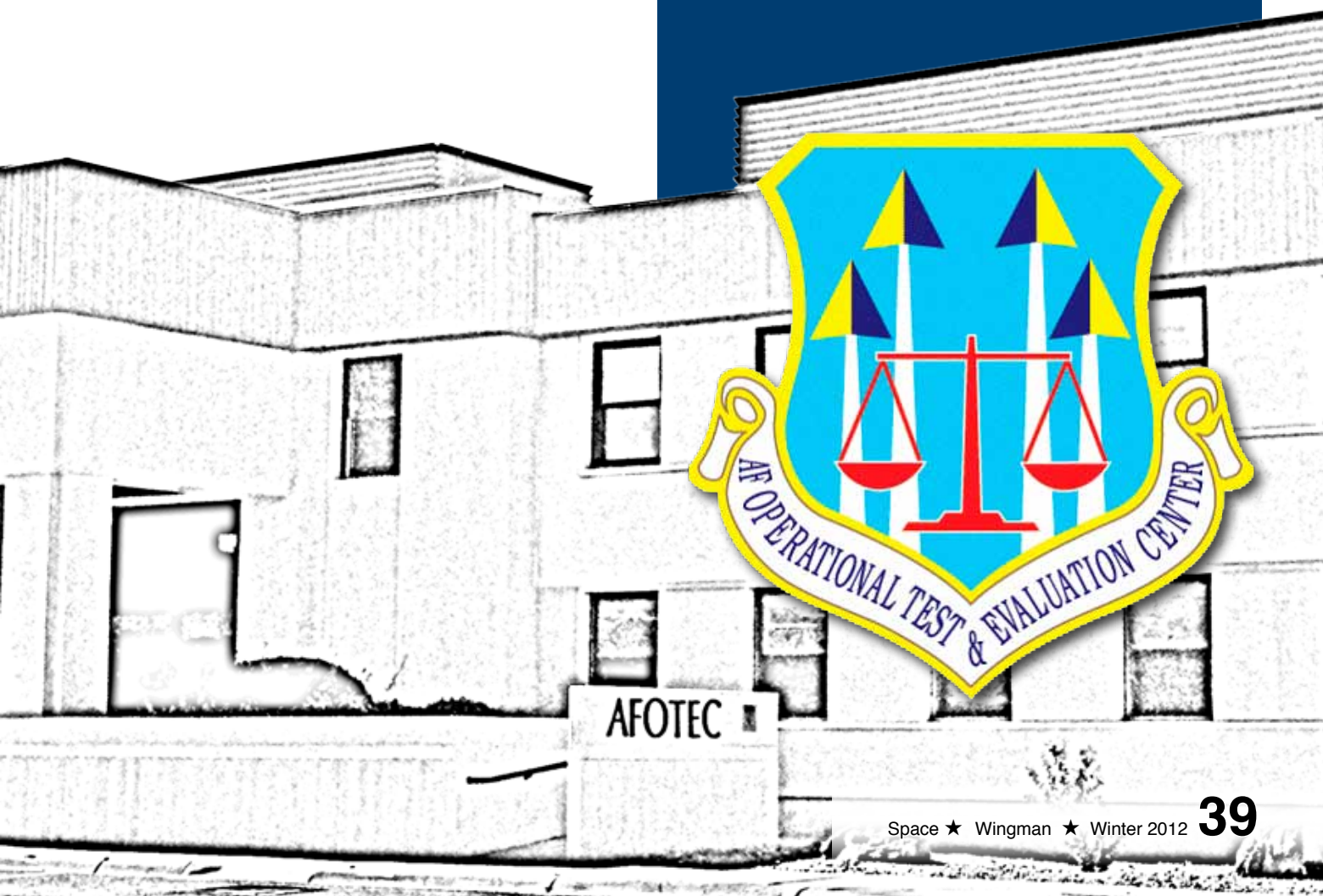


The Raccoon

JOSEPH FURY
Launch & Range Systems Directorate Contractor
Headquarters Air Force Space Command
Peterson AFB, Colo.

We put a lot of effort into making space launch operations safer by identifying hazards and eliminating, controlling or managing them. Some mishaps occur when there's an event or chain of events that we haven't previously considered. The following series of events actually happened and almost impacted our assured access to space.

