
The Combat
EDGE
February 2002
Planning for Safety
Staying Winterized

The Combat EDGE

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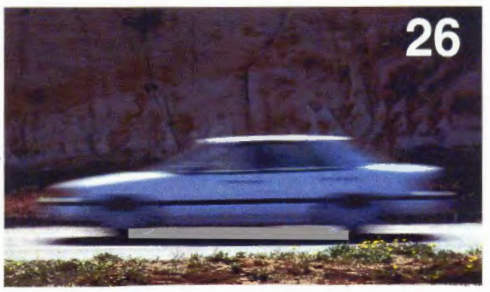

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ACCent on Safety

IT'S STILL WINTER

Late winter weather can be tough to predict. It behooves us, as we start to look ahead toward spring, to still take all the winter precautions both in the air and on the ground. Whether we are planning a vacation, going skiing, loading munitions in the freezing conditions, or flying a night training sortie, winter weather can make it a challenge in a proverbial heartbeat.

We have a number of weather articles this month. Capt. Vitosh's article shows that even desert ops can have weather surprises. Col. Kenkle's article "Plan for the Unexpected" is certainly valid today, and MSgt. Turner's article on "Staying Winterized" gives us excellent advice to keep our guard up.

Capt. Marshall's article "Plan for Combat Safety" is an excellent example of the B-2 community seeing the need to train for long-duration missions and then systematically addressing a range of issues needed to support that requirement. In some form or fashion, virtually everyone in the 509th Bomb Wing was involved in enhancing the wing's long-range combat capability that was again proven during Operation ENDURING FREEDOM.

Safely handling the unexpected comes from strategic planning, contingency planning, and Operational Risk Management.

Colonel Kevin W. Smith
Chief of Safety

Photo by SSgt Christopher Mathews

Plan for Co

The 509th Bomb Wing at Whiteman AFB, Mo., set a new record for combat sortie duration in the war on terrorism. Six B-2s led the first few days of Operation ENDURING FREEDOM by destroying some of the most critical targets and clearing the way for other critical combat assets to successfully engage air strikes virtually unchallenged over Afghanistan. One of those B-2 sorties was just over 44 hours, which made it the longest combat sortie in the history of aviation. Whiteman's training program and operational innovativeness is continuing to work toward effectively overcoming many of the significant obstacles encountered during long-duration sorties. The 509 BW Safety office works with numerous base organizations like the Medical Group and the Civil Engineers. The goal is to alleviate fatigue by planning for proper sleep, cockpit noise, proper diet, waste disposal, and electronic information management.

Proper Sleep

The major concern of almost every B-2 driver is the battle against fatigue during long-duration combat sorties. B-2 pilots train for long duration

mbat Safety

By Capt. Jason L. Marshall, Whiteman AFB, Mo.

missions by flying sorties in excess of 50 hours in the wing's flight simulator. The most important part of any long-duration sortie is a good night's sleep prior to the mission.

Missions in excess of 30 hours mean B-2 crewmembers will require sleep at some point in the mission, but currently the aircraft has no on-board sleeping accommodations. Since the B-2 has a small cockpit with room for only two pilots, a backup crew is not an option as in other large airframes. The B-2 cockpit has little room to maneuver vertically or horizontally. B-2 pilots and local civil engineers worked together to develop a modified military cot custom fit to the space available in the B-2's cockpit. The cot can be used to extend the length of the available sleep surface to more than 6 feet. Prior to this, pilots were attempting to sleep on the floor behind the ejection seats. This was not very successful due to the small space and high volume air ducts that blow air across the floor's surface. Another option being investigated is using a pad on the floor and placing flow diverters over some of the ducts to divert the air upward away from the floor.

Scientists and flight surgeons from the Air Force Research Lab (AFRL) in San Antonio, Texas, have designed a computer program to help aircrews manage sleep cycles based on their circadian rhythm

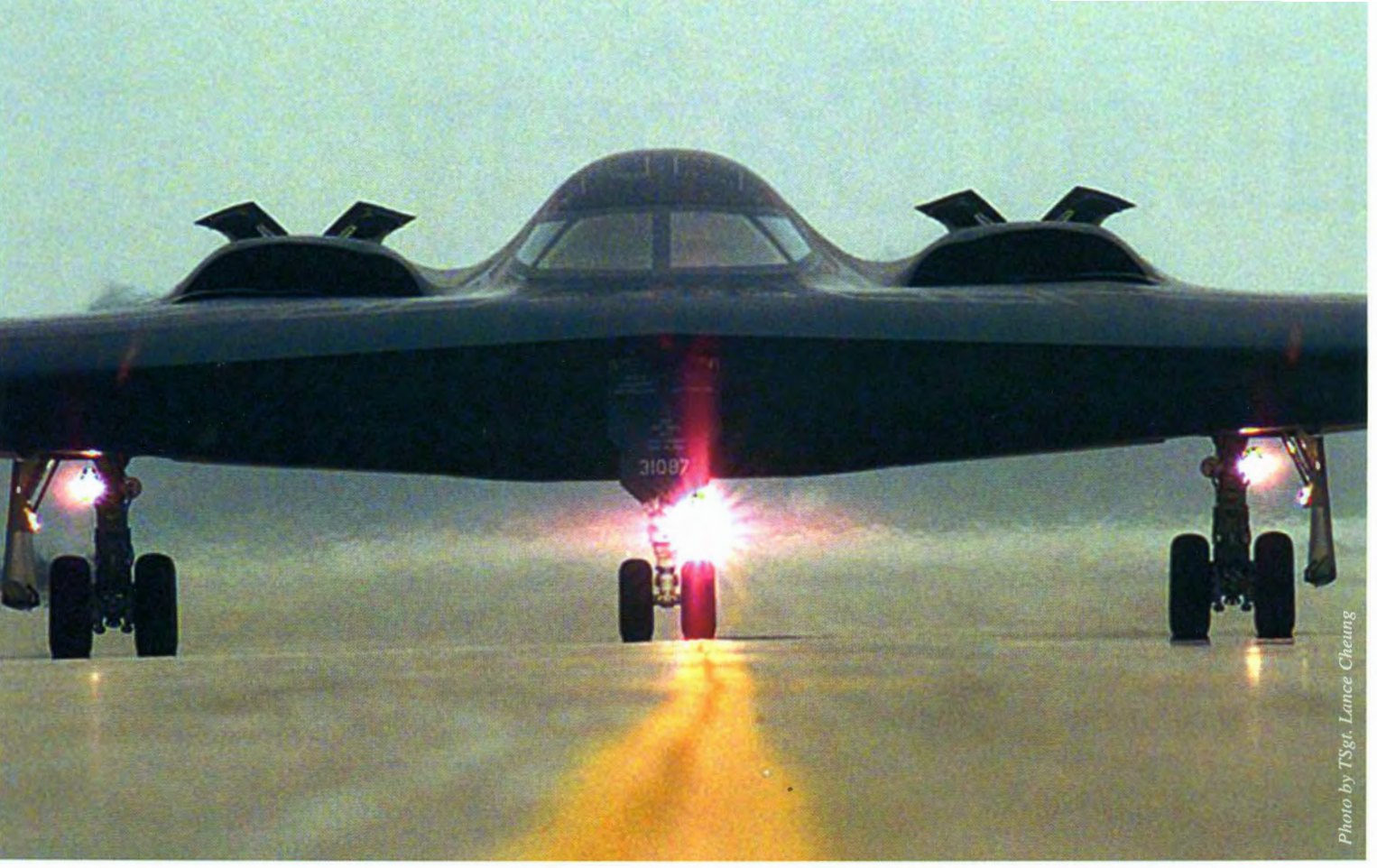


Photo by TSgt. Lance Cheung

for long-duration missions. Whiteman is one of several bases pushing for finalization of this AFRL program and distribution to the base level for incorporation into the mission planning process.

Cockpit Noise

If the cramped quarters and blowing air aren't enough to make sleep a distant dream, then the rock concert level of cockpit noise will ensure no rest is obtained. B-2 noise levels are comparable to, if not greater than, that of fighter cockpits. It's no wonder Whiteman has volunteered to be the test base for the introduction of noise reduction headsets and ear-cup inserts for helmets. The BOSE™ noise reduction headsets were rated number one by pilots and technical reviews. The headsets have been approved for flight and procured. Meanwhile, the noise reduction ear cups are being incorporated into a new helmet design, which is in its final stages and should be implemented by the time this article is published. The new helmet design will potentially benefit all aircrews in all aircraft.

The major concern of almost every B-2 driver is the battle against fatigue during long-duration combat sorties.

