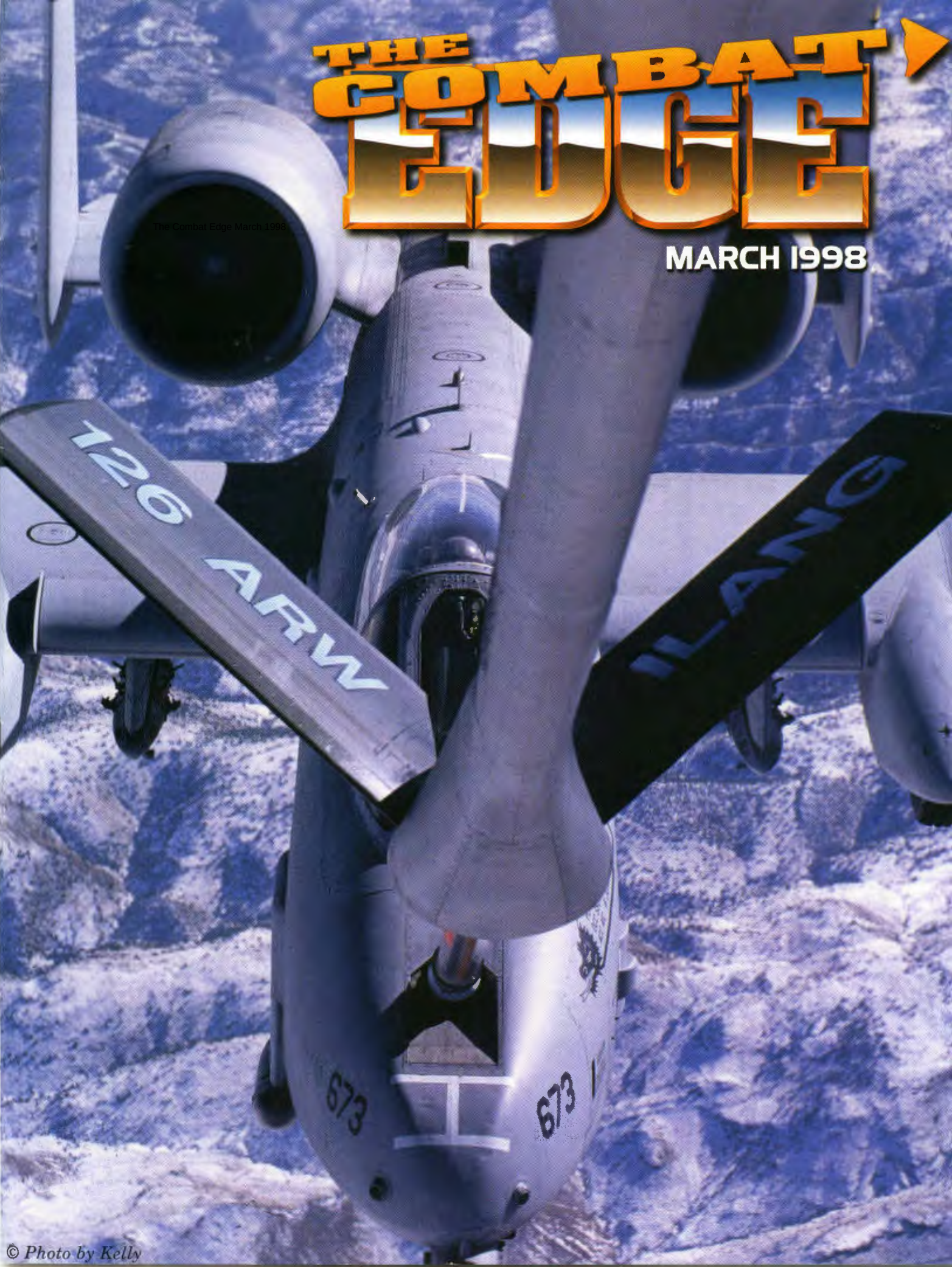

Air Combat Command's
Mishap Prevention Magazine

THE COMBAT EDGE

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*Background- USAF Photo by SSgt Angela Stafford*
*F-15E takeoff over Seymour Johnson AFB*

## FEATURES



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## DEPARTMENTS


As I sit here awaiting another of this Spring's "Nor'easter" storms, I'm reminded of the old line that talks of March winds "roaring in like a lion." Well, not being a certified meterologist, I should hesitate to forecast the weather. But, being as this is an El Niño year, everybody has a right to an opinion (and an excuse). So, I'll go out on a limb and give you — drum roll please — "Turk's Weather Forecast."

Wherever you live, it's going to blow like all get out!

Yeah, yeah, there'll be rain and there'll be some sunshine ... and maybe even some snow. But basically, it's going to be a WINDY month. And I'm not just talking bluster, I mean rip-roaring, tree-upending, roof-rattling major league big blows. Some will be with monster thunder bumpers, some will come from tornadoes, but a lot will seemingly be just out of the clear blue. In between the hunkering down to ride out another storm, we'll all be out picking up tree limbs, nailing the roof tiles back down, and gathering up the trash cans of our neighbors three blocks over ... which leads to the point of my writing this.

Go right now and take a look at how prepared you are for a stormy spring. Is your yard a motley collection of winter's leftovers? That snow shovel propped against the side of the house could become a missile aimed right at your picture window. The kids' sleds, bikes, and broken Christmas toys are ammo that could put more dents in the family Hupmobile than a Saturday afternoon in the mall parking lot. And what about that old tree in the side yard — has winter's storms left its limbs hanging by a thread? When it comes through the roof to join you in the bedroom, it'll be a little late to get out the chain saw. And you guys and gals in the dormitory, don't think this doesn't apply to your home, too. I dare say that most of you have your one major investment — and the pride and joy of your life — parked out there in the lot. Take a look around for loose items. If the wind can move it, you can be sure that it's targeted square on your wheels with a tracking system a laser guided bomb would envy.

Once you've got your house in order, how about your workplace? Are there three deployments worth of CONEX's, jackstands, servicing carts, etc., lying loose out there? If you're a supervisor, you may even want to brush the dust off of that Inclement Weather Plan and see what several years of "lessons learned" might jog your memory on. These spring storms can blow up mighty quick; so if there'll be a lot to do, you might consider a short drill — even if only as a tabletop exercise.

Home or work, the idea is "GET PREPARED NOW!" Oh, and remember, you heard it here first —

Ya'll batten down the hatches and take care!

*Colonel Turk Marshall*
*Chief of Safety*

I knew "how," but I wondered "why" the accident happened.

# A Killer Under Our Control

Photo by MSgt Ron Morrison

*SrA Dudley Riner, 335 FS/MAA, Seymour Johnson AFB NC*

I was out with my wife and 2 daughters on a quiet Saturday night at a Remote-controlled Car (RC) raceway. I didn't own an RC, but several of my friends from work raced them on the weekends. We were having a wonderful time watching my friends compete with one another as they raced the miniature cars, consistently pushing them to their limits on the racetrack. It was a normal evening — until my First Sergeant stepped inside wearing his BDUs. I could tell by his expression that something very serious had happened. He approached me and asked me to step outside with him. My mind raced as I followed him out to the parking lot where my squadron commander and the base chaplain met me. I couldn't imagine what could have happened that my supervisors would have to look me up on a weekend. My blood ran cold as my commander took me by the hand. He spoke with heartfelt sincerity as he told me that my mother, only brother, and sister-in-law had been killed several hours earlier when my brother's car collided with a semi-tractor trailer.

That happened nearly 2 years ago on March 23, 1996. I've begun to recover from that night's shock with the help of several Air Force chaplains and close friends. I remember saying, "No!" over and over again as I struggled to accept the fact that my family was gone. I knew "how," but I wondered "why" the accident happened. The answer may be something that each of us needs to take seriously ... poor driving habits.

Every year, there are 83,000 vehicle accidents in the United States, and 43,000 people die in them. Most deaths could be prevented if drivers would just take a few moments to respect the power of inertia. An automobile is capable of inflicting tremendous physical damage. A car accident not only has the capability of de-

stroying physical property, but it can sever precious family ties as well.

I believe my brother didn't realize that his 1984 Subaru hatchback could become a killer because he disregarded his seat belt. Nobody in the car, not even the children, was wearing a seat belt. The vehicle was estimated to be moving at 65 miles per hour (10 miles per hour over the speed limit). The momentum of the impact was equivalent to the destructive power of falling from a height of nearly 7 stories. Another unsafe condition leading to the accident was the car's maximum occupancy had been exceeded. The car was designed to hold four individuals, but three adults and three children were crammed into it.

The actual catalyst of the car's unexplained veering to the left was never officially exposed; but allegedly, the semi-truck driver saw a child moving from the back seat to the front. The driver stated that my brother was turned towards the rear seat (with one hand on the steering wheel) which caused him to accidentally veer the car to the left — into the path of the oncoming truck. They collided with enough force to rip the rear axle off the truck's trailer. It is a miracle that my three nephews survived.

My brother had served 4 years in the 82d Airborne Division at Fort Bragg NC and was in the Gulf War. I'm sure that he considered facing the Iraqi Army a real danger; but like all of us, he may have taken the destructive power of his automobile for granted. The continuing success of our military mission depends directly on our ability to make sound decisions — on and off duty — about our personal safety.

If someone is injured in a car accident, they may not be able to uphold their duties they have sworn to fulfill. All injuries directly impact personal readiness and our ability to mobilize worldwide. Whether it's in peacetime or during war, our country needs us to be fully operational so we can give our all. We need to be aware of how dangerous automobiles can be and then learn how to prevent accidents from occurring.

