

# The Combat **EDGE**

February 2003

The Combat Edge February 2003 Global Strike Task Force

A large, dark silhouette of a B-2 Spirit bomber is centered in the frame, viewed from a low angle looking up. The aircraft's distinctive flying wing shape and canards are clearly visible. It is positioned against a bright, orange-hued sunset sky. The sun is a bright, glowing orb located directly behind the aircraft's fuselage, creating a strong backlighting effect and a lens flare. The horizon line is visible in the lower third of the image, with some dark silhouettes of land or structures. The overall mood is dramatic and powerful.

## Global Strike Task Force



# The Combat EDGE

Volume 11 Issue 9, ACC SP 91-1

GENERAL HAL M. HORNBERG, COMMANDER

COLONEL KEVIN W. SMITH, CHIEF OF SAFETY

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Front Cover: Mr. Kevin Robertson



## Back to the Basics

There is no question the members of Air Combat Command are busy and actively involved around the globe. If you are at home station, you are likely picking up additional responsibilities for those deployed.

With enhanced force protection duties, it means all of us have a higher OPSTEMPO.

When we get busy, all too often the "basics" start to get overlooked.

When they get overlooked, we have mishaps. As we wield aerospace power, we can't forget the basics, not even for 1 minute, because we will hurt someone or something. The basics keep people alive, especially in combat. Fighting like we have trained includes proper application of the basics. We don't have a separate set of rules or standards for combat operations.

For a large part our AF Instructions and T.O. procedures were written as a result of injuries, damage, and hard lessons learned by our predecessors. Doing things by the book is the safest way of doing business. Doing things by the book is part of the Air Force core value of integrity, where we do the right thing even when others are not watching.

So before higher headquarters has to remind you to "get back to the basics" after a mishap at your base, take action to keep the basics at the forefront of all you do every day and don't let the level of your work load cause you to cut corners.

*Colonel Kevin W. Smith,  
ACC Chief of Safety*



Photo by SSgt Christopher Matthews



# We Are All Airmen 24/7

By Lt Gen Bruce A. Wright, ACC Vice Commander

**m**ore than ever before, our military family members are participating in extreme sports and high-risk activities. Activities such as rock climbing, 4-wheel and 2-wheel on- and off-road driving, scuba diving, extreme skiing/snow boarding, bungee jumping, and bull riding are now all part of ACC members' off-duty recreation, and all have significant inherent risks. Each of us needs to focus our attention on extreme sports safety to ensure our personnel are educated and trained before they engage in this type of high-risk activity. This is an entire team effort, required not just from commanders, but from all personnel to protect ourselves, our fellow airmen, and our families.

In reviewing our mishap history, we continue to witness tragic but preventable mishaps involving sporting activities. Poor judgment, lack of training, and inexperience continue to be significant factors in these mishaps. With that in mind,

every member of our force who participates in high-risk sports must spend time preparing for these off-duty activities the same way as you would prepare for an on-duty task. Just a few minutes of thought and preparation for a sporting activity can make the difference between life and death. Know your limits and never attempt to push the envelope beyond your capabilities, or the design limits of your equipment. The application of Personal Risk Management (PRM) is the most effective means to ensure you stay within proper limits.

Commanders and supervisors at all levels must take an active role and know the members of their organizations who participate in extreme sports activities and engage directly with them on their level of experience. Units can bring in trained experts to ensure personnel are adequately trained, know the dangers associated with their particular sport, and can teach others to participate in extreme sports safely. In

addition, commanders must ensure DD Forms 93 are accurate and up-to-date. This will enable a smooth and orderly flow of notification to family members in the event of an emergency. As commanders, supervisors, coworkers, and friends, we must do everything we can to ensure our people know the risks they are taking and demand that they take proper protective measures.

We need every ACC member healthy and able to fight in the ongoing global war against terrorism. Please remember that above all you are an airman, 24/7/365 — you have a professional responsibility and you took an oath to be ready to defend this country. Personal safety is no longer just a high-interest item during the summer months, holidays, long weekends, and annual leaves. Today, in this war, taking care of ourselves and each other, and managing and controlling risks are ultimate responsibilities for all of us. ►



Photo by TSgt Jack Braden



Photo by SrA Jeffrey Allen









# Accidents Can, V

**H**as there ever been a headline about an accident that was prevented by safety? Not likely, said the Air Force's new chief of safety. Accidents that do not happen simply do not make good headlines.

The lack of good publicity is something Maj Gen Kenneth W.

Hess, who became the service's top safety official in June 2002, can live with. It is the loss of life that he works to prevent. "There's an implied assumption by mothers and fathers that when their sons and daughters come to the military, that after an enlistment or career, we will return them safely," he said. "We

owe it to those parents who are giving us our nation's treasure to create an environment that's safe."

Far too often in 2002, that has not happened. The general acknowledges that it has been a rough year for safety. As a former commander of three flying wings and a numbered air





force, Gen Hess takes the fatalities behind safety statistics personally, as do all commanders. "It's one of those bedrock issues that you live with every day as a commander," he said.

Most safety accidents come in three distinct categories: aircraft, ground, and off-duty ground. While the first two categories make headlines, off-duty accidents killed more airmen than the war on terrorism. "Private motor vehicle accidents are through the roof," Gen Hess said. "We're having the worst year since 1991. Gen-

out a major overhaul of the Air Force traffic safety program. "One of the contributing factors (according to the report) is that incoming members no longer get the same level of driver's education that was once taught in high school, as a kind of rite of passage," Gen Hess said.

Traffic safety courses taught to basic trainees and technical school students will be the first to use new information from the study. According to Hess, the overhauled programs will target 18- to 25-year-olds. "We've learned that peers are often a greater influence than commanders, so we're going to concentrate on those relationships and deliver messages where peers might help each other modify their driving behavior," he said.

But not all fatalities have come on the highway. Class A flight mishaps — ones that involve a death or at least \$1 million in damage — were up dramatically in fiscal year 2002. As we finish the year, the rate is

the ground can cause near white-out conditions during landings. "The accidents that have happened in the area of responsibility are in an environment that we can't replicate in the U.S.," he said. "This contributes to a steep learning curve in how to operate safely in that environment." He expects the accident rate to go down as the Air Force gains more experience operating in Afghanistan and surrounding areas.

But, he cautioned, experience can sometimes breed a dangerous condition called familiarity. The General stressed that ground safety is an area where awareness and operational risk management need to be emphasized to combat this subtle factor. "Tasks are learned through repetition," he said. "The more you (perform) a task, the more you simply react to the task and the thinking part of it goes away. When one element of the environment changes, you get surprised."

# ***Air Force Chief of Safety:*** **Will Be Prevented**

By MSgt Ron Tull, Washington, D.C.

erally speaking, our airmen are dying alone out there in the middle of the night."

Prior to the summer safety campaign referred to as the "101 Critical Days of Summer," safety officials were working on an action plan, in response to an Integrated Process Team report, to carry

1.66 mishaps per 100,000 hours, up from 1.16 in fiscal year 2001.

