

The Combat EDGE

JANUARY 2001



The Combat EDGE

Volume 9 Issue 8
January 2001
ACC SP 91-1

Air Combat Command's Mishap Prevention Magazine

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The Combat Edge (ISSN 1063-8970) is published monthly by Air Combat Command, HQ ACC/SEM, 175 Sweeney Blvd, Langley AFB VA 23665-2700. Periodicals postage paid at Hampton VA and additional mailing offices.

POSTMASTER: Send address changes to *The Combat Edge*, HQ ACC/SEM, 175 Sweeney Blvd, Langley AFB VA 23665-2700.

DISTRIBUTION: F. OPR: HQ ACC/SEM. Distribution is based on a ratio of one copy per 10 persons assigned. Air Force units should contact *The Combat Edge* staff to establish or change requirements. Other Department of Defense (DoD) units have no fixed ratio and should submit their requests to the OPR.

ANNUAL SUBSCRIPTIONS: Available to non-DoD readers for \$35.00 (\$43.75 outside the U.S.) from the Superintendent of Documents, PO Box 371954, Pittsburgh PA 15250-7954. All subscription service correspondence should be directed to the Superintendent, not HQ ACC/SEM.

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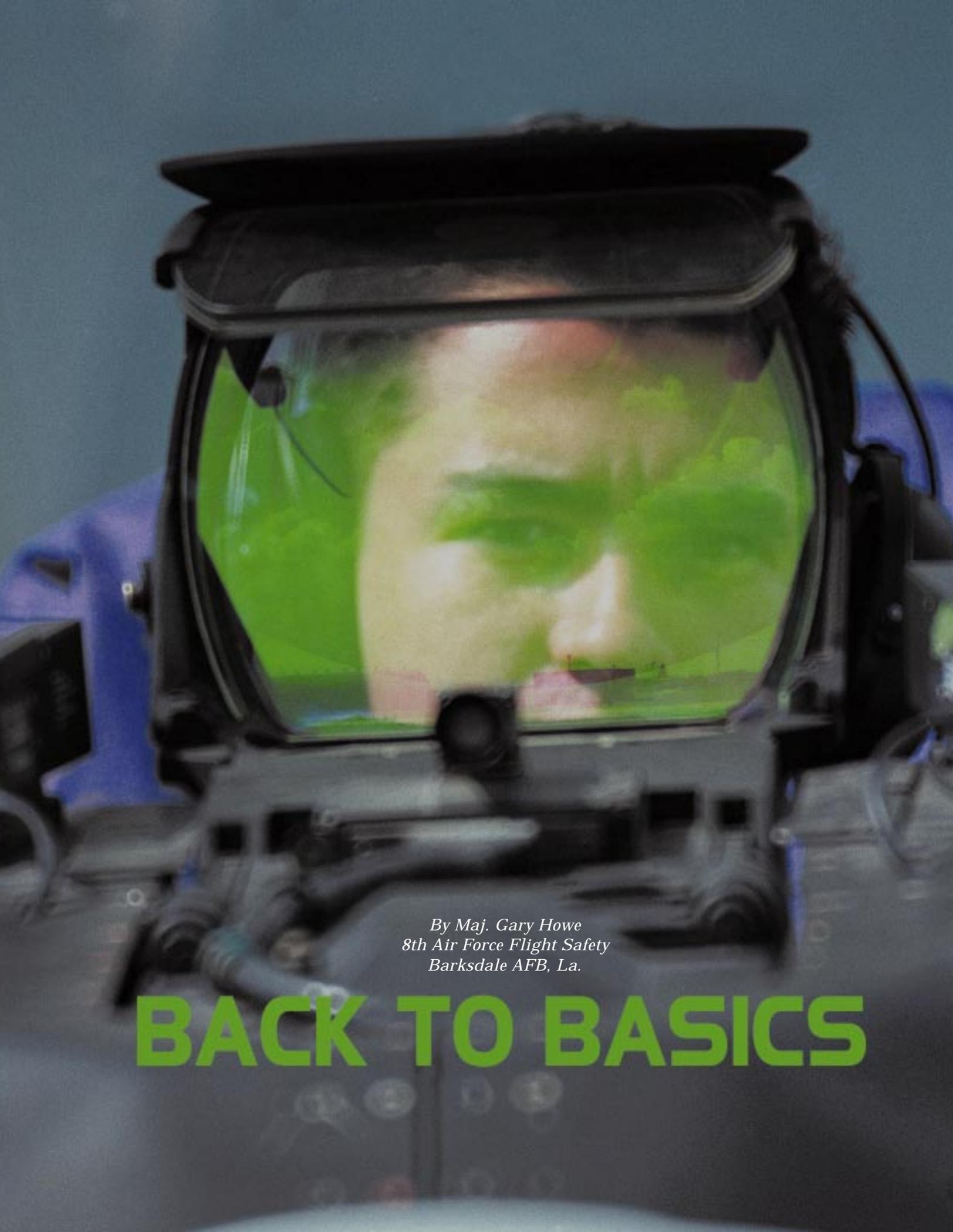
RE-THINKING RISK

For many months you've read and heard about risk management. Not just Operational Risk Management, but our new big push toward Personal Risk Management. Personal Risk Management is extremely important because each individual is ultimately responsible for his or her own safety and survival. Many Air Force members have died because they accepted unnecessary risk. This risk acceptance is the core problem; thus, we must rethink how we look at risk.

When people accept risk, they don't simply accept the concept of "risk," but rather something much more real — they accept the potential "result." Whenever you begin to think of "risk acceptance," replace that phrase with "result acceptance." If you don't fasten your seat belt, you are, in fact, accepting the possible result of crashing through your car windshield and dying. You're accepting the result of grieving parents, spouses and friends, not to mention lost combat capability for America. When you drink and drive, you're accepting the result of having an accident, or even a charge of manslaughter. If you're lucky enough to not get into an accident, you still may be accepting the result of a lost career by being charged with driving while intoxicated. A lost career, in turn, diminishes your ability to provide for your family. If you don't use eye protection while working with power tools, you're not simply accepting the risk of something striking your eye — you're accepting the possible result of blindness. These are examples of results that I'm certainly not willing to accept, and I doubt you are either.

Whether you're on or off duty, think about personal risk management before beginning a task. Be mindful of protective equipment or procedures that are designed to prevent injury or death. Before you discard those protective measures, ask yourself the following, "Am I willing to accept the result of not following the rules?" And remember, your family and friends must also deal with the results of your actions. Make sure your actions "result" in a long and healthy life.

Col. Greg "Vader" Alston
ACC Chief of Safety



*By Maj. Gary Howe
8th Air Force Flight Safety
Barksdale AFB, La.*

BACK TO BASICS

When I first started thinking about writing an article for *The Combat Edge*, I thought about the holiday season and flight safety. Many of us put our safety attitudes on hold during this time of year, even though the hazards we face do not go into hibernation. Another idea was to talk about the “January Challenge.” January has the highest mishap rate each year and begins a period of high mishap months, which ends in July. After further research, something stood out in many of our mishaps over the past calendar year. I would like to share my thoughts on what I have seen....

“Aviation is not inherently dangerous, but to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect.” Most of us have seen the poster with this quote and the airplane stuck in a tree. It gives the impression that the pilot was in some way careless about the basic flying of the airplane.

In spite of the many improvements in aircraft design, technology and training, a fundamental knowledge and practice of flying basics is just as important today, and possibly even more important, than in years past. Each time a mistake is made in the fundamentals of flying, we risk losing a multi-million dollar national asset. We also risk losing our most priceless assets — ACC aircrew members.

In the past year there has been an increase in mishaps directly linked to a lack of basic flying fundamentals. We have had gear-up landings; long/high-speed landings resulting in aircraft departing the runway and/or destroying the brakes; numerous mid-air collisions; and we have had aircraft damaged when the crew touched down at an excessive descent rate and damaged the gear assembly.

In hindsight, all of the incidents were caused by lapses in basic aircrew discipline,

crew coordination and/or airmanship fundamentals. Perhaps we need to reverse this terrible trend with a **Back to Basics** approach.

Flying training has never been more important than it is today. With declining experience levels of aircrew, parts and people shortages, and increased complexity of aircraft, the basics are clearly significant to safe operations. Crew/Flight composition, training and continuity, and proficiency and currency are areas that need constant monitoring by all of us.