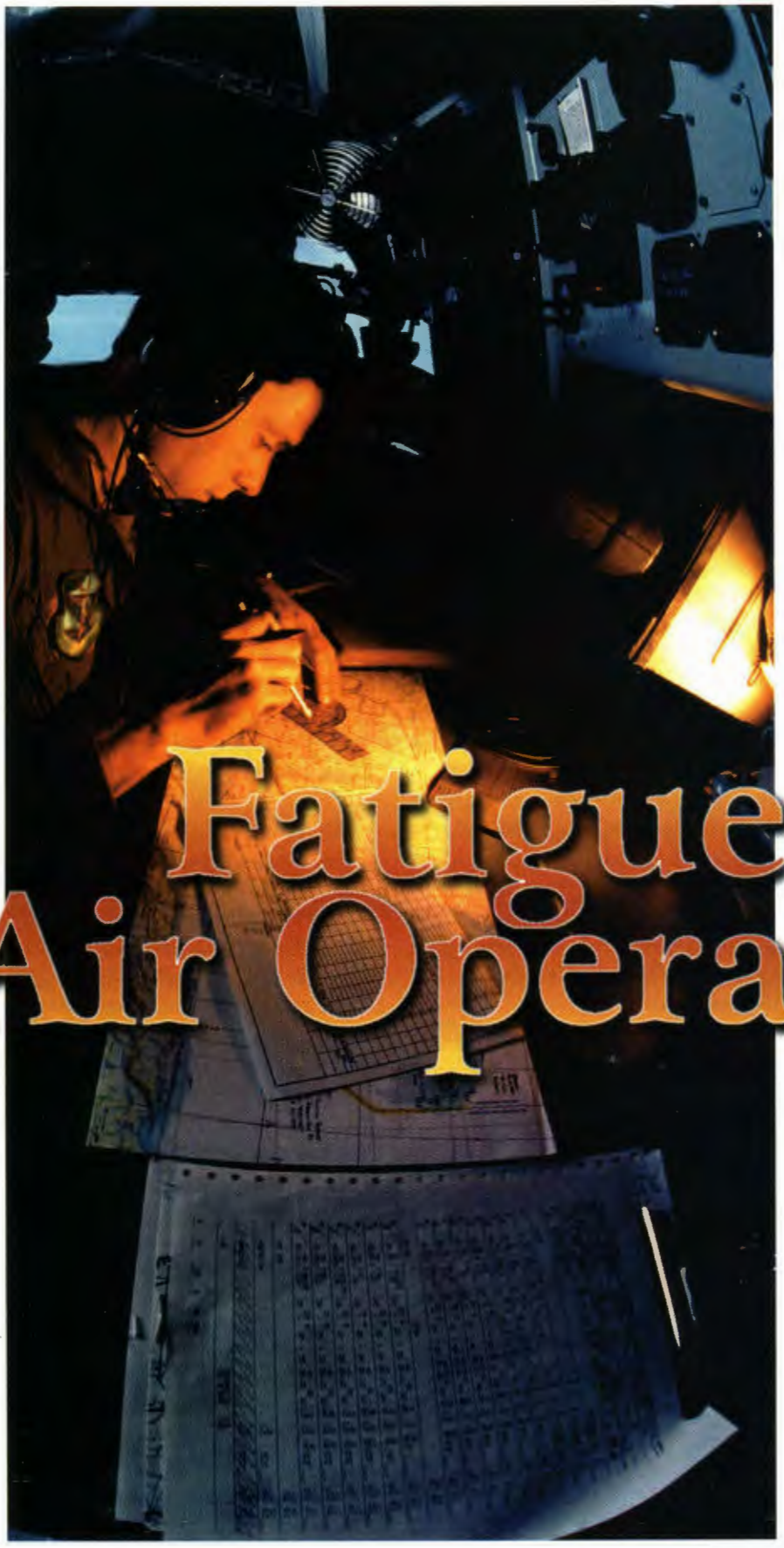
Prevention begins with our individual awareness. Don't take your car for granted. Keep it in good running order — not just for your own safety, but for the safety of others. My brother's Subaru had rack-and-pinion steering badly in need of repair. I had driven the car 2 weeks before the accident, and I noticed I could turn the steering wheel half a turn before the worn teeth of the steering gear would engage and turn the car. My brother continued to drive the car, although the vehicle was unfit for highway use. That worn steering gear may have contributed to the accident, but it only played a minor role in comparison to my brother's attitude toward driving safety.

A careless attitude toward driving safety is more dangerous than a single worn part. We should have a deep respect for the incredible power of momentum. A bird might as well be a brick to a fast-moving jet aircraft. A single bird can totally destroy a jet engine or tear a hole in an aircraft's fuselage or windscreen. My brother and his wife were killed instantly when their car hit the rear axle of the truck's trailer. The sheer power of inertia is a terrible force to contend with in a collision. It is a killer force that we have to respect, and that respect should include several sound driving practices.

- Always wear your seat belt. It's the law, and it is required on all military installations.
- Don't drive when you are fatigued.
- Concentrate on driving safely. Don't do other distracting activities while driving, like fiddling with the radio or disciplining children.
- Adhere to the maximum occupancy for your vehicle design.
- Whenever possible, put children in the back seat of your car; place infants (up to 6 months old) in car seats facing to the rear, and always use child safety seats.
- Observe the speed limit, and adjust your driving as appropriate for hazardous road conditions.
- Drive defensively.
- Never drive if you are impaired by medicine or alcohol.

By following these rules as we drive, we can protect ourselves, our family, our military mission, and others who are on the roads. Unlike those remote-controlled cars I was watching on that fateful night, real car crashes have serious consequences. My tragic loss has shaken me into a new awareness for driving safety. I don't blame my brother for the accident. In my mind, he fell prey to an unsafe driving attitude that we all have experienced at one time or another. I hope my words hold some meaning for each of you so that together we can reduce the number of traffic fatalities in the United States.

The last thing my mother said to me was, "I love hearing the sound of your voice"; and now because of a killer force that we have the ability to control, I will never hear her sweet voice again. Please drive safely. ■



# Fatigue in Air Operations

*Major C. R. Shelley*
*Department of Military Psychology and Leadership*
*Royal Military College of Canada*

*Reprinted with permission from Flight Comment, No. 1, 1997*

*(Guantanamo Bay, Cuba, 1993) The DC-8 freighter collided with terrain approximately one-quarter mile from the approach end of the runway after the captain lost control of the airplane. The flightcrew had experienced a disruption of circadian rhythms and sleep loss. They had been on duty about 18 hours and had flown approximately 9 hours ... [the] captain initiated a turn from base leg to final at airspeed below calculated Vref of 147 knots ... he allowed bank angles in excess of 50 degrees to develop. There was no evidence to indicate that the captain attempted to take proper corrective action at the onset of stick shaker. Probable cause: the impaired judgment, decision-making, and flying abilities of the captain and flightcrew were due to the effects of fatigue.*

*- from the files of the United States National Transportation Safety Board*

### Introduction

The insidious effects of fatigue almost killed the 3-man crew of that DC-8 freighter; they survived, albeit with serious injuries. Fatigue can be a problem in any high-tempo air operation, whether in war or peace, and can set us up for a fatigue-related accident. Long duty days, operational pressures, irregular hours, flying across time zones, and poor quality sleep all contribute to [excessive] levels of individual fatigue which can compromise flight safety and operational effectiveness.

In Part 1, this article will look at fatigue — what it is and how it affects the human being in air operations. Part 2 will look at how to fight fatigue — how fatigue interacts with sleep and circadian rhythms and what this all means for performance and safety.

### Part 1- Fatigue

Fatigue has many faces. Everyone is familiar with tired and aching muscles, exhaustion, and the difficulty of completing that 50th push-up! That is **physical fatigue**, a sense of muscular tiredness caused by exertion which results in a decrease in physical performance. It is related to an accumulated oxygen debt and the build up of lactic acid in the muscles. **General fatigue** is that sense of weariness or boredom that develops after the repeated performance of monotonous tasks. Monotony can bring on feelings of drowsiness and sleepiness within minutes. Monotonous activities, such as flying on autopilot on a long over-water leg, are likely to bring on general fatigue. The good news is that general fatigue can be shaken off when a demand is made on the individual. For example, when an engine quits, you suddenly become wide awake! (Too bad you missed the dropping oil pressure for the previous 15 minutes.) Lastly, there is **phasic fatigue** — a short-term fatigue felt as a result of prolonged vigilant activity such as flying on instruments, monitoring a radar screen, or installing a particularly finicky part on an aircraft. Why do you feel so drained after a 2-hour instrument checkride? Why is an instructor "beat" after a trip with a student? The instructor may only have touched the stick once or twice the whole trip, yet the requirement to monitor everything that went on and be ready to jump in and take control extracts a mental toll which results in fatigue.

*. . . when an engine quits, you suddenly become wide awake! (Too bad you missed the dropping oil pressure for the previous 15 minutes.)*

The total fatigue felt by an individual is a combination of physical, general, and phasic fatigue. The way people perceive their fatigue differs widely from one individual to another and, indeed, from one situation to another. Psychological factors such as motivation, mood, the novelty of the situation, and your attitude toward the task can all affect how "tired" you feel. This is a benefit because we can sometimes "wake up" and respond to an unforeseen demand when required, but it can also be dangerous because individuals are often poor judges of just how fatigued they really are.

### Consequences of Fatigue

Several things happen when you become fatigued. The perception of exertion increases. If you are loading boxes onto a truck, the fiftieth box seems to be a lot heavier than the first. This is not only because your muscles are getting exhausted, but also because the task is boring and repetitive. Willingness to exert effort also diminishes. Given a choice, fatigued people will do less than others. They tend to accept greater risk in return for savings in time or effort. Tired technicians may not follow the [technical orders] ... for a repair in favor of a "shortcut" perceived to hasten a repair and lessen their workload.

Cockpit studies have shown several fatigue effects. As pilots become more fatigued, they allow larger deviations to occur before making a correction, and their corrections are larger. Tired pilots tend to concentrate more on primary flight instruments and pay less attention to

others on the periphery of their visual scan. Checks may be abbreviated — or skipped altogether. Errors of omission occur more frequently, and non-flying crew members may fall asleep due to lack of stimulation.

Fatigue also affects your ability to think, reason, and make decisions. Reaction times decrease and performance on logical reasoning tasks, such as decoding messages, assessing situations, and issuing orders deteriorates steadily as fatigue increases. Those most affected will be those whose jobs require a high degree of alertness and swift reaction (i.e., those who have demanding mental requirements for making decisions and organizing activities ... such as supervisors and commanders at all levels). Simple, well learned tasks (such as firing a weapon) are least affected by fatigue. The insidious thing about fatigue is that self-assessment of abilities in a fatigued state can be very unreliable. Although you may feel fine and capable of handling the mission, in reality fatigue has made you much less capable.

### Part 2 - Fighting Fatigue

You have probably heard the old saying, "a change is as good as a rest." For certain types of fatigue, this is true. General fatigue — and to some extent phasic fatigue — can be alleviated by taking a break, engaging in some light physical activity, or simply by doing something different for a while. [For example] duties can be scheduled during long flights to break periods of monotony.

There is only one proven antidote for fatigue: sleep. Young adults require 7 to 9 hours of sleep per night; older ones 6 to 8. Failure to get this amount results in a "sleep debt" that accumulates to where it is the same as if you had missed a night's sleep. The only way to repay this debt is to get your head down and get a good night's sleep. Failing that, getting almost any sleep is good and helps restore you. If we were half as smart as cats, we too would sleep whenever the opportunity presented itself. But naps alone will not return your normal level of performance; rather, they will only arrest your decline for a while. It takes a minimum of 4 to 5 hours sleep to restore minimum performance. Eight hours is ideal.

*Although you can have a sleep debt, you cannot "bank" extra sleep (i.e., 12 hours sleep one night won't let you get away with 4 hours the next).*

Yet, sleep is a funny thing. Although you can have a sleep debt, you cannot "bank" extra sleep (i.e., 12 hours sleep one night won't let you get away with 4 hours the next). Also, "when" you sleep is almost as important as "how much" sleep you get. That is due to the body's circadian rhythm. This is the natural daily cycle of increasing and decreasing alertness which mirrors the body's increasing and decreasing core temperature. The body's temperature rises from about 0800 hours until 1700 hours and then decreases until about 0200 hours. Generally, our mental performance mirrors the circadian rhythm; that is to say, our performance increases during the day (rapidly in the morning) as our body temperature increases and then falls off during the evening. A period called the "circadian trough" occurs from 0230 hours until 0600 hours, when the body's temperature is at its lowest and our mental performance is at its worst. We naturally want to sleep during the period of falling body temperature, and this is also when sleep does us the most good. A 2-hour nap taken from 0200 to 0400 hours is much more restorative than a nap taken from 1000 to 1200 hours.

Significant problems happen when we run counter to our body's circadian rhythm by working at night or by flying across time zones (jet lag). Both activities can affect the quality and quantity of sleep, and both contribute to fatigue. The body adjusts to a new time zone at the rate of 1 to 1.5 hours per day, and it will take 3 nights to restore normal sleep after a westbound flight and up to 7 days after an eastbound flight crossing several time zones. Until adjustment occurs, it is difficult to get full value from

sleep.

Changing from day to night operations also presents a problem, as it takes up to 12 days to adjust circadian rhythms to a night shift. As it usually is not practical to make a full adjustment, more often a rapidly rotating shift schedule is used; and the effects of being "out of phase" are simply accepted. Daytime sleep presents problems for some people no matter how good the sleeping accommodations are, and most day sleepers average 2 hours less sleep per day than night sleepers. In a field location, when 24-hour flying operations are in progress, quality and quantity of day sleep is probably pretty low and fatigue levels increase.