Gen Hess said a big reason for the increase is Operation ENDURING FREEDOM. For example, helicopter landings in Afghanistan are particularly troublesome because of the high altitudes and very fine sand on

An important key to eliminating hazards of all types, he said, is risk management — the mission of the Air Force Safety Center at Kirtland Air Force Base, N.M. "Risk management is a way of thinking, not a program," he said. "It requires looking forward to prevent accidents. And we're in the accident prevention business." ►





**F**or nearly 6 decades Eighth Air Force has been world renowned as the United States Air Force's bomber command. The "Mighty Eighth's" bombing legacy began in the European Theater during World War II with its B-17 and B-24 strategic missions against Germany. That legacy has continued for almost 60 years as the Eighth provided a worldwide bomber strike ca-

pability throughout the Cold War, DESERT SHIELD/STORM, and most recently for ENDURING FREEDOM in Afghanistan.

The result of this legacy is a vast capability to strike targets around the world with nuclear and conventional munitions ... from cruise missiles to a vast array of dumb and smart iron bombs. That capability has been



# Global Strike

## 8th Air Force Legacy Continues

By Col John McLean, Barksdale AFB, La.



broadened further by the bomber's ability to loiter in the target area and strike multiple targets with extraordinary accuracy.

This significant capability resulted in the Eighth's bombers being involved in virtually every contingency operation in modern memory. There

is an indisputable requirement for manned bombers in future military operations, but it is doubtful, especially with recent changes across our Air Force, that the "Mighty Eighth's" "Bomber Command" moniker will survive.



In his farewell comments to the Air Intelligence Agency, the commander, then Maj Gen Bruce Wright, shared his thoughts with AIA's men and women about the Global Strike Task Force (GSTF) ... the kick-the-door-down force the Air Force has adopted as the road ahead for the future.

Wright discussed the predictability of response during the Cold War era, when we had the luxury of time to assess and develop long-term solutions to Soviet mili-

adversary's air defense infrastructure and weapons of mass destruction (WMD). IO can provide insight to an adversary's capabilities and transform intelligence for the Preparation of Battlespace (PBS) into Predictive Battlespace Awareness (PBA).

PBA, through integrated IO efforts, can provide information on the enemy's air defense systems, command and control networks, and the locations of critical WMD targets. The collaborative effects

Intelligence, Surveillance, and Reconnaissance. Integrating these functional specialties allows the Air Force to rapidly establish air dominance and guarantees that joint land, sea, and air and space forces will be free to operate within the area.

Eighth Air Force is one of the critical components needed to bring Gen Jumper's GSTF vision into focus. Since Oct. 1, 2002, Eighth Air Force has assumed the responsibility of presenting the



Photo by SSgt Douglas Brunelle



## Global Strike Task Force blends stealth, supercruise, precision

tary challenges. But the days of the "dueling" superpowers are gone. Taking the Soviets place are threatening alliances of the lawless and dictatorships that are extremely dangerous "... so dangerous in fact that we have had to develop fast reaction plans to employ our military capabilities to protect our allies and our nation," according to Gen Wright.

Wright explained that the "kick-down-the-door" force is not solely a kinetic force-on-force proposition. It is rather a combination of Information Operations (IO) capabilities coupled with stealthy and non-stealthy aircraft to take out an

of integrating IO for Intelligence Preparation of the Battlespace and the use of kinetic systems to destroy selected targets, in Wright's view, forms an aerospace campaign that can deliver the desired GSTF effect of stealth, speed, and precision.

Since the Air Force Chief of Staff Gen John Jumper's introduction of the GSTF concept, 8 AF has taken the concept to the next level of transformation. He envisions a rapid reaction force employed within the Air Expeditionary Force construct that integrates stealth, precision strike, standoff capabilities with Command and Control,

preponderance of the Air Force's long-range strike and C2ISR air breathing assets. From the most senior of our weapons systems the B-52H to the newest system, the Global Hawk Unmanned Aerial Vehicle, the Eighth Air Force commander is focused on integrating these capabilities into a synergistic module for the Joint Force Air Component Commander (JFCC). This will enable the JFCC to tap into the Air Force's "Kill Chain" module ... Find, Fix, Target, Track, Employ, and Assess (F2T2EA) to achieve a stated objective.

In October 2002, Lt Gen Bruce Carlson, the Eighth Air



Force Commander, amassed his assets to conduct a Global Strike demonstration. His objective was to present Eighth Air Force assets to the Strategic Command (STRATCOM) Commander in his new Global Strike role to F2T2EA, a designated target set in a very short span of time.

The mission scenario began with an execution order (EXORD) to the Eighth's Combined Air and Space Operations

There were significant lessons learned from the exercise. First, Eighth Air Force demonstrated an initial operating capability of blending IO capabilities with kinetic strike assets in less than 30 days after taking operational control of the C2ISR wings.

Second, the exercise identified many limiting factors in the areas of personnel, communications, and training.

Thirdly, the test demonstrated the end-to-end "Kill Chain" in a

tion to the JFC. And the ultimate benefit of our road ahead is the ability to test, train, exercise, and demonstrate new tactics, techniques and procedures, train personnel in their use, and integrate new equipment.

The complexion of Eighth Air Force today is markedly different than its birth in the B-17 and B-24 era of World War II. Although the Eighth will retain most of America's bomber force for the foreseeable future, it will also



## ion, integrated information, and safety into combat lethality.

Center for Training (CAOC-T) at Barksdale Air Force Base, La., for a short-notice priority strike mission. The EXORD tasked personnel at the CAOC-T to plan the mission, beginning with IPB from AWACS, Rivet Joint, and Joint STARS aircraft. The plan then tasked B-52Hs, loaded Conventional Air Launched Cruise Missiles, and the COMPASS CALL EC-130Hs to suppress the "enemy's" Integrated Air Defense System. After the preparation phase, a B-2 struck the target with a single weapon. A U-2 conducted the post-strike damage assessment.

small but comprehensive and effective presentation.

However, despite the many lessons from the successful Global Strike Demo, we can't sit back and bask in our success. So what lies ahead on the road for the Eighth?

Eighth Air Force will continue to refine and demonstrate an integrated presentation of forces to further develop the GSTF concept. The numbered air force will focus on AOC training to blend vertical and horizontal battlestaff coordination, and it will work on new warfighting concepts by integrating kinetic and non-kinetic attack capabilities for presenta-

evolve into an organization with a full spectrum warfighting capability.

Joint Force Commanders will look to Lt Gen Carlson and the men and women of the "Mighty Eighth" for capabilities that span the spectrum of warfighting options ... from the conventional to nuclear and the precision kinetic to precise non-kinetic weapons. Eighth Air Force will be the "prism" the JFC will look into ... the result will be a broad spectrum of capability to meet the objectives and obtain the desired effects. And the "Mighty Eighth's" renowned legacy will continue. ►



# One Moment in Time

By MSgt Jeffrey Smithhart, Shaw AFB, S.C.

**Y**ou turned — for just a moment — and that was all it took. Now you're looking at the radome of a CATM-120 missile as it rests on the deck of the MHU-141 trailer. You immediately think "How did this happen?" and "How could this have all been avoided?" Hind-sight, as they say, is 20/20 — or so I have heard.