Background
The Titan rocket used two large strap-on solid rocket motors that weighed 542,700 pounds apiece, and each generated 1.4 million pounds of thrust. These nine-story tall motors arrived at the launch base in cylindrical segments that were 10 feet tall and 10 feet in diameter. They were inspected and stored in the Receipt, Inspection and Storage (RIS) Building. These segments were assembled into the nine-story tall motors. The RIS Building could contain up to 1 million pounds of solid rocket propellant. Of course, smoking in or near the building was prohibited. In fact, spark or fire-producing devices, such as matches or cigarette lighters, were not allowed in the building. There was a guardhouse at the entrance to the enclosed RIS area. A raccoon had frequented that area for two weeks. One quiet evening at about 10 p.m., the departing guard told his replacement that they had a "tug of war" with the raccoon.

Sequence of Events
At 10:20 p.m., the guard was bitten by the raccoon and the chain of events began. At 10:30 p.m., other guards responded to allow the bitten guard to go to the

Photo by Dennis Spotts

Photo Illustration by Keith A. Wright

and the Titan Rocket

hospital. The responding guards chased the raccoon into the RIS Building administrative area. Base entomology (animal control) was called to catch the raccoon so that it could be tested for rabies to determine if the bitten guard needed rabies shots. A trap was set in a hallway at 3:50 a.m., but by 7 a.m. the raccoon hadn't taken the bait. The entomologists noticed broken ceiling tiles and assumed the raccoon was hiding in the false ceiling. The bitten guard's doctor sent word that the capture of the raccoon should be given a high priority. The entomologists decided to set off a smoke bomb to drive the raccoon out of hiding. The building manager was called and he told the entomologists of the extreme fire danger and recommended that the fire department be consulted. The fire department misunderstood the building number and said that the smoke bomb would be OK, but they dispatched a fire truck to standby. Security police provided the smoke bombs. Two smoke bombs were placed in a metal trash can, ignited and placed in the overhead ceiling. The smoke bombs shot out a 2-foot flame and immediately caused the overhead insulation to burst into flames in a building containing approximately 1 million pounds of solid rocket propellant. The fire truck crew put out the building flames and the smoke bombs. The raccoon hadn't been caught, so the bitten guard received the rabies shots. What started as a small puncture wound from a raccoon almost ended in the destruction of a set of flight hardware and a facility needed to launch critical space systems. The loss could have cost the Air Force roughly $30 million, plus the delay in launching on-orbit capabilities.

Safety Lessons Learned

This chain of events began after duty hours and continued through the early-morning hours of the next day. The ensuing raccoon chase caused people to lose focus on their primary responsibilities for resource protection and safety. Proper reporting and approval procedures weren't followed. Entomology failed to follow proper procedures in obtaining the smoke bombs; the fire department failed to follow proper procedures for review and approval of the use of potentially explosive devices; there were delays in notifying appropriate building contractor personnel and the owning Air Force organization's management and facility custodians weren't well trained on their responsibilities.

Are you and your team prepared to maintain focus on your responsibilities when unusual things happen?

A raccoon was later spotted walking in the rafters of the high bay of the RIS. A raccoon was eventually trapped two days later, but no one could positively identify the raccoon as the one that bit the guard, and it was freed.

Keeping Air Force Assets Safe, Secure, Reliable

U.S. Air Force photo by Senior Airman Cassandra Jones

MAJ. TROY CARLSON
Strategic Deterrence and Nuclear Integration Directorate
Headquarters Air Force Materiel Command
Wright-Patterson AFB, Ohio

Members of the Nuclear Surety Staff Assistance Visit (NSSAV) maintenance evaluation team enter the work center and take a seat. The room is quiet as the daily outbrief begins. "Safe, secure, reliable," says the maintenance team lead. All sigh with relief. He then breaks down the what, why, how and impact of what delayed the unit and its technical operation. After all functional areas check in, team leader Lt. Col. Kathy Goforth departs for her daily outbrief with the unit's leadership. Team members remain behind to transfer their notes into the report that is due in a few hours.

Goforth discusses with unit leaders the team's observations during the past few days. Topics include strengths and observations that span almost every aspect and detail of the unit. Guidance is carefully considered and referenced for every item. In the end, the unit has things to improve and, more often than not, the NSSAV team brings home some observations and policy or guidance issues to sort out on the unit's behalf.

