

# The Combat EDGE

November 1999



The Combat Edge November 1999

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Volume 8 Issue 6

November 1999

ACC SP 91-1

## Air Combat Command's Mishap Prevention Magazine

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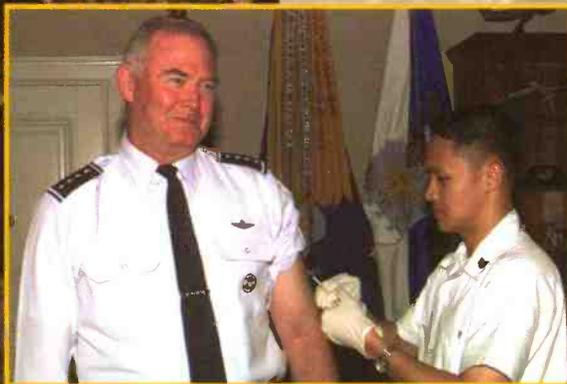
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*The Combat Edge* (ISSN 1065-8970) is published monthly by the Air Combat Command, HQ ACC/SEP, 175 Sweeney Blvd, Langley AFB VA 23665-2700. Periodicals postage paid at Hampton VA and additional mailing offices.

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

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

**ANNUAL SUBSCRIPTIONS:** Available to non-DoD readers for \$35 (\$43.75 outside the U.S.) from the Superintendent of Documents, PO Box 371954, Pittsburgh PA 15250-7954. All subscription service correspondence should be directed to the Superintendent, not HQ ACC/SEP.

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# ACCent on Safety

## RULES TO LIVE BY

When we were children, we were taught rules that we were expected to follow. Some rules are guidelines for games or sports events, to provide fairness and standards. There are rules of the road, rules of thumb, unwritten rules, rules of engagement, and even one that we know as the Golden Rule. All in all, rules are important to maintain order, provide safety and establish right from wrong. Some rules are even made into laws that govern our land. As I look back over this past fiscal year, I'm frustrated that ACC experienced tragic losses because people broke the rules that govern how we live.

Though I titled this "Rules To Live By", a more accurate title might have been "Rules to Live or Die By". The bottom line is that we all live and die by the choices we make. Generally speaking, if a person breaks a rule, it was his or her choice to do so. We all know right from wrong, and when we do wrong, it's normally a free choice.

Raise your hand if you know that driving 100 mph on a wet road is wrong. Are all of your hands up? This exact scenario led to ACC's last fatality in Fiscal Year 1999, in which an Air Force member was a passenger in the vehicle. So what happened?

Rules that were broken: (1) Breaking the speed limit, (2) Accepting unnecessary risk, and (3) Allowing someone to put you at risk.

Rules that were followed: (1) Law of physics...Hydroplaning, (2) Laws of motion...Sir Isaac Newton, and (3) Universal law...Human bodies fail when hit with great impact forces.

You know the rules. Remember that most rules are written in blood – someone died, and a rule was written. You also know right from wrong. Following your checklist is right; skipping a checklist item is wrong. Driving at or below the speed limit is right; driving 45 mph over the speed limit on a wet road is wrong. If you are having trouble determining right from wrong, here are some rules of thumb to guide you.

**Rule 1.** Would your mother approve of what you are doing? If your answer is no, it's probably wrong, so don't do it. If for any reason you can't trust Mom's input, go to Rule #2

**Rule 2.** Would your commander approve of what you are doing? If the answer is no, it's probably wrong, so don't do it.

**Rule 3.** Refer to rules 1 and 2.

You all know right from wrong. Do the right thing – arrive alive in the next millennium.

*Col. Greg "Vader" Alston*  
ACC Chief of Safety

# Mind Your P's

*By Maj. Mike McDonald  
ACC Flight Safety  
Langley AFB, Va.*

**I**t seems all mishap reports include the term “uneventful” somewhere in the text to describe various events in the mishap sequence. Takeoff and departure were uneventful, landing was uneventful, air refueling was uneventful, etc. Unfortunately, due to the nature of a mishap report, there is at least one event that definitely does not fall into the category of “uneventful.” On the day of the incident I am about to describe, takeoff, departure, and low-level flying in the B-52 may have been termed “uneventful,” but air refueling would turn out to be far from it.

All was going well after about four hours of flight time as we approached the refueling track for an hour’s worth of “boom time” (in contact with the tanker’s refueling boom). As the Radar Navigator (RN), I located the tanker on the radar, ensured that the rendezvous would be made safely, directed the pilots to the tanker, and, once they had a good visual on the tanker, passed separation responsibility to the pilots who moved in for the contact. We can usually tell how refueling will go in the first few moments when the pilot moves in, makes contact with the boom, and starts taking gas. If the pilot is “on” that day, he won’t have any problem approaching smoothly, initiating, and maintaining contact with the tanker. This day appeared to be one of those days when the pilot was “on,” and I expected he would have no problem with any aspect of the refueling.

I maintained visual contact with the tanker during refueling through the use of one of the B-52’s two cameras (since we have no windows), and was expected to monitor the refueling. This day, with the pilot being “on” and a warm feeling

in my gut, I turned most of my attention to checking and updating the navigation equipment while watching the monitor out of the corner of my eye. Being in tight with the tanker during air refueling limited my view of the tanker to its belly and my capability to see something going wrong. This in turn diminished my capability to alert the crew of a problem in a timely manner to prevent a mishap. This limitation didn’t relieve me of the responsibility, but crewmembers understood that the pilots were in the best position to react to a problem



while behind the tanker.

With no warning, the tanker's nose suddenly pitched down towards us and I watched as its belly grew very large on the monitor. As the air left my lungs, I realized how close we were to a collision and how helpless I was. Pilot reflexes probably saved two valuable Air Force assets and 11 or 12 crewmembers' lives that day. I felt my pilots push the nose over and pull back the throttles immediately in a last-ditch effort to move away from the incoming tanker and

prevent a unit  
safety repre-  
sentative  
from

performing the arduous task of composing a mishap report the next day. At the same time, the tanker pilots were working just as hard to regain control of their aircraft and move it up and out of harm's way. I don't believe this whole incident took more than three seconds, but as is the case with individuals involved in automobile accidents, it seemed to happen in slow motion. I couldn't have seen any more detail of a tanker's belly if I were lying on the ground directly under one than I did in the monitor that day.

Thankfully, we were able to separate from the

tanker without a collision and move to a safe position well away from them. It was a good 20 minutes before our crew regained enough composure to go anywhere near the tanker again. As it turned out, the tanker's auto pilot had kicked off unexpectedly, which caused the tanker's nose to drop before the tanker pilots could react and correct the sudden movement.

Now the question is: What kind of wisdom do you have to impart to us regarding this incident, Mr. Safety Guy? Do we need to play more video games to improve our reflexes or do we need to avoid refueling with tankers? More video games probably wouldn't hurt, but I don't have any data to substantiate that, and the Air Force would be unable to accomplish its global mission in a timely and efficient manner without aerial refueling, so that idea's out. No, it's a very simple message — **Prior Planning Prevents Putridly Poor Performance** (or some variation on that theme), the "6 P's." You've probably heard of them before, but do they apply in this case?

During the old Strategic Air Command (SAC) alert days, B-52 guys could count on pulling alert once a month for seven days, which enabled them to take care of some of their on-base errands and catch up on any studying they may have — professional military education (PME), master's degrees, technical orders, emergency procedures (yes, some used the time wisely), etc. There were also four days off following an alert tour to take care of personal matters and do whatever else a crewmember wanted.

We don't have that luxury today (since we won the Cold War, you know), and have to fit those things in amongst flying and other duties. Many crewmembers now view a mission-planning day as a day to catch up on errands, appointments, or any number of other things that

*With no warning, the tanker's nose suddenly pitched down towards us and I watched as its belly grew very large on the monitor.*

have little to do with mission planning. Mission planning is one of those tasks that needs to be “squeezed in” during the short breaks between other more important things to be done that day. Instead of utilizing that time together with the crew or flight to cover all the aspects of the next day’s flying in depth, we catch up on the week’s meetings and paperwork, and ensure additional duties are completed (e.g. that overdue OPR). Flying sometimes seems to get in the way, especially when we allow it to become a routine nuisance that interferes with normal day-to-day activities.

The thought that this attitude could affect flight safety does not enter our consciousness. The opportunity to hone our skills and totally prepare our minds for the upcoming training passes by without us properly focusing on the mission or its possible consequences. This time could be utilized to prepare ourselves for most contingencies that may arise during a mission (there is no way to prepare for all contingencies, but we can try), but oftentimes, it’s not. What you cover or don’t cover during mission planning could determine whether airplanes crash or not and whether people (not just crewmembers, but also bystanders) live or die.

Use preparation time to get everyone focused on all aspects of the mission. When preparing for a sortie, repeatedly rehearse who will play which role and what sequence of steps will be taken during all types of contingencies. What will we do during a missed approach, if we encounter weather during any phase of flight, if we overrun the tanker during the rendezvous, if we lose high-level pressurization, if we lose an engine on takeoff, if we lose visual on lead, etc.? These special subjects and many more should be part of every mission plan, and they should be reviewed again prior to the flight and when there are late mission changes.

What saved us that day (besides God’s mercy, luck, a rabbit’s foot...) was something we went over during our mission planning day — something our pilots had rehearsed in their minds repeatedly throughout their flying training — the breakaway procedure. The pilots briefed the breakaway steps to refresh them in their minds prior to moving into position with the tanker. Repetition during their training had this proce-

cedure so well ingrained in them that their reflexes kicked in, allowing them to perform the steps without having the opportunity to think about them, and resulting in a mishap prevention — a situation some folks would consider a successful mission in itself.