### Safety

How do we manage the fatigue risk? Everyone in air operations has a responsibility to ensure they and their buddies are alert and fit for duty. Each air group has orders detailing the length of crew days, daily flying times, and accumulated duty and flying times over specified periods for different types of aircraft and missions. Observe them! Authority to exceed these limits is retained at high levels to ensure that the increased risk is justified by the operational necessity.

On an individual level, getting a sufficient quantity of good quality sleep is a must. Without it, you can expect your performance to drop; so get someone to double-check your work. Remember that you are a poor judge of your own abilities when you are fatigued, so watch your buddies for signs of fatigue; and get them to watch you. If your lack of sleep presents a hazard to the mission, admit it or at least accept it if someone else points it out to you. Don't make matters worse by going to excess with alcohol, coffee, or drugs of any description.

For supervisors, the old adage of knowing your people was never more true. Watch your people for deviations in performance that might indicate fatigue. Be aware of their schedule and what is going on in their life that might be causing a fatigue related problem. Represent your people to higher authority when necessary to ensure that sufficient rest is provided during continuous operations. Last, know when to take a break yourself! Studies show consistently that leaders are the ones who need sleep the most but are the least likely to get it.

For units, review establishments, orders, and operating procedures to ensure that they provide for sufficient people to do the job; and that scheduling permits adequate rest even in periods of high-tempo operations. Think about how things are done: is everyone woken up at 0600 hours in the field, regardless of whether they are needed or not? Can crews eat when it is convenient for flying operations, or do they have to choose between sleep or food? If so, it is time to rethink the situation.

### Conclusion

Fatigue is a problem that must be managed effectively for safe air operations. Fatigue is insidious in that personnel may not realize that their performance has fallen off. While some fatigue can be countered by a change of activity or some mild stimulation, serious fatigue can only be solved by getting good quality sleep. Countering fatigue related problems is everyone's business, from the individual to the highest headquarters. Sound sleep management practices can make air operations safer. So know them, and practice them in your unit; because failure to stay on top of fatigue can bring you that much closer to an accident that nobody wants. ■

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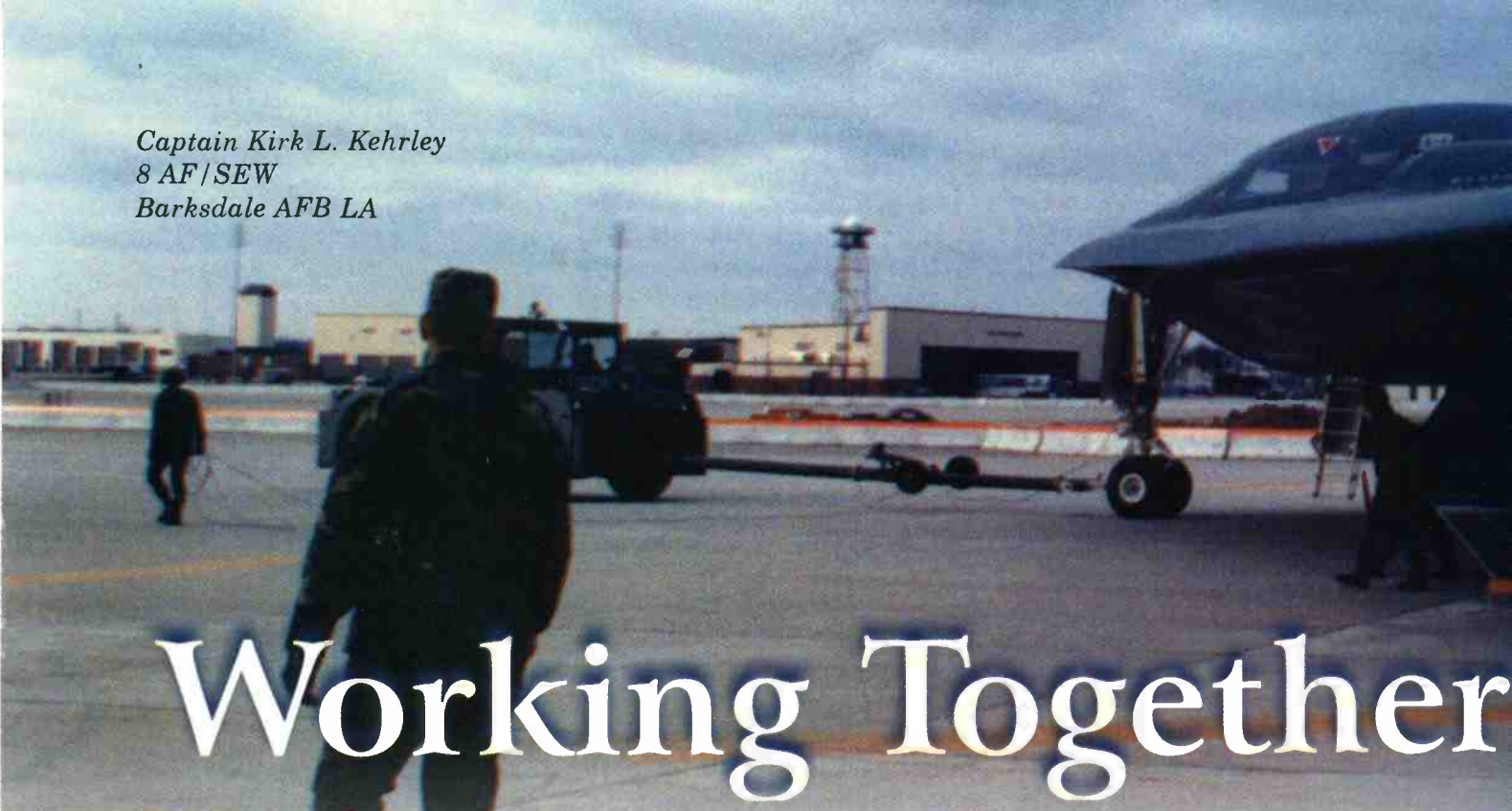
*Captain Kirk L. Kehrley*
*8 AF/SEW*
*Barksdale AFB LA*



# Working Together

**Did you know** that a Weapons Safety Manager (WSM) in a dual tasked wing is the person responsible for all nuclear surety matters in the organization? Furthermore, did you know that weapons safety is not a career field and that wing weapons safety managers typically have no prior weapons safety experience when they step into the billet?

In accordance with AFI 91-101, "Air Force Weapons Nuclear Surety Program," the WSM at dual tasked wings "is the commander's personal representative and the point of contact regarding all nuclear surety matters." It is an important position in the wing. In addition, the WSM at a dual tasked wing is usually not an AFSC 2W2xx nuclear maintenance technician nor an expert in every specialty that affects nuclear surety throughout the wing. Therefore, it is no surprise that new WSMs in organizations responsible for nuclear surety are initially daunted by their great responsibility. The key to successful nuclear weapons safety management at a dual tasked wing is the network the WSM builds throughout the organization. Each of us can assist WSMs assigned to dual tasked wings in their quest for nuclear surety.

> . . . we still have a strong nuclear surety program . . . because each of us is upholding our particular piece of the nuclear surety puzzle.

History has changed the magnitude of our nuclear surety focus; but despite the reduced number of people and equipment from the old SAC days, we still have a strong nuclear surety program ... because each of us is upholding our particular piece of the nuclear surety puzzle. In the environment we live in today, the WSM has emerged more important than ever. The networks that he/she establishes combine all the precious nuclear surety expertise throughout the wing.

It is true that the WSM goes to a 7-week Air Force technical school to learn the rudiments of weapons safety. However, the majority of the course focuses on conventional explosives issues — only a small amount of the subject training touches on nuclear surety. Therefore, it is important for the additional duty Unit Safety Representatives (USRs) throughout the squadrons with a dual tasking (i.e., those who are responsible for some aspect of nuclear surety) to assist their respective WSM in any way they can.

# for Nuclear Surety

### Help The WSM to Help You

One of the most important nuclear surety activities of a WSM in a dual tasked wing is to train and encourage USRs in their duties. For the USR, nuclear surety is an additional duty ... and he/she probably does not have a strong background in the nuclear surety program, as well. In most cases, the WSM and USR in organizations with a dual tasking learn their basic nuclear surety responsibilities through Inspector General checklists and command policy Compliance and Standardization Requirement Lists (C&SRLs). However, a majority of a WSM's nuclear surety knowledge comes from interfacing with wing personnel. This is where you can help. If your unit has a nuclear surety program, contact your USR or WSM about anything you wish to find out about nuclear surety, or take them with you out on a job. For example, if you are in the Communications Squadron, invite them along when you are performing sensor maintenance tests. The amount of knowledge the WSM in a dual tasked wing has about your job is directly proportional to the strength of the nuclear surety program throughout the wing.

### The Importance of Networking

The relationship that the WSM establishes with his/her

> . . . a majority of a WSM's nuclear surety knowledge comes from interfacing with wing personnel. This is where you can help.

USR is of utmost importance. Through the USRs, the WSM can monitor nuclear surety programs, disseminate new or changed guidance, and ensure that all wing nuclear surety efforts integrate together in a smooth manner. This can be done through the medium of e-mail or at quarterly nuclear surety council meetings. Short meetings with USRs hosted by the WSM seem to work best for many units.

During these meetings, the WSM can check the nuclear surety pulse throughout the wing. For instance, he/she can make personal contact and give out the latest guidance or newest checklist items. Additionally, each USR can acquaint themselves with each other's responsibilities and understand how they can best interface with one another to have the most positive effect on the overall nuclear surety of the wing. They can cross-check the work area boundaries and blinders that organizations inevitably put up. Typically, one hears, "Those guys do not understand how we do things here; or we never did it that way, so why should we change now?"

**Results of Networking**

In one case at Base X, the Munitions Storage Area (MSA) personnel had maintenance problems with their nuclear certified vehicles. An upcoming Nuclear Surety Inspection (NSI) loomed, and MSA vehicles were in need of much maintenance. The USRs initiated a dialogue between the MSA personnel and the Transportation Squadron commander. As a result, vehicle historical records were scrubbed, and vehicles were jointly repainted by MSA and transportation personnel. The teamwork exemplified here leads to a strong nuclear surety program.

Open dialogue by the USRs with the WSM can also clear up long-term misunderstandings. Another example at Base X exemplified this process when a munitions USR met with a Primary Nuclear Airlift Force (PNAF) USR to clear up a long standing problem. There was a certain spot on the parking ramp where PNAF aircraft would be parked to upload or download assets. It would be easier for the munitions personnel to back up to the aircraft — thereby reducing the total amount of weapons exposure — if the aircraft was positioned at another spot on the parking ramp. However, the munitions personnel thought the aircraft was parked on a certain spot because it was the aircrew's requirement; the aircrew thought munitions personnel needed that specific spot because it was a munitions requirement. After the USRs talked the problem through, it was easily remedied by parking the aircraft on a more convenient spot beneficial to both agencies and ultimately to nuclear surety.

WSMs who have established strong nuclear surety awareness throughout their dual tasked wing have done so with the help of USRs spreading nuclear awareness in each of their squadrons. It is easy to recognize the type of relationship a WSM has with squadron level USRs during a Staff Assistance Visit (SAV) or NSI. Good relationships help build a solid nuclear surety program.

We all have an area of expertise in the nuclear surety puzzle. Share your piece of the puzzle with your USR and WSM. You will help them fulfill their requirement as the commander's personal representatives and the points of contact for all nuclear surety matters. Next time you see unfamiliar personnel observing your technical operation or questioning why a piece of equipment is nuclear certified, it is most likely a WSM or USR learning what you do and ensuring that your wing has the best nuclear surety program possible. Introduce yourself and explain what you are doing.