The Air Force Materiel Command Directorate of Strategic Deterrence and Nuclear Integration (A10), is tasked with conducting NSSAVs for AFMC's nuclear-certified units. AFMC has been responsible for weapons production and sustainment for the past two years. From the beginning, the NSSAV team's focus was to be rigorous in assessing units' compliance with required standards and to ensure the units get help from the team to identify and resolve issues. When evaluators identify an incorrect action or procedure, they shift into a mentor role and help the unit understand where it strayed from guidance and how to incorporate corrective actions.

The directorate completed 12 visits in the past two years. Each visit takes about 90 days to plan and organize. The team is comprised of subject-matter experts from maintenance, logistics, personnel, medical, safety, communications and security, among other functional areas. The directorate doesn't have the

resources to assemble complete teams, so we reach out to the units, major commands and Headquarters Air Force to staff teams that are able to provide thorough unit assessments. The mix of people from the functional levels works well. It keeps higher headquarters connected with the units and eliminates the potential for an "us vs. them" perception within the community.

"The way we control the report brings a lot of credibility to our efforts," Goforth said. "Distribution of the NSSAV report is strictly controlled and provided only to the squadron, group and wing commanders. We also take great care to schedule the various events of the week to blend seamlessly into the maintenance schedule." The team looks at issues in both directions, she said, and asks if the unit is performing the mission and if higher headquarters is providing the requirements needed to facilitate mission accomplishment. "We have identified issues on both sides and resolved them to help the enterprise move forward."

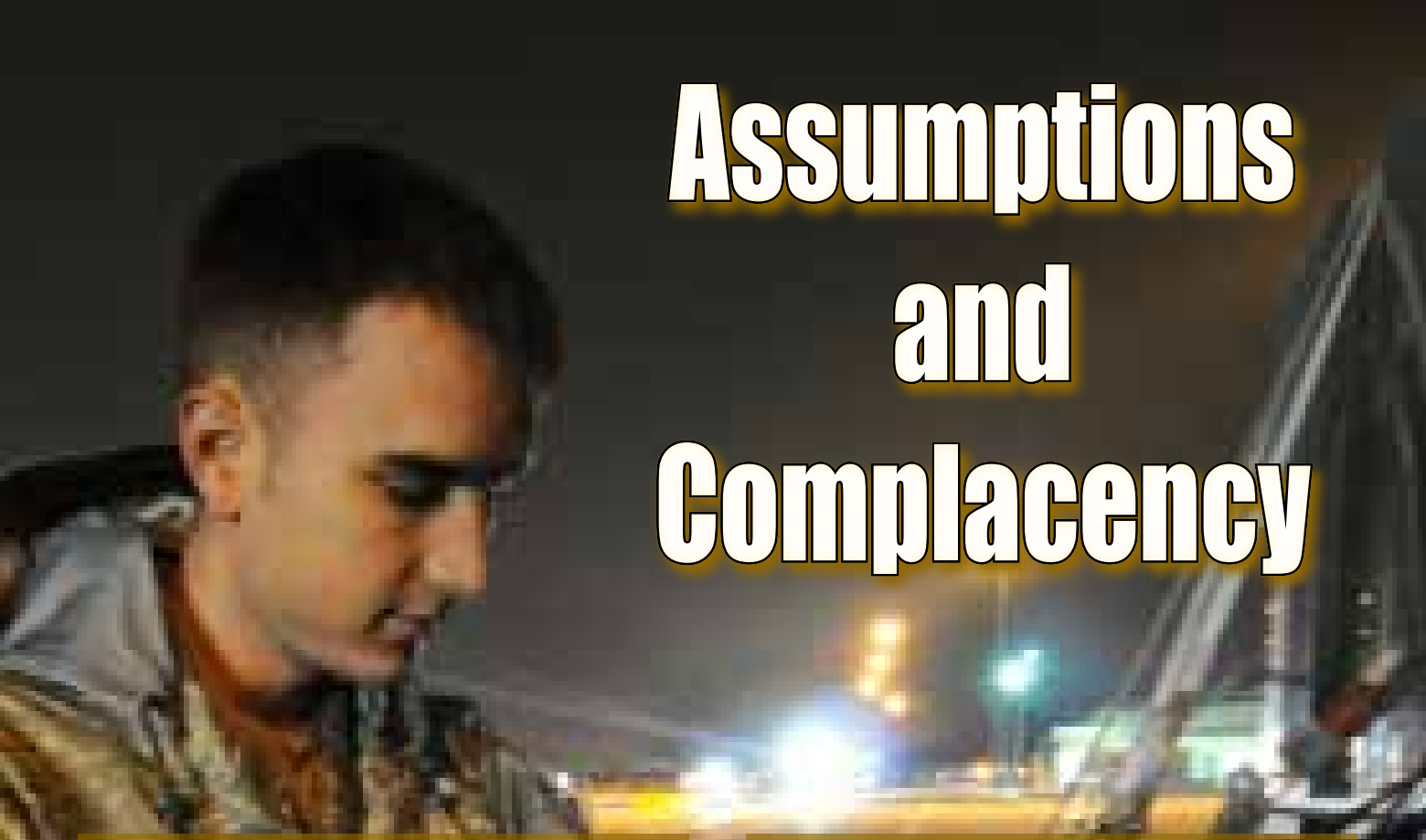
There has been a lot of change in the nuclear enterprise over the past few years. Additional changes are forthcoming with regard to the new START Treaty and transferring operational nuclear munitions maintenance squadrons from AFMC to Air Force Global Strike Command. Despite all the change, nuclear surety is always assured. Ensuring the weapons are safe, secure and reliable is always the primary focus. The teams that conduct staff assistance visits, such as the AFMC NSSAV teams, are vital to ensuring our weapons are in good hands.