Procedures should also be practiced and evaluated as much as possible in the simulator. That is what we have simulators for — to do things we hope will never happen while in flight. But if they do happen, we can be prepared for them. I can guarantee you will walk away from crashes in the simulator every time, but walking away from an actual aircraft crash can’t be guaranteed by anyone. Use the simulator to ensure the required steps and movements are ingrained enough to be considered involuntary reflexes. Reflexes are what saved us that day. Both our pilots and the tanker pilots made all the right moves to prevent what could have been a major disaster, and instead only resulted in producing a great deal of sweat and a decent “there I was” story. Remember, you can never practice dealing with these situations enough in the simulator, during mission planning and in flight.

One final note for all aviators (especially the senior ones) — don’t keep stories and experiences like this bottled up. Share them with other flyers who haven’t had your experiences. Take the time during mission planning, at the simulator, at the bar, or any other opportunity available to pass good information along to those less experienced than you. You can spread the knowledge on a one-on-one basis, at a safety meeting, or you can use a medium such as “The Combat Edge” to get the information out to others who may be interested in your experiences (I highly recommend using “The Combat Edge” to reach as many aviators as possible). The key is to get the information out! You just may save someone from making a fatal mistake. You younger aviators need to approach more experienced aviators and, if necessary, pry this valuable information out. It should be part of your preparation for flight duties, it increases your experience level, and it could be all you have to rely on in a crisis. Remember the “6 P’s” — they can save your life and others’ as well as your aircraft — all of which are irreplaceable Air Force assets! ■

# Calling All Colonels

*By Col. Dave Williamson, 9th Air Force Chief of Safety, Shaw AFB, S.C.*

I was sitting around shooting the breeze not too long ago with our 9th Air Force Chief of Flying Safety, Lt. Col. Jim Story, and a visitor from Air Combat Command Safety, Lt. Col. Ron Maxwell. The subject of conversation was the difficult job of filling the positions for a safety investigation board (SIB) in the wake of a Class A flight mishap. Here at the Numbered Air Force (NAF) level, we take our taskings from ACC and come up with candidates to serve on the board.

By far the most difficult position to fill is that of the board president. This is ideally an O-6 who is current and qualified in the same mission design series (MDS) as the mishap aircraft. This type of individual is usually currently employed as a wing commander, vice commander, operations group commander, or deputy operations group commander. In other words, they are the key leaders of our flying wings and really don't want to go on a short-notice temporary duty (TDY) to a distant location where they'll be gone for at least 30 days, and probably more like 40 or 45 days. However, it is absolutely essential to our safety program that we task this group of people. Why? Because they will provide the leadership and current expertise necessary to produce a quality investigation.

Sure, we could task non-current officers from staffs somewhere, but does anyone believe that the investigations would be as thorough and accurate? I don't think so. So it is crucial that we get the best possible candidates to lead our

SIBs. Does it hurt the wings they leave behind? In the short term, possibly, but in the long term they are performing a greater and more valuable service, not only to their specific MDS, but to the entire Air Force as well.

If you get tasked to be an SIB president, there are two sure things you can count on: it will come without warning and at the most inconvenient time for you. Even though you will quickly get over the initial anger and frustration this major disruption in your professional and personal schedule is bound to cause, you should be prepared for 30 days of hard, frustrating and tedious work. I can guarantee, however, that after it's all over and you've briefed your four-star, you'll look back on the investigation as one of the most rewarding endeavors you've ever tackled in your Air Force career.

So, if you are a rated O-6 or a new Select and have not yet attended SIB President training at the Air Force Safety Center at Kirtland AFB, N.M., get yourself a training slot. You might as well schedule it when it's most convenient for you rather than wait for someone else to schedule you. It's a quick, informative and enjoyable four days of training, and you'll also have the opportunity to meet many of your fellow wing and group commanders from all over the Air Force. And more importantly, you'll come out of there as a trained board president ready to do some crucial work that is a cornerstone of our successful safety program. ■

**The hunter didn't succumb in an "outdoor life-and-death" struggle with a 20-foot python or enrage a hippopotamus that attacked his boat. Rather, the accident reports usually read, "Fell out of boat reaching for a decoy and never resurfaced," or, . . .**

### **Hunting Facts**

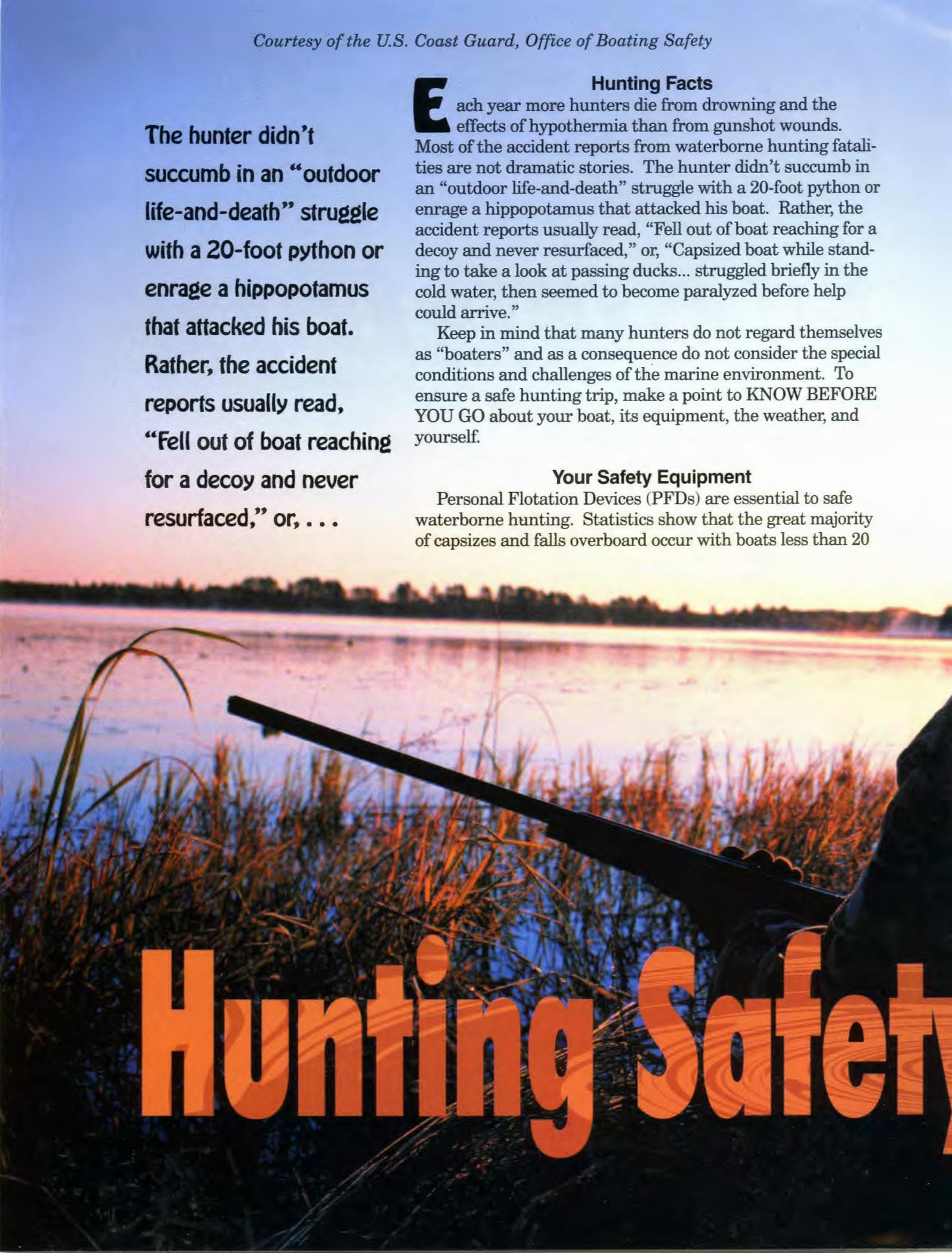
**E**ach year more hunters die from drowning and the effects of hypothermia than from gunshot wounds. Most of the accident reports from waterborne hunting fatalities are not dramatic stories. The hunter didn't succumb in an "outdoor life-and-death" struggle with a 20-foot python or enrage a hippopotamus that attacked his boat. Rather, the accident reports usually read, "Fell out of boat reaching for a decoy and never resurfaced," or, "Capsized boat while standing to take a look at passing ducks... struggled briefly in the cold water, then seemed to become paralyzed before help could arrive."

Keep in mind that many hunters do not regard themselves as "boaters" and as a consequence do not consider the special conditions and challenges of the marine environment. To ensure a safe hunting trip, make a point to **KNOW BEFORE YOU GO** about your boat, its equipment, the weather, and yourself.

### **Your Safety Equipment**

Personal Flotation Devices (PFDs) are essential to safe waterborne hunting. Statistics show that the great majority of capsizes and falls overboard occur with boats less than 20

Hunting Safety on the water



# **Hunting Safety**

To ensure a safe hunting trip, make a point to **KNOW BEFORE YOU GO** about your boat, its equipment, the weather, and yourself.