The WSM is the head cheerleader carrying the nuclear surety banner. As commanders and fellow airmen who affect and interact with nuclear surety on a daily basis, it is important that we are aware of and understand the responsibilities of a wing WSM and supporting USRs. Constant nuclear surety vigilance is established by a WSM networking and establishing contacts in the wing through USRs. The WSM and USR help ensure your wing complies with the requirements of nuclear surety — the assurance and confidence that the nuclear mission of your wing remains flawless. ■

# Fido

*Dog bite claims in 1996 totaled more than $77 million and accounted for about 28 percent of all liability claims.*

# Friend or Foe?

*SMSgt Gary Reniker*
*442 FW/SE*
*Whiteman AFB MO*

I was surprised and shocked at the number of reported dog attacks that happened in the region of Kansas and Missouri recently in just an 11 day period.

Dog bites are an unrecognized problem in the United States. According to the journal *Pediatrics*, dogs bite 4.5 million people and cause about 20 deaths a year in the United States with an estimated 585,000 injuries that require medical attention or restricted activity. In comparison, the journal stated that injuries from playground equipment cause about 17 deaths

- **On Thursday, three Rottweilers killed an 11-year-old boy at a bus stop in Milford, Kansas.**
- **The same day, two Pit Bulls killed a 4-year-old boy as he played in a yard in Lamar, Missouri.**
- **On the following Monday, a 3-year-old boy in Rich Hill, Missouri, was critically injured when a Chow attacked him after he went into a neighbor's fenced kennel.**
- **Then on Tuesday, a 5-year-old boy in Liberty, Missouri, underwent 2 hours of surgery after he was attacked in his yard by a dog (part Akita and Labrador Retriever).**
- **On Sunday, a Grandview, Missouri man was bitten by a Black Labrador when he went outside to rescue his cat from the dog.**
- **That same Sunday, two Pit Bulls killed a Yorkshire Terrier in Independence, Missouri.**

a year with 170,000 injuries requiring medical attention. In 1994, an insurance company paid out $58.7 million for injuries caused by dogs. The following year, claims rose to almost $71 million. Dog bite claims in 1996 totaled more than $77 million and accounted for about 28 percent of all liability claims.

Although many people assume that dog bites are the result of unavoidable situations or "random acts of fate," most are preventable. "This is an epidemic," said Jeffery J. Sacks, a physician who has studied dog bites for the National Center for Injury Prevention and Control, a division of the Center for Disease Control and Prevention in Atlanta. "Society is doing a poor job of dealing with the 52 million dogs living in their midst," Sacks contends.

*Children are more likely to be victims of dogs than any other age group of people. They are also the most likely to die from dog attacks and to have more serious injuries.*

To help prevent dog bites, one should do the following: Supervise infants and toddlers around dogs — even the family dog — at all times. Teach children to treat all animals with respect and to never tease, hurt or take things away from a dog. In addition, never enter a dog's yard or cage if the owner is not there. Recognize the signs that a dog might be ready to attack: growling, baring its teeth, staring at you or standing stiffly with its hair up. If you feel threatened, don't make eye contact. If you are attacked, don't run. Make fists and curl in a ball on the ground. Try to protect your face, head and neck.

Children are more likely to be victims of dogs than any other age group of people. They are also the most likely to die from dog attacks and to have more serious injuries. The reasons for this are:

- Children's judgment is not as good as that of an adult in terms of how to behave around a dog.
- They might run from a dog when they're scared; running tends to provoke a dog's predatory behavior.
- They are more likely to be level with a dog's head, which results in bites to the head, neck or face.
- Dogs don't view children as dominant and may attack them for any contentious behavior they display towards them.
- Children are less able to fend off a dog attack.

"These bites rarely come out of the blue," Sacks said. Referring to municipalities that don't take action until second reported bites, he said, "Instead of allowing dogs free bites before action is taken, I think there should be aggressive legislation to deal with these problems up front." The failure to deal rigorously with reports of dogs running loose, as they were in the Milford, Liberty and Grandview cases, is akin to leaving guns lying in the street and not worrying about them until someone is shot. When a dog is free to roam around a neighborhood with no restriction, it is a problem — a problem waiting to happen.

I encourage all dog owners to maintain control of their pets and to abide by all local ordinances that deal with that responsibility. Teach your own children and their friends how to behave around your dog. Whether you have a dog or not, always exercise care and caution around "man's best friend." You'll be glad you did 'cause, believe me, their bite is worse than their bark! ■

## How to Take Care of a Dog Bite

*Courtesy of Dr. Kissenberth, ER Staff*
*McDonald Army Community Hospital*
*Fort Eustis VA*

- Wash the wound gently with soap and water.
- Apply pressure with a clean towel to the injured part to stop bleeding.
- Keep the injury elevated above the level of the heart to slow swelling and prevent infection.
- Report the incident to the proper authority in your community (animal control or police).
- See a physician, especially if any of the following apply:
  - You have any signs of infection, such as redness, swelling, warmth, increased tenderness, oozing of puss from the wound.
  - You have bleeding that does not stop after 15 minutes of pressure or you think you may have a broken bone, nerve damage, etc.
  - Your last tetanus shot was greater than 5 years ago.

# ACC Losses for FY98
## (1 October - 31 December 1997)

SAFETY STATS

Lesson Learned

### Ground Mishap Fatalities

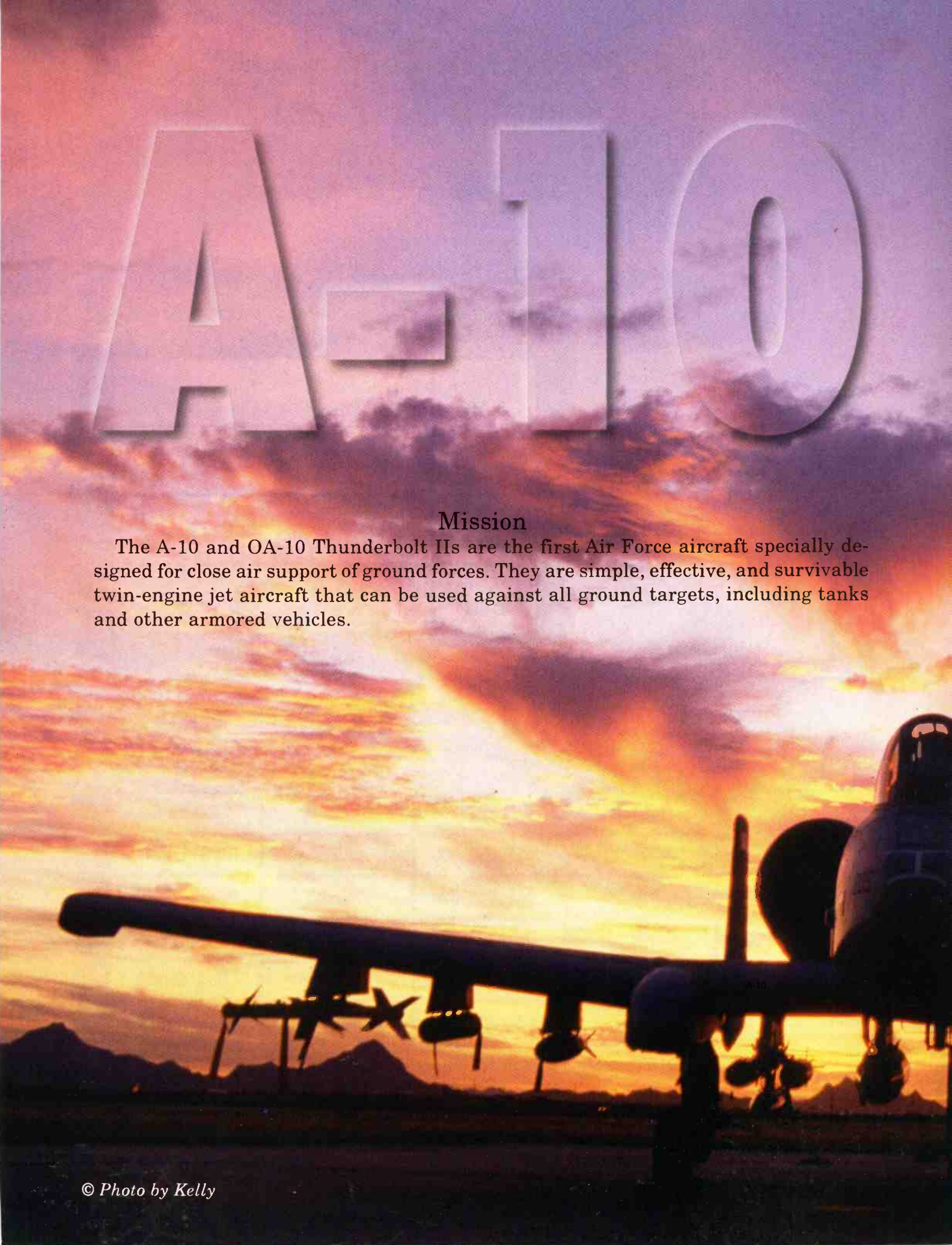
| | |
|---|---|
| 8 AF | |
| 9 AF | |
| 12 AF | |
| DRU | |

"Take a stand against impaired driving; don't let a friend drive drunk."

### Number of Ground Mishaps/Dollar Losses

| | Class A | Class B | Class C |
|---|---|---|---|
| 8 AF | 1/$1,100,000 | None | 38/$118,960 |
| 9 AF | 1/$125,000 | None | 37/$227,088 |
| 12 AF | 2/$274,000 | None | 75/$308,197 |
| DRU | 1/$125,000 | None | 10/$38,460 |
| Total | 5/$1,624,000 | None | 160/$692,705 |

**Class A** - Fatality; Permanent Total Disability; Property Damage $1,000,000 or more
**Class B** - Permanent Partial Disability; Property Damage between $200,000 and $1,000,000
**Class C** - Lost Workday; Property Damage between $10,000 and $200,000