U.S. Air Force photo

Air Force Chief of Staff Gen. Norton Schwartz signed the Program Action Directive Nov. 20 that details the transfer of munitions squadrons responsible for nuclear mission support from Air Force Materiel Command to Air Force Global Strike Command. http://www.af.mil/news/story.asp?id=123281335

U.S. Air Force photo by Senior Airman Alexandra Longfellow

Assumptions and Complacency



SENIOR MASTER SGT. BRUCE MARTINEAU
Weapons Safety Division
Headquarters Pacific Air Forces
Hickam AFB, Hawaii

Assumptions and complacency can be your undoing when performing routine tasks. This was true of me as an Airman 1st Class in 1990 at Andersen AFB, Guam, when I was training a new troop on tractor trailer operating procedures. We trained with empty trailers for about a week when I got a call to move a trailer of palletized MK-82 general purpose bombs.

The trainee was eager to perform this task to prove his skill and finalize his training to get certified. He had progressed brilliantly with on-the-job training and I didn't foresee any problems with him managing the task with me in the passenger seat. I had checked and rechecked everything he did during OJT and was pleased that he never missed a step. It appeared that every aspect of his training on this piece of equipment had been covered and I had no doubt this would go off without a hitch. Unfortunately, this wouldn't be the case, and the burden of fault ultimately fell in my lap.

We got to the location and mated up to the 40-foot trailer. When it was time to retract the landing gear he eagerly told me that he had it and I could wait in the cab of the truck. No problem right? He'd done this many times.

I was complacent because of the simplicity of the task. The trainee hopped back in the truck with the landing gear retracted, "Everything good to go?" I asked. "A-OK" he replied. He put the tractor in gear and started to pull away. The tractor was sluggish so I told him that the brakes tended to stick a little on these older trucks. "Just give it a bit more gas," I said. Then we heard a loud bang! We jumped out of the truck to discover the passenger-side landing gear was bent at a 90-degree angle. It hadn't retracted like the one on the driver's side.

All the trailers we used during training were from the 1980 series. Those trailers allow you to use the driver-side crank case to roll up both driver and passenger-side landing gears at the same time. However, the trailer we were hooked to was a 1960 series trailer that requires independent retraction of the landing gear on both sides. During his training, I failed to let him know the difference in trailer models and set up a recipe for disaster.

Fortunately, the bombs remained on the trailer, but that didn't mitigate the embarrassment or the $2,000 worth of damage to the trailer.

The lesson is: Never assume anything when performing explosive operations and never allow yourself to be complacent, regardless of how simple the task appears.