Let's go back in time and start from the beginning. It's late, 11:00 p.m. You are finishing up for the night. Wait, you hear the radio ... the line D driver has just arrived with a trailer of missiles and you are dispatched to upload one last CATM-120 before you are finished for the evening.

You round up your crew and head to the flightline. Your two-man grabs the tools and technical data needed to perform the job and off you go. You follow all the rules: safety briefing, aircraft preparation, and munitions preparation. Now you are ready to start the upload operation. The three-man jumps on the MJ-1, starts the engine, and you motion for him to come forward. You position the one step-loading adapter under the CATM-120 missile, raise the table, and strap the missile in. You ensure the table is level and that the missile will clear the munitions

chocks prior to backing out. Once positioned at the back of the missile you motion for the three-man to back up. He turns the MJ-1, the path is clear so he begins to back up.

At this exact moment in time you hear a question you will never forget, "Are you cold?" You turn to answer and that is when your nightmare begins. You feel the pull of the missile as the CATM-120 suspension lug catches on a loop in the tie-down strap used to secure missiles on the top tree. You yell for the three-man to stop, but it is too late ... the nose of the missile is now lying on top of the trailer and the radome is damaged.

How could such a simple question cause you so much grief? Well, let's evaluate the situation. Did the mishap occur because you turned away for just one second or because you failed to ensure that the tie-down strap was clear of your missile? This begs another question, "If you had applied Operational Risk Management (ORM), would the outcome have been different?"

I am not saying you should break out the pie chart and follow

the six-step ORM process before performing every task. I am suggesting you use common sense and look for the obvious. By this, I mean identify any hazards associated with your operation.

A hazard, as defined in Air Force Manual 91-201, is "any real or potential condition that can cause mission degradation, injury, illness, death to personnel, or

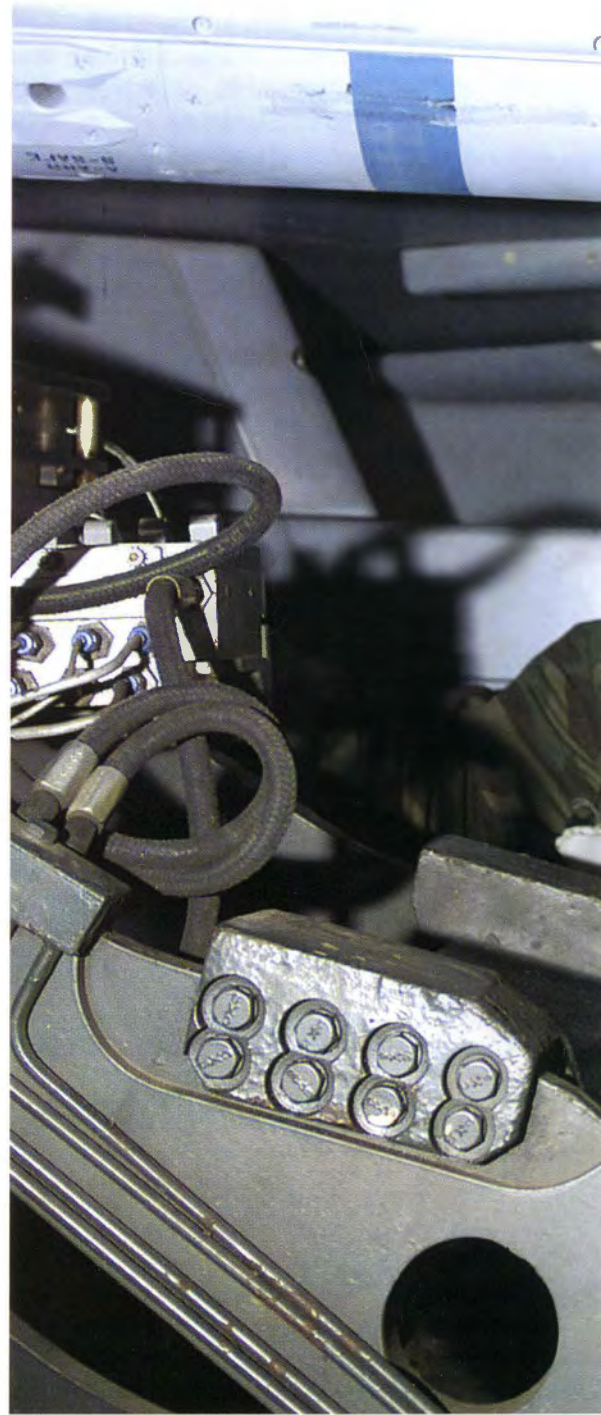






Photo by A1C Beatrice Casetty

## A moment's inattention allowed the missile to fall.

damage to or loss of equipment or property. Experience, common sense, and specific risk management tools help identify real or potential hazards." A hazard can be something as simple as a tie-down strap tangling over your missile.

You took the time to check the table and the chocks, but missed the strap. You were cold, tired, your shift was just about done, and then there was that question. Now a missile is out of commission and all it took was one mo-

ment for the mission to be degraded. As a service, we can't afford these kinds of moments. Make sure that your risk management skills are up to the challenge. Remember, ORM is everyone's responsibility. ►



**O**perational Risk Management (ORM) and Crew Resource Management (CRM) provide pilots and aircrews with a number of tools to manage risk and increase their margin of safety. Additionally, these programs considerably enhance mission effectiveness by focusing everyone's attention on mission threats (both man-made and environmental) and offering resources to eliminate or mitigate many of those threats. Good ORM and CRM skills are part of good airmanship.

A good way to visualize operational safety is to take a systems engineering approach. Dr. James Reason, a professor at the University of Manchester, England, who studies accident causation, provides an interesting model for this approach. Flying safety and mission effectiveness rely on an array of layers or defenses against human error and external threats. Reason describes these layers as being like a slice of Swiss cheese. Each defense has an area that is solid, but like the cheese, each defense also has an area that has holes in it. If the holes in each layer of defense line up, then an error or a threat can find its way through all of the defenses leading to an incident, accident, combat damage, or loss.

The ideal risk management system uses an array of such defense layers. Think of your aircraft's technical capabilities as one of several defense layers. Add to that your proce-

dures, and then other onboard resources such as manuals or charts. Combine these technical resources with your human resources — your ability to communicate, effectively manage workload, plan, and adapt. Each of these skills is a defense layer. Often these skills work to contain aviation's greatest nemesis, human error. A series of defenses, working as a system, means that if an error is able to penetrate one or more defenses, a subsequent defense layer would ultimately block it.

Correctly evaluating threats and understanding the relationship of some threats to human error allows pilots and aircrews to determine which defenses to employ to create the best threat-defeating and error-managing system possible. With that in mind, it is helpful to examine the nature of threats and errors. Dr. Robert Helmreich, at the University of Texas, defines threats as safety threatening events or errors that take place outside the influence of the flight crew. Risk comes from both expected and unexpected threats. Expected threats might be enemy threats identified by Intelligence information, terrain, predicted weather, and airport conditions. Unexpected threats might be unexpected enemy defensive positions, systems malfunctions, operational pressures, or air traffic control commands.