How do we achieve this “back to basics” mentality? It begins with you. You must have a thorough knowledge of your aircraft,

mission, flight manual procedures, and associated ACC instructions and supplements. To be an expert on your aircraft requires continual study and practice of this information. Be an expert!

Crewmembers must focus on the basics in mission planning, in-

flight and in post-mission critiques. The critical items, such as crew/flight coordination, mission planning, takeoff, air refueling, low-level, range work, landings, etc., are where the mishaps occur. We need to prepare before flight and get the most out of our training. Have a complete plan of action for both normal and emergency operations.

We should fly every sortie with precision and adherence to exacting standards. Each mission must have an honest and thorough critique. This post-mission critique is a very important part of our training. Have a thick skin and don't take things personally. What did you learn? What will you do differently next time, etc.? Talk and discuss this information before you complete the paperwork.

The crewmembers of ACC are the key to ensuring that we do our mission smartly and safely each and every time. ■

“Aviation is not inherently dangerous, but to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect.”



Dull Swords—Friend or Foe?

*By Master Sgt. Robert Ogurek
ACC Weapons Safety
Langley AFB, Va.*

Too many times people do not want to report a safety deficiency because they're afraid of "airing dirty laundry" and showing the rest of the Air Force a mistake they made. This is the wrong attitude. "Dull Swords" (nuclear safety deficiency reports) are used to identify potential safety issues to the Air Force Safety Center (AFSC), the Air Logistics Center (ALC) item engineer, program manager, and other users of the nuclear certified item. These reports are used to correct the recurrence of similar problems and fix any shortfalls in technical data, maintenance or inspection procedures, as well as provide

trend analysis. Dull Sword reports can result in saved lives, dollars, and preclude the potential for a nuclear accident or incident.

In AFI 91-204, Safety Investigations and Reports, chapter 12 addresses definitions and nuclear weapon safety deficiency reporting criteria. By definition, a Dull Sword is "a reporting flag word used to identify a nuclear weapon safety deficiency including events not falling into the accident or incident categories." ACC units that do not have a nuclear commitment/capability are not required to submit Dull Sword reports. However, if the unit identifies a safety defi-

ciency that may have Air Force-wide concerns, it is recommended that it be reported.

In October 1998, much of the criteria for reporting Dull Sword reports were replaced by the Unsatisfactory Report (UR). Criteria for these reports are found in T.O. 11N-5-1, Unsatisfactory Reports. URs are deficiencies for Department of Energy (DOE) designed nuclear weapon-related items, associated software, and Joint Nuclear Weapons Publication System publications or military service items that interface with DOE items. In addition, URs may also be reported as Dull Swords if they meet AFI 91-204 criteria. Ever since these reportable conditions were separated, the overall number of Dull Swords has significantly dropped and both reporting systems have been streamlined.

Sometimes it appears that Dull Swords are reported but are not tracked or followed up. That couldn't be further from the truth. These reports serve a very important role in the mishap prevention program. HQ ACC/SEW track these reports until closure and review past reports to identify possible trends. Recent events have identified significant trends that directly influenced changes to maintenance and inspection procedures within the specific item T.O.

The most recent report identified problems with our forklift fleet. A forklift, in use by the base supply unit, had bolts shear on the forklift carriage keeper plate assembly resulting in the fork assembly falling off the forklift. As a precaution many bases have conducted a one-time inspection of all like forklifts to identify similar deficiencies. The report also suggested a change be made to the periodic inspection procedures in the item T.O. which would add these bolts as a specific inspection point. While the T.O. change was not accepted, the Dull Sword report ensured all users were made aware of this hardware problem. To date, a significant number of the forklifts inspected

have identified bent or broken bolts requiring replacement. This report definitely prevented a more serious situation from occurring.

In another series of reports, a trend was identified revealing a safety deficiency in the braking system of a nuclear-certified munitions handling trailer. A valve, used to direct air to the braking system of a trailer, which weighs 40,000 pounds and has a weight-carrying capacity of 40,000 pounds, was identified at the heart of the problem. During operation the braking system would experience a failure, allowing the trailer to roll freely or experience a delay in the brake activation. As a result of these events, a team of engineers was sent to the field to

investigate and identify the cause of this deficiency and implement maintenance procedural changes. During the visit, the team identified a compatibility problem with the oil used in the air compressor and an o-ring used within the braking system valve. This caused oil to contaminate the air system, which caused the air valve to fail or delay brake activation, allowing the trailer to roll freely. A time compliance

technical order was issued to rebuild the valves, flush the system, and replace the oil used in the air system. Again, these reports quite possibly saved lives, many dollars worth of equipment damage, and prevented a major accident from occurring.

Even though submitting Dull Sword reports may, at times, be embarrassing, it's worth the red face, uncomfortable feelings, and time spent investigating/preparing the report if a life is saved or equipment does not sustain further damage. Fortunately, there have not been any serious injuries as a result of these deficiencies. We encourage continued participation in the Dull Sword reporting process. And remember; you are a vital part of mishap prevention. ■

In AFI 91-204, Safety Investigations and Reports, chapter 12 addresses definitions and nuclear weapon safety deficiency reporting criteria.

COMMUNICATION IS THE KEY

“Break right... Bandit, your six, two miles... One’s engaged neutral... ID hostile.” “Two’s supporting.”

It began as most F-16 air combat maneuvering (ACM) flights did, with a bandit behind us. The idea was for us to pick up a visual as soon as possible and maneuver the flight as necessary to kill the bandit without either of us getting shot. The radio calls were exactly what we expected to say and hear, but something unexpected happened. While I broke right, my wingman broke left. I used a max-G pull to point at the bandit and therefore had my “belly” up to my wingman. I didn’t see how close he had gotten until the bandit called “knock-it-off,” terminating our engagement because he perceived a dangerous situation developing. I did not think too much about it until we watched my wingman’s tape during the debrief, and I realized that my aircraft nearly filled up his entire heads-up display (HUD) video as he pulled into me.

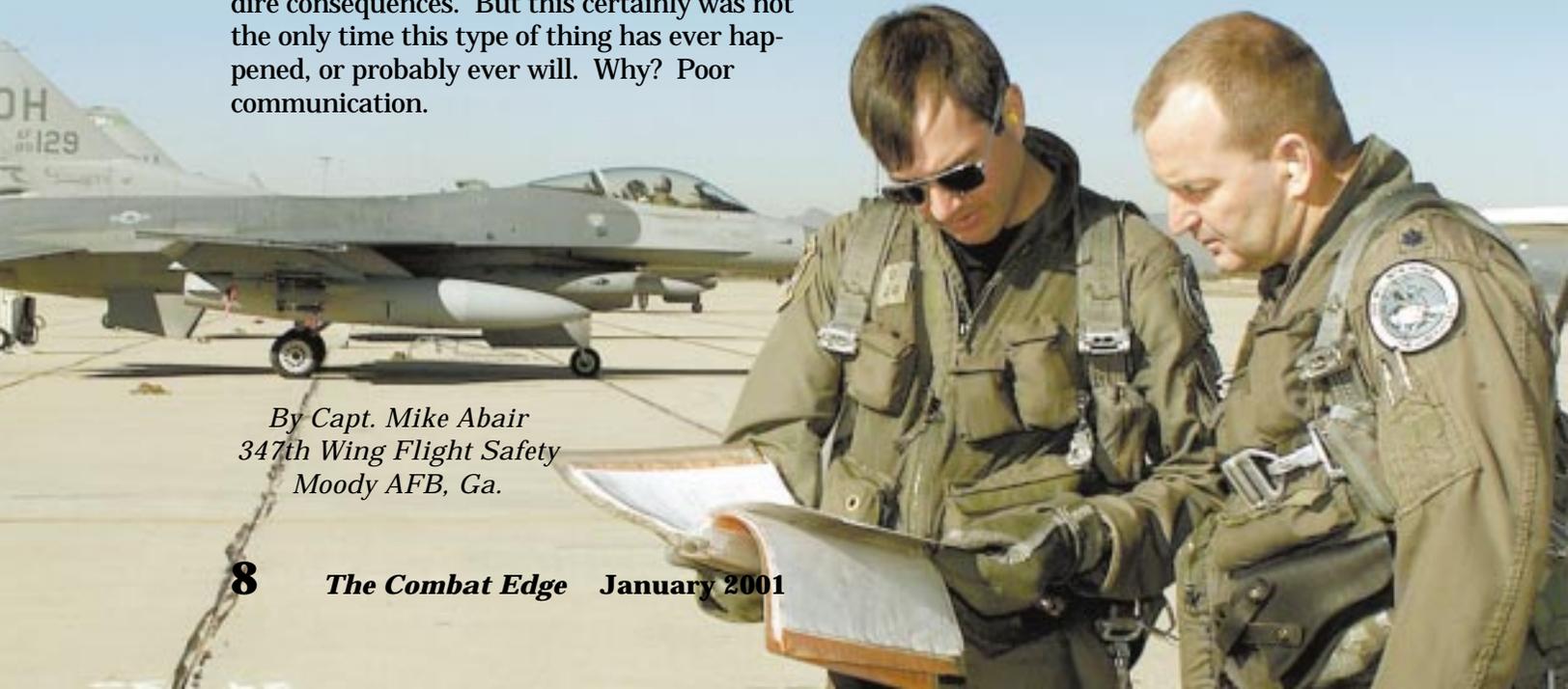
“I said ‘break right.’ Why did you break left?” I asked.