Proper Diet

To address the fatigue issues associated with diet, our Flight Safety office invited Dr. Barry Sears, a leading research scientist in biotechnology, to speak at a recent quarterly safety meeting about the correlation between diet, nutrition, and fatigue. Although a good diet may only represent 20 percent of an array of issues being addressed in the war on fatigue, it is expected to provide 80 percent of the solution to a winning strategy.

He compared the body to an engine. If the body is given the right protein-to-carbohydrate-to-fat ratio, then its performance is optimized like an engine operating with the right fuel-to-air ratio. He recommends a diet that consists mostly of carbohydrates in the form of fruits and vegetables. The next most important component is meat and fish followed by unsaturated fats. Breads, grains, pastas, processed foods, and starchy foods like potatoes should be mini-

mized. Most of the people who follow his advice notice a difference in energy levels, alertness, and a reduction in nightly sleep requirements. These benefits are vital to the B-2 community in the battle against fatigue and valuable to operators of other airborne platforms.

The traditional box lunch is typically full of multiple servings of food with little nutritional value. The food in a standard box lunch is not rated to last longer than 4 hours. According to leading experts in the field of diet and nutrition, the large, unbalanced levels of complex carbohydrates can cause insulin levels in the blood to spike, inducing the infamous food coma. This has been verified by pilots who have experienced these food comas first hand. Not only does the food induce drowsiness, it is packaged in big boxes that waste a lot of space and leave unmanageable amounts of waste in the cockpit after 40 hours. A new concept in box lunches is being aggressively pursued.

Dr. Harris Lieberman of Natick Labs is working to design an in-flight meal that meets aviators' needs. This is the same organization that designed the Army and Marine Corp's Meals Ready to Eat (MRE) to support the demanding activities of a foot soldier in the infantry. Dr. Lieberman is considering the use of NASA's vacuum-sealed, antibacterial food technology coupled with a targeted 9 grams of carbohydrates-to-7 grams of protein-to-3 grams of fat ratio for all meals. This means one package contains meals prepared and sealed for an entire day, which will save space and time while reducing waste loads.

Whiteman's exercise physiologist, along with the wing's life support officer, is working to procure an in-flight microwave to facilitate food preparation. The microwave is an off-the-shelf product already certified by the Federal Aviation Administration and is currently used on RC-135 and some C-130 military aircraft. Cooking food

Photo by SSgt. Steven Nabor

Photo by MSgt. Rose Reynolds

is important to both aviators and flight surgeons because it helps to eliminate bacteria and reduce the opportunity for food-born illness. This is important because food-related illness can have a devastating effect on crews flying long-duration missions.

Waste Management

Comfort accommodations are important whether you are experiencing digestive disturbances or not. One would think that a multibillion dollar, long-range strike aircraft would be equipped with a toilet that could hold whatever a comfortably hydrated crew of two could throw at it in 40 hours. Unfortunately, that is not the case. Since the average crew lands after a 35-plus hour sortie with more than 80 full piddle packs and a full toilet, the Flight Safety office is pursuing a local modification to the toilet. Minimizing distractions like this one can help B-2 crews focus on the mission.

Electronic Information Publications

Currently, it takes 50-plus pounds of publications and technical orders to support a long-duration mission. In the B-2 cockpit, real estate is a premium. Publications not only take up too much space, they are cumbersome and inefficient to deal with while strapped into an Aces II ejection seat at night with cockpit lighting as low as possible. The Flight Safety office is helping to reduce the load and increase accessibility of information by promoting Whiteman as one of the test bases for the cockpit digital information environment. Electronic information tools like the PACMAN device, produced by Position Integrity, are being considered. Publication updates will be a snap and the creation of embedded links will enhance an aviator's ability to find information quickly.

These are just some of the efforts Whiteman's Flight Safety endurance program is pursuing to make Operation ENDURING FREEDOM and combat record-breaking long-duration missions possible. Long-duration missions are destined to be a big part of the B-2's future as well as other platforms. An active, combat-oriented flight safety endurance program will not guarantee mishap prevention, but it will give pilots reasonable and effective advantages to aid in successful mission completion during long-duration missions.

Staying Winterized

By MSgt. Tracy E. Turner, Langley AFB, Va.

It is now February. When the mercury first dipped below zero, you successfully "winterized" your home and thinking, but now it's February. That means spring is right around the corner, right? Being winterized is not so important any more, right? Unfortunately, I'm here to tell you that you're wrong on both counts.

Winterizing is second nature to some of us and something the rest of us do out of necessity. It includes all the precautions we take when the cold weather hits our area. We clear ice from walkways to prevent those painful falls. We scrape the ice off our driveways and cars to avoid slippery collisions. We keep our vehicles prepared for winter driving to avoid being caught out in the cold. We maintain our fireplaces and ensure the flue is clean to prevent deadly back drafts. We also increase the number of home fire drills we conduct to compensate for all the different sources of heat we are using. We are prepared for whatever winter might blow our way. And then February rolls around ...

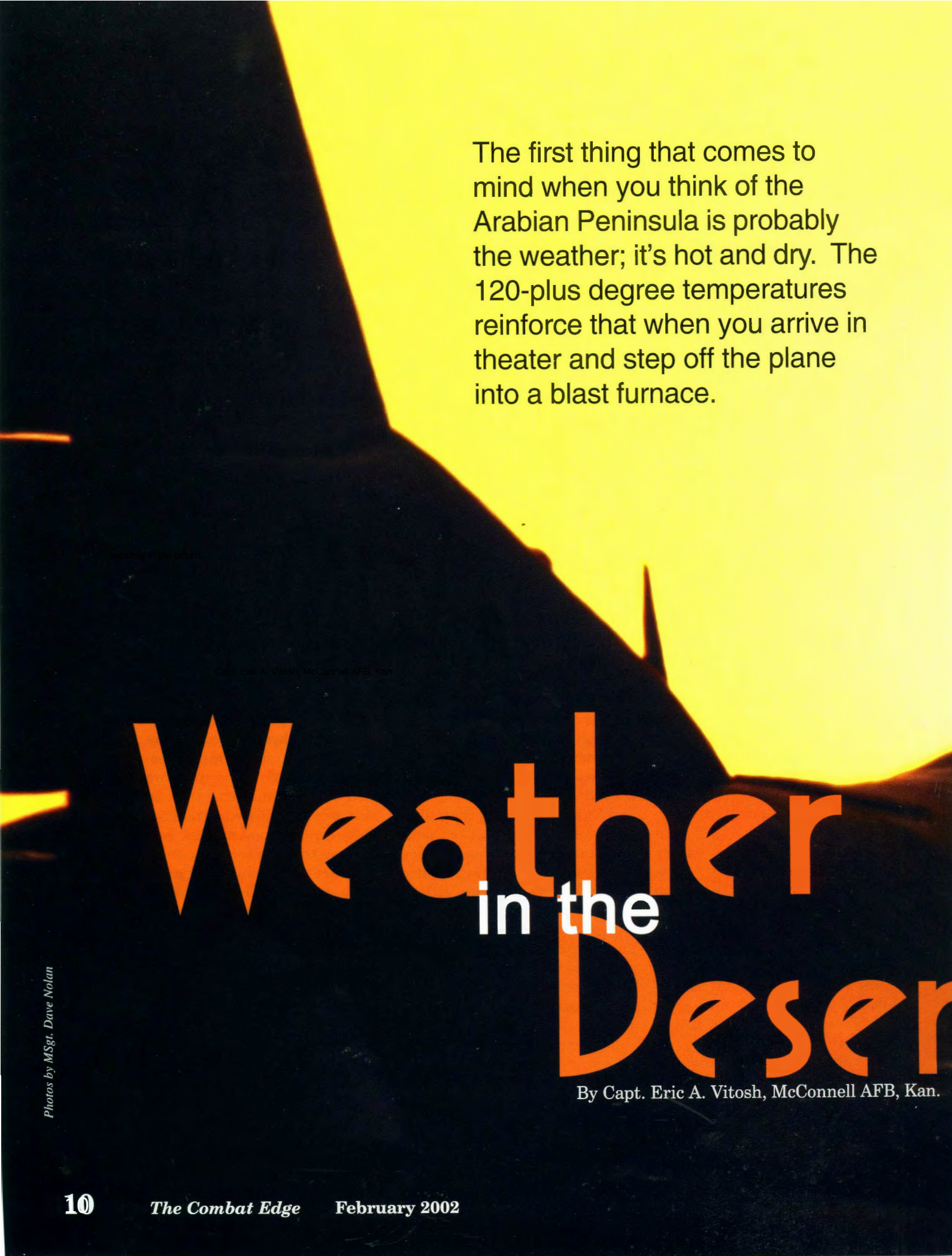
February is actually the peak of the winter season, but for some reason it increases our anticipation for spring, warmer weather, and the festivities that come with it. This anticipation can lead to impatience, which can easily turn into complacency. Dropping our guard this way can seem harmless on the surface, but it exposes us to unnecessary safety hazards and dangers.