Error is often an end result — or a consequence of — human reaction to a threat. Understanding this relationship between threat and error is essential to

effectively managing risk. Dr. Helmreich identifies three ways in which pilots and aircrews react to errors produced by a threat:

- 1) The pilot or aircrew successfully detects and manages the error.



Photo by MSgt Val Gempis

**Flying safety and mission effectiveness rely on layers of defense against human error and external threats.**





# Detecting **Threat & Error** *in Operational Tasks*

By Maj Chris Hallman, Reprinted in Part from *Focus*, Fall 2002

Detecting Threat & Error in Operational Tasks, By Maj Chris Hallman, Reprinted in Part from *Focus*, Fall 2002

- 2) The pilot or aircrew detects the error, but mismanages it to produce a consequential outcome.
- 3) The crew does not detect the error and therefore fails to manage it at all.

Helmreich further examines the nature of threat and error by categorizing the outcomes of the error. In his first classification, the error is inconsequential and has no bearing on

mission effectiveness or flight safety. Most error falls into this category. His second classification describes an error that leads to an undesired aircraft state — that is, the error results in the aircraft being in a state that increases risk. Helmreich's third classification describes crew reaction to error that leads to additional error.

In practice, pilots and aircrews can build new defense layers or strengthen existing

ones by thorough pre-flight planning and — once airborne — performing a quick mental review of each mission task to identify threats and potential threats. Once the threats are identified, specific resources, those defense layers Dr. Reason describes, can be employed to control the threat and manage the human error that is often the consequence of that threat. That is good risk management, good CRM, and great airmanship. ►



# *The Nighthawk*



# F-117





*Photo by TSgt James D. Mossman*

Primary Function: Fighter/attack • Contractor: Lockheed Aeronautical Systems Co. • Power Plant: Two General Electric F404 non-afterburning engines • Length: 63 feet, 9 inches • Height: 12 feet, 9.5 inches • Weight: 52,500 pounds • Wingspan: 43 feet, 4 inches • Speed: High subsonic • Range: Unlimited with air refueling • Armament: Internal weapons carriage • Unit Cost: \$45 million • Crew: One • Date Deployed: 1982 • Inventory: Active force, 55; ANG, 0; Reserve, 0



## Pilot Safety Award of Distinction

**O**n 2 Oct 2002, Capt Rayman was leading a night, A-10 2-ship, air-strike control mission at Ft Irwin during an AIR WARRIOR I exercise. Approximately 1.5 hours into the mission and at Flight Level (FL) 230, he noticed that his left engine oil pressure was abnormal and decreasing. He made a knock-it-off call and directed his flight to proceed directly to Indian Springs Auxiliary Airfield. Ten minutes later, the left engine oil pressure indication fell below emergency limits, with an accompanying left engine oil pressure light. Capt Rayman shut down the left engine per the checklist and continued towards Indian Springs, approximately 60 miles away. Unable to maintain altitude with one engine shut down, Capt Rayman started a slow descent and entered the weather at FL 220. He coordinated a separate clearance for his wingman and then accomplished an intermediate level-off while still in the weather at 14,400 feet Mean Sea Level (MSL), the minimum vectoring altitude for terrain. The maximum airspeed he could maintain at 14,400 feet MSL was 160 knots, 5 knots above the dash 1 minimum single-engine airspeed.

He was dangerously close to stall. While en route and after conferring with the Supervisor of Flying, Capt Rayman ruled out a recovery at Indian Springs due to a wet runway, night weather conditions, and the lack of a precision approach. He then proceeded to Nellis AFB. Once Nellis radar cleared him of the surrounding terrain, Capt Rayman continued his recovery into Nellis while accomplishing the single-engine landing checklist and reviewing the single-engine go-around procedure. He exited the weather at 3,800 feet Above Ground Level (AGL) and accomplished alternate gear extension and emergency brake activation while on Instrument Landing System (ILS) final. Elapsed time from the first low oil pressure indication to landing was 50 minutes. Capt Rayman's strict adherence to T.O. procedures and informed decision making prevented what could clearly have been a catastrophe!



Capt David E. Rayman  
74th Fighter Squadron  
23rd Fighter Group  
Pope AFB, N.C.

## Flightline Safety Award of Distinction

**W**hile performing End-of-Runway duties, A1C Wilkerson was observing an A-10 aircraft, tail number 80-0208, on landing roll when he noticed an explosion in the nose wheel area and subsequent loss of the nose wheel. He immediately took action and notified the End-of-Runway supervisor that a ground emergency was in progress, expediting the response time for emergency vehicles and the Crash Response Team. A1C Wilkerson was the first one on the scene of the mishap; he expertly assessed the situation and safed the aircraft, thereby reducing the possibility of collateral damage. After safing the aircraft, A1C Wilkerson assisted the pilot in safely egressing from the disabled jet. He continued to aid Crash Recovery by helping to jack the aircraft and tow it off the active

runway. His decision to jack the aircraft under the wings enabled tow equipment to safely connect without further damaging the aircraft. He continued helping by conducting a Foreign Object Damage sweep on the runway. His thorough actions facilitated the prompt recovery of other holding aircraft which were low on fuel. A1C Wilkerson's attention to detail ensured that all tools were secured and accounted for, to include the missing nose wheel, which had trundled off the runway and was hidden in the infield grass.



A1C Shannon W. Wilkerson  
23rd Aircraft  
Maintenance Squadron  
23rd Fighter Group  
Pope AFB, N.C.



## Ground Safety Award of Distinction

**A**s 366th Equipment Maintenance Squadron Unit Safety Representative, TSgt Brown has taken every opportunity to increase safety compliance of 575 personnel within a diverse squadron consisting of five flights. TSgt Brown completed over 100 safety spot inspections in 27 different sections. He implemented a verbal safety quiz for newly assigned personnel which is administered in their duty sections. He aggressively orientated 140 newly assigned squadron personnel with recurring in-processing safety briefings ranging in topics from DUI to sports injuries to home and on-the-job safety. He rejuvenated the squadron anti-DUI program with an outstanding 100% face-to-face contact of all squadron personnel. As a direct result of his leadership and motivation, the squadron safety program received the highest possible rating of "Exceeds Standards" during the 2002 annual wing safety inspection. His work also closed out 21 of 22 safety findings, thus clinching an outstanding 98.9% compliance rate within 30

days of the inspection. TSgt Brown's program was handpicked as the number one program over 28 wing squadrons. Additionally, TSgt Brown worked diligently with wing safety to standardize the squadron's five existing lock out/tag out programs and ensured compliance for training and implementation. He produced and distributed weekly safety briefings electronically to all squadron sections to supplement section weekly safety briefings. Distributed over 100 safety-related e-mails to all section safety representatives and squadron supervision to ensure the widest dissemination of safety information. TSgt David Brown is a safety professional.



TSgt David R. Brown  
366th Equipment  
Maintenance Squadron  
366th Fighter Wing  
Mt. Home AFB, Idaho

## ACC Safety is Proud of All Award Nominees

**SSgt Randell C. McCart**  
Weapons Load Crew Chief  
33rd Aircraft Maintenance Squadron  
33rd Fighter Wing  
Eglin AFB, Fla.