“I thought you said ‘break left.’ I guess I heard the wrong thing,” he responded.

It was a simple mistake that almost led to dire consequences. But this certainly was not the only time this type of thing has ever happened, or probably ever will. Why? Poor communication.

What would our world be like without communication? My first thought was a good one. I would get a lot more thinking done! I wouldn’t have to hear people around me complaining. But after a little “quiet time” thinking, I realized that, without communication, we would be as dumb as oxen. We wouldn’t be nearly as “evolved” as we are. The fact is, we communicate with everyone whom we come in contact, whether we want to or not. Letters and e-mail are obvious forms of communication, as are verbal conversations. Conversations can have numerous meanings based on gestures, voice inflections, or even the type of vocabulary used. Even ignoring someone walking past you is a form of communication. What might you be saying through your actions?

As a lethal air power, we determine our success by all forms of communication. The ability to understand language and instructions can be the difference between manufacturing and maintaining a well-built aircraft or missing one small item that results in injury, death, or destruction. It happens. I continue to see aircraft mishaps that can be traced



By Capt. Mike Abair
347th Wing Flight Safety
Moody AFB, Ga.

almost exclusively to a lack of correct communication.

Written communication is for the most part more clearly understood than verbal communication. That is why we have checklists and technical orders. The idea is to let everyone know exactly what needs to be done and in what order. It is not a perfect solution because unforeseen events, over time, cause us to change and clarify these checklists and tech orders.

Verbal communication is infinitely more involved. The same spoken words can mean many things to many people. That is because a lot more can be communicated than just the words. Let's take inflection as an example in the following sentence: "I want you to tighten the fastener on that panel."

Now think about how the meaning of this sentence changes as the inflection is put on the word in bold type:

I want you to tighten the fastener on that panel. (instead of my boss?)

I **want** you to tighten the fastener on that panel. (instead of need?)

I want **you** to tighten the fastener on that panel. (instead of my co-worker?)

I want you to **tighten** the fastener on that panel. (instead of remove?)

I want you to tighten the **fastener** on that panel. (instead of a hinge?)

I want you to tighten the fastener on **that** panel. (instead of another panel?)

These are six different ways of understanding a simple spoken sentence based solely on inflection. Meanings can also vary based on vocabulary, language and talking speed, just to name a few. This does not even address the multitude of meanings based on non-verbal gestures and perceptions of the person talking by the person listening.

Okay, let's back up a little and get to the point. If you ask someone to complete a task and it is not done the way you wanted, you have to first ask yourself if what you said is what you meant. If you are not communicating the message you want, you will not get the results you want, regardless of how well the other person does his or her job. You must be clear and concise when you communicate. Don't let failure result from your lack of

communication skills. Think about what you want to say and how you want to say it **before** you say it. Then, when you take the plunge and let the thought go out of your mouth, ask for feedback to ensure that it was received correctly.

There are many mishaps that can be traced to poor communication as a root cause. Out of respect for the people involved in these events, I will refrain from addressing them directly. Suffice it to say that you only have to look at a few mishap messages to understand the importance of communication. I did find a video in my desk yesterday from an A-10 sortie which, although it did not result in a mishap we read about in the newspapers, came about as close to one as anyone could imagine. The tape showed a 2-ship formation on a Close Air Support training mission. The flight leader received all the information from the Forward Air Controller and passed it on to the wingman without incident. The flight lead decided to use strafing as the attack method and began the attack. The wingman, slightly confused about the attack, asked the lead to confirm that the run-in was 130 degrees. The flight lead said that the run-in was 160, not 130, all the while continuing the attack. Approximately three seconds later, the flight lead stated he was wrong and the attack was indeed 130. At this point the video shows the A-10 coming within a few feet of the ground as the pilot, realizing he was in a life threatening situation, aggressively pulled out of the dive. He exceeded aircraft G limits and ripped a panel of the aircraft. The important thing was that he made it out of that situation to talk about it and learn from it.

Poor communication put this pilot in a situation he almost could not get out of. How difficult would it have been to terminate the attack and slow down until the information was clear to everyone? Most times, poor communication only results in more confusion or inefficient results, but we, as pilots and maintainers, are in a dangerous business of potential life-threatening situations, where poor communication can be fatal. Effective communication is the key to our success as war-fighters. ■



*By Chief Master Sgt. Michael Mlodzik
USAF Thunderbirds Maintenance Superintendent, Nellis AFB, Nev.*

Fatigue is a major factor behind mishaps. Our minds and bodies need to rest periodically to operate at peak performance. While everyone is subject to fatigue, as aircraft maintainers and operators it is imperative that we listen to what our bodies are telling us because not doing so could cost more lives than our own. There are many ways to tell if one person is fatigued, but how do you tell if your team or squadron is fatigued? It may not be readily apparent to those of us who are working in the thick of things, but the signs are always there, and often obvious to an outsider.

The following sequence of events is typical of any fighter squadron in the Air Force. A fighter squadron deployed to an undisclosed location for a long period, returned to home base for a couple of days, and then headed back out to another undisclosed location for a couple

more weeks. While on the second leg of this deployment, each day seemed to pose a new leadership situation. Challenges increased as time went on, and a sequence of events finally made it apparent that the unit as a whole was fatigued.

It all started when an aircraft that was ready to fly didn't have any impulse cartridges installed after the centerline fuel tank was installed. A number of people should have caught this anomaly, but didn't. By the time the supervisor discovered it during exceptional release, it was too late; the aircrew was on the spot, the maintainers were scrambling, and the pilot was late for his mission. After a lot of embarrassment, explaining, and implementation of preventive measures, the situation seemed to be behind the squadron.

The next day, during the morning aircraft launch, a crew chief hit his head (commonly

called a “bite”) on an aircraft pylon, creating a large gash and a lot of blood on his face. After a rag, three staples and some aspirin, he was ready to go again. Another individual received a “bite” on day three in almost the exact same place, though luckily not as deep. There was some blood, no staples and, of course, some aspirin.

On day six, another maintenance problem surfaced when the main landing gear struts on an aircraft were identified as low and required servicing. This was a hard pill to swallow because it was discovered while the pilot was awaiting completion of the exceptional release inspection. Naturally, the maintainers made it happen, but they were late for another takeoff, which postponed and hampered operations.

As good supervisors, we intervened by briefing our people about the recent problems to increase awareness levels. We thought we were back on track, and then a lost tool surfaced on top of an aircraft. Most embarrassing was that no one noticed until the pilot’s wingman spotted it while sitting at the end of the runway awaiting takeoff. You can imagine the radio traffic from there! Everything stopped, recovery took place, and the tool was returned to the toolbox. Upon further investigation, it was discovered that a toolbox inventory was not performed after the individual completed his job. To add insult to injury, it was also discovered that the tool support section person did not perform an adequate inspection when the toolbox was checked in for the night.

Another incident occurred during a launch when chocks were left under an aircraft. Luckily, another crew chief noticed the situation and remedied the problem before the operators powered up to taxi, which would have caused them to jump the chocks. Then two days later, while boarding a support airlift to return to home station, a person slipped and twisted his ankle on the boarding ramp.