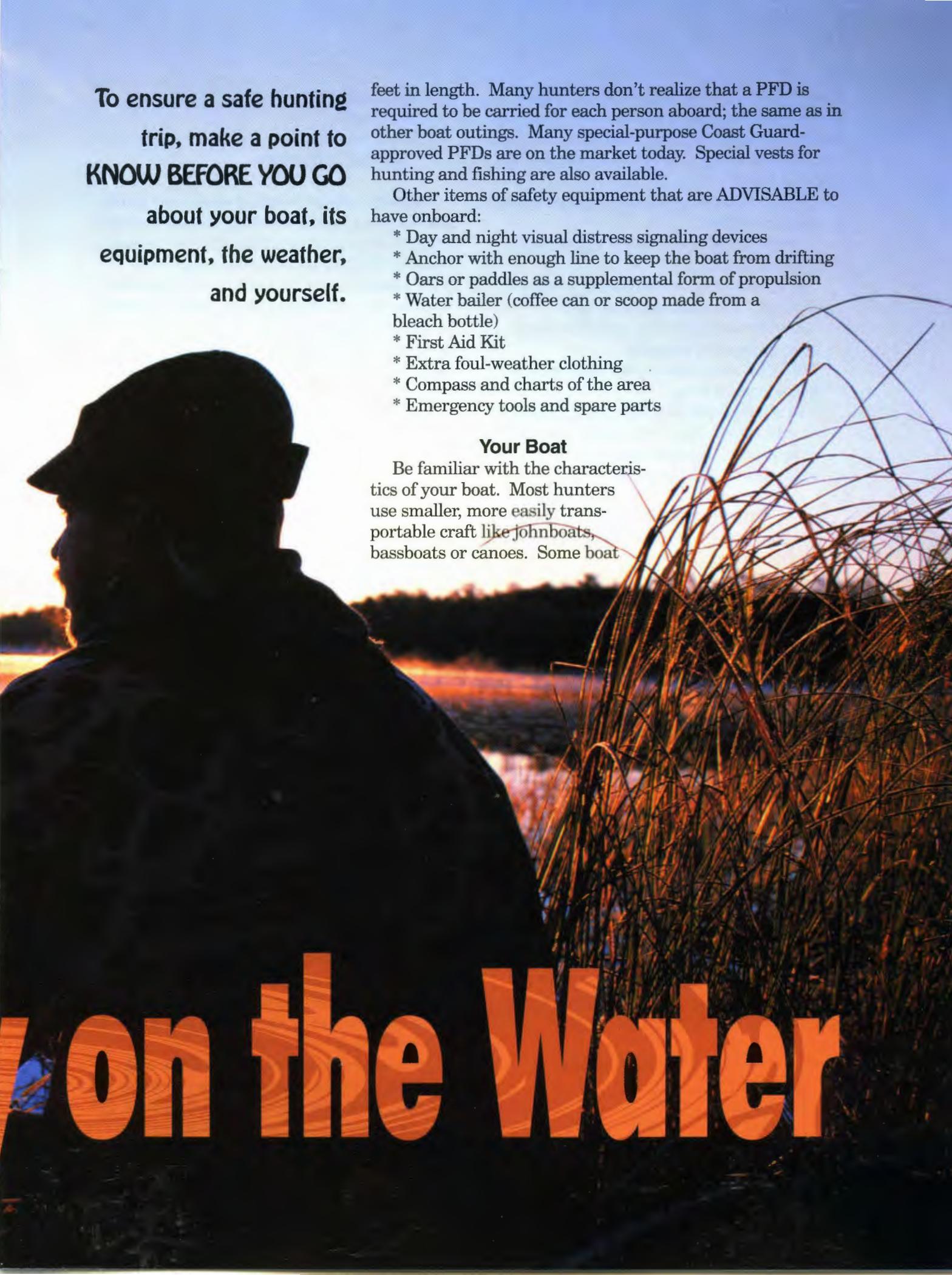
feet in length. Many hunters don't realize that a PFD is required to be carried for each person aboard; the same as in other boat outings. Many special-purpose Coast Guard-approved PFDs are on the market today. Special vests for hunting and fishing are also available.

Other items of safety equipment that are **ADVISABLE** to have onboard:

- \* Day and night visual distress signaling devices
- \* Anchor with enough line to keep the boat from drifting
- \* Oars or paddles as a supplemental form of propulsion
- \* Water bailer (coffee can or scoop made from a bleach bottle)
- \* First Aid Kit
- \* Extra foul-weather clothing
- \* Compass and charts of the area
- \* Emergency tools and spare parts

### **Your Boat**

Be familiar with the characteristics of your boat. Most hunters use smaller, more easily transportable craft like johnboats, bassboats or canoes. Some boat



# on the Water

designs are not as stable as others. These types, because of their flat bottoms or narrow beams, are more prone to swamping or capsizing. So how can you avoid an unplanned fall into the water?

- \* Never cross large bodies of water during rough weather.
- \* Stay with your boat if you capsize and can't get to shore.
- \* Avoid standing up or moving around in the boat. This includes your dog!
- \* Remain seated and be certain to store your equipment properly.
- \* NEVER move about your boat with a loaded gun or rifle.
- \* Don't overload your boat with passengers or equipment. Know the carrying capacity of your boat; use the capacity plate attached to the inside hull as guidance.

### **Your Personal Limitations**

As a boat owner, you have a personal responsibility to maintain physical preparedness while out on the water since the lives of others may be affected by your actions. Are you aware that many external factors can impair your mental alertness? Some of these stress factors include:

\* **Fatigue:** Hunting can be a physically demanding sport. Hours of sitting with exposure to wind, sun and glare can slow your reaction time. Don't overextend your endurance by staying out on the water longer than you should.

\* **Hypothermia:** Hypothermia occurs when the body is subjected to prolonged cold temperatures. The most common cause of hypothermia is exposure to cold water, though long exposure to cold air can cause it as well. Immersion in cold water is the leading killer of boating hunters. A person immersed in water can lose body heat 25 TIMES faster than in air at the same temperature. Each person is affected by the cold differently. Dress appropriately for the environment you are in.

#### **Hypothermia Signals include:**

- \* Shivering
- \* Confusion
- \* Numbness
- \* Drowsiness

- \* Weakness
- \* Dizziness
- \* Impaired vision
- \* Impaired judgement

Activity such as treading water only quickens heat loss. While awaiting rescue, the best thing to do is assume a Heat Escape Lessening Position (HELP) that should reduce your body's heat loss by 50 percent. By using this position you will reduce direct water exposure of those body parts where heat is lost at a greater rate, such as the armpits, ribs, groin, and head. Your position will have to be adjusted depending on the PFD and clothing being worn.

### **Alcohol**

Every sensible hunter knows that alcohol and drugs don't mix with guns and boating. Drugs or alcohol seriously impair judgement and coordination. We all know that aim can be affected by them, but did you know that 50 percent of all reported boating fatalities are alcohol-related? Your hunting trip should be enjoyable and safe. You can ensure that it will be with prior planning and diligence while out on the water.

### **The Weather and Environment**

The weather and surrounding water conditions are important factors to consider when setting out on a hunting trip. Most water-related hunting fatalities occur on smaller bodies of water late in the year, when water and air temperatures are lower and there is a greater frequency of storms. If the weather looks bad or if there is a forecast for upcoming storms, don't risk going out. If you do get caught in a squall, head for shore diagonally to the waves. Move passengers and equipment into the center of the boat to improve stability.

Hunters deliberately seek out less populated areas. In such locations there is less chance for help to come by in an emergency. It is wise to let people know the general area you will be in by leaving them a float plan.

Following basic rules such as these and simply using common sense when boating, hunting, or combining the two will ensure that you can enjoy your hobbies for many more years to come. ■

# How Safe is Your Child?

By Staff Sgt. Andy Swenson, 366th Wing Ground Safety

**M**y boss recently sent me to Boise to attend a four-day, state-instructed child safety seat course. How could anyone manage to talk for four days about child safety seats, plus throw in a 120-question test? I wondered just how I was going to manage to stay awake. What I thought would be a boring and unimportant subject turned into a very informative and eye-opening class. I learned I had been installing car seats wrong for six years.

Besides learning how to install and inspect child safety seats, I learned that your body will feel the pressure of 20 G's, that is 20 times your body weight, when traveling 30 mph at impact. Imagine trying to hold your unrestrained 20-pound infant, who now equals a 400-pound football, from

meeting the dashboard or windshield with just one arm. It sounds ludicrous, but I have seen children unrestrained, free to roam around the vehicle like they were in a plane at 30,000 feet. Your child's complaints about comfort will not equal your regrets for not securing them if you're involved in an accident. Ever seen a child and an

adult occupying the same seat belt? Do you think the child's body can withstand the pressure of 20 times that adult's weight? Putting them in their own seat or seat belt improperly could have the same effect. You must match the child's age and weight to the seat, plus you must ensure that the seat is compatible with your car.

How many of you are more concerned about the appearance of your child safety seat than how well it will work in your particular car? Well, not all safety seats are the same and not all

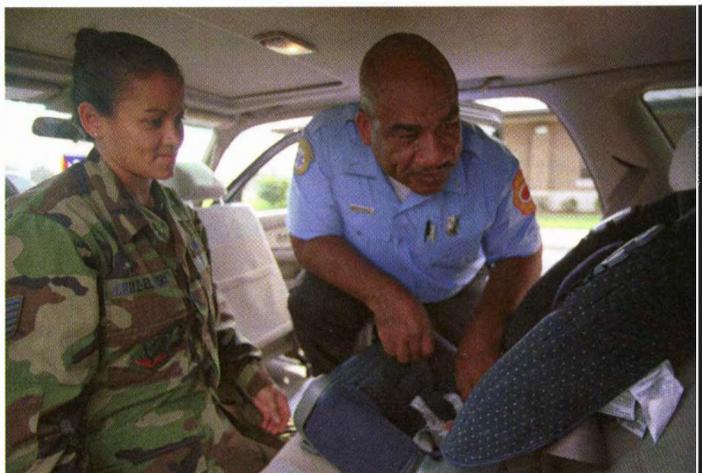
will fit your back seat, where it's usually safest. I suggest that, before you purchase a car seat, you ask to install it in your car. Only then will you know if it works well in your car. Have you ever woven the seat belt through a child seat, pulled it once, and thought it was good to go? Well to install some types of seats properly it can take up to 30 minutes. A properly installed seat should not move more than one inch forward or side-to-side at the belt path. To do this you will have to put a knee in it, sit in it, put all your weight on it, and just plain act like you're riding it. It may take two people, so ask your spouse or neighbor to lend you a hand. You may look silly and your neighbor may laugh at you, but if they have kids, they'll be doing it too when they think you're not

looking.