February is a transition month. The weather changes more frequently and can become more and more unpredictable. Winter storms can come up with little or no warning. Even if your favorite weather forecaster predicts a mild day with clear skies and moderate temperatures, it is still prudent to be dressed for winter temperatures. Underestimating February can have devastating consequences.

It can start with the small things. You don't keep a check on the condition of the winter gear stored in the trunk of your car. Then you let the bigger things slip. You leave the ice on the walkway for a day or two instead of clearing it immediately. You don't schedule as many fire drills. Now you are vulnerable and not prepared. You are no longer as winterized as you need to be. And this happens at a time that requires more vigilance than December or January.

While you are safety checking your winterized six this February, make sure your family members, friends, and coworkers are doing the same. Test them from time-to-time to make sure they are still prepared for winter. Don't allow them to become complacent. If you see them do something that makes you question their winterized status, then be sure to bring it to their attention. There are few worse feelings than learning that someone you know and care about was injured or maimed in a mishap that could have been prevented by a friendly reminder or two.

Stay winterized and spread the word. February is a time to continue to be cautious about the dangers of cold weather. It is also a time to stay on the safety course you charted out before winter set in. If you follow my advice, you'll have a better chance of enjoying spring when it does finally get here. By the way, when was the last time you had that lawn and garden equipment serviced?



The first thing that comes to mind when you think of the Arabian Peninsula is probably the weather; it's hot and dry. The 120-plus degree temperatures reinforce that when you arrive in theater and step off the plane into a blast furnace.

Weather in the Desert

By Capt. Eric A. Vitosh, McConnell AFB, Kan.

Photos by MSgt. Dave Nolan

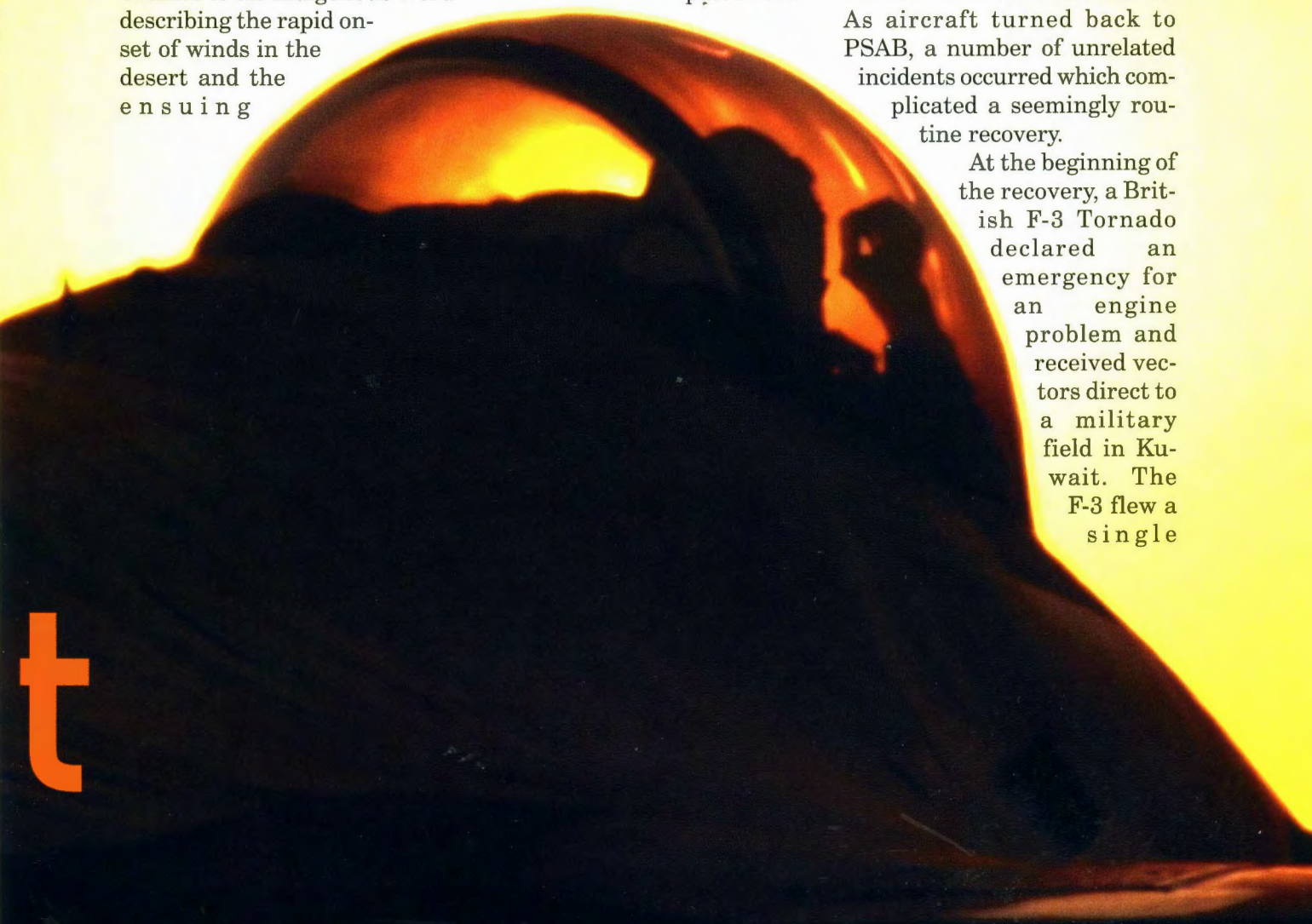
If you can bear to look up into the sky, you'll notice that there are no clouds. As you contemplate what it will be like to fly in this environment, you're tempted to believe that if it doesn't rain and there are no clouds, then visibility must be great all the time. Then you go out to fly and the mission becomes as routine as the weather — or does it?

As we travel around the world to many different places, we have to make sure we are familiar with our surroundings. In Saudi Arabia, one of the most dramatic weather phenomena to be experienced is the shamal, and its effect on flight operations can be quite significant. Shamal is an indigenous word describing the rapid onset of winds in the desert and the ensuing dust storm. A shamal seems to pop up out of nowhere and leaves a coating of sand everywhere. Roughly translated, the word means "north wind." I recently got to experience this phenomenon firsthand during my tour at Prince Sultan Air Base (PSAB).

Early in the day PSAB weather forecasters, through atmospheric modeling, were aware of the potential for strong surface level winds. A shamal had formed in the Tigris-Euphrates river valley in southern Iraq and was moving south. Although the morning forecast did allude to the coming storm, the early indicators were not that alarming. In fact, the forecast for the anticipated recovery window showed northerly winds, aligned with the runway, gusting to 25 knots with some associated restrictions to visibility due to blowing dust. With that information in hand, aircraft were launched to conduct the day's Operation SOUTHERN WATCH (OSW) mission as the USAF weather shop closely tracked the evolving weather pattern.

As the day unfolded, observed winds continued to intensify and the dust plume became large enough to identify and track with weather satellite imagery. Based on the updated information and revised forecast, the OSW mission was terminated early and all aircraft were directed to return to base. As aircraft turned back to PSAB, a number of unrelated incidents occurred which complicated a seemingly routine recovery.

At the beginning of the recovery, a British F-3 Tornado declared an emergency for an engine problem and received vectors direct to a military field in Kuwait. The F-3 flew a single



engine approach because the dust storm completely enveloped the runway when it was in the radar pattern.

Luckily, after several tense moments, the stricken Tornado was able to accomplish a single-engine divert and successfully recovered to the international airport. The airport was near the gulf and, therefore, somewhat protected from the northerly winds and low visibility. As a result of this, there was a slight delay for recoveries, which allowed the storm to progress that much closer to PSAB while aircraft were still airborne.

In an attempt to "beat the weather home," most of the OSW package, both heavies and fighters, arrived over the field at almost the same time. Although the revised forecast initially showed deteriorating visibility for the short-term, followed by clearing, it became evident to the Supervisor of Flying (SOF) that the effects of this dust storm were becoming much more persistent. As the aircraft began stacking up awaiting clearance to commence an approach, it looked as if the visibility could deteriorate below minimums prior to getting everybody back on the ground. Based primarily on fuel considerations, the SOF immediately sequenced the fighters for nonstandard instrument approaches hoping to at least get them on the ground before the worst of the shamal arrived. He planned to stack up all the heavies in a holding pattern to await further approach clearance when visibility increased. Since heavies typically have plenty of fuel, this seemed like the logical plan, right? As ESPN commentator, Lee Corso, says, "Not so fast my friend."