U.S. Air Force photo by Senior Airman Veronica Pierce

CONFESSIONS OF A "SAFETY GUY"

MASTER SGT. JOE DIFALCO
178th Fighter Wing
Springfield Air National Guard Base, Ohio

My guard unit fell victim to the 2005 Defense Base Realignment and Closure (BRAC) Commission, meaning the last F-16s left Springfield, Ohio, at the end of 2010 and there was no clearly defined future mission for my unit. People with more than 18 years of service after a specific date could retire in their current Air Force specialty code and not be forced to retrain. Fortunately, I'm in the twilight of my career and knew I could retire in a couple more years with 20 years of service: four years on active duty, 14 years in the Ohio Air National Guard and two years as … .

I knew Uncle Sam expected me to do something to earn a paycheck for the next year or two. Without weapons to load or aircraft to maintain, I was pretty sure that base beautification work was in my future. Since I live in an apartment, I don't have to cut grass, plant flowers or shovel snow, and I wasn't anxious to spend my Guard weekends with those tasks. Then it happened. The explosive safety manager retired. The job could only be filled by a 2W171 (Weapons Loader) or a 2W071 (Munition Storage). Perfect … I found my way out of the manual labor weekends. I thought to myself, "I can hide in the safety office for two years and enjoy plenty of heat in the winter, air conditioning in the summer and no grass cutting. All I have to do is walk around, look the part and write a report or two every weekend."

I even got to put on a stripe because the position was slotted for an E-7. It couldn't get any better for a flight line slug ending his career.

My first day in the safety office I was bombarded with regulations that I'm expected to know inside and out. My new best friends become Air Force Manual 91-201, *Explosives Safety Standards*, Air Force Instruction 91-202, *The U.S. Air Force Mishap Prevention Program*, and the Air Force major command and Air

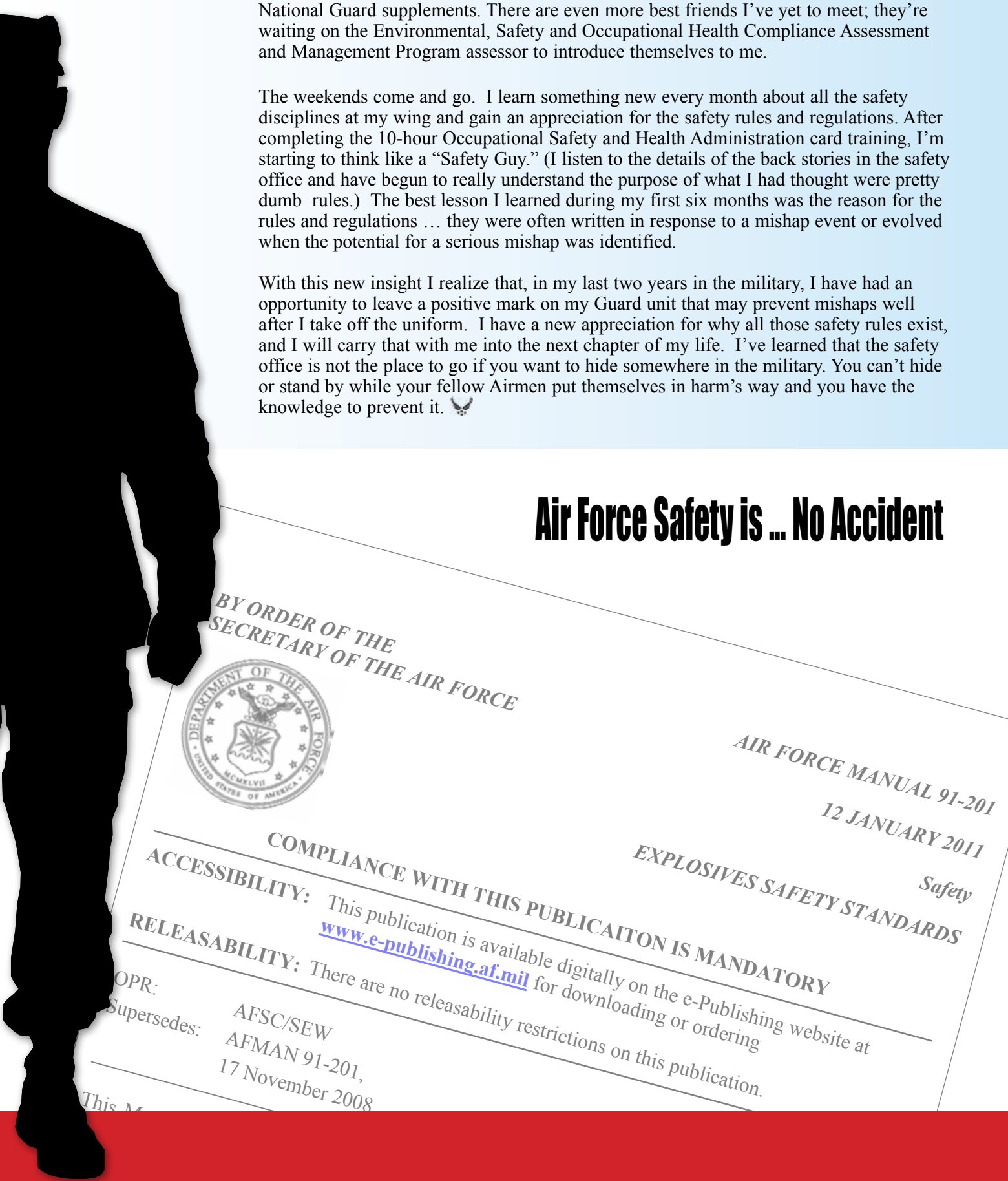
U.S. Air Force photo by Senior Airman Anthony T. Graham