We inspected 50 car seats at the completion of the class. Of those seats, 46 were installed wrong, two were not fit for use, and two were installed correctly. That means we had a 92 percent error rate. The number-one reason for failure was not securing the seat tightly to the car. I can't explain the feeling of guilt some parents felt

when they realized they had been doing it wrong. Idaho requires every child under the age of four and who weighs less than 40 pounds to remain in a child safety seat.

Read the directions on the seat and in your owner's manual. Your child is worth the time you spend learning to do it right. If you have any questions about safety seats, you can contact the National Highway Traffic Safety Administration (NHTSA) through their hotline number, 1-888-327-4236. ■



Tech. Sgt. China Cruz-Elmore, 1st Communications Squadron Visual Information Assistant NCO-in-Charge, receives instructions from Victor Bradley, 1st Civil Engineering Squadron firefighter, on the proper way to install a child safety seat. Mr. Bradley is a state-licensed child safety seat inspector.

# Monthly Awards



## PILOT SAFETY AWARD OF DISTINCTION

*Maj. Robert Kelliher  
23rd Fighter Group, Pope AFB, N.C.*

Maj. Kelliher was reviewing two Class C A/OA-10 Thunderbolt flight mishaps at Pope that had occurred in the previous two days. Both aircraft experienced engine-related problems that occurred during a high-angle strafe pass. Although each aircraft had different engine problems — one had a compressor stall and the other had an overheat condition — Maj. Kelliher became suspicious. Maj. Kelliher put in motion a deliberate plan to determine the real cause of these incidents. His first step was to direct flight line maintenance to test the Electronic Gun Control Units to ensure the aircraft were sending ignition signals to the engines when the triggers were pulled. Next, he quickly had maintenance eliminate the fuel control and contaminated fuel as the problem. Maj. Kelliher then conducted detailed interviews with the pilots. These interviews revealed an abnormally high muzzle flash, but both incidents occurred at night and neither pilot had shot the gun at night for quite some time. The evidence trail was not clear, but with the elimination of any common maintenance thread, his investigative instincts pointed toward a possible logistics problem. His focus was to determine the origin of the bullets in both aircraft. He found that both guns were loaded from the same lot of bullets, recently delivered to Pope AFB. Maj. Kelliher advised the operations group commander that he suspected a bad lot of bullets, and was advised to continue his investigation. Maj. Kelliher called Ogden ALC ammunition depot to ask for technical help and was advised to stop pilots from shooting these bullets and to send a sample of the bullets for testing. As Maj. Kelliher got word to the squadrons, one more aircraft had an engine flameout while doing high-angle strafe. Maj. Kelliher strongly concurred with the depot's recommendation in his report to the group commander, and he directed all strafing to cease. Maj. Kelliher closely followed up the downloading of all defective bullets through the 23rd Fighter Group Quality Assurance, 23rd Maintenance Squadron, and both fighter squadrons to ensure no pilots were further exposed to this dangerous situation. Upon further investigation by the Ogden ALC, it was determined that the bullets had insufficient flash suppression in the propellant mix. The bullets were indeed bad. Based on a thorough investigation and logical analysis, Maj. Kelliher's actions quickly stopped the use of deficient bullets that would have resulted in more A/OA-10 engine failures, not only at Pope AFB, but worldwide. His quick action and determined efforts prevented further engine failures and the possible loss of a valuable tactical aircraft and human life.

## FLIGHT LINE SAFETY AWARD OF DISTINCTION

*Staff Sgt. Byron W. Barwick,  
Senior Airman John C. Cavey, Jr.  
Senior Airman Joseph C. Carney,  
Airman 1st Class Amos B. Kittleson  
78th Fighter Squadron, 20th Fighter Wing, Shaw AFB, S.C.*



While deployed to Aviano Air Base, Italy, Airmen Cavey, Carney and Kittleson, and Sgt. Barwick were assigned to troubleshoot an F-16 that had just returned from an Operation ALLIED FORCE mission with a “no Angle of Attack (AOA) bracket” indication in the Head-Up-Display. After debriefing the pilot, it was discovered that the bracket was missing during final approach, but would reappear on landing rollout. Following the steps in the technical manual, the team performed an operational checkout of the AOA system, but to no avail. Carefully scrutinizing the wiring diagrams, they brainstormed “outside of the box” by checking another system where the signal for the AOA bracket originated. They put the fighter up on jacks to perform a landing gear retraction checkout and noted that during initial run-up of the system, the system operated normally. Electing to reaccomplish the operational checkout, they observed a critical malfunction while retracting the gear. The Nose Landing Gear (NLG) stayed fully extended as the nose gear door attempted to close against it, without giving any type of an unsafe gear indication. This led the team to suspect a bad NLG actuator and, after further investigation, isolated this to a bad switch. This switch provides both a signal for the AOA bracket and a signal to the landing gear sequencer switch. The landing gear sequencer switch gave the indication that the NLG was retracted and the door was closed. If this condition were to remain undetected, the NLG may have interfered with the gear door, creating an unsafe landing configuration that may not have been recognized by the pilot. Also, the binding against the NLG hydraulic line could have caused hydraulic failure while maneuvering tactically — a tragic scenario for aircraft involved in combat operations. If this problem had continued undetected, there may have been a loss of the F-16 and possibly the loss of the pilot. The technicians’ attention to detail, technical expertise and “never quit” team attitude prevented potential loss of equipment and life.

## CREW CHIEF SAFETY AWARD OF DISTINCTION

*Senior Airman Jonathan D. King  
58th Fighter Squadron, 33rd Fighter Wing, Eglin AFB, Fla.*



While performing a pre-launch inspection on an F-15C, Airman King discovered the leading edge of the forward inboard door for the main landing gear appeared to have been damaged. He lowered the doors for a more in-depth inspection and found that the forward bracket was cracked, causing some of the sheet metal to pull away from the exterior of the door. Not satisfied with the status quo, Airman King lowered the panel directly in front of the gear doors to determine if the cause stemmed from behind the panel. He immediately discovered a control rod connection bolt had backed out of its position, leaving the rod connected at only one end. Had this condition remained undetected, extensive damage to the aircraft could have occurred when the main landing gear door failed to open as the gear attempted to retract. Even worse, the gear door could have jammed with the gear only partially extended. In this configuration, the pilot might not have been able to land the aircraft safely. Airman King’s rapid thinking and “safety first” attitude not only averted a potentially life-threatening situation, but also prevented the loss of a valuable combat asset.



## WEAPONS SAFETY AWARD OF DISTINCTION

*99th Civil Engineer Squadron (CES)  
Explosive Ordnance Disposal (EOD) Flight  
99th Air Base Wing, Nellis AFB, Nev.*

Despite heavy tasking in support of CENTCOM and EURCOM contingency missions, the 99th CES EOD flight safely executed the Air Force's most hazardous continuing EOD mission in support of the Nevada Test and Training Range (NTTR) and the local community without a single mishap. With

minimum manning to draw upon due to deployments and TDYs, the flight still kept Team Nellis in business. They safely destroyed 4,558 unexploded ordnance (UXO) items on the NTTR complex, keeping key ranges available for aircrew training and munitions tests. They tested a specific render safe procedure for the Joint Service EOD Technical Center for demolition of cluster bomb munitions. This "Team Nellis" procedure reduced explosive expenditure by two-thirds and personnel exposure to UXO hazards by reducing time-on-target from literally hours to minutes. The procedure has been accepted for validation by the EOD Joint Service Review Board for adaptation as a technical order procedure. Additionally, the flight supported "Operation Urban Thunder," which was an exercise to test the local Federal Bureau of Investigation and the City of Las Vegas' response to a terrorist weapon of mass destruction. The responding EOD team successfully rendered safe three simulated chemical terrorist devices while validating procedures for this EOD force protection response. The operational mission of the 99th CES EOD flight and their commitment to training for future threats emphasizes strict safety protocols and places them on the leading edge of the Air Force's weapon safety program.



## UNIT SAFETY AWARD OF DISTINCTION

*99th Civil Engineer Squadron (CES)  
Explosive Ordnance Disposal (EOD) Flight  
99th Air Base Wing, Nellis AFB, Nev.*

When a rash of hung aircraft countermeasure flare incidents began affecting the "Team Nellis" mission, the 99th CES EOD flight initiated changes in their procedures to eliminate delays in response time and speed recovery operations as well as improve flight line safety.

They devised, tested and implemented procedures to quickly assess hung flare incidents, eliminate the personnel exposure hazard caused by the flare's faulty initiation system, and get the item away from the jet as quickly as possible. Additionally, they came up with an innovative method to remotely download the flare without damaging the flare dispenser module. The procedures they developed improved Nellis emergency procedures for hung ordnance, reduced response time and saved money by eliminating the need to destroy the flare modules.

When tasked to support the opening of the CAPSTONE firepower demonstration with a large demolition shot to simulate a cruise missile attack, the flight had to overcome obstacles to initiate the explosion safely. Setting off the charge with a burning fuse could threaten the safety of the aircrews who fly their jets at minimum levels above ground. Initiating the demolition charge electrically was too dangerous because of static electricity in the desert environment. An inadvertent detonation was unacceptable. The flight researched commercial explosive initiators that gave precision timing and complete safety in all environments. This "shock tube" initiation system allowed the flight to start the CAPSTONE demonstration with a bang!