Unfortunately, the tankers had been directed to dump fuel prior to returning to PSAB and they had complied. This routine directive had been issued either out of complacency (due to nearly continuously clear weather over the preceding several months) or a complete lack of situational awareness regarding field conditions (unaware of the magnitude of the approaching storm). Without sufficient fuel reserves, it began to look as though some of the heavies might have to divert.

Fortunately, all but one aircraft were able to land on their first approach. They were able to sneak in between sustained gusts when visibility improved just enough to allow aircraft to land from approach minimums. The last aircraft, an E-3, finally landed after executing missed ap-

In Saudi Arabia, one of the most dramatic weather phenomena to be experienced is the shamal, and its effect on flight operations can be quite significant.

proach procedures on three preceding precision approach radar attempts. If the crew had not been able to land during their last approach, they would have been forced to divert due to fuel considerations. That did not happen and all aircraft were recovered without incident and without the need to divert.

As I reflected on what had happened, I realized that everyone might benefit from the lessons we all did not necessarily learn that day, but rather were lessons we all needed reinforced:

1. A single, well thought out plan needs to have at least one alternate course of action. On this day the plan was to launch the fleet, accomplish an operational mission while keeping an eye on weather, and then bring the fleet home early if conditions warranted. Unfortunately, sometimes your plan depends on the success of a lot of other people's plans. If a few links, or sometimes even just a single link, in that chain of events fail, your plan may also fail. So the inevitable question is, "What's your backup plan?" In this case it was a divert option. The U.S. Government spends a good bit of money maintaining an airfield not too far from PSAB for the sole purpose of using it as a divert airfield. Even though it wasn't used that day, the option was ready and available.

2. Know your forecast and get updates. As military pilots, we are all aware of the standard weather briefing forms, charts, and symbology. What about the unfamiliar METAR (hourly reports) and TAF (Terminal Aerodrome Forecast)? Would you understand a forecast that read 0105G25KT 3BLDU (3 miles visibility with blowing dust)? It is to your benefit to make sure you are familiar with terminology that is routinely used at your operating location. It is also helpful to remember that if the arrival forecast is questionable before takeoff, anything could happen in the 4 or 8 hours after you depart. Hard to believe, but the forecasters may miss the mark once in a while.

3. Set and adhere to your minimums. Don't fly past your predetermined bingo. You spent a considerable amount of time planning your sortie while your groundspeed was zero. The plan made sense then, so stick with it. Divert is not a four letter word. Diverting will make you successful; flying past your bingo can make you dead.

4. Share information. If you find out the weather ahead is bad or deteriorating, let your buddies know and take the time to pass Pilot Reports (PIREPs) to the forecasters as well. They will appreciate it, and someday you might appreciate the fact that someone else took the time to send a PIREP that helped you. And don't forget to share other critical mission information as well.

Everything turned out fine the day that shamal passed through PSAB. There were some miscommunications and some mistakes made that day, but name one day when that doesn't happen. The key is to plan ahead, use all the resources available, and live to fly another day.

Plan for the

Plan, brief, execute, and debrief — what could go wrong? Our mission was fairly straightforward. We were tasked to redeploy three F-4 Phantoms from Incirlik AB, Turkey, to Torrejon AB, Spain — something that goes on all the time.

We were supposed to meet the first tanker just past Crete, where the KC-135 would drag the three thirsty Phantoms to 100 miles south of the boot of Italy. The first tanker would drop us off and we would cruise to meet the second tanker just past Alghero, on the island of Sardinia. What could go wrong?

The only critical parts were what time we were to take off to meet the first air refueling time, how much fuel each aircraft would receive, and what altitude we would meet the tanker. The third dimension of altitude was critical since more than one fighter has joined on a civilian airliner asking for gas. Not too difficult.

We speedily figured our takeoff time to meet the first tanker west of Crete. Next, we planned for each fighter to get 6,000 pounds of gas from each KC-135. Finally, we were informed that the tanker would be in an orbit at 26,000 feet.

The second part of any mission is the briefing. The flight briefing for the redeployment sortie was fairly uneventful. On this particular sortie, I was upgrading to lead air refueling sorties, ably assisted by my Weapons System Officer (WSO). My number two aircraft was an instructor pilot with a new WSO. My number three aircraft was an air refueling instructor with an instructor upgradee in the rear cockpit. There were a lot of contingencies to brief to a lot of people in unfamiliar positions.

Photo by SrA. Esperanza Berrios

I briefed all the standards as well as giving backup assignments for navigation, radar search, and tracking emergency airfields. Finally, I had to leave enough time for each of the crews to discuss instructional techniques and contingencies before starting out on our 4 1/2 hour sortie.

After each crew covered the critical aspects of the flight, we set out to execute the mission. Step to the aircraft, start, takeoff, departure, and cruise to the rejoin point over Crete were uneventful. We got a radar contact on the tanker, Texaco 65, and told him to turn at 21 miles. Texaco 65 ended up 1.5 miles in front of the three Phantoms. We pushed it up and joined to the wings of the KC-135 and started refueling. All three aircraft took 2,000 pounds of gas — we did not take the whole 6,000 since we thought it was better to have the tanker carry the extra gas rather than ourselves.

We then proceeded on the long cruise through the Mediterranean relying on Texaco 65 to make all the radio calls and be responsible for navigation. We would take the additional 4,000 pounds of gas from this tanker just prior to him turning around and going back to Crete.

"Traps 31, this is Texaco 65."

"Texaco 65, Traps 31, go ahead."

"Roger Traps 31, I have some good news and some bad news."

Which news should I take first?

"Texaco 65, this is Traps 31, we will take the good news first."

"Roger Traps 31. Texaco 65 can give each aircraft an additional 2,000 pounds of fuel."

I was elated. Now, I would not have to worry about fuel as we attempted to find the second tanker just past the island of Sardinia. Life was great. Now, the bad news ...

Unexpected

By Col. Kevin G. Kenkel, MacDill AFB, Fla.

"Thanks Texaco 65, what's the bad news?"

"Traps 31, your second tanker is not going to be there!!!"

Both my WSO and I were in shock, however, that did nothing to solve the problem. We started our last refueling with Texaco 65 taking the additional 2,000 pounds of gas. As we finished taking the fuel, my WSO spent the time doing some calculations with his nifty air navigation computer.

What do we do? Try to make it all the way to Torrejon with the additional gas or divert to some airfield in the Mediterranean? We could climb, which would decrease fuel consumption and check the wind speeds at higher altitudes. Or, we could land at an intermediate airfield and refuel. However, there were not a whole lot of airfields in the middle of the Mediterranean. What should we do?

All three aircraft were in the "lean forward mode" with a bad case of "get home-itis" since we had not seen our families in 4 weeks. We started a cruise climb to 31,000 feet checking the winds as we went along. As we did this, we passed over Sigonella AB, which is a major Navy airfield in the Mediterranean. However, it was right at the edge of our range capability if we elected to land there, take gas, and then continue on to Torrejon. We decided to stay on route toward the island of Sicily, keeping in mind the valuable piece of concrete we had just passed.

Photo by Ken Hackman

As luck would have it, the winds were not with us on this glorious day. We continued doing additional calculations over the next 100 miles (10 minutes) finally deciding that we could make it to Torrejon, but we would not have the fuel reserves we needed in case something else happened.

We started looking around for another divert field. We did not want to go backwards, but we also did not want to go too far forward. Finally, after some further review, we decided to land at Decimomannu AB, an airfield on the island of Sardinia. It was not one of our primary divert airfields; however, it was a good piece of concrete. We received a warm reception from the airfield and the rest of the return home was uneventful.

The things I learned on the flight go farther than that. Although going to Italy was not our original intent, we had a backup plan available in the event we ran into trouble. One of the Phantom crews was responsible for monitoring divert bases along the route of flight. They did great work coming up with an alternative plan while we investigated continuing the flight to Torrejon. What is your contingency plan when the unexpected happens?