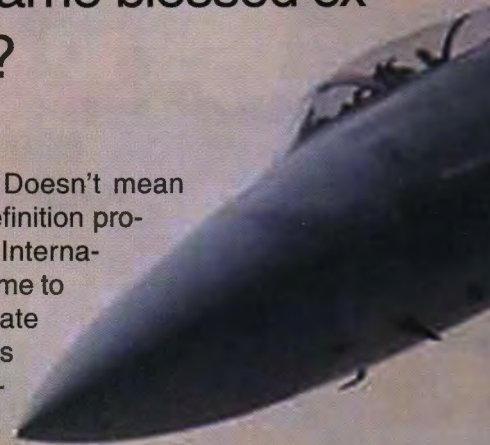
# How Good Situational Aw

Here is the twist. We always preach that the more experience we gain the better we are able to handle every situation. More experienced pilots will see the problems sooner, handle the situation better. The more experienced flight lead will be better at controlling all the different aspects of the mission, will be more flexible when things change, and — on the whole — will have higher Situational Awareness (SA) than a less experienced aviator. How can this same blessed experience be the creator of lower SA?

**A**s with any equation we should start by defining the variables. Experience (Ex) we can simply call the amount of time a pilot has in doing a particular task or set of tasks. The more a pilot has done things, the higher his experience. SA is not quite so simple.

An official definition of SA is “a continuous perception of self and aircraft in relation to the dynamic environment of flight, threats, and mission, and the ability to forecast, then execute those tasks

based on perception.” Doesn’t mean much to me. Another definition provided by Crew Training International is a little easier for me to grasp. SA is “an accurate perception of what has happened, what is happening, and what might happen.” We will define that as the level of correct knowledge the pilot has about everything going on in and around his aircraft, his fight, and his mission. Obviously, one can





# What is Your Awareness?

By Maj Ted Sprague, Langley AFB, Va.

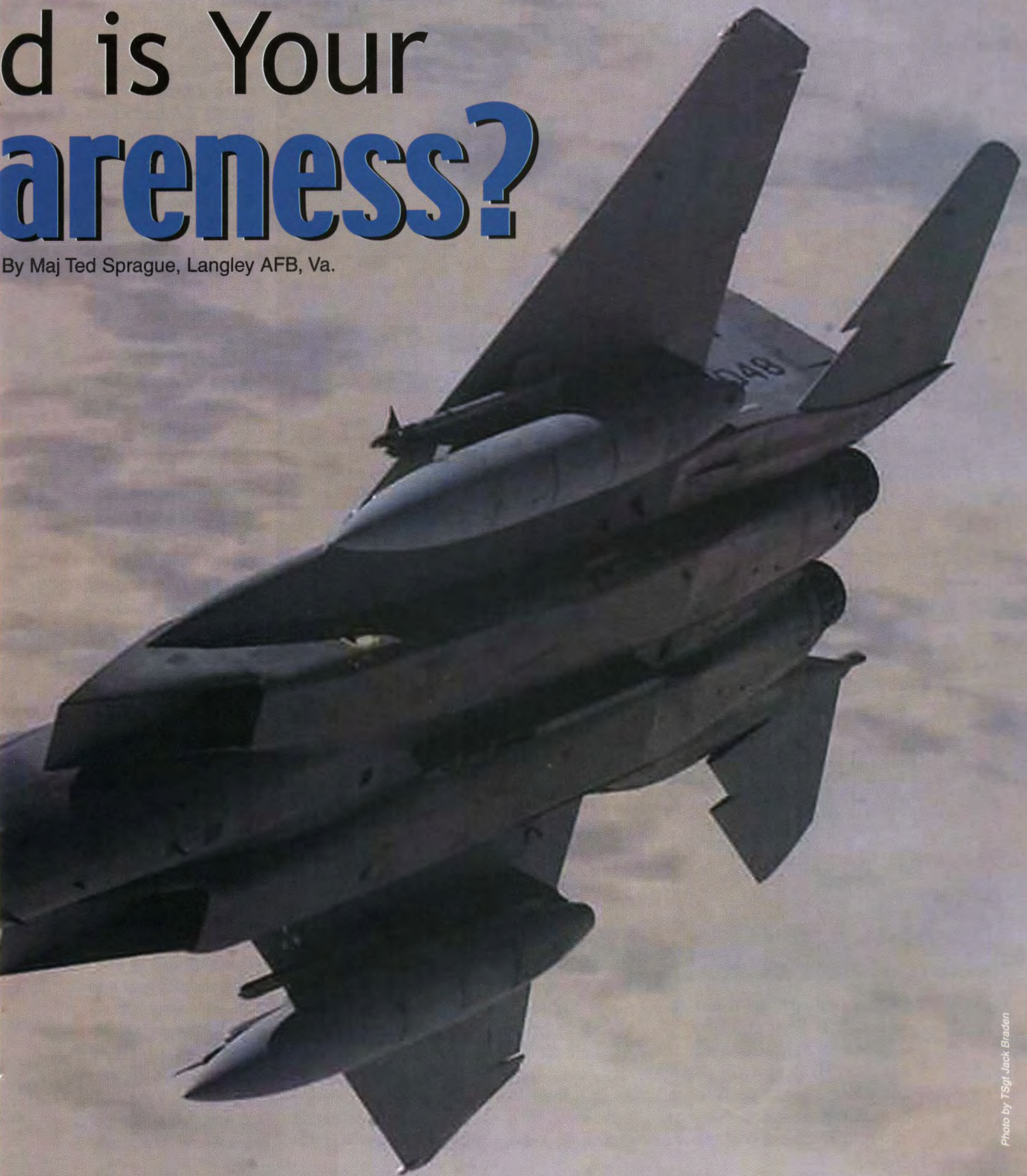


Photo by TSgt Jack Braden





Photo by SSgt Shane Cuomo

have a high (Hi) or a low (Lo) level of both Ex and SA.

It seems at first look that the equation **Hi (Ex) = Lo (SA)** is completely wrong. After all, how can past experience and in-depth knowledge of the task

at hand actually lower our understanding of our surroundings? After all, we should strive for having experienced it all (knowing what happened), being able to adjust to the situation as it changes (knowing what is hap-

pening), and being able to know what will happen (having seen it before). Ultimate SA based on Hi Ex. So, how can Hi Ex cause us to lose SA? Let's look at how we can lose our SA.

Well, there's Alzheimer's or a concussion where a medical condition causes the loss of memory (and the loss of the "what has happened"). This part of the equation can be affected in other ways as well: being over tasked, getting behind the jet, or just not receiving the information to build a picture of what has actually happened. But once again, it appears that more experience only helps minimize the effects of all these (even with Alzheimer's you would have more to forget before the slate is clean). No link here.

That leaves knowing what is happening and what is going to happen. What is most likely to cause us to incorrectly assess these areas? The list here is endless so let's limit it to

the ones that are cited most often: distraction, channelized attention, task saturation, complacency, insufficient preparation, or limited proficiency. But, once again most of these are areas that actually



improve with greater experience. And each of these is effectively combated through gaining more experience. Not boding well for the proof.