Sometimes it is coincidence, but most of the time bursts of mishaps are signs that your people are fatigued. If you are in a leadership position, one of your responsibilities is to assess your unit’s capabilities on a daily basis. Sometimes one isolated incident is hard to pin on a person being fatigued, but a trail of

incidents that happen to your most experienced and veteran team players is very concerning. Pulling the squadron together, standing down for a day to talk about trends, and discussing some possible solutions was the only way for us to make sure everyone understood the problem. With today’s pace in aircraft maintenance, ensuring that your team/people are well rested and ready to fight the next day is a major task. This is hard to do if your people are injured and your aircraft are not crew-ready due to minor oversights.

Measures to combat fatigue include eating properly, getting the proper amount of sleep, and establishing a daily exercise routine. Sleep is what helps you recharge your batteries, but exercise helps relieve the stress that might keep you from not getting a good night’s sleep.

As a supervisor, you can combat fatigue by knowing your people and their abilities, understanding your operations, and knowing what you are asking your people to do. It seems easy, but occasional oversights can make this very difficult! When problems start to pile-up, ensure you find and “cure” the root cause by properly assessing the problem, versus just treating the symptoms of what you perceive the problem to be. You must also be proactive in regaining your unit’s health before a catastrophe happens.

The most important thing for a team is the buddy system, or, as we commonly call it, the “wingman concept.” This means that everyone is on the lookout to eliminate mishaps and ensure we don’t jeopardize anyone’s safety. Watch for signs of fatigue, but, most importantly, be able to analyze the overall situation to determine a solution. If all the signs of fatigue are present, whether you’re a superintendent on the flight line, a support troop or a commander of operations, you should know what actions should be pursued. Know when to stop the launch or even call a “knock-it-off” for a day. Providing and following guidance, as well as lessons learned, and keeping communication flowing smoothly both up and down the chain-of-command could prevent a future mishap, and, perhaps, even save a life. Remember, **fatigue can affect your whole team.** ■

FLIGHT SAFETY AWARD OF THE QUARTER



*Maj. Gregg A. Lunsford
83rd Fighter Weapons School
Tyndall AFB, Fla.*

Maj. Lunsford is an F-16 Program Manager for the USAF air-to-air Weapon Systems Evaluation Program, which conducts live-missile firings in support of the entire combat air forces (CAF). He positively impacts the safety of this inherently dangerous, but critical program. Through his meticulous pre-mission planning and briefing, painstaking risk management, and superb safety chase abilities, over 10 CAF units were able to deploy to an unfamiliar base where over half the pilots shot live missiles for the first time without any safety incidences. As the squadron Top Three, he ensured the pilots had aircraft properly loaded with live missiles, and he carefully deconflicted crucial telemetry frequencies while coordinating spare aircraft and missiles to get the missions off the ground. He tirelessly worked Operational Risk Management issues dealing with weather, range space, pilot experience, and missile loads. His efforts resulted in every aircraft taxiing with full-mission capability and perfect missile telemetry.

Handpicked as a live-fire "hammer," he personally supervised six missile shoots from the Wetstone radar facility ensuring the overall safety of the entire shoot by carefully analyzing the big picture. He deftly amended shot profiles and drone maneuvers during an intensive missile shoot scenario. His timely actions guaranteed the safety of local watercraft and preserved valuable electronic attack-equipped drones. All planned missile shots were fired, resulting in complete mission success and saving more than one million dollars in drone assets.

Maj. Lunsford's initiatives were demonstrated in a local guide he authored to assist and ensure pilots are thoroughly briefed and understand live-fire special instructions and local area procedures. His pre-deployment briefing, which includes actual video and audio footage of a live-fire mission, has become the benchmark for ensuring the CAF's new pilots thoroughly understand all safety and emergency procedures associated with the live-fire mission. He was personally commended by the weapons evaluation group deputy commander for the thoroughness of his live-fire coordination briefing. His attention to detail contributed to safety by ensuring over 70 personnel comprehended the plan. Through his expert airmanship and timely radio calls, he prevented two potential range safety violations while chasing aircraft with live missiles. Maj. Lunsford has truly made flight safety his business.

GROUND SAFETY AWARD OF THE QUARTER

*Tech. Sgt. Joseph M. Cumbee
82nd Computer Systems Squadron
Langley AFB, Va.*



Under Sgt. Cumbee's outstanding leadership, the ACC Communications Group's safety program has undergone an amazing revitalization. Responsible for the safety of over 600 personnel, Sgt. Cumbee used innovation and persistence to single-handedly transform a nearly dormant program into a program of unsurpassed excellence. The 1 FW FY00 Safety Inspection found zero discrepancies and zero findings in the group — a remarkable reduction from the four discrepancies and two findings recorded in FY99. Additionally, as a direct result of his efforts, the ACC Communications Group is the only unit on Langley AFB to have finished FY00 without a single discrepancy on monthly safety reports and inspections.

Sgt. Cumbee reorganized the way the safety program was implemented. He worked with individual squadron commanders to have safety representatives appointed at the flight level. He personally supervised the newly appointed individuals in developing and refining Job Safety Training Outlines at the element level, ensuring all work centers had a tailor-made plan to meet their specific needs, as well as the demands of Air Force instructions. Sgt. Cumbee provided a first-rate, 30-minute newcomer orientation to 30 newly assigned group members and gave a sobering safety briefing to more than 400 personnel during commander's call this quarter.

He has also reached out to the nearly 200 group personnel serving in geographically separated locations. Formerly, our personnel in locations like Southwest Asia, South America, PACAF, and USAFE received safety information via e-mail. Sgt. Cumbee applied technical knowledge from his primary duty as a computer programmer to re-engineer the way safety information is pushed to those troops. He built a professional group of web pages that provide a comprehensive "one-stop shopping" for all things related to safety education and awareness. This quarter alone, nearly 200 members visited the site. In fact, the 1 FW safety office inspectors lauded his creation as the "best safety website seen-to-date" during the last wing safety inspection.

During this quarter, Sgt. Cumbee proved himself equal to any challenge. When he discovered a malfunctioning fire alarm system in the ACC Communications Group building, not only did he report the defect, but he also took responsibility for the safety of his organization. He closely coordinated with the facility manager, Civil Engineering, fire department, and the Group Commander to make the repair a priority project on the Langley AFB Risk Assessment code list. He also developed and won approval for a temporary work-around that ensures all personnel in the three sections of the building are safely evacuated in the event of an emergency. His initiative and petitioning have paved the way for the addition of a full-time safety officer billet in the group. Sgt. Cumbee's computer expertise, process improvements, and outstanding initiative have ram-rodged safety to the forefront of the minds of every member of the ACC Communications Group.

WEAPONS SAFETY AWARD OF THE QUARTER

*Staff Sgt. Benjamin R. George IV
86th Fighter Weapons Squadron
Eglin AFB, Fla.*

Sgt. Georges' efforts contribute to the safe and successful execution of ACC's premier Air-to-Ground Weapon System Evaluation Program (A/G WSEP). He personally persuaded Ogden Air Logistics Center's senior leadership to provide a dedicated munitions assembly facility for all A/G WSEP operations conducted at Hill AFB, Utah. Sgt. Georges' uncommon persistence eliminated the need to utilize already saturated ACC munitions facilities and allowed for safe and autonomous A/G WSEP operations. He also performed an in-depth safety inspection of the deployed munitions assembly facility to ensure all equipment was serviceable and in proper operating condition.

During the facility safety inspection, he personally identified and rectified an overdue munitions hoist inspection and ensured the hoist met safety requirements. As lead munitions assembly evaluator, he closely supervised three teams of deployed munitions personnel for over 90 days during A/G WSEPs 00-10 and 00-13. His vast munitions expertise was called upon time and again in the development of a detailed munitions assembly schedule that would accommodate separate and highly complex munitions operations simultaneously conducted at Hill AFB.

Sgt. George reviewed training records of all deployed technicians to ensure only fully qualified personnel were permitted to handle munitions. He also performed countless over-the-shoulder evaluations to validate personnel proficiency and gauge the deployed unit's knowledge of safety standards. He astutely identified a discrepancy between the AGM-130 assembly technical order and the F-15E Non-nuclear Munitions Loading Manual while monitoring the assembly and testing of eight live AGM-130s. His attention to detail enhanced safety of flight by ensuring the AGM-130 fuze arming lanyard device was wired correctly prior to mission employment. In addition, he focused the efforts of several technicians from the Boeing Corporation throughout critical AGM-130 and GBU-15 telemetry installation and testing, and supervised the installation of flight termination systems in all AGM-130s. His exacting standards promoted strict range safety and provided weapon command destruct capability from the mission control center.