AWACS

AWACS

Primary Function: Airborne surveillance, command, control and communications • Builder: Boeing Aerospace Co. • Power Plant: Four Pratt and Whitney TF33-PW-100A turbofan engines • Thrust: 21,000 pounds each engine • Length: 145 feet, 6 inches • Wingspan: 130 feet, 10 inches • Height: 41 feet, 4 inches • Rotodome: 30 feet in diameter, 6 feet thick, mounted 11 feet above fuselage • Speed: Optimum cruise 360 mph • Ceiling: Above 29,000 feet • Maximum Takeoff Weight: 347,000 pounds • Endurance: More than 8 hours • Unit Cost: Approximately $300 million • Crew: Flight crew of four plus mission crew of 13-19 specialists • Date Deployed: March 1977 • Inventory: Active force, 33

Air Force Recognizes Events of Sept. 11 with Aircraft Nose Art

By TSgt. Tim Dougherty, Air Force Print News

WASHINGTON — Aircraft nose art with the words "Let's roll!" — America's two-word marching order in the fight against terrorism — will be displayed on various aircraft throughout the Air Force as a way of recognizing the heroes and victims of the Sept. 11 attacks on the United States.

The words were made famous by Todd Beamer, a passenger on Flight 93. Beamer, a 32-year-old businessman, Sunday school teacher, husband, father, and hero, led other passengers in fighting terrorists for control of Flight 93 before it crashed into a field in western Pennsylvania. He was overheard on a cellular phone reciting the Lord's Prayer and saying "Let's roll!" as passengers charged the terrorists.

"'Let's roll!' has served as a rallying cry for this nation as we go forward in our war on terrorism," said Air Force Chief of Staff Gen. John P. Jumper. "We are proud to display this new nose art on our aircraft."

The passengers of Flight 93 won one of the first victories in the fight against terrorism. There has been much speculation about the terrorists' intentions for Flight 93, but it is widely believed that either the White House or the U.S. Capitol building was the intended target.

The nose art design depicts an eagle soaring in front of the U.S. flag, with the words "Spirit of 9-11" on the top and "Let's roll!" on the bottom. The design was created by Senior Airman Duane White, a journeyman from Air Combat Command's multimedia center at Langley Air Force Base, Va.

The Thunderbirds and other Air Force demonstration teams will apply this nose art on all aircraft, while major commands and wings will be authorized to apply the nose art to one aircraft of their choice.

For thousands of years, warriors, such as the Vikings, Zulus, Native Americans, Samurai and many others, have followed a tradition of decorating their instruments of war. These instruments could include the warriors or their weapons. The Air Force has used nose art throughout much of its history, and for a variety of reasons.

The "Let's roll!" nose art is being used to continue the remembrance of the events of Sept. 11, spur on the nation's current patriotic spirit, and pay tribute to the heroes and victims in the war against terrorism.

PRM: Your Ticket to Safety

By Mr. Patrick J. Spoor, Cannon AFB, N.M.

Personal Risk Management (PRM) is a common sense way of accomplishing a task with reduced risk.

It is a systematic process to help all individuals make sound decisions in a logical manner. It is a method of getting the task done by identifying areas that present the highest risk and taking action to eliminate, reduce or control the risk.

The principles of PRM are based on the Operational Risk Management (ORM) concept, but they focus more on human factors. PRM can be used to plan a long distance trip or something as simple as a bicycle ride from the base to town.

Like ORM, the first thing is to identify the risk. Visualize the expected flow of events and identify any conditions, which might result in injury, death, or property damage. Then assess the risk, determine which of the identified hazards present the greatest risk, considering the potential outcomes and their probability and severity.

Next analyze control measures, determine what controls can be implemented to counter the assessed risks.

The last step is to make control decisions. Determine which courses of action will best accomplish the task with an acceptable level of risk.

Remember, PRM is a process of thinking through a task before you act. Ask yourself, do the benefits outweigh the risk. If you need more information, call your wing safety office.

Pilot Safety Award of Distinction

Capt. Charles M. Rogers
552nd Fighter Squadron
27th Fighter Wing
Cannon AFB, N.M.

On Sept. 17, 2001, Capt. Charles Rogers prevented a potential Class A mishap by demonstrating exceptional airmanship. Rogers was on his first F-16 flight following a 3-month, non-flying deployment in support of Operation SOUTHERN WATCH. After completing his area work, Rogers returned to Cannon AFB, N.M., to land. On his first approach, he was instructed by the tower to go around due to a departing F-16 experiencing a potential bird strike on the runway. At this time, Rogers noted his decreasing fuel state and requested immediate sequencing to land. After conferring with the Supervisor of Flying (SOF), the tower gave clearance for Rogers to land. Rogers flew a normal approach and touched down approximately 500 to 700 feet down the runway. Upon commencing his aerobrake, Rogers suddenly noticed a vehicle enter the runway from his left. With minimal time to analyze the situation, he immediately selected the afterburner and managed to regain flight at near stall conditions. Roger's F-16 passed approximately 100 feet over the vehicle. Rogers, now facing a more critical fuel situation, was able to remain focused and landed on the next attempt. Capt. Rogers' ability to react to an unpredictable situation prevented the loss of life, aircraft, and a government vehicle.

Flightline Safety Award of Distinction

Amn. Jeffrey Hedin was assigned to perform launch assist duties prior to the second F-16 launch of the day. The pilot had arrived and completed his walk-around inspection. As the crew chief was coming down the aircraft ladder after assisting the pilot with strapping in, Hedin took an extra look in the exhaust section of the aircraft's engine. He noticed that the low-pressure turbine frame aft center body was off center and that the bolts appeared to have torn through it. Hedin halted the engine start, the aircraft was ground aborted, and the pilot was released to fly a successful mission in a spare aircraft. Inspection of the low-pressure turbine frame aft center body is not an inspection item for thru-flight inspections. Had Hedin not taken that extra look, the aircraft engine start and taxi would have appeared normal, but a series of problems would have occurred when the pilot selected max afterburner for takeoff. The fuel gushing out of the spray bars would have been interrupted by the out of position low-pressure turbine frame aft center body. In turn, this interruption of ignited jet fuel would have caused hot spots to form in the exhaust liner/duct. Eventually, the hot spots would have melted through the exhaust liner, causing a fire in the aft section of the aircraft. The extra concern that Amn. Hedin applied to his launch assist saved a very valuable combat ready asset, and quite possibly the life of the pilot and innocent civilians.

Amn. Jeffrey T. Hedin, 34th Fighter Squadron, 388th Fighter Wing
Hill AFB, Utah

Ground Safety Award of Distinction

Mr. Earl Cummings is known throughout the wing as a dedicated and self-motivated safety monitor. His efforts to keep unit personnel educated on all safety-related issues directly resulted in "Excellent" ratings during the last five wing safety inspections. He prepared a detailed briefing on "The Hazards of Idaho" in which he addressed winter safety issues such as winter sports, car care, and survival techniques. This briefing was presented to all wing members on wing safety day. Always proactive, he produced a visual display of 25 unsafe practices and encouraged members to annotate all unsafe acts. This program successfully tested their ability to identify potential hazardous areas. The wing safety staff and logistics group commander praised this display as a valuable training tool and recommended utilization wing-wide. Cummings coordinated fire extinguisher training through the base fire department for 175 unit personnel. Hands-on, in-house training allowed for a more productive question and answer session during training. He also developed a character named "Peep-hole Charlie" which offered a humorous, yet informative look at the hazards associated with inadequate defrosting of car front and rear windshields. He conducted initial and refresher training for personnel requiring Supervisor Safety Training. This ensured unit personnel achieved a 100 percent trained rating for the August Unit Compliance Inspection. He provided flight commanders and chiefs up-to-date briefing packages covering the hazards and consequences of Driving Under the Influence (DUI), which kept senior supply leadership involved and informed. Mr. Cummings' support was critical in keeping the unit DUI-free for 3 years, which is the second longest run for all large units' base-wide!

Mr. Earl D. Cummings
366th Supply Squadron
366th Wing
Mt Home AFB, Idaho

Aircrew Safety Award of Distinction

Following normal taxi, takeoff, and climbout for an E-3 on an Operation NORTHERN WATCH mission, SSgt. Bryan Setzer, the flight engineer, cleared Amn. Jana Fry, the airborne radar technician, and SSgt. James Hensley, the communications technician, to perform normal "walk around" procedures for the purpose of arming safety equipment and checking for structural anomalies after takeoff. When Fry peered into the aft lower lobe, she was alarmed by the strong smell of fuel vapors and quickly notified the Mission Crew Commander (MCC). Setzer was releasing the mission crew to power-up mission equipment as the MCC relayed the situation to the Aircraft Commander (AC). The MCC and AC determined that no power would be applied to equipment in the aft lower lobe. Hensley further recommended not powering up the other equipment close to the aft lower lobe. Setzer peered into the aft lower lobe and, after a quick assessment, recommended venting the lobe for 10 minutes to see if the situation would resolve itself. When the excessive fuel vapor and fumes persisted, the AC determined that the situation was dangerous and ordered an immediate fuel dump to reach landing weight and return to base. The fuel dump, approach, and landing were uneventful. A broken exhaust valve to the Auxiliary Power Unit (APU) was determined to be the source of the excessive fuel vapors, which did not allow the APU to cool off during climbout. It was excellent crew coordination that helped to "break a chain of events" that was leading to a potential disaster, saving the lives of the crewmembers and preventing the loss of an aircraft. This is a precise example of what we step brief, "... if it doesn't feel right, look right, taste right, or sound right ... you can be the one to break the chain of events of a potentially dangerous situation."