But one of these factors just might hold the key: complacency. The simplest definition is "self-satisfaction." We've all heard stories of pilots who got complacent (or we've been there first hand). Most can relate to the pilot that relaxed during a mission only to have something pop up and destroy the moment of calm. These moments occur in every phase of the mission: the pilot, who has

good until the belly (instead of the gear) hits the concrete; or pulling in to park in the space you left from and not confirming the wingtip is clear. Sometimes these are tragic moments. Sometimes they are just private reminders of the nature of the beast. But all of them may have had the same simple beginning: too much experience!

Hard to believe? Well, let's look at the root causes of complacency: simplicity and familiarity. Both of these set pilots up for becoming complacent. Simplicity is the result of learn-

The experienced pilot is not so lucky. As his experience builds, his comfort level increases in everything he does. Just try flying low altitude for a while and see how comfortable you feel "climbing up" to 1,500 feet above the ground. It will make you question why you felt threatened stopping your engaged maneuvering at 5,000 feet. It's all a result of increased experience. And with the increased proficiency, comes comfort and opportunities to relax ... the result is complacency. Your attention drifts from the task at hand (flying/fighting/re-



Photo by TSgt Mike Ammons



Photo by SSgt Cecilio M. Ricardo, Jr.



Photo by TSgt Jack Braden

delivered the greatest brief, becomes so focused on the flight that he walks by his aircraft on the ramp; the aviator, who has launched 200 times from the same runway in military power, doesn't remember to use afterburner on an exercise launch with three external tanks; the G-awareness turn where nobody looks to deconflict flight paths; the air combat maneuver engagements where everyone knows where the others are suppose to be so no one confirms locations with a look or radio call; the recovery where the lead's navigation aids are bad and no one else notices; the landing approach that looked

ing a task so well that no thought or concern is put forward to complete it. The best way to learn a task is repetition and rehearsal (building experience). Familiarity comes from continued exposure to the same task (local area procedures, standard setups, etc.). Familiarity is also a result of experience.

The inexperienced pilot may make the same errors with the same resulting loss of SA, but NOT as a result of complacency. Their errors are a combination of the other factors, but not because they were comfortable and satisfied with the task at hand. Most are entirely too busy to let down their guard.

turning) and your knowledge of what is happening and what is going to happen starts to wane. And with it goes your level of SA. Every piece of the situation that you miss, ignore, or assume just drops the SA level lower.

As a direct result of your higher experience (Hi Ex), complacency could become a factor, and the result (=) is a decline in the level of SA (Lo SA). So the equation would be:

**Hi (Ex) x Complacency = Lo (SA)**

Don't let your experience work against you. If you feel relaxed, you may be missing something you shouldn't. ►



A young airman was almost killed on her way to Alaska for her first duty assignment. After completing technical school in Florida, the airman was joined by her mother for the first leg of her journey to Seattle, Wash. It took about 8 days, which allowed the pair to visit friends and relatives along the way. They made it without incident and then parted company.

The airman rode the Alaska Marine Highway Ferry, from Seattle to Haines, Alaska. The ferry ride lasted 3 days and she arrived at about 3 o'clock in the afternoon. Her plan was to drive the 775 miles on the Alaskan/Canadian (ALCAN) Highway from Haines to Elmendorf Air Force Base, which is located outside Anchorage, Alaska. She started out that afternoon, drove for about 3 1/2 hours, and checked into a hotel for the night. After a good night's sleep, she got back on the road at 9:00 a.m. the next morning.

While the road had some snow and ice pack, the weather was clear and sunny. At about 4:00 p.m., she was going about 30 miles per hour and hit a patch of black ice on a steep, curvy section of the road and lost control of her vehicle. Her car went over the embankment, flipping several times before coming to a rest approximately 350 feet below the road. A truck driver,

who witnessed the accident, immediately rushed to her vehicle expecting to find her dead in the wreckage. But she had been wearing her seat belt, and though shaken, walked away from the scene with only a bruised arm and a bump on the head. Her gaining unit was notified, and the first sergeant arranged to have her transported the rest of the way. She made a full recovery in only 3 days.

While the airman had learned how to drive in Texas and Hawaii, winter driving in the mountains of Alaska on icy roads was a new experience for her. When asked if she had any advice for other airmen making the long drive, she had two thoughts to offer. The first one was, "Don't take it for granted that just because you haven't had a problem yet that you won't.

By MSgt Carl Akins, Elmendorf AFB, Alaska

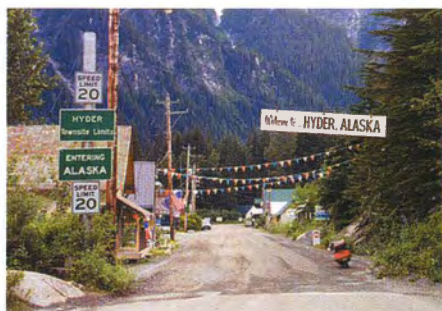
# Driving the ALCAN Highway

Don't get overconfident." She also said, "Driving is not worth the time and problems of dealing with the insurance company if something goes wrong. If you really want a car immediately when you get there, ship your car early."

If you are fortunate enough to get an assignment to Alaska, you should fully consider the pros and cons of driving the ALCAN highway in the winter. If you determine that driving is your best option, proper preparation is the key for making your trip enjoyable and mishap free:

- Pack an emergency kit to keep in your trunk that includes: a tow strap, jumper cables, collapsible shovel, nonperishable food, first aid kit, flashlight, extra batteries, and fire starting tools.

## Driving the ALCAN highway can be a rewarding



## way to see North America. However, dan



- Ensure your spare tire is in good condition.
- Cracked windshields are a reality on the ALCAN. Other vehicles frequently kick up pebbles and gravel, and these small rocks seem to be drawn towards glass. Ensure you have adequate funds to handle unexpected repairs while traveling.
- Plan your trip in advance to include routes, scheduled rest breaks, and overnight lodging; some insurance companies will help you do this.
- Ensure your family and sponsor know your travel plans. Check-in each day with your sponsor to let them know about any problems you may be having.
- Watch for wildlife on the roads. You may see anything from bunny rabbits to moose standing in the road. These animals can be extremely difficult to see at night. If an animal temporarily blocks your way, don't honk your horn or try to herd it off the road; it may become aggressive.
- Make sure you have adequate clothes for cold weather. At a minimum, have a warm coat, gloves, boots, and a hat. Even during the summer months, it can get very cold in the higher elevations.
- Make regular stops every hour or so. If you begin to feel drowsy, pull off the road and take a nap or find a hotel and stop for the day. Take your time.
- Keep your headlights clean by wiping them off every time you stop for fuel.
- Do not carry extra gas in your vehicle. There are adequate numbers of gas stations along the highway. Do not let your gas gauge get below half a tank before filling up. To keep things simple, fill up at every town.
- Road and weather conditions can change quickly. In the mountains, you may see conditions deteriorate from warm, dry, and comfortable to bitter, cold, and icy — all within a few miles. Don't get complacent; remain focused on the task of driving.
- Carry a jug of windshield-wiper fluid. Dust, mud, and snow can cause you to use much more fluid than under normal driving conditions.
- Bring sunglasses. During the winter, the sun remains very low on the horizon all day (5 to 6 hours), making visibility very difficult. Also, the bright reflection of the sun off the snow can be blinding.
- Have an ice scraper for your windshield. Remove all ice and snow from your windshield prior to driving.