Sgt. George was selected by the A/G WSEP project officer to serve as the first-ever maintenance liaison in the mission control center during AGM-130/GBU-15 missions. His munitions expertise provided real-time maintenance analysis and weapons safety oversight during actual weapons employment. He further evaluated the safe assembly and testing of an additional 28 GBU-15s (general purpose bombs), 4 GBU-10s, and 2 GBU-24s. During the GBU-15 buildup, he discovered another technical order deficiency involving the ADU-456 guidance section torquing procedures that resulted in improper spacing between the weapon's guidance section and the warhead. His tenacious drive and superior munitions experience were instrumental in averting a potentially catastrophic in-flight weapons mishap. Sgt. George then submitted an AFTO Form 22 to correct the ambiguous guidance section torquing procedures. He recognized a need for an in-depth munitions safety course which would highlight weapon safing, arm/de-arm procedures, and hung weapon procedures for AGM-88, AGM-65G, and laser-guided bombs. He then developed and implemented a comprehensive weapons academics course that will pay huge dividends towards weapons safety for all future evaluations.

His continuous efforts to improve the 86 FWS Safety Program culminated in the squadron receiving an "outstanding" rating in ground and weapons safety for the fourth year in a row, during the 53 WG's Annual Safety Inspection. Sgt. Georges' philosophy of "safety first" ensured weapons safety on the ground and in-flight.

Weapons Safety Stats

ACC Losses for FY 00

(1 Oct 00 - 1 Dec 00)

Number of Weapons Mishaps / Dollar Losses*			
	Class A	Class B	Class C
8 AF	None	None	 
9 AF	None	None	None
12 AF	None	None	None
AWFC (FOT&E)**	** \$32.6M    	** \$5.55M  x 11	
TOTAL	4 / \$32.6M	11 / \$5.55M	3 / \$260K
Weapons Fatalities - None Nuclear Mishaps - None		* Cost of most recent mishap(s) not yet available	 = Missile Mishap  = Explosive Mishap
(**) FOT&E: FOLLOW ON TESTING AND EVALUATION Class A - Incidents involved in FOT&E of Air to Ground Missiles at Utah Testing Range Class B - Incidents involved in testing Air-to-Air Missiles at Eglin's Gulf Range Class C - MQM-107 drone impacted in water after takeoff; CBU-87 dropped during loading			





U.S. Air Force photo by Senior Airman Greg L. Davis

MONTHLY AWARDS

AIRCREW SAFETY AWARD OF DISTINCTION

*Capt. Anthony M. Washington, Capt. Allen R. Henderson
Col. (Dr.) Monique Ryser, 1st Lieutenant Octavio F. Echevarria,
Staff Sergeants Dorsey L. Fyffe II and Jason J. McCune
43rd Electronic Combat Squadron, 355th Wing
Davis-Monthan AFB, Ariz.*



The EC-130H's takeoff and climb out were uneventful. The aircraft reached its cruise altitude of 20,000 ft (FL 200) and proceeded en route to San Clemente NAS for night proficiency training. The aircraft seemed to be performing normally until the navigator notified the crew that it was burning fuel at an abnormal rate for the charted performance. Approximately 15 minutes later, the airborne maintenance technician informed the aircraft commander that he had spotted a fuel leak outboard of the #4 engine on the underside of the flap. The aircraft commander directed a return to home station.

Upon reaching Gila Bend, the aircraft commander declared an in-flight emergency due to the degrading fuel condition. He directed the leaking #4 engine be shut down due to the impending fire hazard, and it feathered properly and uneventfully.

At that point, the aircraft commander notified the crew that the #1 engine secondary fuel pump pressure light was illuminated. When the flight engineer asked the copilot to pull the circuit breaker and the light stayed illuminated, this indicated a failure of the primary fuel pump. Because this could have caused metal contamination of the engine fuel system, the #1 engine was also shut down. Prior to performing the shutdown, the crew decided to dump fuel to reduce the gross weight of the aircraft to sustain a two-engine service ceiling of 8,500 ft AGL.

With the fuel dumped and the #1 engine shutdown, the aircraft was cleared for a straight-in approach to runway 12 at Davis-Monthan AFB. It was brought in the opposite direction of the active runway because that way was closer to the aircraft's position. During the last few minutes of the approach, the flight crew discussed jettisoning the low-band antenna assembly and closing the bleed air valves to conserve power in the unlikely event of a go-around.

However, the aircraft commander had enough power for the approach, using 50 percent flaps, and began the descent to final. The approach to landing was uneventful (except for the fact that it was on two engines) and the aircraft touched down normally and slowed to exit the active runway on A3 taxiway. The crew resource management engaged in by the flight crew ensured the successful and safe return of millions of dollars in Air Force assets to include a high value airborne asset, the EC-130H, and six highly trained aircrew members.

PILOT SAFETY AWARD OF DISTINCTION

*Lt. Col. Charles Q. Brown
79th Fighter Squadron, 20th Fighter Wing
Shaw AFB, S.C.*



While performing a formation takeoff as #2 in a 2-ship formation, the nose landing gear on his F-16CJ aircraft failed to fully retract. Lt. Col. Brown took the lead and requested the #1 aircraft to assume a chase position and perform a visual inspection of the landing gear. After the chase aircraft confirmed that the nose gear was hanging down at approximately a 45-degree angle, all appropriate checklist procedures were completed without a successful result. Col. Brown then coordinated with the Shaw Supervisor of Flying to initiate a "Conference Hotel" with the manufacturer of the airplane. After exhausting all possibilities of getting the nose gear down, he prepared to land with the nose gear not fully extended.

Col. Brown executed a flawless, on-speed approach, landed in a two-point attitude and held the nose up in an aero brake until approximately 100 knots. He shut the engine down in the aero brake to prevent ingestion of debris into the engine intake, then gently flew the nose of the aircraft to the runway. The nose gear collapsed and the aircraft settled on the radome, nose gear door and centerline fuel tank which sent sparks flying 20 feet behind the aircraft. Using differential braking and rudder inputs, he expertly kept the aircraft in the middle of the runway and came to a stop after skidding 1600 feet. As this occurred, residual fuel in the centerline tank caught fire, but was quickly extinguished by Shaw AFB fire fighting personnel. Col. Brown successfully emergency egressed the airplane with no injuries. Aircraft damage was limited to the radome, nose gear door, and centerline fuel tank. His knowledge, skill, and actions prevented the airplane from sustaining potentially catastrophic damage.

CREW CHIEF SAFETY AWARD OF DISTINCTION

*Airmen 1st Class Edward D. Crissen and Ryan L. Moore
325th Bomb Squadron, 509th Bomb Wing
Whiteman AFB, Mo.*



Airmen Crissen and Moore demonstrated keen situational awareness and safety practices when the B-2 they were recovering experienced a #2 brake fire in the quick-turn area. Upon taxiing back, the ground crew noticed flames, originating near the brakes on the lower end of the left main landing gear. As the event quickly developed, both airmen simultaneously made crucial decisions and took immediate action to mitigate the risks present to both the flight crew and aircraft. Airman Crissen expeditiously contacted the flight crew to notify them of the pending danger. He then assisted them with egress procedures to a safe distance from the potential danger. Meanwhile,



Airman Moore approached the aircraft and extinguished the fire. Once extinguished, he remained on scene and monitored the brake until the fire department arrived. The safety-focused decisions of both airmen resulted in only minor damage to the brake assembly, no loss of life, and no damage to the aircraft or adjacent components. In the subsequent investigation, both Airmen Crissen and Moore provided critical technical inputs and findings to assist in determining the cause. The investigation revealed a flaw in brake change technical data, resulting in a maintenance procedural change.

WEAPONS SAFETY AWARD OF DISTINCTION

*Staff Sgt. David R. Ashley and Airman 1st Class Antonio L. Cooper
79th Fighter Squadron, 20th Fighter Wing
Shaw AFB, S.C.*



Sgt. Ashley and Airman Cooper were performing maintenance on aircraft 2923 when they heard several loud popping noises, followed by the sight of several maintenance personnel evacuating the area. They ran to the left side of the aircraft and noticed several MJU-7 flares burning and bouncing around under aircraft 1371 and around other aircraft in the immediate area. Sgt. Ashley quickly grabbed a fire extinguisher, with the support of Airman Cooper, and attempted to extinguish the burning flares. Using the stream from the fire extinguisher, they moved the burning flares away from the other aircraft. They continued this operation until the fire department arrived. Their quick thinking and regard for the safety of others possibly saved the Air Force lives and valuable aircraft assets. Hats off to both of these safety-conscious individuals.