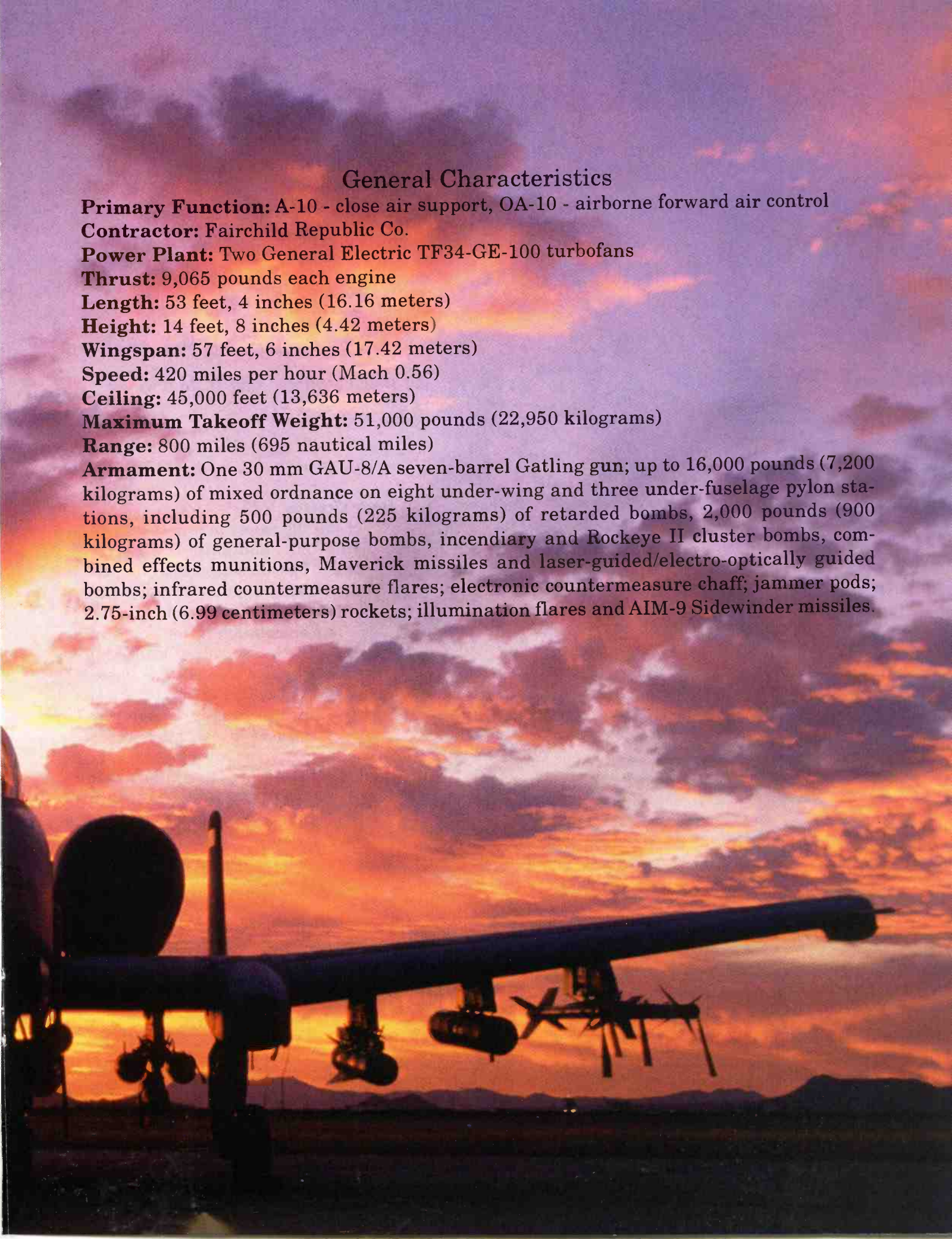



## Mission

The A-10 and OA-10 Thunderbolt IIs are the first Air Force aircraft specially designed for close air support of ground forces. They are simple, effective, and survivable twin-engine jet aircraft that can be used against all ground targets, including tanks and other armored vehicles.

## General Characteristics

**Primary Function:** A-10 - close air support, OA-10 - airborne forward air control
**Contractor:** Fairchild Republic Co.
**Power Plant:** Two General Electric TF34-GE-100 turbofans
**Thrust:** 9,065 pounds each engine
**Length:** 53 feet, 4 inches (16.16 meters)
**Height:** 14 feet, 8 inches (4.42 meters)
**Wingspan:** 57 feet, 6 inches (17.42 meters)
**Speed:** 420 miles per hour (Mach 0.56)
**Ceiling:** 45,000 feet (13,636 meters)
**Maximum Takeoff Weight:** 51,000 pounds (22,950 kilograms)
**Range:** 800 miles (695 nautical miles)
**Armament:** One 30 mm GAU-8/A seven-barrel Gatling gun; up to 16,000 pounds (7,200 kilograms) of mixed ordnance on eight under-wing and three under-fuselage pylon stations, including 500 pounds (225 kilograms) of retarded bombs, 2,000 pounds (900 kilograms) of general-purpose bombs, incendiary and Rockeye II cluster bombs, combined effects munitions, Maverick missiles and laser-guided/electro-optically guided bombs; infrared countermeasure flares; electronic countermeasure chaff; jammer pods; 2.75-inch (6.99 centimeters) rockets; illumination flares and AIM-9 Sidewinder missiles.



# The ORM Buck Stops Here!

ASK ORVILLE!

*Colonel Ronald L. Garhart*
*HQ ACC/SEO*
*Langley AFB VA*

*Orville selected a letter this month that was submitted anonymously from one of our flying brethren. Our flight oriented author writes:*

***Dear Orville:***

I am the safety officer in an ACC flying unit; and quite frankly Mr. Mudd, I am disillusioned by the turn of recent events surrounding leadership's approach to ORM implementation in my organization. Our squadron leadership was briefed that ORM is important to ACC, and that ORM was being looked at during every accident investigation — you know, to see how we could have or should have used ORM to prevent the mishap. Soooo, in true "cover your derriere" fashion, my unit leadership decided to set up the safety officer (moi) as the ORM scapegoat for any future acts of aerial deficiency unfortunate enough to result in the structural failure of a unit asset. How did they do this you ask? Simple, I now get to sign every schedule — conveying the impression that I conducted an ORM review and found the said schedule to be void of unnecessary risk. Was I given a checklist as to what was to be looked at? Noooooo! Did

the "leadership" even provide general guidance for conducting such an ORM review? Noooooo! But, in the unfortunate case of a mishap, do they have a piece of paper with my signature saying "ORM Accomplished Here?" Yes!!! In their minds, ORM is a "safety initiative" to be established and administered by safety personnel; and it's not to interfere with their daily routine. Orville, is this how leaders should approach ORM — to develop a system to shift blame if anything goes wrong?

***"Disillusioned in the Wings"***

***Dear Disillusioned:***

Now, don't you go starting to feel like Robinson Crusoe on a deserted island. Why just last week, I was speaking with a sister service aviator; and guess what, his commander instituted a procedure nearly identical to the one you described in your letter. Coincidence, or an interservice conspiracy — you be the judge. But would you like to know how the safety officer in his unit was handling the situation? With a sharp #2 pencil, that's how ... and prayers for a zero accident rate during his tenure. That's right, the old pencil-whip routine. And you know what the surprising part is, it really works! That's right, as long as you have a zero accident rate, the pencil-whip method appears to be as effective as a well implemented, robust ORM initiative. And here is an added bonus, pencil-whipping doesn't require much time, funding, or human involvement. It just relies on the much heralded and widely adopted management principle of, "You can't lose in a big game." You see, the historically low accident rate (like the one ACC has enjoyed over the last few years) has lulled some leaders to ask themselves the following question: "What is the true statistical probability that the normal mishap distribution curve will single out my unit to take a hit while I am in charge?" Their normal answer is, "Probably fairly small." But on the other hand, I have personally witnessed an overconfident comrade (and his wallet) take two shacks in a row in a "really big game" in a bar in Zaragoza. It was not a pretty sight.

But let's get back to the question at hand. What is leadership's role in ORM? First of all, **ORM is a leadership initiative to be led by commanders.** It is not a safety program to be administered only by safety professionals. That is not to say that safety should not be involved in ORM. Safety professionals can play a very key role in helping the commander manage risk. However, it is obvious in some units that safety (to the exclusion of all other functions) is being used as the sole ORM conduit. But the bottom line is this — effective ORM application demands that commanders and key personnel in all leadership positions be actively involved with risk management. They must establish the criteria, set the parameters, and interact on a daily basis with each other for any unit-level ORM initiative to have a chance at success.

Next, **a commander may delegate authority; but he cannot relinquish responsibility.** Your commander may well decide to use the safety officer to help apply the unit's ORM strategy; but development, approval, and execution of that strategy are clearly the responsibility of leadership. Let there be no mistake about this — all personnel should and must be involved to ensure effective unit-level risk management. But only one individual holds overall accountability for its success or failure, and that is the person at the top. Commanders cannot pass the ORM Buck, but they can certainly use it to help ensure that they do not become "losers in a big game." ■

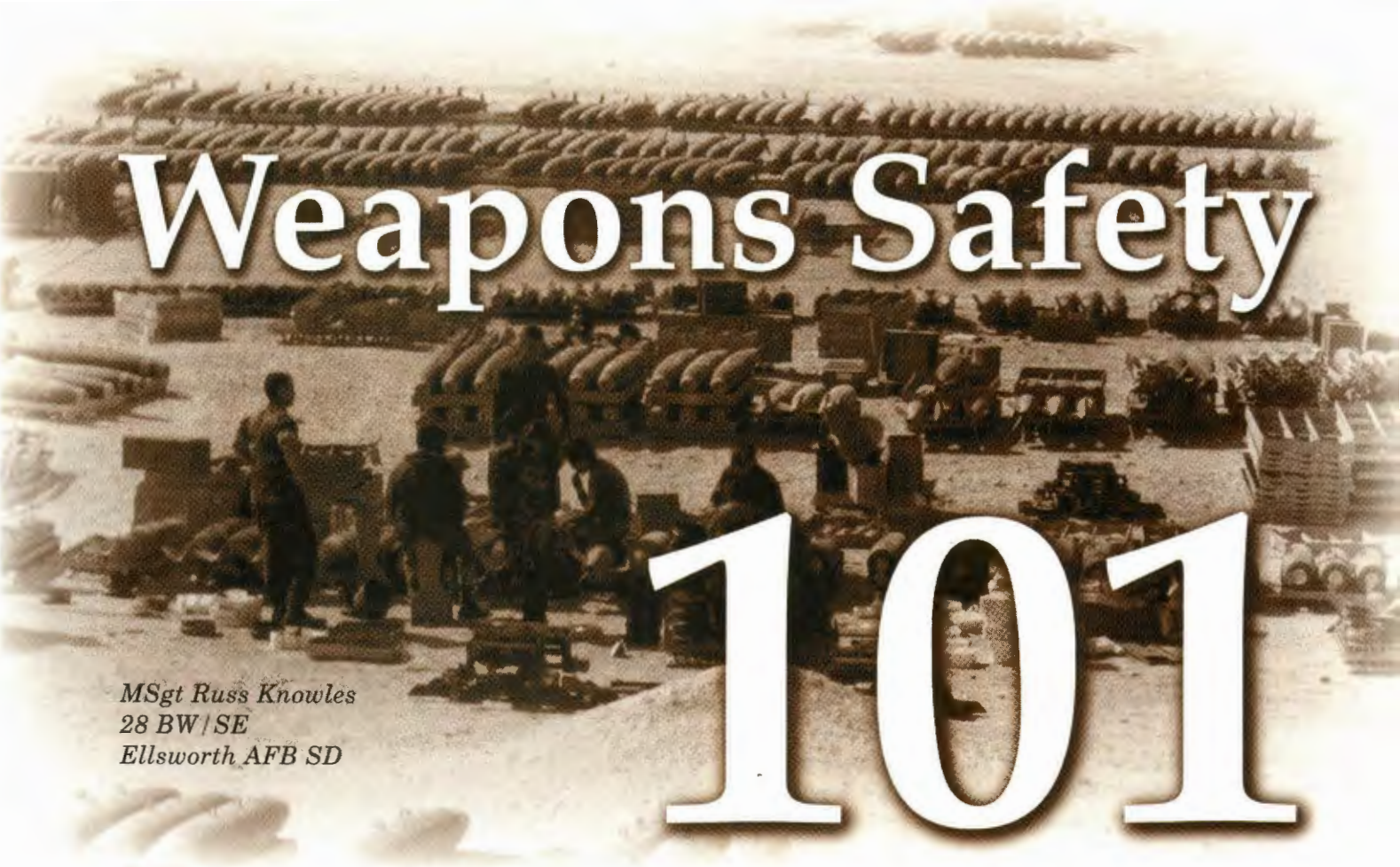
*If you have any questions or comments regarding ORM, send them to:*

*"Ask Orville!"*
*HQ ACC/SEO*
*175 Sweeney Blvd*
*Langley AFB VA 23665-2798*

*DSN 574-8800, Fax DSN 574-897*
*e-mail: ronald.garhart@langley.af.mil*

Keep those cards and letters flying in,

*Orville R. Mudd*
*ORM Dogfight Veteran*
*ACC Office of Safety*



# Weapons Safety 101

*MSgt Russ Knowles*
*28 BW/SE*
*Ellsworth AFB SD*

Probably the biggest question that weapons safety personnel are confronted with is, "Who is *related*, and who is *unrelated?*" Of course, I'm referring to who can be located inside of those explosives arcs and who cannot. Over the course of my 4 years in weapons safety, I can't count the times that I've had decision makers infer that — during war or exercises — everyone who has an active duty military identification card is crucial to the mission and has the right to be located inside of the explosives clear zones. Crucial to the mission, yes! But the right to be located inside of the clear zones because they are card holders, no! Even when I was deployed to Al Kharj, Saudi Arabia, we maintained the same explosives safety rules across the board when it came to the "*related* and *unrelated*" issue. Hopefully, by what I've seen and heard through my stay in the weapons safety office, I can impart some wisdom to others relative to explosives safety rules.