Driving the ALCAN highway can be a rewarding and exciting experience as well as a great way to see North America. However, danger is a reality; approach the trip with reservations. Ask yourself some questions: Am I prepared for the weather and road conditions? Is my vehicle in good condition (brakes, lights, transmission, battery)? Does my vehicle have the correct tires for the road and weather I'm likely to encounter? Do my vehicle's safety restraints work correctly? Being prepared with the correct knowledge, equipment, and attitude can help ensure your trip to Alaska is trouble free. And definitely remember to buckle up! ►

g and exciting experience as well as a great



er is a reality; take the trip fully prepared.



# A Dangerous Combination

Reprinted Courtesy of *Countermeasure*, August 2002

**S**tatic electricity can make sparks fly—literally. Produce those sparks while pumping gas in your car, and both you and your car could go up in smoke and flames. Researchers at the Petroleum Equipment Institute (PEI), as well as several other companies, are working on a campaign to try and make the public aware of fires as a result of static electricity at gas pumps. Out of an estimated 16 to 18 billion fuelings a year in the United States, most are safe non-events that pose no danger to consumers. However, PEI has documented more than 150 incidents of static electricity related fires at fuel pumps nationwide, with more than half occurring since 1999. Even though incidents related to static electricity at retail gasoline outlets are extremely unusual, all motorists should be aware of the potential that re-entering their car creates static electricity that could cause a fire.

A buildup of static electricity can be caused by re-entering a vehicle during refueling, particularly in cool and dry climate conditions. If customers return to

their vehicle's fill pipe when refueling is complete, the static could discharge at the fill point and cause a brief flash fire with gasoline vapors. To greatly minimize the likelihood of any buildup of static electricity, motorists should not get back into their vehicles during refueling. Customers

who cannot avoid re-entering their car should always touch a metal part of the vehicle away from the fill point, such as a door, before removing the nozzle.

The following tips will help to keep you and your family safe at the gas pump year-round:

## Static Electricity Sets Man Ablaze at Gas Station

by Mr. James Coburn, Lackland AFB, Texas

**A** 50-year-old retired technical sergeant was severely burned on both legs recently after static electricity ignited gasoline as he filled gas cans in the bed of his pickup truck at the Lackland base shoppette.

In a video taken by the Army and Air Force Exchange Service store's security camera, four bystanders are shown frantically using their own clothing to help put out the flames burning on the man's gasoline-soaked pants legs and shoes.

Safety officials have long warned people not to fill gas cans sitting inside vehicles or in truck beds because of the danger of gasoline vapors being ignited by static electricity.

Another hazard reported recently is getting back into a car and not touching a metal ground

before returning to the refueling nozzle and causing a static electricity spark.

In a video of the incident, the man is seen standing in the bed of his pickup as he fills five 5-gallon gas cans (three plastic and two metal) over a period of several minutes before a flash fire erupts.

Lt Col Brian Mullin, a former safety officer at Ramstein Air Base, Germany, is seen driving up to an adjacent pump and starting to fill his vehicle when he notices what the man is doing just before the fire.

Mullin, now undergoing instructor pilot training at Randolph Air Force Base, Texas, said the retiree "did one of the classic things you shouldn't do ... refueling external gas cans (above ground) with plastic or rubber shoes on. This is an extremely textbook case of

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**Editor's Note:** For more information, visit the PEI and American Petroleum Institute at [www.pei.org](http://www.pei.org) and [www.api.org](http://www.api.org).



- Keep gasoline away from ignition sources such as heat, sparks, and flames.
- Do not smoke around gasoline, either at the pump or at home.
- Shut off the vehicle's engine when refueling and disable or turn off any auxiliary sources of ignition (i.e., camper/trailer heaters, cooking units, or pilot lights).
- Only store gasoline in containers with approved labels,

as required by federal or state authorities. Never store gasoline in glass or unapproved containers.

- Place portable containers on the ground during filling, and keep the nozzle in contact with the container to prevent buildup and discharge of static electricity. Never fill a container in or on a vehicle.
- Manually control the nozzle valve throughout the filling process. Fill a portable container slowly to decrease the

chance of static electricity buildup and minimize spilling or splattering.

- If gasoline spills on the container, make sure it has evaporated before you place the container in your vehicle.
- When transporting gasoline in a portable container, make sure it is secured to protect against tipping and sliding, and never leave it in direct sunlight or in the trunk of a car.

static electricity igniting an instantaneous fire.

"I was moving my lips to tell him, 'Sir, don't do that,' when the first flame started in the back of his truck," added Mullin.

"I saw the flame, and I told him to jump," he said. "He dropped the hose, which sprayed gas all over the truck. I told him to jump and run, which would have been really a good thing to do, but instead, he tried to throw the 5-gallon can that he had just fueled out the back to get it away from his truck, and that started the whole area on fire.

The man ran between the burning truck and the pump toward the store before he dropped and rolled on the pavement.

Mullin ran after the man, ripping off his two T-shirts to beat out the burning clothes, "but they did not do much good because they (caught) on fire," he said.

The damage to the AAFES fuel pump was estimated at \$10,000 to \$15,000 and to the retiree's 1993 Mazda pickup, \$2,500.



*Photos by Mr. Mario Gutierrez*



Firefighters responded to the scene after static electricity ignited gasoline as a man filled gas cans in the bed of this pickup truck at the shoppette at Lackland Air Force Base, Texas. Static electricity can ignite gasoline fumes, according to safety officials.



# Supervisors Have a Vital Role

By SMSgt Kevin Ennis, Reprinted Courtesy of *Focus*, Fall 2002

Today's supervisors have many pressures thrust upon them. This occurs at every level in the Air Force. The mission, regardless of your contribution to it, also figures in. The mission must be done, done right the first time, and done safely.

**P**reventable loss is unacceptable and translates directly to a reduction of combat capability. If you are not a supervisor now, you may well be one soon. As the person in charge, you are not only responsible for your contribution, but also for the contributions of others.

The supervisor's role to ensure work is done in a manner that protects Air Force assets is vital to the mission. That includes the equipment you work on, the tools you work with, funds, and — the most valuable Air Force asset — the people you are charged to supervise.

Help is available for everyone to do their job right and preserve assets; this help is usually found in instructions, technical orders, safety standards, and

other forms of written guidance. Each, when correctly followed, assures us of a safe, effective work environment — or at least it should. Human nature being what it is, however, we do not read correctly every time; we cut corners on the most familiar tasks, and we get complacent. This leads to mishaps. We lose people from injuries; we lose assets from property damage. The Air Force loses.

What's the answer? Involvement. Risk Management. Caring.

Are you an involved supervisor? Your senior leadership is charged with being involved, and as a supervisor, you're expected to be involved too. You should be involved in your area of expertise and ensure your people accomplish their tasks safely and correctly. Involvement also in-



cludes situations away from your area of expertise as well. Today's supervisors must lend their knowledge of safe practices to any situation observed. If you see something that doesn't look right, it probably isn't. Don't stand on the side; get involved and take action.