UNIT SAFETY AWARD OF DISTINCTION

*4th Operations Support Squadron, 4th Fighter Wing
Seymour Johnson AFB, N.C.*

During a congested nighttime recovery, the radar approach control (RAPCON) secured the safe recovery of over 15 wing aircraft after an F-15E scraped its tail section during a touch-and-go landing. The tower controllers immediately advised the F-15E and then notified emergency personnel to respond. They also coordinated with approach control which had 14 aircraft in the arrival pattern and several civilian aircraft transiting their airspace.

The approach control watch supervisor swiftly developed a plan of action instructing each operating position to prepare to coordinate for additional airspace and possible diversions since runway operations would most likely be suspended once the emergency aircraft landed. While the approach and arrival controllers advised the airborne aircraft about the situation, the watch supervisor contacted the supervisor of flying (SOF) and informed him that there were two KC-135R aircraft in the pattern that were willing to provide airborne refueling if needed in order to prevent costly diversions. The SOF concurred and the supervisor instantaneously obtained special-use, military operating area (MOA) airspace to accommodate aircraft refueling. Once the tankers were established within the confines of the MOA, the approach controller instructed three F-15Es to enter the airspace and then orchestrated fueling tracks to initiate refueling procedures. The approach assistant controller performed exhaustive coordination with Washington Center and adjacent approach facilities to provide additional airspace to hold six other F-15Es. Unfortunately, three F-15Es were forced to divert because of rapidly diminishing fuel supplies. The efforts of the clearance delivery and approach controllers ensured that new flight plans were formulated quickly to expedite their routing and landing at Cherry Point Naval Air Station, N.C.

Once the emergency aircraft was removed from the runway and a thorough runway sweep was conducted, the RAPCON watch supervisor brilliantly employed team synergy to establish an effective recovery sequence for the remaining airborne aircraft without degrading services provided to civil air-carriers and other over flights. To preclude any further delay for the KC-135R aircraft, the supervisor obtained approval for both aircraft to land in the opposite direction. This allowed the KC-135Rs to proceed directly to the airport without being vectored around the pattern and also avoided excessive back taxiing once they were on the ground. The overall performance and professionalism that the RAPCON crew displayed proves that the success of any operation is not contingent upon the merits of one individual. It takes everyone working together, as a team, to ensure that only the highest quality of service is provided, not only during the routine periods, but during crisis situations as well.



WINTER FLYING

*Reprinted from Jan. 1998 TCE
Lt. Col. Ezequiel Parrilla, Jr.
HQ ACC/SEF, Langley AFB VA*

There we were, at the leading edge of the cold war. We had an early mission and had successfully completed three bomb runs on the bad guys, unloaded all the gas we needed, and got a nice landing at the end. As we walked out of the simulator building and headed to our alert truck, we decided to further defend our nation by accomplishing our daily BX run. It was a warmer January morning than usual, with the temperature slated to rise to an almost bearable (with lots of clothing layers) 5 degrees BELOW zero. Yep, in another 5 months, I would be able to take my winter survival kit out of my car and not have to worry about making sure I had a full tank of gas before leaving the base.

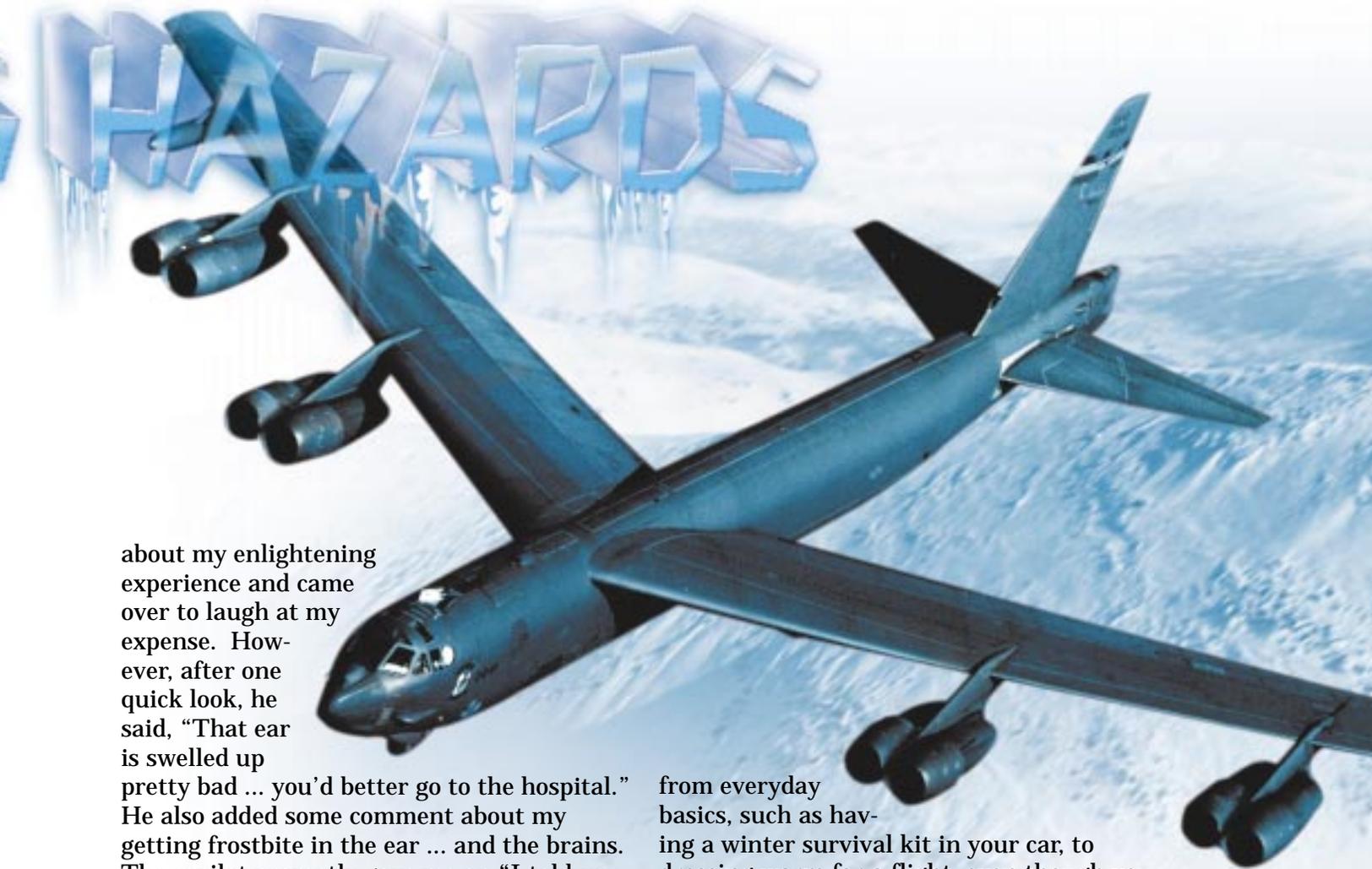
As we continued on our mission, we saw some of the usual winter sights: people with their parkas buttoned up so there was only a small, periscope-like opening for their viewing pleasure; the occasional head-over-heels “holiday-on-ice” performance by someone trying to walk too fast over an unseen spot of ice; and even an adventurous driver who obviously had some sort of special radar on his vehicle ... since the side and rear windows were iced over and the front windshield only had a small ice-free area (you know, that periscope thing again). Even after three winters in the northern plains, I still had not gotten used to seeing cars plugged in or left running unoccupied in the parking lots.

As we approached the alert parking slot at the BX, the Tactical Aircrew Alerting Network (TAAN) radios crackled to life; and we heard that oh so familiar phrase, “FOR ALERT FORCE, FOR ALERT FORCE — KLAXON — KLAXON — KLAXON.” We promptly turned on the vehicle’s “Out of the way, bomber crew

coming through” klaxon and lights. Before our 2Lt copilot got too far on his Mario Andretti impersonation, I gently (no blood, no foul) reminded him that our response speed of “as fast as safety permits” and “pedal to the metal” were not the same thing this day. Posted speed limits were fast enough as we watched a vehicle slide to a stop about halfway into an upcoming intersection.