## GROUND SAFETY AWARD OF DISTINCTION

*Maj. Paul Gardetto, Capt. Randy McCalip, Master Sgt. Wayne Cromley  
Tech. Sgt. Andrew McLean, Staff Sgt. Ron Sankeralli  
Staff Sgt. Michael Jennings, Senior Airman Adam Rosenberg  
Senior Airman Jun Gu Shin,  
Airmen 1st Class Misty McGee, Margaret Mande, Oscar Marzette, and Charles Jacobs,  
Airman Gregory Litchfield, and Airman Basic Tracy Kazan  
20th Aeromedical-Dental Squadron, 20th Fighter Wing, Shaw AFB, S.C.*



The altitude chamber at Shaw AFB's Aerospace Physiology Training Unit (APTU) had just reached its peak altitude of 25,000 feet when an electrical short in one of the massive vacuum pumps ignited three fires in an adjacent room. With the failure of all electrical systems in the building, the 11 aircrew trainees and 14 APTU technicians quickly realized their lives were in jeopardy with mere seconds to react. With each vacuum pump holding 27 gallons of oil and 100 percent oxygen actively in use five feet from the fire, without quick action, disaster and loss of

life was imminent. The building was dark and quickly filling with smoke, yet no one could evacuate the building without first bringing the chamber down to ground level. Too rapid a descent would risk trauma to the individuals inside and create a vacuum, pulling smoke and fumes inside. Too slow a descent would delay the evacuation.

An outstanding safety program including routine emergency procedure training, conducted only four days prior, was implemented as the physiology technicians quickly gained control of the situation. Despite 10-foot high flames and extreme heat, two technicians were able to crack the pump room door and quell the fires slightly with two extinguishers. Others turned off the oxygen and initiated an emergency descent of the altitude chamber. Inside observers ensured all trainees remained calm and disconnected from oxygen equipment while preparing to evacuate. The administration NCO was outside of the building with a roster of all trainees in hand and quickly accounted for all trainees and technicians. Base firefighters were surprised to find only minor smoke inhalation suffered by a few participants. Without the expert plan, put into practice by a team dedicated to safety, the lives of 11 experienced aircrew and 14 physiology technicians would have certainly suffered more life-threatening injuries. The selfless action of this team prevented harm to the most valuable of Air Force assets — its people.

# F-4D Ph

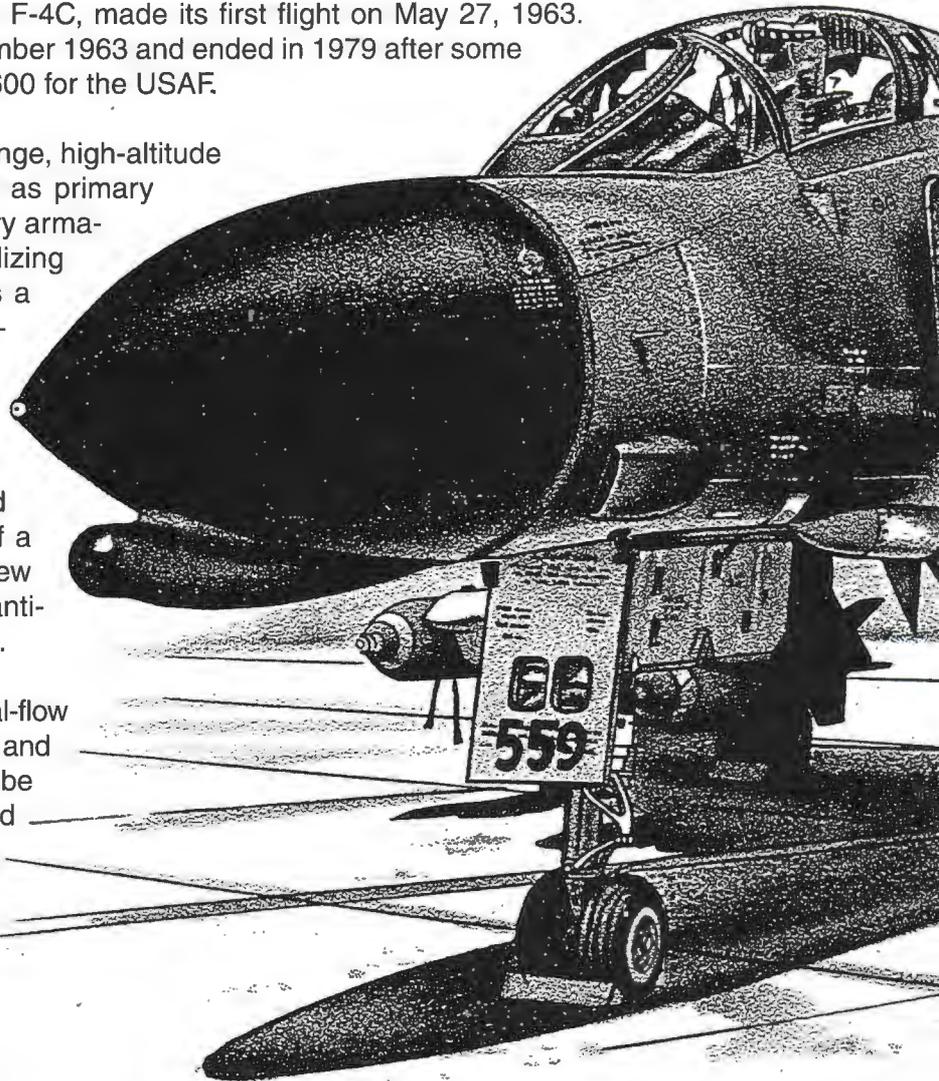
**T**he F-4 was a two-place (tandem), supersonic, long-range, all-weather fighter-bomber built by McDonnell Douglas Corporation. First flown in May 1958, the Phantom II originally was developed for U.S. Navy fleet defense and entered service in 1961. The USAF evaluated it for close air support, interdiction, and counter-air operations and, in 1962, approved a USAF version.

The USAF's Phantom II, designated F-4C, made its first flight on May 27, 1963. Production deliveries began in November 1963 and ended in 1979 after some 5,000 had been built – more than 2,600 for the USAF.

Mission capabilities included: long range, high-altitude intercepts utilizing air-to-air missiles as primary armament; a 20mm gun as secondary armament; long-range attack missions utilizing conventional or nuclear weapons as a primary armament; and close air support missions utilizing a choice of bombs, rockets and missiles as primary armament.

In its air-to-ground role the F-4 could carry twice the normal bomb load of a World War II B-17. USAF F-4s also flew reconnaissance and "Wild Weasel" anti-aircraft missile suppression missions.

Aircraft thrust was provided by two axial-flow turbo jet engines with variable stators and variable afterburner. The wings could be folded for ease of airplane storage and ground handling. A drag chute, contained in the end of the fuselage, significantly reduced landing roll distances and an arresting hook, that was hydraulically retracted, was sometimes utilized to stop the airplane under a wide range of gross weight/air-speed combinations.



# antom II

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## GENERAL SPECIFICATIONS

**Span:** 38 ft. 5 in. (27 ft. 7 in. folded)

**Length:** 58 ft. 3 in.

**Height:** 16 ft. 5 in.

**Weight:** 59,483 lbs. maximum takeoff weight

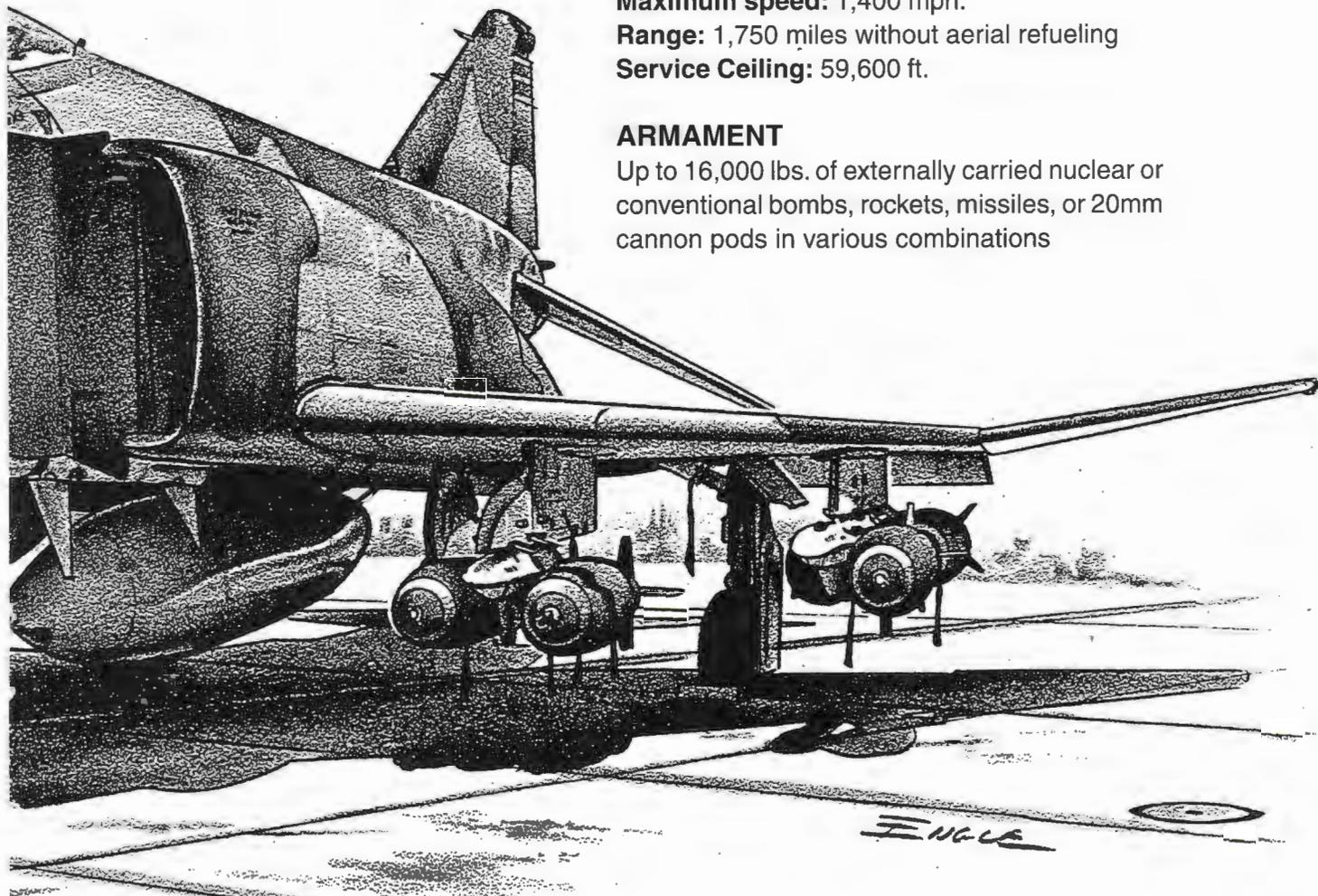
**Maximum speed:** 1,400 mph.