Here's a quick overview of Weapons Safety 101 — the basic fundamentals in working with explosives that everyone should know.

The two greatest and immediate hazards involved in an explosion are: "Fragmentation" and "Blast/Shock Wave."

**Fragmentation** - Clear zones minimally protect us from fragmentation. The clear zone is not some kind of protective shell that will absorb all of those nasty chunks and shards of molten steel that fly at us at bullet speed. Clear zones "do not" guarantee our safety against fragmentation! They are only there to minimize the hazard. When you see or hear the words "clear zone," think fragmentation.

**Blast/Shock Wave** - This hazard is defined as "a surge or rush of air that is being displaced by an occurrence at a specific point." When you hear your weapons safety folks talking about K factors ... think "blast or shock wave." The shock wave, for the most part, immediately after an explosion is the most damaging result of that explosion. Even if you were able to dodge all of the flying debris coming at you, there is still a strong blasting force behind it you have to deal with. The blast will have its way with you,

and there is nothing you can do to avoid it. The associated shock wave can and does go through, around, and over almost every object in its path. It is measured in psi (pounds per square inch). The bigger the psi number, the more damage it causes. Below is a list of psi's and damage to be expected:

| K - Factor | PSI | Damage |
|---|---|---|
| 80 | 0.5 | Possible minor damage to buildings and injuries to personnel from fragments, but not likely. |
| 40 | 1.2 | Damage to buildings (unstrengthened) is about 5%; personnel inside are protected from death or fatal injury; personnel outside will be injured by fragmentation, but not blast force. |
| 24 | 2.3 | Damage to buildings (unstrengthened) is about 20%; personnel may suffer hearing loss, injuries from flying debris, fatal injuries from fragments, and could be thrown down by blast. |
| 18 | 3.5 | Damage to buildings (unstrengthened) is about 50% or more; fatalities are likely from fragments, debris, firebrands, walls, and roofs collapsing, or other objects. Aircraft will suffer considerable damage from blast and fragments. |
| 11 | 8.0 | Damage to buildings (unstrengthened) is expected to be almost total destruction. Injuries to personnel become more serious and widespread. |
| 6 | 28 | Buildings (unstrengthened) are destroyed completely. Personnel will be killed. Aircraft will be destroyed. |

Now that you understand more about fragmentation and blast/shock wave, how does one apply this knowledge? You put it to use during **site planning** for Base "X."

One of the first things that the weapons safety office (SEW) gets asked at the beginning of the site planning process for an upcoming deployment is, "Aren't we all *related* to the explosive operations mission of Base 'X' while deployed?" The answer is a simple — NO! Hopefully, the following will guide you to understanding why. Information is taken from AFM 91-201, "Explosives Safety Standards ."

Consistent with operational requirements, it is Air Force policy to:

**(1)** Adhere to explosives safety standards during all operations that include the use of munitions.

**(2)** Provide the maximum possible protection from explosive hazards to personnel and property.

**(3)** Apply the explosives safety "Rule of Minimums" whenever possible — expose the minimum number of people to the minimum amount of explosives for the minimum amount of time.

**(4)** Where a more restrictive standard exists, as is the case in many international areas, abide by that standard.

**(5)** The requirements of AFM 91-201 apply both in peacetime and wartime. Explosives safety practices are always important, especially when deploying and/or

employing combat forces. Explosives safety equals combat survivability.

**(6)** Quantity Distances (QDs) to consider during planning and employment of combat forces are:

**(a)** Maintaining intermagazine separation (separation between explosives loaded aircraft),

**(b)** Meeting intraline separation (separation between an explosives loaded aircraft and a related function), and

**(c)** Protecting unrelated personnel.

**(7)** It is impossible to adequately cover every situation involving explosives. Therefore, the absence of safeguards in explosive safety manuals (or in other referenced publications) does not indicate that other safeguards do not exist. Commanders must provide adequate protection for personnel and resources — on and off base — from the hazards associated with explosives operations.

Okay, but what does all this mean? Well, our operations tempo is usually at a certain level from day to day while here at home station. But when we deploy and are employed, the tempo is greater than ever before because of the real time goal at hand — and that is usually to stop the enemy! This higher tempo means more bombs, more sorties, congested flight lines, and a million things going on at once! That is why explosives safety is even more important during contingency operations or war. We are simply handling "more dangerous items more often," and our risk of a mishap occurring constantly gets higher!

All right, but isn't everybody *related* during contingencies or war? No! However, everyone is involved in the contingency or war to a certain degree — depending on their duties. Let's put a few people in the clear zone and see what happens.

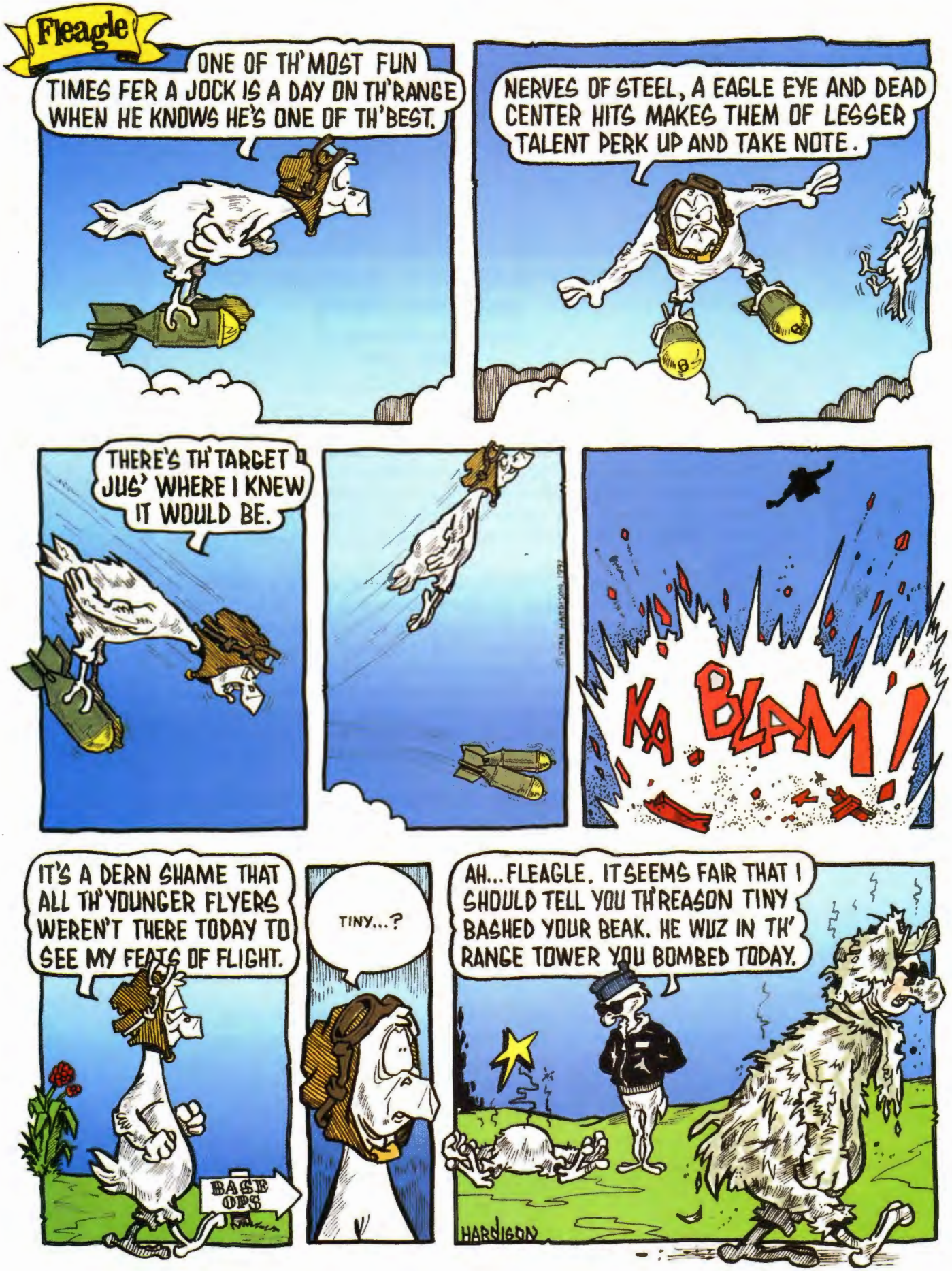
**Explosives Ordnance Disposal (EOD)** - They are definitely *related!* They work with explosives all the time. NOT! Put them in your clear zone, and have an accidental explosion. Now all your EOD personnel have been killed. Who can I get to clean up all the unexploded (but armed!!!) ordnance? Can you say, "AIRMAN?"

**Base Fire Department** - They need to respond very fast to an emergency. Therefore, they certainly have to be in the clear zone, right? NOT! Again, the explosion would wipe out your first line of defense against fires that would spread over your entire flight line from the blast and fragmentation.

**Air Transportable Hospital (ATH)** - If we put the ATH near the flight line, we could respond quicker to those personnel who may have been injured by the explosion. I mean, time is of the essence — isn't it? Well, yes and no. Place your ATH or other medical facilities as close as you possibly can to the battle area, but not within an explosives clear zone. Think about it. A clear zone is there to show you where the major portion of the blast and fragments will occur. If your medical staff personnel are incapacitated as a result of an explosive incident (whether the explosion was of our own making or a terrorist activity), who wants some inexperienced do-it-yourselfer operating on them. Possibly, the only prior experience they had with a sharp knife was during deer hunting season in the backwoods somewhere.

**Wing and Base HQ** - We've all seen what explosions can do to reinforced buildings (e.g., Oklahoma Federal Building and the Khobar Towers in Saudi Arabia). In the instance with the Oklahoma City bombing, they discovered that the amount of explosives used to bring that building down was somewhere in the neighborhood of 4,000 lbs TNT equivalency. In comparison, we load at the present time on a B-1B (fully loaded with MK82s/84s) more than four times that amount (16,322 lbs of TNT equivalent!). Can you say "KABOOM?"

Munitions are not selective and do not care who or when they kill ... in war, exercises, or peacetime! Therefore, I would like to leave you with some final food for thought. Most of your weapons safety folks are either weapons loaders or munitions storage area personnel who have an extensive working knowledge of explosives and are aware of the power these weapons possess. So, where are your weapons safety personnel usually located? Outside of the explosives clear zones — and I would venture to say they had a voice in that plan! If I had to sum it up into one final slogan, it would be, **"Know explosives safety — no pain. No explosives safety — know pain!"** Mmmmm??? Try reading that again. ■


Fleagle
ONE OF TH' MOST FUN TIMES FER A JOCK IS A DAY ON TH' RANGE WHEN HE KNOWS HE'S ONE OF TH' BEST.
NERVES OF STEEL, A EAGLE EYE AND DEAD CENTER HITS MAKES THEM OF LESSER TALENT PERK UP AND TAKE NOTE.
THERE'S TH' TARGET JUS' WHERE I KNEW IT WOULD BE.
KA BLAM!
IT'S A DERN SHAME THAT ALL TH' YOUNGER FLYERS WEREN'T THERE TODAY TO SEE MY FEATS OF FLIGHT.
BASE OPS
TINY...?
AH... FLEAGLE. IT SEEMS FAIR THAT I SHOULD TELL YOU TH' REASON TINY BASHED YOUR BEAK. HE WUZ IN TH' RANGE TOWER YOU BOMBED TODAY.
HARNIGON

# Monthly Awards

## PILOT SAFETY AWARD OF DISTINCTION

*Capt John L. Mitchell*
*99 RS, 9 RW*
*Beale AFB CA*

While conducting an operational high altitude U-2 reconnaissance mission from a remote overseas operating location in support of UN treaty verification, Capt Mitchell prevented the loss of his aircraft due to an uncommanded wing flap extension at operational altitude. Approximately 27 minutes after takeoff, in a cruise climb profile above 48,000 ft and 160 KIAS, Capt Mitchell noticed light airframe buffeting which quickly became more severe.