The easiest way to be involved is to be the example. When you do things safely, most likely others will follow. Those who look up to you as the person in charge will want to emulate your behavior. You set the standard. If you cut corners or encourage deviations from proven safety practices, others





Photo by SSgt Edward Holzapfel

lished and conditions surrounding the task do not present any unanticipated hazards. With that done, people are set in motion and the job is completed without loss.

This really equates to caring. You care about the mission. You care about your role, your responsibilities, and yourself. You must also care about the people and resources you supervise. A task completed at the expense of the equipment or personnel injuries needs intervention. The mission cannot be sustained well or for very long under such conditions. We can't afford to replace the equipment, and we can't replace lost experience and motivated people who aren't available because of mishaps.

Unfortunately, accidents do happen. Good supervisors can have bad experiences too. When all your ef-

soon believe it's the proper way to do business — that it is okay to be unsafe. You may get away with it or you may not be so lucky. Ideally, the standard is to allow only the best from yourself and expect the same from those you supervise, both on and off the job.

We all assess risk. Every time we set out to do something we should be aware of the risk involved. If we remain alert to our surroundings and properly assess risk, we can confidently per-

form tasks correctly and, to the maximum extent possible, perform them safely. As a supervisor you must understand that, but you must help your subordinates understand that too.

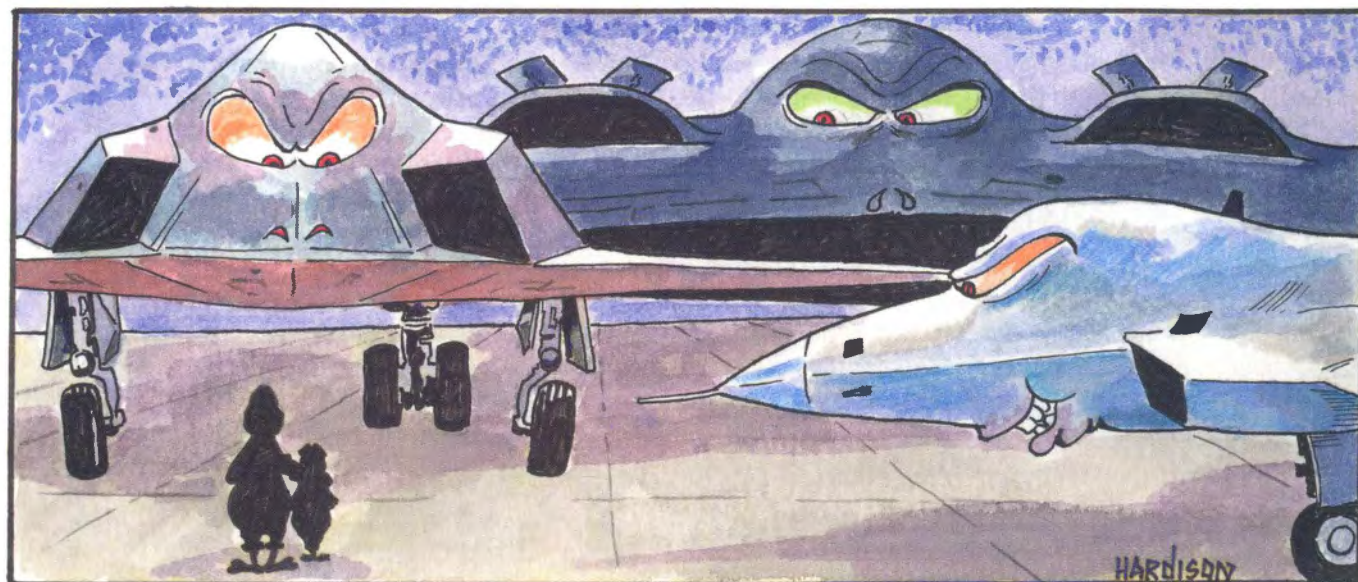
The people who work for you might not be as experienced as you; and even if they are, as their supervisor they will look to you to forge the way ahead. You are expected to identify potential problems, make sure the proper equipment is available and used, and ensure procedures are estab-

lished. If your effort isn't enough and injury or damage occurs, have the courage to report it through the appropriate channels and help figure out the best possible way to prevent it from happening again. It's difficult to admit a mistake or accept less than complete success, but those that do demonstrate far more than job ability.

There is much more to supervision than seeing that a job gets done. It must be done right. Safety is part of doing it right. ►

**Supervisors must be involved — they are the key to safety!**















## FY03 Aircraft

As of January 1, 2003

	Fatal	Class A
8 AF		
9 AF		
12 AF		
AWFC		
ANG (ACC-gained)		
AFRC (ACC-gained)		

## FY03 Ground

As of January 1, 2003

	Fatal	Class A	Class B
8 AF		0	1
9 AF		3	0
12 AF		4	0
DRU's		1	0

## FY03 Weapons

As of January 1, 2003

	Class A	Class B
8 AF	0	0
9 AF	0	0
12 AF	0	0
AWFC	0	0

## Aircraft Notes

Another tough month for Air Combat Command. A midair collision between two A-10's at Nellis AFB with one of the pilots being killed resulted in COMACC directing a down day with the focus being flight leadership. As mentioned in last months stats, flight leadership and human factors continue to be a common thread in ACC's mishaps. ACC's flight leadership focus day was a time to pause and reflect on how we do business; however, even with this focus and strong emphasis from the leaders above we still had another ops-related mishap in December. Two F-16's at Hill AFB had a midair during a radar trail recovery. Luckily, no one was hurt and both jets landed safely. Again we should take the time and ask ourselves some questions: Do you ever check your wingman during a radar trail recovery/departure? Do you ever review radar tapes during this phase of flight? We can all learn from other people's mistakes. Doing so will help us stay tactically sharp and be able to take the fight to the enemy.

## Ground Notes

The first quarter of FY03 showed an increase of Class As over FY02. There were six Class A mishaps in FY02 and seven in FY03. All were fatal in FY02 and there were six fatalities with seven deaths plus one permanent total disability in FY03. All of the mishaps in FY03 have been in motor vehicles.

## Weapons Notes

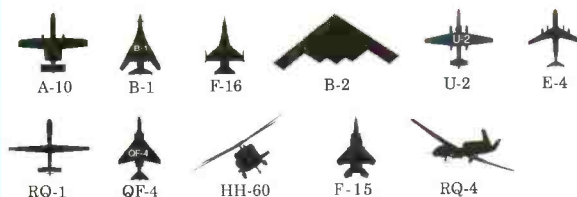
There are no noticeable increases in mishap rates. However, continue to place emphasis on procedures for loading/unloading missiles (AIM-9s, AGM-88s, etc.). Sheared umbilicals have been an ongoing problem area, not only for the command but the entire Air Force.

## Legend

Class A - 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

## Symbols for Mishap Aircraft





Airmen and B-52s from the 5th Bomb Wing conduct an alert force response and rapid launch exercise at Minot Air Force Base, N.D. The exercise tested the wing's ability to rapidly launch nine of its heavy bomber aircraft within a matter of minutes.



Photo by S/A Araceli Alarcon