SSgts. Bryan Setzer and James Hensley, SrA. Jana Fry
966th Airborne Air Control Squadron, 552nd Air Control Wing
Tinker AFB, Okla.

ACC is proud of our monthly safety honorees

Safety Awards Update

1. **Change:** The USAF event-driven "Well Done Award" has been revised and renamed the "Aviation Well Done Award." This award recognizes personnel whose outstanding airmanship or support to aircrew prevented, or reduced the impact of, a serious in-flight mishap. In special cases, this award may be given to an individual(s) whose contribution significantly impacted the safety of the USAF aviation community.

2. **New:** There is a new "Ground/Weapons Safety Well Done Award." The purpose of this award is to recognize non-safety personnel who make a significant contribution that affects overall mishap prevention activities toward ground/weapons safety.

3. **New:** A new annual safety award has been established and will be incorporated into AFI 36-2833: the "Air Force Chief of Safety Medical Achievement Award." This award recognizes an individual or organization from the medical community for outstanding safety contributions or achievements. Any medical unit at the Medical Group or lower level, assigned to a MAJCOM or ANG, can submit a nominee. Now is the time to start writing down those achievements so you can submit a package at the end of this fiscal year (1 Oct 01 - 30 Sep 02).

   These awards must go through the proper channels prior to arriving at the MAJCOM Safety office. An Interim Chance (IC) to AFI 36-2833, Safety Awards, has been forwarded and when approved, these changes will be incorporated into the instruction.

ACC Safety is Proud of All Our Award Nominees

Capt. Jay S. Gibson
F-16 Pilot
4th Fighter Squadron
388th Fighter Wing
Hill AFB, Utah

Capt. Stephen F. Jost
F-16 Pilot
4th Fighter Squadron
388th Fighter Wing
Hill AFB, Utah

A1C. Michah S. Stephens
Armament Weapons Systems Technician
325th Bomb Squadron
509th Bomb Wing
Whiteman AFB, Mo.

Capt. Jeffrey D. Percy
Squadron Electronic Combat Pilot
60th Fighter Squadron
33rd Fighter Wing
Eglin AFB, Fla.

Lt. Col. Thomas G. Markwardt
Chief, Standardization & Evaluation
Maj. Michael G. Harman
Chief, Wing Training
33rd Operations Group
33rd Fighter Wing
Eglin AFB, Fla.

SSgt. Michael A. Smith
SrA. Gary W. Beaver
A1C. Marquese L. Hayden
Weapons Load Crewmembers
60th Fighter Squadron
33rd Fighter Wing
Eglin AFB, Fla.

Capt. Lisa D. Adams-McNeme, Aircraft Commander
Capt. Thomas D. Price, Co-pilot
Lt. Col. Timothy M. Ray, Instructor Pilot
Capt. Brenden G. Rowe, Radar Navigator
1Lt. John E. Saunders, Navigator
Maj. James C. Campbell II, Instructor Radar Navigator
Lt. Col. James D. Osborne, Electronic Warfare Officer
96th Bomb Squadron
2nd Bomb Wing
Barksdale AFB, La.

Treat all Munitions as Live!

By MSgt. Kevin L. Jones, Langley AFB, Va.

Those of us who have worked with training or inert munitions during local base exercises have probably heard the saying "treat these as if they are 'live' munitions." It is critical that all of us, from the young airman to the seasoned veteran, train as if all the munitions we handle are the real thing. As a Weapons Safety Manager (WSM), I have seen this principle violated by both the inexperienced and the experienced. I saw some examples of this at a Red Flag exercise I recently participated in. I also saw fellow weapons personnel go the extra mile in mishap prevention. I believe that if we apply common sense and Operational Risk Management (ORM) to our day-to-day weapons operations, then we can ensure our environment is made as safe as possible.

I believe that if we apply common sense and Operational Risk Management (ORM) to our day-to-day weapons operations, then we can ensure our environment is made as safe as possible.

First of all I want to make it clear that we did not have any safety reportable accidents or injuries for the Red Flag exercise period. Second, none of the incidents I will discuss involved American military members. The personnel were from allied countries that routinely participate in the well-structured, simulated wartime training exercise we call Red Flag. It is also important to keep in mind that Red Flag uses "live" munitions in addition to the training or inert ones so the consequences of a training error had the potential to cause real and devastating damage.

The first incident occurred as I was watching a crew loading bombs. I noticed that the jammer, loaded with a MK-82 on the front, was within 3 feet of an aircraft. This was enough to set off my internal alarms, but then the driver stood up and stepped off the jammer while it was still running. In the other case, a crew was transporting support equipment from the flightline with a jammer. The "spotter" was sitting on the front end of the jammer along with the equipment instead of walking beside or in front of the driver. In both of these situations, the crews displayed a fairly blatant disregard for standard safety practices.

While I realized that every military person is different and everyone's respect for explosives is not the same, I could not risk the safety of all the exercise participants and let these violations pass without comment. I took my responsibility as a WSM seriously and proceeded to discuss my concerns with both of these crews. My

goal in doing this was to prevent a recurrence during a future operation.

As I reflected back on these incidents, I realized what a difference some common sense and sound judgment could have made in both cases. Safety is as basic as using applicable technical orders, checklists, and job guides and putting ORM into daily practice.

Our written instructions are based on the experiences of those who have gone before us and are designed to guide us in the performance of our daily tasks. They need to be used at all times — even if you have completed a task more times than you care to remember and can do it in your sleep. This familiarity can turn into complacency, which can lead to serious errors in judgment and ultimately, mishaps. There is no room in the weapons arena for letting your guard down this way.

ORM is a good common sense way to check complacency at the door. It is a continual, on-going process that can be used in every weapons tasking we accomplish. By identifying the hazards of each task, assessing and analyzing the risk control options and measures, making and implementing control decisions, and accepting the risks only if the benefits outweigh the costs, individuals can be sure they are making the safest decisions possible. By faithfully applying ORM principles, you could even end up identifying new items that need to be added to the written instructions for future weapons troops.

I had an opportunity to witness firsthand this ORM-kind of tenacity at the same Red Flag exercise. One of the allied units had taken Foreign Object Damage or FOD prevention to a whole new level. Every time they entered the aircraft parking area, they took the time to check the bottom of their boots for foreign objects. I applaud their efforts to protect some of our most valuable assets. Sure it took extra time and forethought to do this every time, but the payoff was worth the effort.

That is what weapons safety is all about: taking the time to do the small things the right way every time — whether the weapons are inert or "live." The weapons world can be mighty unforgiving if we choose to take the shortcuts.

Winter Weat

It's 5:30 a.m. and the alarm clock is beeping out its wakeup call. You hit the snooze button for just a few more minutes of peaceful sleep, but suddenly realize it's Monday morning and you've got to go to work. You look outside and see it — that shining, shimmering gloss of frost on the ground, on the car, and in the trees. The wind is blowing in from the north. It's definitely a bundle up kind of day. It is also the kind of day that makes a mishap on the flightline more likely.

Those of us who have been out on the flightline are aware of what I am talking about. The cold weather months are when the Air Force historically experiences more weapons mishaps. This seems to happen because when that cold wind is blowing and the windchill makes it feel like the Arctic, folks start to rush to complete their tasks. When we are cold and uncomfortable, we tend to lose focus on the task at hand. Checklists just seem to take longer. Our thoughts revolve around getting out of the cold and finding a warm place to thaw out. When the mercury drops, the routine, rather painless tasks of loading a missile or bomb, performing tests on launchers, dropping off chaff and flares, or re-warehousing a storage building can turn into long and tedious jobs. The following weapons mishap situations show what can happen when temperatures dip:

Event 1: A load crew is downloading a missile from an aircraft. They are not aware that the cold weather has created a slick surface in the shade of a toolbox. A team-member slips, looses his balance, and the missile falls to the ground, breaking the seeker head.