We safely arrived at the alert pad. Once we slowly (I’d heard of more than one crew dog landing on his tail in the process) got all the pitot covers and assorted paraphernalia out of the way, we entered our aerospace vehicle and I slid on my seat and put my helmet on. Have you ever had a dentist start drilling on your teeth before the novocain does its thing? If so, you know what I felt at that point — the only difference was the pain came from my left ear. I promptly let out a primal scream (it hurt too much for my brain to take the time to formulate any words) and removed my helmet, fully expecting a sea of blood to follow. To my amazement, there was no blood; the pain subsided to a gentle burning sensation and a check of the area showed I still had my ear in place and had no visible damage. I felt well enough to continue the task at hand (even though my brains were still in shock), so I decided to put on my headset (right earcup only, of course) and proceed with the engine start — otherwise, freedom, liberty, and the American way of life would surely be threatened. Everything went well. The enemy hordes were repelled, we shut down our engines, and we started to get the aircraft ready for another response.

By this time, my buddy aircraft commander on the next parking spot had heard



about my enlightening experience and came over to laugh at my expense. However, after one quick look, he said, "That ear is swelled up pretty bad ... you'd better go to the hospital." He also added some comment about my getting frostbite in the ear ... and the brains. The copilot promptly gave me an "I-told-you-so type of look" while rubbing the side of his head, but said nothing. On my way to the emergency room, I grabbed my helmet and saw that the protective foam over the metal speaker had moved; and the very cold metal had obviously made contact with my, until then, warm ear. My ear did not suffer any lasting damage, although I looked a bit like Mr. Spock for a couple of days. However, I paid more attention to our life support guys any time they talked about not using helmet bags to stuff in extraneous material such as flashlights, checklists, and assorted reading material.

By the time this issue of *The Combat Edge* comes out, Old Man Winter will be close to his prime days. The effects of cold weather can turn a minor mistake into a serious — maybe even life-threatening — one. The Boy Scout motto of "Be Prepared" gains a lot of significance this time of the year. This goes

from everyday basics, such as having a winter survival kit in your car, to dressing warm for a flight, even though you are taking off from a not-so-cold environment. Of course, you are not going to have to eject today; but then again, the crewmembers that had to eject in a freezing cold, wet environment did not expect to either. In addition to the cold, the unpredictability of winter flying operations, coupled with low visibility and other things, can really ruin your day. The toughest takeoffs and landings I have ever made were done during the coldest time of the year. Taking off practically sideways in a Buff with almost full crosswind crab, snow falling, and runway condition reading (RCR) just above minimums, is one of those things you remember for a while. The feeling of accomplishment you get when you clear the runway after flying an instrument approach to minimums, is one you'll only get if you prepare yourself well before you run the descent checklist. FLY SAFE! ■

EXPLOSIVES DEPLOYED

*By U.S. Central Air Forces Weapons Safety
Shaw AFB, S.C.*

You are probably thinking to yourself, “how many times are we going to talk about this?” The answer is: as long as we keep deploying and making the same mistakes. As you may know, the majority of mishaps that have happened in USCENTAF have been at deployed locations. Several dropped missiles during upload or download and a battery firing device inadvertently initiated on a MAU-169 during download are some of the reportable events that have happened in the last year. Additionally, there have been numerous unreported incidents of damaged wings and fins on missiles.

These relatively small discrepancies share many things in common with our mishaps. It is common for these incidents to typically occur within the first two or last two weeks of a deployment. In the first two weeks people are adjusting to the time shift, tent life, separation, new duty schedules, etc. During the last two weeks everyone is anxious to get

packed and go home. The result in either case is distraction from the task at hand. Added to this is a high operations tempo, more ups and downs than at the home station, and the unique desert environment. All of these factors, along with the frequent use of live munitions, add to an extremely high accident potential.

Fortunately, at Prince Sultan Air Base (PSAB) we are able to meet all required inter-magazine distances. However, these distances are often difficult to meet at other bases throughout the CENTAF

area of responsibility (AOR). Where the required minimum distances cannot be met, aircraft have been grouped as per AFMAN 91-201. This makes the resultant situation legal, but not any safer. In fact, the result of a mishap in these locations will be much more catastrophic.

Whether your unit deploys a weapons safety manager or not, people must realize that these hazards are real and the consequences of complacency could be devastating. The potential for a mis-

“You are probably thinking to yourself, “how many times are we going to talk about this?”

S SAFETY AT LOCATIONS

hap due to personal error is higher in the AOR than anywhere else. The incident with the MAU-169 happened one day after all the weapons folks were briefed about the critical two-week mishap windows at the beginning and end of a deployment. The crew was experienced and had already downloaded the same load at least once that afternoon with no problems, yet they deviated from the checklist and caused a mishap less than 48 hours before leaving the AOR.

In case you are an ammunition, or “ammo,” troop and think situations such as these only apply to loaders, you are mistaken. Although ammo doesn’t rotate as a unit, the critical two weeks at the beginning and end of a deployment apply to you as well. In fact, the first two weeks may be even more difficult because you may be working with an entirely new crew. Most munitions storage areas (MSAs) also have extremely limited storage locations. The

effect weather has on the stockpile also adds to these problems. The roads and pads in the MSA are very susceptible to erosion, and many of our munitions are sensitive to the desert heat. These are just a few examples of how the desert environment can challenge your daily activities.

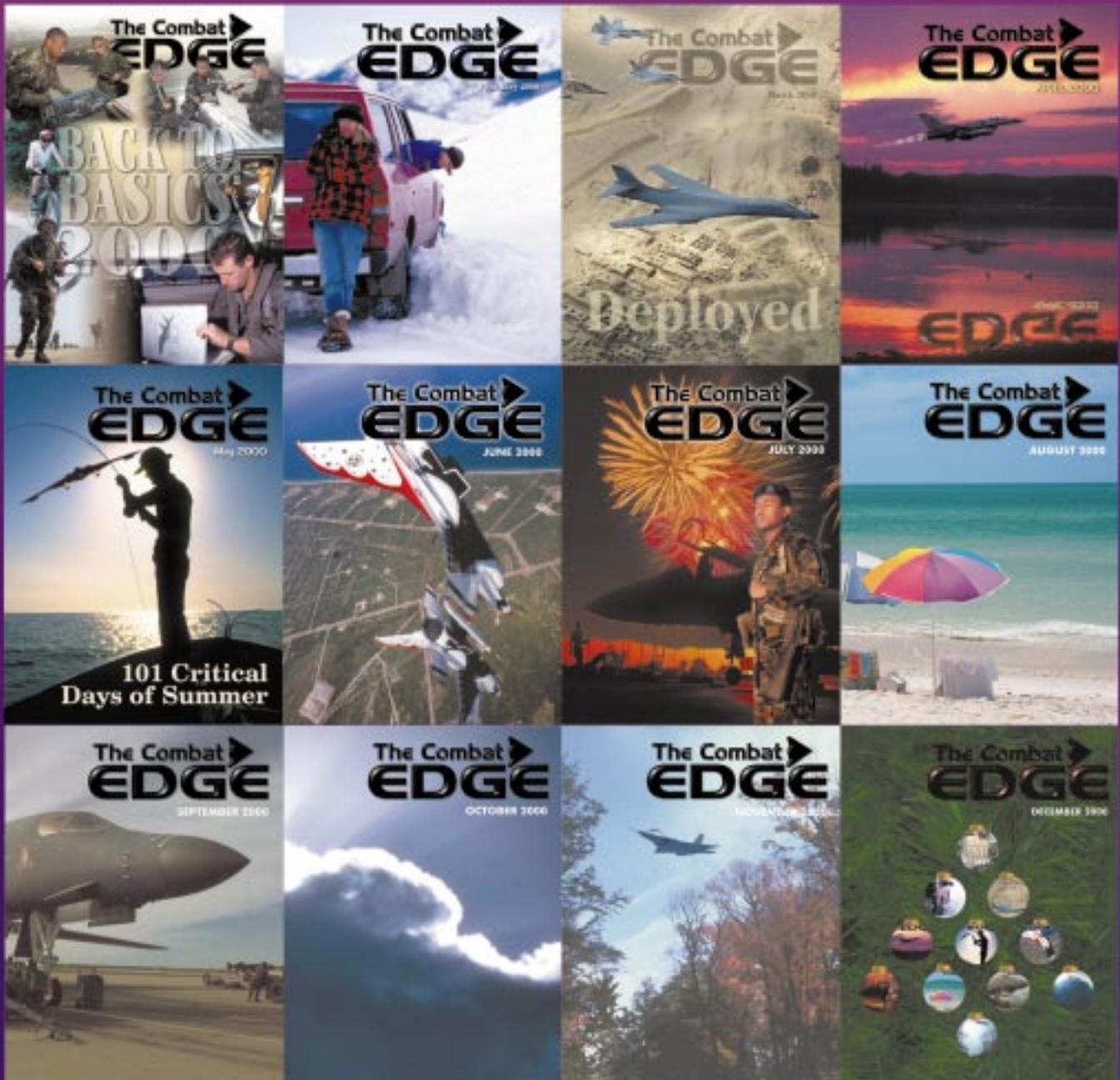
Don’t forget to be vigilant and apply Operational Risk Management to identify, reduce, and ensure that risks are acceptable.