**Range:** 1,750 miles without aerial refueling

**Service Ceiling:** 59,600 ft.

## ARMAMENT

Up to 16,000 lbs. of externally carried nuclear or conventional bombs, rockets, missiles, or 20mm cannon pods in various combinations



*Illustration by Bob Engle*

Terror on the tarmac

# Terror on the Tarmac

**M**y engines roared as I prepared to take off. "Ten seconds, tape on," called my flight examiner as he rolled his T-38 down off the perch of the chase pickup pattern. This was my initial qualification check ride in the F-117 Nighthawk, and so far it had gone pretty well. The briefing, step, preflight, start, and taxi had all gone smoothly, and now I was primed to become a qualified pilot in "The Black Jet." I counted ten seconds, released brakes, and began the takeoff roll.

I had only traveled a few hundred feet when, WHAM, I heard a huge bang. The jet lurched to the left, and I was pushed forward in the straps as the takeoff acceleration slowed. I immediately brought the throttles to idle, got on the brakes, and stopped the jet. I was examining the cockpit instruments in an attempt to figure out what was wrong when I heard my flight examiner exclaim, "JUDGE 71, ABORT, ABORT! YOU'RE ON FIRE!" The tower controller then keyed the radio and directed me to "get out" because my aircraft was on fire.

At that point, the left engine fire switchlight illuminated. I accomplished the boldface checklist items, which included placing the throttles to off and pushing the fire switchlight. I made a quick radio

call to tower, and then unstrapped myself from the jet. I opened the canopy, stood up in the seat, slid down the right side, landed on all fours, then dashed away at a 45 degree angle into the desert brush adjacent to the runway.

As I ran, two barrier maintenance airmen drove over to see if they could help. When I got to their truck, I looked back and stared at the spectacular fire coming out of the left-hand side of the jet. The blaze was so intense that pieces of the F-117 melted and dropped onto the runway surface. As the fire department battled the flames, I was taken away and checked out by the responding flight surgeon. I was fine, but the jet sustained several million dollars worth of damage.

This incident reinforced several basic truths

I'd like to share so that we can be prepared the next time one of us faces such a time-critical emergency.

**The blaze was so intense that pieces of the F-117 melted and dropped onto the runway surface.**

***There's absolutely no substitute for rigorous emergency procedure study and practice.***

Even though this was only my sixth ride in the Stealth Fighter, I had recently accomplished several hours of academics on emergency procedures and endured over 20 "dial-a-death" hours in the simulator coping with all the emergencies my instructors



could throw at me. One of my instructors was even fond of presenting an abort situation that was very similar to my actual incident. I had studied emergency procedures in the flight manual and passed my required testing and emergency procedure evaluation. I had completed egress training for the F-117, where I practiced the best way to quickly leave the jet. I was also required to discuss an emergency



procedure before every flight briefing, and my instructors would usually add some of their experience and judgment as well. Though it was not always fun, I am convinced that this training was essential in preparing me to handle this particular situation.

***Expect the unexpected on upgrade/  
evaluation flights.***

I'll leave it to the safety experts to explain why, but many of the in-flight incidents I've heard about recently have occurred on upgrade or evaluation flights. For example, in my prior F-16 squadron, one of my buddies suffered a G-LOC (G-induced Loss Of Consciousness) and another an out-of-control incident on separate upgrade rides. This was supposed to be my initial check ride in the F-117, but it also happened to be the check out for my flight examiner (his flight examiner was in the back of the T-38). You've got to be prepared on every flight for an emergency, but I'm going to anticipate that some-

thing abnormal may happen on the next upgrade or evaluation sortie I fly.

***Clear and concise communication is not only essential for tactical success, but it can also save lives and airplanes.***

My Cockpit/Crew Resource Management (CRM) Aircrew Guide says that effective communication requires us to "transfer mission essential information as the situation requires." To me, this simply means we should make the right call at the right time. Fortunately, both of the flight examiners and the tower controller gave timely, critical pieces of information over the radio that helped me analyze the situation and take the proper action. Such effective communication is an invaluable skill, and one that we need to constantly practice and thoroughly debrief.

***Memorize what you need to do to get out of your aircraft in an emergency, and practice this procedure until it becomes automatic.***

Emergency ground egress is not a boldface procedure in the F-117, but it was in the F-16, and, since both aircraft have the same ejection seat, the procedures are basically the same except for some "cleanup items." In the F-16, I developed the habit of practicing the emergency ground egress procedure on normal sorties. I had tried to do the same in the F-117, but I had not practiced enough to make the cleanup items automatic. When the pressure was on, I found that the steps I had practiced in both jets were so automatic that I did them before I could consciously think about them. On the other hand, I missed turning off the Auxiliary Power Unit (APU), a step specific to the F-117. I remembered this step as I was running away and had to tell my operations group commander and squadron commander when they drove up a few minutes later. (Luckily, the APU cut off on its own.) I can tell you from experience that when your aircraft is on fire, you won't have time to look at your checklist. All of us should know how we are going to exit the aircraft and to practice this at every opportunity.

I realize that I've not said anything profound here, but sometimes recent events help to remind us of what we already know. That's what this accident did for me, and it's made me a better pilot. I hope you can learn from it as well. ■



**Statement of Ownership, Management, and Circulation**  
(Required by 39 USC 3685)

1. Publication Title <b>THE COMBAT EDGE</b>	2. Publication Number 1 0 6 3 - 8 9 7 0	3. Filing Date 1 Oct 99
4. Issue Frequency Monthly	5. Number of Issues Published Annually 12	6. Annual Subscription Price \$35.00
7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4) HQ ACC/SBP 175 Sweeney Blvd Langley AFB VA 23665-2700		Contact Person Ronald R. Smith Telephone (757) 764-8608
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer) 1 CPTS/FMFL 45 Nealy Ave, Ste 204 Langley AFB VA 23665-2099		
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank)		
Publisher (Name and complete mailing address) Gregory A. Alston, Colonel, USAF HQ ACC/SBP, 175 Sweeney Blvd Langley AFB VA 23665-2700		
Editor (Name and complete mailing address) Brin E. Bradley, 1Lt, USAF HQ ACC/SBP, 175 Sweeney Blvd Langley AFB VA 23665-2700		
Managing Editor (Name and complete mailing address) None		

10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)

Full Name	Complete Mailing Address
Headquarters Air Combat Command	Office of the Commander 205 Dodd Blvd, Ste 100 Langley AFB VA 23665-2788

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box  None

Full Name	Complete Mailing Address

12. Tax Status (For completion by nonprofit organizations authorized to mail at special rates) (Check one)  
 Has Not Changed During Preceding 12 Months  
 Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)

PS Form 3526, September 1995 (See Instructions on Reverse)

We are authorized by the U.S. Postal Service to use Periodicals postage to distribute **The Combat Edge** magazine. Certain users of this rate are required to publish their Statement of Ownership, Management, and Circulation annually.

-Ed.

13. Publication Title <b>THE COMBAT EDGE</b>	14. Issue Date for Circulation Data Below Sep 99	
15. Extent and Nature of Circulation	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)	12,649	12,551
b. Paid and/or Requested Circulation	(1) Sales Through Dealers and Carriers, Street Vendors, and Counter Sales (Not mailed)	0
	(2) Paid or Requested Mail Subscriptions (Include advertiser's proof copies and exchange copies)	12,449
c. Total Paid and/or Requested Circulation (Sum of 15b(1) and 15b(2))	12,449	12,351
d. Free Distribution by Mail (Samples, complimentary, and other free)	0	0
e. Free Distribution Outside the Mail (Carriers or other means)	0	0
f. Total Free Distribution (Sum of 15d and 15e)	0	0
g. Total Distribution (Sum of 15c and 15f)	12,449	12,351
h. Copies not Distributed	(1) Office Use, Leftovers, Spoiled	200
	(2) Returns from News Agents	0
i. Total (Sum of 15g, 15h(1), and 15h(2))	12,649	12,551
Percent Paid and/or Requested Circulation (15c / 15g x 100)	100	100
16. Publication of Statement of Ownership <input type="checkbox"/> Publication required. Will be printed in the _____ issue of this publication. <input type="checkbox"/> Publication not required.		
17. Signature and Title of Editor, Publisher, Business Manager, or Owner <i>Brin E. Bradley</i> , 1Lt, USAF, Editor		Date 1 Oct 99

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- If the publication had second-class authorization as a general or requester publication, this Statement of Ownership, Management, and Circulation must be published; it must be printed in any issue in October or, if the publication is not published during October, the first issue printed after October.
- In item 16, indicate the date of the issue in which this Statement of Ownership will be published.
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PS Form 3526, September 1995 (Reverse)

# Second Chance

*By Tech. Sgt. Craig A. O'Neal, 372nd Training Squadron, Misawa AB, Japan*

**I**t seems like the military, at least the U.S. Air Force anyway, is overly concerned with safety. Everything we do in our normal day-to-day operations has instructions, manuals or pamphlets stressing the importance of safety. I can remember back to a time (pre-Air Force for me) that safety didn't seem to be that significant.