Event 2: A storage crew is using a forklift to move containerized missiles from a maintenance facility back to the storage building. As the driver turns a corner, the forklift skids on some ice. The driver over corrects the steering, the missile containers shift, and the momentum of the load causes the driver to drop live missiles.

Event 3: A bomb build up operation is being conducted in a snowstorm. The temperature is in the teens and it's just a tough day. An individual is tasked to load a 40-foot trailer with excess bomb components for storage. The individual loads the components on the trailer and then begins the tie-down procedures. After being in the cold weather for about 45 minutes, the individual starts to get uncomfortable and decides that one or two tie-down straps will suffice. After getting in the truck to start the journey to the storage structure, the individual drives off the pad onto the road and meets another 40-foot tractor-trailer. To avoid a collision on the narrow access road, the individual presses on the brakes and veers to one side of the road. This causes a large majority of the load to break lose and results in over 30 different bomb components falling to the ground.

These events actually occurred and illustrate what can happen when people are in a hurry or take short cuts to get out of the cold. Our comfort instincts tend to affect the mandatory requirement to follow the technical orders or apply some good old-fashion common sense. This can be compounded by complacency — a bad trait some of us develop in this business because of our daily exposure to explosives. We tend to forget the lethal power these assets contain. It is critical that we stay focused on what we are doing and be prepared for the conditions.

Supervisors must ensure personnel have adequate Personal Protective Equipment (PPE) for the season. If the outside temperature has been hovering around the freezing point — *approved* gloves are

ner Mishaps

By TSgt. Tommy C. Clark, Langley AFB, Va.

mandatory. I emphasize approved as a reminder that certain types of clothing and equipment are static producing and cannot be used around explosives.

One of our northern tier bases decided to purchase better protective gear for their personnel. Because the appropriate research was not conducted, the new gear was highly static producing and, therefore, unsuitable for explosives work. Now imagine being the Weapons Safety Manager that finds this out and has to tell the unit commander that they didn't do their homework!

Cold weather operations require pre-planning. Supervisors must ensure all required PPE is available prior to dispatching personnel to conduct maintenance in harsh environments. Supervisors need to check the Table of Allowances to verify authorized equipment or with Base Supply if buying commercial items. In addition to appropriate PPE, supervisors must also plan their section's work schedule to include adequate "warm-up" breaks that will keep individuals at the "top of their game."

Explosives designs today incorporate many safety features, however, this alone will not prevent the next weapons mishap. The human factor is still the major player, and when humans get cold, their tendency to make mistakes increases. Rushing or lack of attention to the task at hand compromises safety and can lead to a mishap. Be aware of it, guard against it, stay focused, and come to the flightline dressed to combat the cold.

They Could F

Personal risk management is a vital part of our everyday lives and should not be taken for granted. Harsh lessons are learned from the deaths and senseless injuries that occur due to the failure of individuals to exercise sound personal risk management. As military members, we are all aware of the requirement to properly wear our seat belts both on and off duty, as well as to ensure our passengers are doing the same. I personally found out how critical seat belts can be at a relatively young age.

It was an unseasonably warm Christmas Day. I will never forget that day. It was the day I learned what personal risk management was and realized its importance. I had just returned from washing my car and was anxiously awaiting the return of my brother-in-law and his father from California.

As I walked around my car, a government-owned vehicle approached and parked in front of my parent's apartment. The three large men in Army uniforms exiting the vehicle immediately caught my attention. I ran inside the house and approached the door at the exact moment they knocked on it. When I asked what was going on, they did not say a word. I got my father's attention and summoned him to the door. When my father saw who was at the door, he knew something was really wrong. An Army chaplain, a mortuary affairs officer, and the commanding officer of my brother-in-law's unit from Fort Hood, Texas, were standing on our doorstep.

In a calm voice, one of the members of the team asked to speak with my sister. I told him that she did not live with us, but quickly volunteered to go and get her. Upon our return, she received the most shocking information that any one person can receive. I remember the commander's words to this day, "Ma'am, I regret to inform you that your husband is dead." My sister dropped to her knees and began crying in disbelief. After the emotions of that initial shock had subsided, she was able to ask what happened. All they could say was that the car her husband and his

Have Lived if ...

father were traveling in had departed the road for an unknown reason and both had been ejected from the vehicle. Neither of them had been wearing their seat belts.

A while later, we received a copy of the police report and we got a clearer picture of how important those seat belts might have been. My brother-in-law and his father were traveling through Deming, N.M., on their way home. It was a hot day so the windows and sunroof were open on the Mazda Protegé my brother-in-law was driving. For a reason that is still unknown to us, the vehicle left the hardened surface and began to roll. The report presumed that sometime during the first few tumbles, my sister's father-in-law was ejected through an open window. He was pronounced dead at the scene. My brother-in-law was in the process of being thrown from the vehicle through the open sunroof when his car came to a stop. His body was located pinned under the vehicle partially protruding through the sunroof. Somehow he survived the accident, but died Christmas Eve in a Fort Bliss, Texas, hospital. After reading the police report, looking at the accident scene photos, and reviewing the witness statements, one thing became very evident to me. If they had worn their seat belts, they both could have survived this accident.

Personal risk management both on and off duty is important. It means doing simple things like wearing a helmet while bicycling to making sure you and your passengers' seat belts are properly secured before starting the ignition. Exercising good personal risk management in everything you do, not only preserves the joyous memories of holiday family reunions, but makes every day of the year a safer one. That Christmas was a terrible and tragic experience for my entire family. I hope that others will not have to add similar memories to their family holiday albums before they heed the advice to buckle up! *Editors Note: Story submitted from 8 AF/SE, Barksdale AFB, La.*

No Fear

By SSgt. Michael A. Bacon, Hill AFB, Utah

I grew up in Spokane, Wash. Mt. Spokane is not exactly a "skiing mecca," but there was plenty of skiing to be had for a kid growing up in that area. I would say that by the time I graduated from high school, I was a pretty decent skier. I could handle any black diamond run or — for those non-skiers out there — the most difficult runs on a mountain. I might not have done so with the ease of a ski instructor, but let's just say the "ol' Bacon meister had it goin on!"

About 5 years after I joined the military, I was stationed at Castle AFB, Calif. Castle was in central California — not too far from some of the best skiing in the country. My coworkers and I took advantage of that fact several times a year. Needless to say, I soon felt that I was pretty awesome on my skis. Now let me tell you how stupid I was on my skis.

I had gone back home for Christmas that year. I was itching to show my big brother, Rich, how his younger brother could "tear up the slopes" so we headed up to my old stomping grounds. Tear it up I did.

You see, as a kid I had been on the slopes of Mt. Spokane quite often. I used to know the terrain like the back of my hand. It wasn't that big of a mountain, and certainly not up to the caliber of my superior "been there, done that" expertise. On the way up that day, this mountain somehow didn't seem as challenging to me as it had when I was growing up.

Rich and I found a long and straight run that I used to tuck and go pretty fast on as a kid. I will tell you to this day that I heard that run say, "Mike, show big brother how fast you can go. Point those skis down this slope and have no fear." I complied and off I went.

I was going so fast that even Mario Andretti would have been yelling, "Slow down ... darn kids." Man, I was pouring it on. Rich had to be 500 yards back. I was blowing him away. Oh yeah! I was fantasizing about how my brother would say, "Mike you are so cool. I bow to your obvious superior skiing ability." Then, reality struck.

In the 6 or 7 years since I had skied this particular run, it seems that I had forgotten a minor detail: the run pours off to the left into a cat track (a narrow trail providing a short-cut between two slopes) that was not very

smooth. It has bumps that I couldn't see very well for several reasons: the shade from the trees, going 70 miles per hour, and being a moron. It also is only about 8 feet wide, with a steep embankment on the left and trees on the right. This makes it

a difficult area to stop at because you need some lateral space. This cat track then empties out into another run that has lots of moguls (bumps or mounds of hard snow on a ski slope) and they were big ones! Moguls plus 70 miles per hour equals a problem!

As I entered the cat track, I began to realize the "dill of a pickle" I was in. I had to slow down before I got to all those moguls. I used my only option: turn to the left and try to come to an "ice skater-style" stop. I hit one of the cat track bumps and lost control.