This is not intended to be a gloom and doom article. It is simply a re-

minder that weapons safety needs to be high on everyone’s list of priorities, from the first day of the deployment until the last. All personnel, from the newest airman to the wing commander, need to understand that these trends can indicate when and where mishaps are most likely to occur. It is a team effort, with everyone doing his or her part, that prevents mishaps. ■

It is simply a reminder that weapons safety needs to be high on everyone’s list of priorities, from the first day of the deployment until the last.

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The investigation was worse than the incident.
Capt. Matt Schuster - DEC 00, GRND

SEAT BELT ENFORCEMENT Q & A

Up-front facts and realistic answers.
National Safety Council - AUG 00, GRND

SHIPS SAFE IS FIRESAFE

Keep fuel and vapors in their proper places.
U.S. Coast Guard, Office of Boating Safety - JUL 00, GRND

SIMPLIFYING ORM

Assess risks, Consider options and Take action.
Col. James Stanley - NOV 99, GRND

SKATEBOARDING

Learning how to fall may reduce injury.
National Safety Council - AUG 00, GRND

SO, YOU WANT TO BE A COWBOY?

Each "could do" and each "could teach."
Maj. Jack "Slap" Patterson - FEB 00, FLT

STOP AND THINK

Summer months should create fun memories.
Ms. Jackie Gallegos - JUN 00, GRND

TARGET SAFETY

Stay alert and focused on the task at hand.
General John P. Jumper - OCT 00, COMACC

TEAM SAFETY

Each member's best effort is critical to ensure it.
Col. Greg Alston - OCT 00, GRND

TEAM SALUTES

SSgt. Robert A. Wylie and SSgt. Patrick A. Ahearn,
superior performers.
Ms. Barbara Taylor - DEC 00, GRND

TEN SECONDS

I went from routine to almost a midair.
Maj. Phillip Beaudoin - APR 00, FLT

THAT SINKING FEELING

If I had been drinking or not had my life vest on...
1Lt. Harry Dyson - JUN 00, GRND

THE CRITICAL MOMENT

Don't let it slip away, and question or regret.
Sgt. Joy E. Fowlkes - FEB 00, GRND

THE DEPLOYED MENTALITY

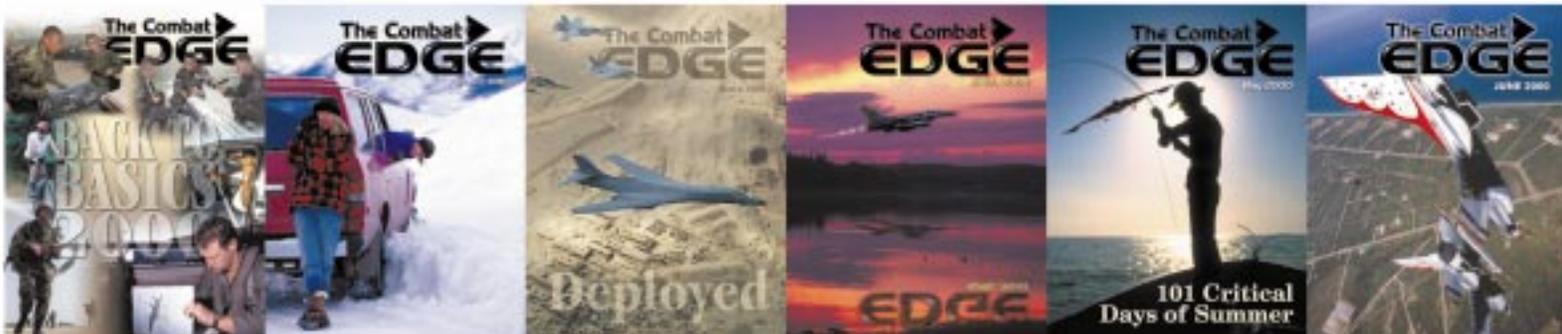
Awareness... paramount to safe performance.
TSgt. William Curtis - MAR 00, GRND

THE DRIVING FORCES OF YOUTH

Lead by example.
Col. Fred P. Clark - OCT 00, GRND

THE FATIGUE FACTOR

Sleep deprivation... more deadly than alcohol?
SSgt. Michael L. Walter - MAR 00, GRND



THE HARSH TRUTH

A simple, reckless act can cause devastation.
Mr. Darrell Wyatt - NOV 00, GRND

THE PINCH

When you get it, step back and review.
Capt. Scott Ryan - MAR 00, FLT

THE SOBERING FACTS ABOUT ZERO TOLERANCE

If you're underage and drinking, you lose.
National Highway Traffic Safety Administration
MAY 00, GRND

"THERE I WAS..."

They never knew how close we came to disaster...
Maj. Gen. Larry Arnold - NOV 00, FLT

THREE FOR THE ROAD

Driving is an undivided-attention task.
Va. Trooper Raymond C. Ferrara - MAR 00, GRND

THUNDERSTORMS

The most dangerous hazard to aviators and more.
Capt. Mark Quigley - APR 00, FLT

TIME TICKS AWAY

Even old "war souvenirs" have gone off.
By the 355th Civil Engineer Squadron Explosive
Ordnance Disposal Team - MAY 00, WPNS

TIME, SAFETY AND THE "IF ONLY" REFRAIN

Internalize mishap prevention and ORM.
Lt. Col. Christopher F. Burne - SEP 00, GRND

"TOWING" THE LINE

Examples to recognize mishap potential.
MSgt. Danny Smith - SEP 00, GRND

TOY SAFETY TIPS FOR THE HOLIDAYS

All toys should be age-appropriate.
American Academy of Pediatrics (AAP)
DEC 00, GRND

TRAVEL SAFELY

Planning is the key. Don't be a victim.
SMSgt. Gnanapragasam Gabriel - NOV 00, GRND

TWICE THE LOVE, TWICE THE PAIN

In 1973, no one talked openly about suicide...
American Association of Suicidology - JAN 00, GRND

WALKING IN A WINTER WONDERLAND

Are you prepared for the hazardous landscape?
National Highway Traffic Safety Administration
FEB 00, GRND

WATER-SKIING FOR FUN!

Insights and good advice to keep it that way.
U.S. Coast Guard, Office of Boating Safety
JUL 00, GRND

WEAPONS "BACK TO BASICS" PERSPECTIVES

Mishap reporting is NOT airing dirty laundry...
ACC Weapons Safety Branch - JAN 00, WPNS

WEAPONS SAFETY MANAGERS

Answering the growing call for expertise.
Lt. Col. Bruno Eddy - JUL 00, WPNS

WHAT'S THE BIG RUSH?

Distance yourself from an aggressive driver.
Mr. Ken Morris - NOV 00, GRND

WHEEL TRAPS

Sometimes two wheels aren't up to the task.
Mr. James R. Davis - AUG 00, GRND

WHERE'S MY CERTIFICATE?

Where are the people we want to recognize?
Editor, The Combat Edge - AUG 00, GRND

WINTER SURVIVAL KIT

A simple inventory in accord with where you are.
MSgt. Tracy Turner - DEC 00, GRND

WORK PLACE SAFETY

Develop awareness of potential hazards.
SrA. Marlon J. Fuentes - DEC 00, GRND

"YARD SALE" IN WINTER

Good ideas/techniques for snow-skiing.
1Lt. Erin Bradley - DEC 00, GRND

101 CRITICAL DAYS OF SUMMER

Bringing triumph or tragedy in 2000?
Mr. Frank Altamura - MAY 00, GRND

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