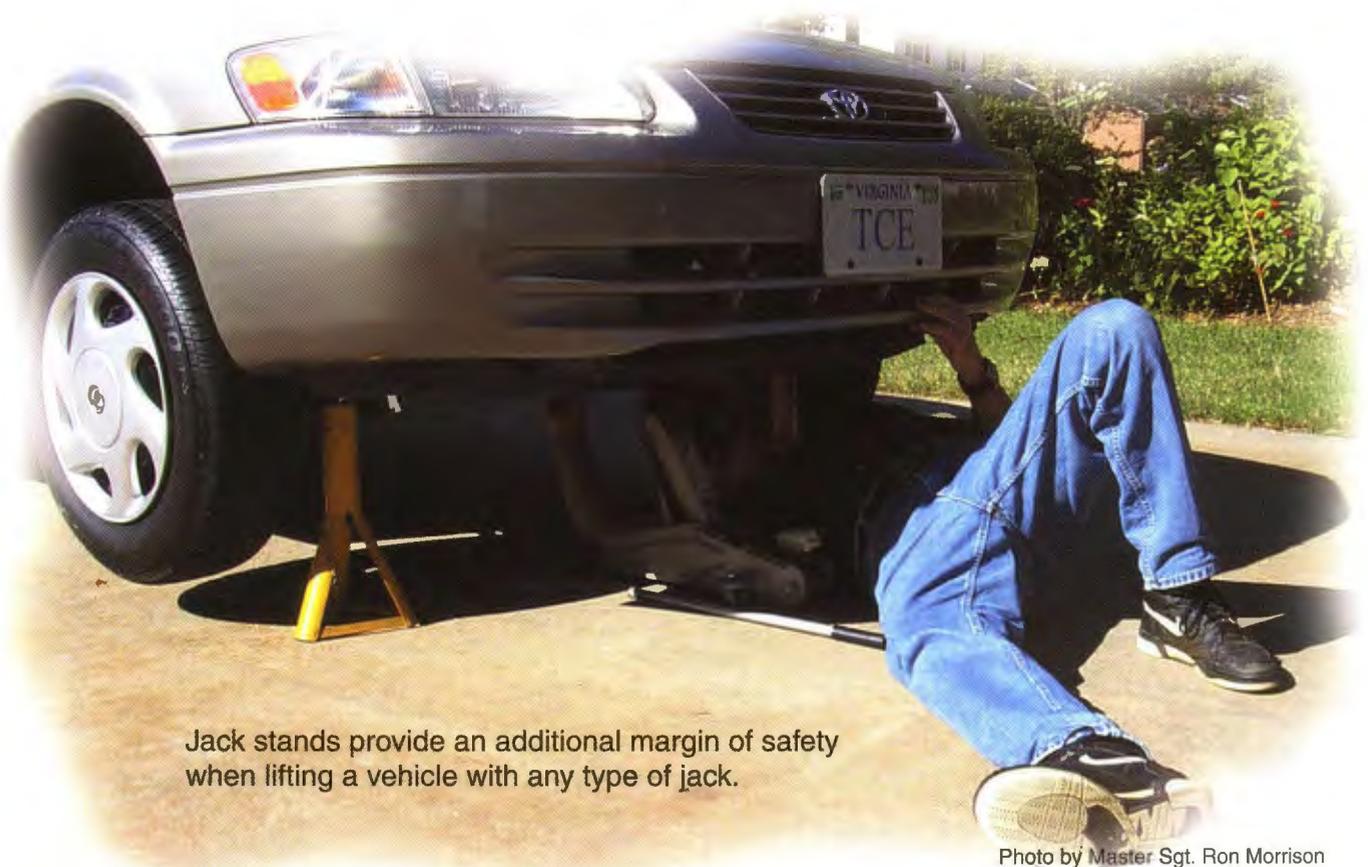
It was 1978...

(Insert wavy swirling effect here...)

I worked as an auto mechanic for several years before my military career started. It was at a name-brand auto service center in a typical Midwestern town. We did a thriving business — three stalls and no waiting. Now that I think about it, the restroom must have been designed by the same architect. Regardless, my cohort in

crime was a guy named Paul who, incidentally, did a stint in the Navy before moving to the Midwest for a quiet place to raise his family. My boss, Charlie, also had sort of a military background — he spent several years with the Merchant Marines. He was the epitome of a retired old sailor with more stories to tell than days to tell them. He was quite the character, but all in all a good leader and supervisor, and generally nice guy.

This business operated on just barely more than a shoestring budget. We had to use a lot of ingenuity when it came to ways of getting the job done. With one boss and two mechanics we would get a little “creative.” For instance, we sold tires — lots of tires. From passenger-car sizes to those that fit an 18-wheeler. The largest of these were stored in the basement. So, we devised a “creative” method of getting the



Jack stands provide an additional margin of safety when lifting a vehicle with any type of jack.

Photo by Master Sgt. Ron Morrison

cumbersome tires down the rickety wooden stairs — we simply rolled them. Of course, we knew not to try to catch them at the bottom. We let the concrete wall do that. So, as Paul rolled one, I'd watch it bounce its merry way down the stairs and smack the wall at the bottom. I would then pick it up and help it find its place among the racks of tires.

Usually our timing was such that, as I was returning to get a tire, another one would be coming to a rest somewhere at the bottom of the stairs. But occasionally we'd get out of sequence and I'd round the corner at the bottom of the stairs at just about the time the tire was bouncing off the third or fourth step up. There's no wake up call like a 4-foot tall, 100-pound semi tire bouncing up in your face. Try and catch it? Yeah right! Looking back, I can definitely say that we cut a lot of corners — perhaps too many. Cutting one such corner nearly cost me my life.

It was a Wednesday like any other. Paul and I arrived about 8 a.m., ready to perform as the master mechanics we always thought we were. Charlie had been there since six that morning. Typical. His military discipline taught him to rise and shine at the crack of dawn and make good use of the daylight. We all had our ritualistic morning cup of Charlie's coffee (at least Charlie called it coffee — sometimes we had to coax it out of the pot) and discussed what was on the schedule for the day. Charlie mentioned that it was starting to cloud up. Rain usually meant that the local farmers wouldn't be in the fields and this would be the time that they could get done all the little things that they'd been putting off, such as car repairs, tire work, etc., which, for us, meant an increase in customers. He was right. We started getting busy as soon as we opened the doors.

Paul and I hurried around taking care of all of the customers' needs, as quickly (read "cost-effectively") as we could. We were simply overwhelmed with work and it seemed that there was not enough time in the day to do it. Sound familiar? And that's when it happened.

A car came in — a 1971 Maverick, to be exact — that needed to have the starter checked. The owner thought it might have a loose wire because of the intermittent problems it was causing. So I grabbed the air-operated bumper jack to raise the sagging front end of the dilapidated car off the ground and get a better look. Normally this situation called for blocking the rear tires, raising the car and placing supporting jack stands under the car to ensure that it didn't fall.

Not today. Too many customers, too little time! I positioned the bumper jack under the flimsy, WET, front bumper. (Ladies and gentlemen of the jury, may I present to you mistake number one — wet chrome is slick!) I raised the car about a foot off the ground. (And mistake number two — no blocks behind the rear tires!) I then climbed aboard my "mechanics' under-car dolly," more commonly called a "creeper," and slid myself under the car. (Mistake number three — no jack stands.) Well, three strikes, and I was out!

As soon as I was well under the engine compartment, the inevitable happened. The jack slipped off the bumper and the car fell! I can vividly remember the bottom of the engine coming straight down on my chest, while giving me an up-close and personal look at the transmission. It happened so fast. I managed to react quickly enough to bend my arms and bring my fists up to my shoulders while I turned my head sharply to the right. As the car bottomed-out its suspension, I pushed up as hard as I could on whatever my hands could find for leverage and threw my arms above my head to give me the needed push to roll myself out from under 3,500 pounds of unfriendly steel, before it bounced again.

Of course, all of this commotion drew a lot of attention — especially Paul's. He was working in the stall next to mine. I can still picture the terrified look on his face as I came rolling out from under the car. He tried to help me up, but I was insistent on just lying there, assessing my injuries. In reality, I was shaking too badly to stand up anyway. An event like that can really be an eye-opener. I sat up, cleared the cobwebs out of my head and realized that I had managed to escape with only a couple of cuts on my forearms and a small bump on the left side of my head. Was I lucky? I seriously considered running out and buying a lottery ticket.

So what's the point, you ask? Think of it as a lesson learned by one that can benefit all. The lesson — take the time to do a job right. The military is greatly concerned with us doing our jobs the safest way possible. As we hurry through our daily routine, we need to make sure that we follow the guidance set forth by manuals, pamphlets and technical data. This information is provided to us so that we may do our jobs safely, effectively and with the goal of mission accomplishment in mind. After all, the Air Force can't afford to lose its most valuable asset, its people, to poor planning and unnecessary risks. ■

**LICENSING**  
**NO SMOKING WITHIN 50 FEET**  
**KEEP FREE FROM OIL AND GREASE**  
**FOR BREATHING PURPOSES ONLY**

**W**ebster's Dictionary defines safety as, "to protect against failure, breakage, or accident." If the U.S. Air Force had a dictionary, you can bet the definition would closely resemble Webster's. Safety is an often misunderstood profession – considered a "necessary evil," or a career field that most people have little or no understanding of. Well, most importantly, safety is about common sense.