National Guard supplements. There are even more best friends I've yet to meet; they're waiting on the Environmental, Safety and Occupational Health Compliance Assessment and Management Program assessor to introduce themselves to me.

The weekends come and go. I learn something new every month about all the safety disciplines at my wing and gain an appreciation for the safety rules and regulations. After completing the 10-hour Occupational Safety and Health Administration card training, I'm starting to think like a "Safety Guy." (I listen to the details of the back stories in the safety office and have begun to really understand the purpose of what I had thought were pretty dumb rules.) The best lesson I learned during my first six months was the reason for the rules and regulations … they were often written in response to a mishap event or evolved when the potential for a serious mishap was identified.

With this new insight I realize that, in my last two years in the military, I have had an opportunity to leave a positive mark on my Guard unit that may prevent mishaps well after I take off the uniform. I have a new appreciation for why all those safety rules exist, and I will carry that with me into the next chapter of my life. I've learned that the safety office is not the place to go if you want to hide somewhere in the military. You can't hide or stand by while your fellow Airmen put themselves in harm's way and you have the knowledge to prevent it.

Air Force Safety is … No Accident



The AIR FORCE SAFETY CENTER proudly congratulates ...

Master Sgt. Joshua J. Franklin: Awarded the Associate Safety Professional and Certified Safety Professional credential. Franklin is the ground safety superintendent at 11th Air Force, Joint Base Elmendorf-Richardson, Alaska.

Gary S. Rudman: Awarded the Associate Safety Professional credential. Rudman is the deputy director of safety at 9th Air Force/U.S. Air Forces Central Command, Shaw AFB, S.C.