Checking the instruments to determine the cause of the buffeting, he observed the wing flaps extending. He observed the flap lever to be in the up position and so quickly placed the gust control switch in the up position to override the lever and reverse the flaps. This stopped the flaps at 28 degrees of deflection and started them back up to the neutral position. Flight manual guidance specifically warns against the potential for an unrecoverable nose down pitch condition if the flaps extend above 45,000 ft. While diagnosing the problem, Capt Mitchell had to hold increasingly heavy back pressure to both reduce the pitch down effect and slow the aircraft below the flap placard limit speed of 130 knots.

Once the flaps were retracted and the airspeed reduced, Capt Mitchell initiated a turn toward his landing base and began dumping fuel to obtain proper landing weight. Coordinating with ground personnel, he conducted a structural damage check and lowered the flaps in precautionary 5 degree increments once established at lower altitude. Aircraft performance and flap control were normal with no rolling or pitching tendencies. Capt Mitchell completed an uneventful approach and landing.

Post flight maintenance analysis could not isolate the cause of the malfunction. As precautionary measure the flap control and gust control cockpit switches were replaced.

Capt Mitchell had to react without delay to this unfamiliar situation. Had he not immediately placed the gust control switch to the up position, the aircraft would in all likelihood have entered a severe nose down pitch from which recovery would not have been possible. Capt Mitchell's quick thinking and superb airmanship saved his aircraft in a very challenging situation.

## FLIGHT LINE SAFETY AWARD OF DISTINCTION

*A1C Christopher C. Bonds, SSgt Stewart E. Burns*
*4 OG, 4 FW*
*Seymour Johnson AFB NC*

SSgt Burns and A1C Bonds were evaluating an integrated combat turnaround (ICT) on the flight line. The ICT started at approximately 1430 hours with the chocking of the F-15E aircraft. The "A" ICT person installed a PVC fuel catch tube in the #2 pressurizing and dump (P&D) valve to collect residual fuel after engine shutdown. A1C Bonds was closely evaluating a weapons load crew member preparing one of the conformal fuel tank bomb rack stations near the #1 engine P&D valve. When the "A" person signaled the aircrew to shut down the #2 engine, they inadvertently shut down the #1 engine. A1C Bonds heard the #1 engine beginning to shut down instead of the #2. He quickly grabbed A1C Thomas and pulled him from the danger of having the residual fuel from the P&D valve dousing him. The fuel is expelled at approximately 200 degrees Fahrenheit. The close attention to detail and quick reaction of A1C Bonds prevented possible severe burns and eye injury to A1C Thomas from the fuel.

## WEAPONS SAFETY AWARD OF DISTINCTION

*SSgt Yvonne B. Gove*
*355 WG*
*Davis-Monthan AFB AZ*

At approximately 0930, SSgt Gove (Cobra 8) called over the radio informing munitions control that she had an emergency: A Bomb Dummy Unit 33 (BDU-33) containing Hazard Class Division 1.4 explosives (requiring a 300-foot evacuation distance for all personnel) had the plunging assembly sheered off. She advised them to initiate their emergency action checklist. After notifying munitions control, she then proceeded to evacuate all personnel, stop all flight line operations, and then prepared to brief emergency responding units (Fire Department, Explosive Ordnance Disposal, Safety, and Security Police). During her preparation, Sgt Gove reassessed the situation to find that with the additional operations that had been going on prior to the evacuation, more potential hazards existed. Four aircraft refueling trucks filled with JP-8 fuel and another trailer with over one hundred 2.75-inch White Phosphorous aircraft rockets containing Hazard Class Division 1.3 explosives were within the evacuation area. When emergency responding units arrived, they were fully briefed of the hazard and location of both the immediate hazard and all associated hazards in the area. Sgt Gove's sense of urgency in identifying and reporting this emergency reduced the possible mishap potential to over 50 Air Force personnel and twelve OA/A-10 aircraft located in the immediate area.

# AIRCREW SAFETY AWARD OF DISTINCTION

*Maj John Pavik, Maj Mike Ray,*
*Maj Gary Wells, 1Lt Dave Hartwell*
*127 BS, 184 BW*
*McConnell AFB KS*

Sting 21 was lead of a night 2-ship which departed McConnell AFB to the north on 6 Nov 97 at approximately 1930 local. Local sunset was approximately 1830 hours and the sky condition was scattered to broken at 3000 ft AGL. Thirty seconds after takeoff roll at an altitude of 200 ft AGL, while deconfiguring, the crew experienced total Electrical Multiplexing (EMUX) failure which resulted in a sub-total electrical failure. All front station (pilot and copilot) primary flight instruments, engine instruments, and lighting became inoperative. All aft station Offensive Systems Officer and Defensive System Officer (OSO and DSO) Multi-Function Displays went blank and most lighting was inoperative.

The B1-B, at this moment, was completely dark without inside references to attitude, engine performance, or configuration, and low over a very densely populated area of Wichita, Kansas. Maj Pavik (AC) quickly assessed that they were still producing thrust and able to maneuver, so began to maneuver the aircraft visually away from the populated area and to the east of McConnell AFB. After approximately 30 seconds, some instrumentation and lighting began to return and the crew utilizing standby attitude references and aft station inputs were able to maneuver to the emergency fuel dump/bailout area. Maj Ray (OSO) was able to recover some navigational equipment and maintained the crew's orientation. Maj Wells (DSO) and Lt Hartwell (Copilot) coordinated and ran the appropriate emergency procedure checklists and determined the extent of electrical failure they had experienced.

From the checklists, the crew was able to adjust their gross weight to an acceptable landing weight and obtain an acceptable landing configuration. As a total electrical failure landing is not possible in the B1-B, the crew coordinated with the supervisor of night flying (SOF), for possible controlled bailout if the electrical failure became total. The crew then began to maneuver back to the McConnell AFB pattern to land from a visual approach. During the approach, the pilot's instrumentation again failed, on short final; however, the crew was able to land uneventfully.

Post flight analysis determined that the #1 EMUX controller had failed and did not allow the #2 controller to take over. This condition resulted in a temporary total EMUX failure and the continued electrical malfunctions during the remainder of the flight. It was determined that had the aircraft encountered IMC conditions, there would have been no attitude references for at least 45 to 60 seconds as the standby attitude indicator lighting failed as well as the VSDs. This crew, through quick realization, action, and CRM, was able to manage a very serious aircraft emergency with a high potential for loss of an aircraft and massive ground casualties.

## CREW CHIEF EXCELLENCE AWARD

*SrA Joseph L. Moore*
*77 FS, 20 FW*
*Shaw AFB SC*

While deployed to Doha AB, Qatar, for AEF IV, aircraft 91-348 and 91-1347 taxied into EOR for dearm. Aircraft 91-1347 was dearmed and sent back to the parking ramp. SrA Moore went to aircraft 91-1348, chocked it, did a roll over, and rechocked it. While the weapons crew did their dearm, Amn Moore inspected the aircraft for leaks, and anything missing or broken, and noticed the right main landing gear strut bolt and outboard washer missing. Amn Moore performed a closer inspection of the right main wheel well for a more thorough look. He then noticed the strut pin out of the normal position and the nut and cotter key missing, creating a potentially hazardous situation. The inboard washer was ready to fall off, but was held on by the grease on the strut. Amn Moore motioned the "A" man to come to the right wheel well and showed him the strut pin. He then notified the pilot of the situation and recommended the aircraft be shut down due to the danger of the strut collapsing while taxing. The EOR Super called for a Red Ball while Amn Moore pinned the landing gear and assisted in shuting down the aircraft. Amn Moore's attention to detail, followed by the proper corrective action, directly resulted in the safe recovery of this aircraft. This further led to a worldwide F-16 crosstell, ensuring the entire F-16 fleet was free of strut bolt related defects.

## GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

*SSgt Pate Jones, SSgt Theo Jones, SSgt Thomas Walsh*
*SSgt Daniel Jackson, A1C Carl Berridge*
*49 MXS, 49 FW*
*Holloman AFB NM*

At 1815 hours in building 877 (8th Fighter Squadron Phase Dock), the above mentioned individuals were preparing to accomplish a nose landing gear door rig on aircraft 814. SSgt Theo Jones connected the DC power cord to the aircraft and hydraulic mule as SSgts Pate Jones, Walsh, and Jackson, and A1C Berridge assumed their normal positions. After the safe for maintenance inspections and input conditions were taken care of, the signal was given to start the electrical power cart. As Sgt Theo Jones pushed the ON button for the cart, the electrical wall socket immediately began to malfunction, with sparks and flames emitting from the wall socket. Sgt Theo Jones observed the spreading flames and yelled "fire" to alert his fellow workers. Sgt Pate Jones, hearing the call and noticing the flames, raced to the nearest fire bottle over 20 feet away. Sgt Theo Jones charged the fire bottle as Sgt Pate Jones, assisted by Amn Berridge, pushed the cart toward the wall socket. Sgt Pates Jones then grabbed the extinguisher hose and began to fight the fire.