At this point I was sliding backwards on my rear end. I had absolutely zero control and was going off the cat track into the woods. I remember the loud crackling of branches as I went through the trees. I experienced the "seemed like an eternity" sensation that some car crash victims talk about. I believe that experience happens because of the many thoughts that go through a person's head. Mine included, "Mike you stupid idiot! Why did you need to go that fast? You've done it now. You have made your bed, and your paralyzed body is going to have to lie in it." I waited for my back to slam into a big pine tree. I was convinced I was going to be in a wheel chair. I was going to die for being stupid.

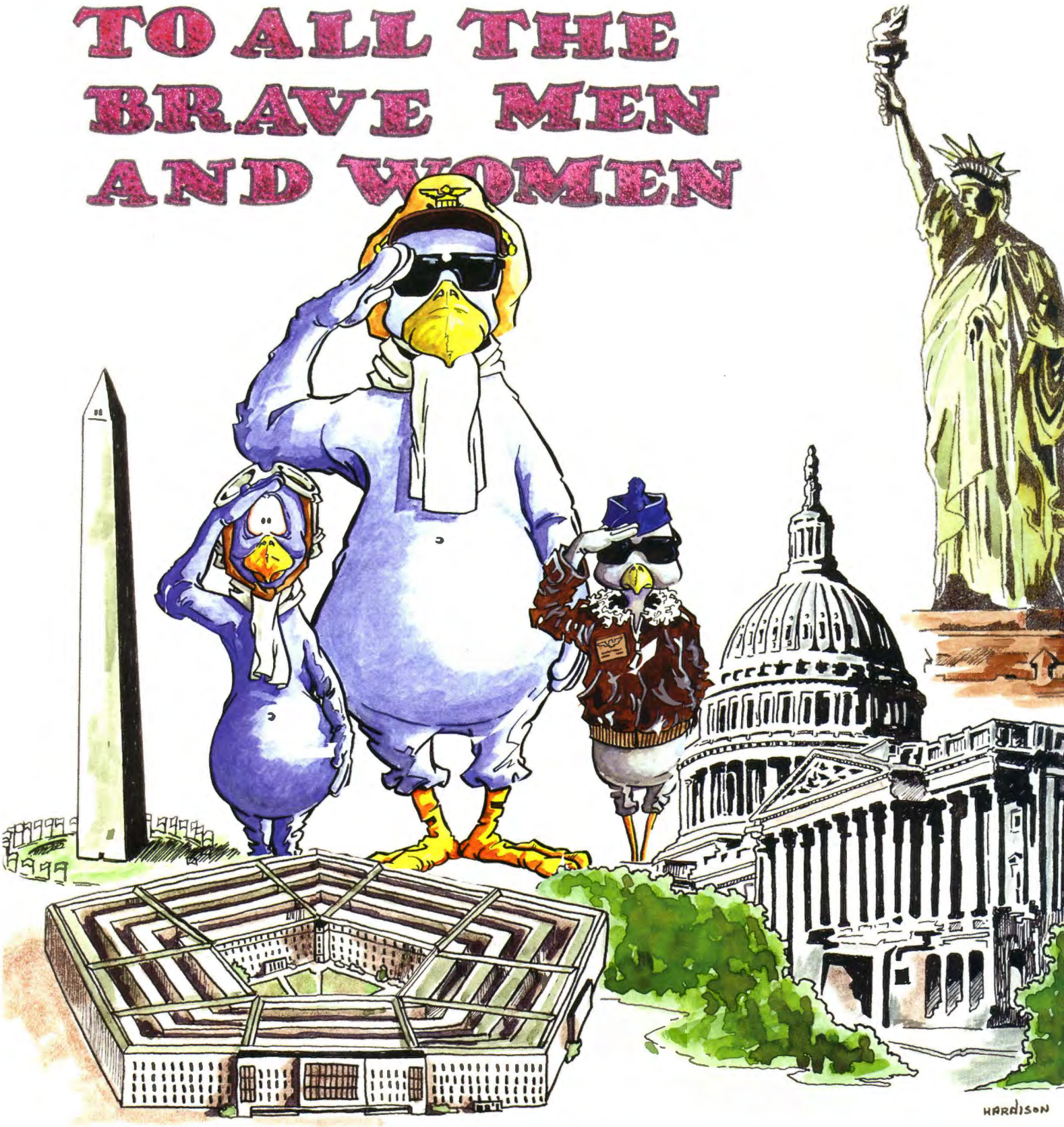
Luck, however, was on my side. Since the snow I was skiing on was several feet deep, the cat track threw me into the top half of some trees that were only about 2 to 3 inches thick. I plowed through approximately 30 feet of branches before the one ski that was still attached got caught up between two branches. I was left dangling, upside down, 5 feet off of the ground. I hung there for a few seconds as I heard the mountain say, "You see the things I could have done to you? I could have broken some bones. I could have paralyzed you or even killed you. Instead, I will just let you hang in that tree and look stupid."

I grabbed onto the base of the tree and unlocked the binding to let myself go. Before too long Rich caught up and was at the spot were I had left the cat track. He was bowing — just like in my earlier vision — but it was only to see if he could spot me in the trees!

"Are you okay?" he asked. "Yeah," I replied. He bowed again once he knew I was OK — this time in uncontrollable laughter. Oh well, what are brothers for? My brother, who was 500 yards behind me on the slopes that day, was 500 hundred yards ahead of me in maturity. I think I finally caught up to him that day.

I hope you enjoyed this story and, more importantly, learned a valuable lesson from my experience. It does no good to realize the consequences of your off-duty activities when you have already committed to the outcome — in the middle of a fall or during the roll of your vehicle. Don't let your ego or lack of maturity seize the moment and write checks you or the people around you can't afford to cash. You are a valuable, trained asset. We want you back at work on Monday talking about your great, safe weekend.

TO ALL THE BRAVE MEN AND WOMEN



WHO SACRIFICE SO MUCH TO KEEP US SAFE AND SECURE

Aircraft Notes

December ended with one additional Class A rate producing mishap, the loss of a B-1 over the Indian Ocean in support of Operation ENDURING FREEDOM. Kudos go to the safety team deployed in support of the operations there to include the US Navy for their quick response in providing nighttime search and rescue for the aircrew, as well as on-going impact area location and security surveillance.

This mishap is a reminder that accidents will continue to occur in war as in peace. An added vigilance is needed to ensure that combat assets and personnel are not lost in preventable mishaps in high tempo situations. The impact may be more than the loss of a single aircraft if the mission cannot be achieved!

Weapons Notes

With colder temperatures now upon us, this is a good time to remind units that most events have occurred during the colder seasons. Mishap situations involve everything from blown domes on CAP-9s to workers falling during explosives operations. Now is the time to increase emphasis on monitoring operations. Things have been relatively quiet. Let's strive to maintain low mishap numbers.

Aircraft

As of January 1, 2002

8 AF	*
9 AF	
12 AF	
AWFC	* *
ANG (ACC-gained)	
AFRC (ACC-gained)	
Aircrew Fatalities	

Ground

As of January 9, 2002

FY02	Class A Fatality	Class A Injury or Equip.	Class B	Class C
8 AF		0	1	38
9 AF		0	1	26
12 AF		0	0	49
DRU		0	0	4

Weapons

As of January 1, 2002

	Class A	Class B	Class C	Fatalities
8 AF	0	0	0	0
9 AF	0	0	0	0
12 AF	0	0	0	0
AWFC	0	1	1	0
ACC Totals	0	1	1	0

Class A - Fatality; Permanent Total Disability; Property Damage $1,000,000 or more
Class B - Permanent Partial Disability; Property Damage between $200,000 and $1,000,000
Class C - Lost Workday; Property Damage between $20,000 and $200,000
* Non-rate Producing

B-1 HH-60 QF-4 F-16 Fatality

Ground Notes

CLASS A MISHAPS

The six Class A mishaps during FY02 all have been fatalities.

There was one on-duty industrial mishap in support of Operation ENDURING FREEDOM.

There were three four-wheel motor vehicle mishaps of which two were not wearing seat belts (67 percent) and one (33 percent) had alcohol involvement.

There were two motorcycle mishaps. Both mishaps involved high speed and loss of control. Personal protection equipment was used in both of these mishaps.

CLASS B MISHAPS

There were two Class B mishaps. One involved an explosion of a propane/air mixing plant. The other involved civil engineer operations in the area of responsibility where a worker was struck by a large pipe and lost a foot. Both are presently under investigation.

Photo by MSgt. Dave Nolan

Lock on Safety

Operation ENDURING FREEDOM flight operations is a team effort. A Reserve crew chief prepares to launch his aircraft for a combat mission. F-16C Fighting Falcons flown by Reserve pilots flew strike missions into Afghanistan dropping precision munitions and electro-optical guided bombs.

The Combat EDGE