National Safety Council 2011 Rising Star of Safety

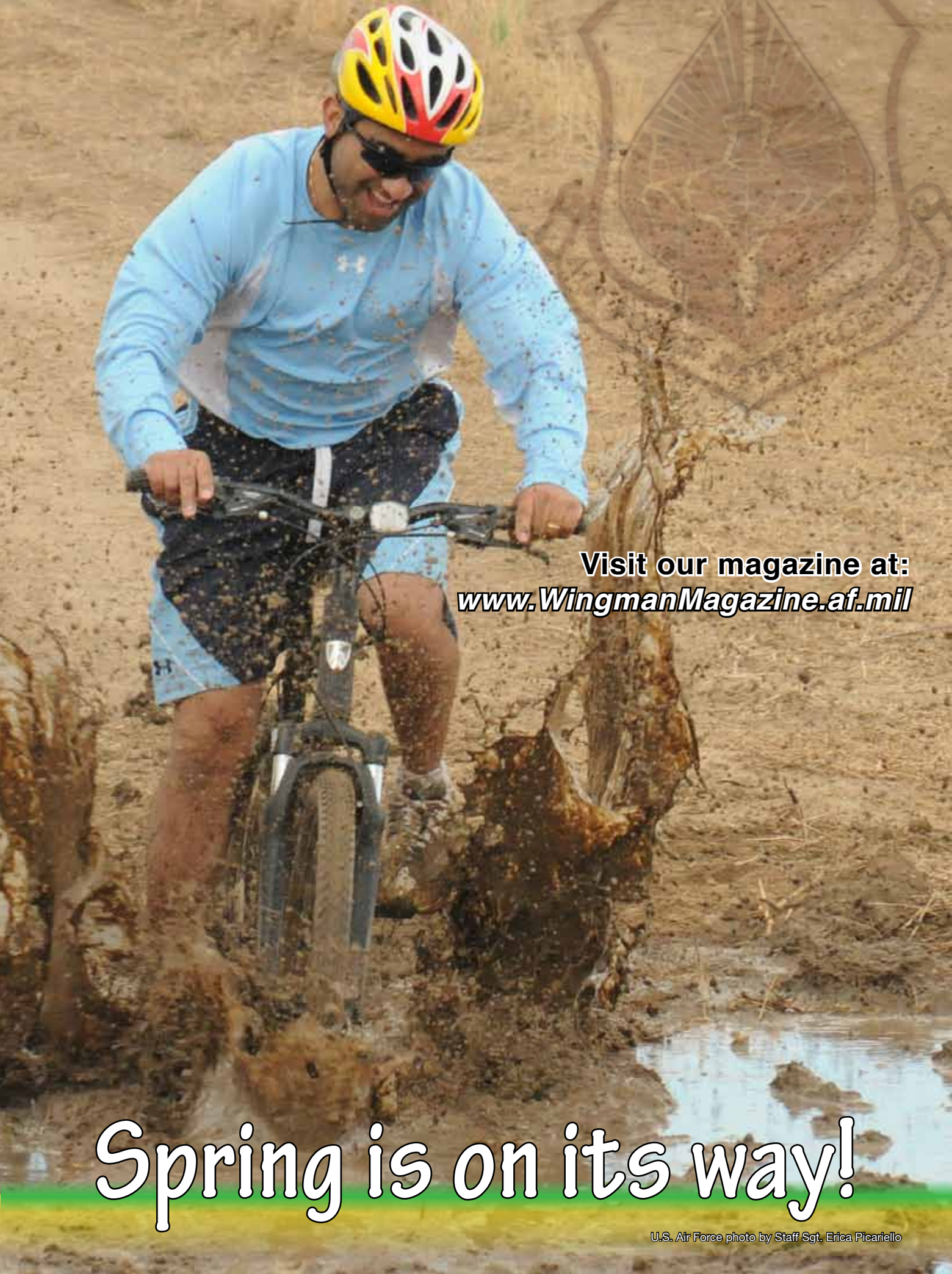
The National Safety Council has selected Tech. Sgt. Justin Carwile, 721st Aircraft Maintenance Squadron, Ramstein Air Base, Germany, as one of 40 Rising Stars of Safety under 40. He is the only DOD recipient of 2011.

Tech. Sgt. Justin Carwile

Carwile executed a comprehensive evaluation of airfield operations and instituted an education initiative to give workers a direct line to report environmental/procedural hazards. Using the results of that initiative, he identified the need for an improved aircraft parking plan and worked with airfield management to eliminate overlapping spots and taxi lines. His redesign was executed with no airfield capability degradation and eliminated hazard exposure for 5,700 aircraft a year. He also identified a jet engine exhaust deflector fence that posed a hazard for large aircraft, authored a modified parking plan and is now spearheading replacement of the fence.

Carwile created an Organizational Safety Council to bring together employees from eight specialties and functional areas. The OSC provides a means for representatives to talk openly about observed hazards and effective mitigation measures. Volunteers are trained by Carwile in non-retribution behavioral assessment techniques and given authority to evaluate their peers for potentially unsafe behavior. OSC members provide weekly feedback to Carwile who analyzes employees' actions for probable cause and/or possible solutions, while engaging unit leadership in discrepancy resolution.

To ensure the mentality established at work was taken home, the OSC recently began to focus on off-duty behavior as well. In short time, the front-line supervisors proved instrumental in strengthening the unit's safety culture. The OSC helped reduce on- and off-duty mishaps by 41 percent in the first two quarters.



U.S. Air Force photo by Staff Sgt. Erica Picariello