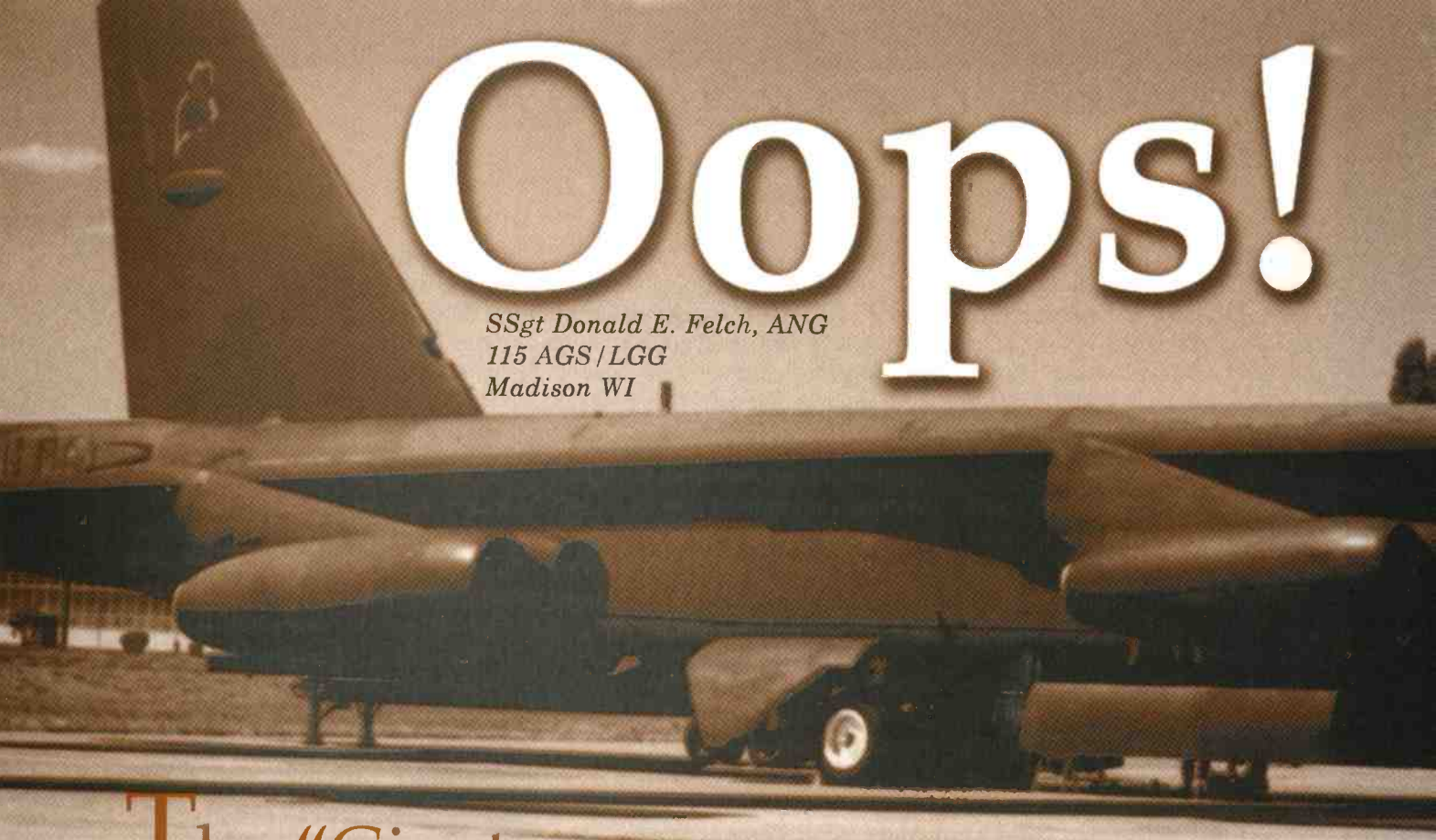
Sgt Jackson then moved into a position that would allow him to begin downjacking aircraft 877 if the fire could not be controlled. Sgt Walsh attempted to call the Mission Operational Control Center (MOCC) on the maintenance net (net 4); receiving no response, he called Recovery Base to inform them of the fire in building 877. Sgt Walsh and Sgt Jackson cleared a path in front of the aircraft in order to tow it out of the hangar.

Because of the quick actions of this team, the fire was out when the Fire Department arrived. Sgt Walsh directed them to where the fire had originated. Sgts Theo and Pate Jones explained the situation and suggested to the Fire Department that they shut down the circuit breakers since the wall might still be electrically charged. As the Fire Department shut down the breakers, Sgt Walsh called for a CE electrician to come and inspect the damage.

The alertness and quick actions of the individuals involved definitely prevented injury and/or loss of life to those working in and around building 877, the loss of four aircraft valued at over 250 million dollars, the loss of the entire phase dock containing numerous pallets of tools, and Radar Absorbent Material valued at well over 1.5 million dollars.

# Oops!

*SSgt Donald E. Felch, ANG*
*115 AGS/LGG*
*Madison WI*



The "Giant Sword" competition was to be held at Fairchild AFB WA in less than 2 weeks. The weapons load crew from the 43d Bomb Wing at Andersen AFB, Guam, was making final adjustments to their heavily scripted loads. Everything had to be perfect. After all, following a rigorous selection process, they had been chosen as the "best of the best" from among their peers. The repetitive practice sessions had begun months before, and now they were a well-oiled machine ready to rise from their small Pacific island home and take the West Coast by storm!

Part of each evaluated load was a complete functional checkout of the release systems that would drop or fire the munitions being loaded. Today, the load was a full belly of 27 inert MK-82 general purpose, 500 pound bombs. The blue cement shapes — except for the color — were physically identical to their iron and high explosive cousins. The load crew had been at it since 0700, and it was beginning to show. The routine was scripted from their checklist and polished from months of fine-tuning.

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They began by standing in front of their toolbox and receiving a safety briefing from the load crewchief. After the briefing, they launched into their own portion of the load. The crewchief and the #3 crew member climbed the aircrew boarding ladder into the dark interior of the B-52G. Once inside, external electrical power was applied, a "ringout" went through the system as they had practiced many, many times

# Bombs Away!

before; and the power was disconnected. On the ground, the #2 crew member plugged in a communications headset and verified the results of the functional check. With internally loaded munitions on the B-52, there are no explosive cartridges to release the bombs from the rack hooks in the bomb bay. All of the releases are triggered by electrical impulses that trip mechanical hooks. This being the case, nobody needed to be in the bomb bay during the functional check.

After the functional check was completed, the bombs were placed on the bomblift truck — one at a time — and loaded into the bay. Again, the crew performed this task without hesitation or distraction. It had been accomplished many times before. Lunch time came after the bombs were safely loaded into the bomb bay, and the load crewchief called it quits for the morning. They had uploaded, downloaded, and uploaded the aircraft including an intensively critical debriefing in between where each member was allowed to verbally dissect the entire script in the interest of fine-tuning. They were all more than ready for lunch.

*The #2 member had his communications headset on and was listening to the familiar chatter coming from the cockpit. Something nagged at the #4 member, but he wasn't sure what ... wait! Immediately, he yelled to the rest of the crew, "Stop!!!"*

After lunch, the routine resumed. Practice ... practice ... practice. The crew lined up as it had before. The safety brief-

ing was accomplished. Two crew members went upstairs, a third member went to start the power unit, and the fourth went to the bomb trailer to begin preparations for download — or was it another upload? Why had the power unit started?

The #4 crew member started toward the #2 crew member who was walking toward the aircraft from the power unit. The #2 member had his communications headset on and was listening to the familiar chatter coming from the cockpit. Something nagged at the #4 member, but he wasn't sure what ... wait! Immediately, he yelled to the rest of the crew, "Stop!!!"

It was too late. Overpowering the sound of the running diesel engine, a rapid series of loud thuds occurred as the first bombs hit the partially closed bomb-bay doors on the enormous aircraft. There were 27 bombs on the ramp in a very short time as the 30-plus-year-old weapons system testified of its continuing reliability. Some of the inert bombs rolled a few feet and stopped. The result — three piles of munitions were strewn under the three "cluster racks" in the bomb bay that moments before held nine bombs apiece. The bomb-bay doors were severely damaged.

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As a munitions controller, the first I heard of the incident was a call on the radio that there had been a weapons related accident on the "old alert pad." Inert munitions were involved, and there was no danger of explosion or fire. There was extensive aircraft and parking ramp damage, and nobody was hurt. It would be many days before all of the details of the incident were fully revealed and evaluated. My memory of the details concerning the event has remained with me for over a decade since its occurrence. You may then ask, "Why do you remember this accident so well?" Well, there are several reasons.

First, the weapons load crew were experts in their field. They had been selected by their leaders as the very best even before they began to refine their skills. They had been working together for months; and anyone who has ever been on an aircrew, load crew, security patrol, or sports team knows how people gel when they work together toward the same goal. This crew did not have a knowledge problem. They did not have a training problem. They did not have a discipline problem. What they did have was ... a "complacency" problem in following established procedures as defined in the technical orders/checklists. If not properly guarded against, a complacent attitude can happen to anyone. Even if you're working with other people you trust, you're still not exempt.

Second, training munitions were involved; and nobody was hurt. Twice deployed to support operational missions in the Middle East over the past year, the "Giant Sword" accident has come to my mind. As a professional weapons craftsman, I am aware of the dangers involved when we work with live munitions. Many of us who are deploying now to the AOR have decades of combined experience in our professions. We are being asked to perform in our specialty in a real-world environment. When we work with live munitions, we do ourselves a very valuable service by remembering where we are, what we are doing, and how many times we've done it. Had 27 live bombs been involved 10 years ago on Guam, I might not be here to address these issues.

From all of this, I learned some valuable lessons that I still continue to take with me throughout my career and life. Maybe by just reading this story, you will remember a few of them at critical times, too. And remember ... be on guard against complacency. Don't ever let a reduced state of conscious attention due to an attitude of overconfidence — or even undermotivation — creep in as you perform your mission. In the end, complacency always leads to an unsafe situation. It may even cost you your life ... or the lives of your crew. ■

*Chaplain Thomas Azar*
*35 FW/HC*
*Misawa Air Base, Japan*

# Your Health is Your Wealth

Phil was a 31-year-old sergeant in the prime of his life. He was an expert in his field and had been selected for a special TDY to repair hi-tech communications equipment. They flew him and two of his friends 6,000 miles to get the job done right.

He entered the secure area and maintained a strong focus on the task at hand until the computers were up to their expected high level of performance. He took little time off. He worked 12 to 14 hours a day until he knew his responsibilities there were done.

With the mission complete, he went to dinner with his two partners. Later that evening, they went to the fitness center to play basketball. They had a good workout letting go of job-related stresses and pressures. Everything seemed normal; there were no accidents or injuries. They all went to shower, and suddenly, Phil fell to the floor. In shock, one friend tried to give him CPR while the other ran to call 911.

The paramedics were unable to revive him. They transported him to the hospital, but further efforts were futile. He was pronounced dead, and a casualty notification team was dispatched back in the states to inform his wife and three children that the young man they kissed goodbye 4 days ago had a heart attack. He was gone forever.

When the chaplain arrived at the hospital, his two friends were still in shock. One was very angry and wondered how this could happen to such a young man so dedicated to his family, church, and country. The other said in disbelief: "We were shooting hoops, cutting up, and having a good time; I still feel it's all like a dream."

It is easy to believe we are all in the best of shape and need little preparation before embarking on a rigorous exercise program. Science is capable of studying our health, metabolism, etc., but every discipline has its limitations. Regardless of our age, we must take responsibility for our health. Maintaining a healthy body weight by balancing what you eat with physical activity is very important.

1 - Always check with medical and sports professionals about the physical level your body is presently at and your family's health history before embarking on a new or more strenuous workout regime.

2 - Keep a record of your health progress - weight, age, diet, type of training program, and the specific types of exercises and amounts of time or repetitions you do.

3 - Never push yourself beyond your physical limitations; trying to send your body weight into Mach 1 too soon may damage your "engine." When your body tells you to slow down or stop, it's best to obey the warning.

Chaplains frequently meet people on the final frontier called death. This case caused a great world of pain for the surviving spouse and three children. Tomorrow is never promised and no one is invincible or indestructible. However, we can pay more attention to the basic issues and important people and relationships in our life — family, friends, and God. We've been given only one body to live in, so let's take good care of the one we have. Remember, "YOUR HEALTH IS YOUR WEALTH." ■

# Did You Know...

*... your unit is required to conduct a "Safety Day" prior to Memorial Day weekend?*

- *To help achieve our goal of preserving combat capability through aggressive risk management, COMACC has directed all units to conduct a Safety Day in the next few weeks (before Memorial Day, 25 May 1998).*

- *The purpose of this no-fly safety mishap prevention day is to get "every member" of "every unit" involved in identifying and helping eliminate the factors that add unnecessary risk to our daily operations and summer recreational activities. In addition, it will kick off the "101 Days of Summer" safety campaign.*

- *This Safety Day should: (1) provide unit personnel with feedback on actions taken to correct deficiencies identified during previous safety days, and (2) push forward our implementation of the Air Force Operational Risk Management (ORM) program.*

- *Your personal involvement and utilization of ORM tools and methods are essential in order to make dramatic reductions in our mishaps and to improve ACC's operational effectiveness.*

- *Don't wait until the month of May to start making plans for your organization's upcoming Safety Day — Memorial Day will be here before you know it!*