# Safety as a State of Mind

*By Tech. Sgt. Eric Dameron, 1st Fighter Wing Ground Safety, Langley AFB, Va.*

Our mission and goals are simple: To reduce mishaps and to instill safety awareness in the thoughts and minds of Air Force personnel. These go hand in hand. If your thought process includes safety, mishap reduction is automatic. If you take five seconds to consider what risk and injuries you may incur accomplishing a task, then you've just implemented a quick Operational Risk Management (ORM) process, and possibly eliminated injury to yourself or a co-worker. Your task could be anything from refueling an aircraft, to participating in a squadron intramural sport, to driving home from work. The process is the same in any activity, on or off duty.

How do we instill safety awareness? We have several ways to accomplish this. Articles such as this are an easy way to teach awareness. Supervisors' Safety Training, a requirement for newly appointed supervisors, and the Promotion Fitness Examination (PFE) Study Guide provide some excellent safety-related information. But the easiest way is for Safety personnel to visit your units frequently. Visibility is the key to awareness. If we consistently provide information and guidance to your unit, your safety awareness will increase.

The education process is two-fold. When we visit your shops and work areas, we're there to learn from you, the unit or area experts, what safety concerns or hazards are associated with your job or work area and are currently important to you. However, most people only view Safety as another level of the inspection process. Granted, we have a regulatory requirement to conduct annual inspections, but if you take a second to think about it, our job is to protect you. By identifying hazards and deficiencies in your shops and offices, we've reduced the possibility of a mishap occurring — one that could involve you.

Consider this, if you're about to start working on a downed power line and didn't take the time to conduct a safety inspection of your Personal Protective Equipment (PPE), you wouldn't notice if your PPE was damaged. You've just jeopardized your and your co-workers' lives. Let's take it a step further. Wing Safety identifies the unserviceable PPE either during an annual inspection or a routine visit and requires you to remove it from service. Sure, you're taking the hit, but a potential mishap has been avoided. By identifying and correcting hazardous conditions during these inspections, before

mishaps happen, we are achieving one of our goals of mishap prevention.

I can't stress enough that supervisors are the keys to successful safety programs. You have first-hand knowledge of day-to-day shop operations. Supervisors should become familiar with the Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program, outlined in Air Force Instruction (AFI) 91-301. Your safety responsibilities to your subordinates are identified there. You must provide a safe and healthy workplace and conduct periodic self-inspections of your work areas. You must ensure compliance with AFOSH requirements that apply to your specific duties, ensure regulatory guidance is available to your personnel, provide adequate training to personnel in job safety, fire prevention and protection, and enforce compliance with occupational safety and health guidelines.

I only referenced a few requirements from AFI 91-301, but there are others. Even the PFE Study Guide identifies safety-related supervisor responsibilities. The roles and responsibilities of the supervisor will continue to increase as the operations tempo increases and manning continues to decrease. As these factors grow, the impact safety has on mission accomplishment becomes even more paramount. If you're involved in a mishap and lying in the hospital or at home on convalescent leave, think of the impact your absence has on your unit, your shop and your co-workers. Someone has to fill in while you're missing in action. Sure, you're still getting paid, but maybe someone has to work additional hours, or maybe even deploy because you had a momentary lapse in judgement.

Hopefully you've gained some insight about the safety career field and our goals, our mission and our responsibilities to you. Whether you turn wrenches or fly a desk for a living, safety should always be a priority in your day-to-day activities. To understand what we do is simple; we are there to help. ■

If you take five seconds to consider what risk and injuries you may incur accomplishing a task, then you've just implemented a quick Operational Risk Management (ORM) process, and possibly eliminated injury to yourself or a co-worker.

# What's Lurking Ar



*By Col. Dave Williamson  
9th Air Force Chief of Safety  
Shaw AFB, S.C.*

**A**s Chief of Safety at 9th Air Force and U.S. Air Forces, Central Command (CENTAF), I try to familiarize myself with virtually all of the mishaps that occur in the command, from flight to ground to weapons, from Class As to Class Cs. I try to see what trends are developing in the command or around the Air Force and then warn the units in 9th AF and CENTAF about my findings. In all cases I'd only read the reports about these mishaps. Well I'd like to pass on some lessons I learned from a first-hand experience.

My wife and I had just finished dinner at a local restaurant and were planning on going to a movie. We got in our car, buckled up and left the restaurant parking lot. After traveling about 50 yards on an access road we were struck head-on by a car coming in the opposite direction. In my estimation, total elapsed time from starting the engine to collision was about 45 seconds.

Here's what happened. As we left the parking lot and turned onto the access road, a young man drove around the corner at the opposite end of the street at a high rate of speed. That would not have been so bad if he had been watching where he was going. Unfortunately for my wife and me, he was frantically looking for his girlfriend, whom he was supposed to be picking up from work. So what we had here was too much velocity and no clue as to vector.

He came around the corner too fast, drifted into our lane and hit our car square-on. It couldn't have been a more solid hit if he was trying to do it. As it was, it happened so

quickly that I had NO time to react. I didn't go for my brake and I didn't try to clear to the right. Afterwards, I looked at my vehicle and noticed that my front wheels were pointing straight ahead.

We collided and the air bags deployed, all in a blink of an eye. I went from fat, dumb, and happy to a state of shock – again, all within the span of 45 seconds. The force of the collision was amazing. I estimated my speed was only about 15-20 mph, and the police estimated the

# ound the Corner?



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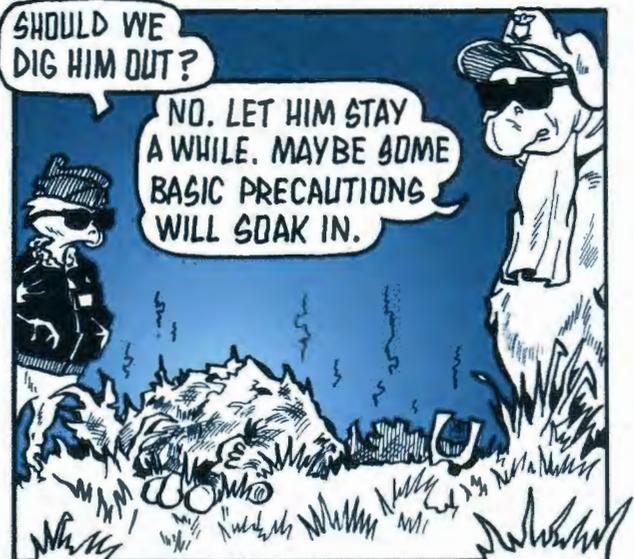
the accident I remembered a safety pitch from years ago that said that most accidents happen in close proximity to home. That was certainly the case here. I also remembered occasions on which I started my car and actually pulled out before buckling up. If I had been as careless in this case, I'm sure I would have been much more severely injured.

Secondly, the air bags helped tremendously. They worked as advertised and protected both of us from the car's dashboard and steering wheel. Although I thought the bag broke my rib and my wife thought her nose was broken, we were fine in both cases.

other driver's speed at impact to have been only 25-30 mph. The whole incident watered my eyes. I couldn't imagine a collision at highway speeds, with both vehicles traveling at or above 55 mph.

We came away with minor injuries; I had cuts to my left arm and my wife hurt her back and neck. We were very fortunate. But we took precautions that prevented my wife and I from suffering much more serious injuries. Number one, we had our seatbelts on. After

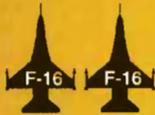
So what did this relatively minor accident teach me? Well, it confirmed in my mind what I always felt to be true – seatbelts work. They save lives and also, as I saw in my accident, keep injuries minor instead of major. I also got a new respect for physics. Vehicles are several thousand pounds of metal, plastic and glass that, even at relatively slow speeds, pack a tremendous punch when they collide. Finally, I saw that even in the most benign driving environments – an access road in my case – you must drive defensively and be alert at all times, because you really don't know what's around the corner. ■



# Flight Safety Stats

## ACC & ACC-Gained Losses for FY99

1 Oct 98 - 30 Sep 99  
Class A Flight Mishaps

8 AF	
9 AF	
12 AF	
AWFC	
ANG	
AFR	
Aircrew Fatalities	

Class A - Fatality; Permanent Total Disability; Property Damage ≥ \$1,000,000

\* Non-Rate Producing

# Anthrax Vacc



In his pentagon office July 26, 1999, General Michael E. Ryan, Air Force Chief of Staff, received the final in a series of six anthrax immunizations from Staff Sgt. Victor G. Donado Jr., aeromedical technician from the pentagon flight medicine clinic. An annual booster will follow the six immunizations. (U.S. Air Force photo by Staff Sgt. Angela Stafford)

**T**he recent air campaign over Kosovo served as a compelling demonstration of the professionalism and precision of U.S. and NATO military forces. Indeed, the campaign was the most precise in the history of warfare – a fact that may give pause to our future adversaries and to those who may be contemplating an assault against our nation’s vital interests. And yet, at the same time, our military superiority may also prompt future adversaries to strike with non-conventional

means, particularly chemical and biological weapons.

When it comes to germ warfare, anthrax remains the weapon of choice. In the words of Secretary of Defense William S. Cohen, anthrax “is very easy to weaponize and almost always deadly.” Weaponized anthrax has a 99-percent lethality rate when used on exposed and unprotected human targets. Thus, unless you are protected or receive immediate medical treatments, you have a 99 percent chance of dying if

# Vaccine is Safe

you get infected — not good odds by anyone's calculation.

Recently, you might have seen some of the news media coverage, heard stories from your squadron mates, or read rumors on the Internet about the anthrax vaccine. Specifically, you may also have heard about some Air Force members — both active duty and reservists — who have disobeyed direct orders and refused to get vaccinated against anthrax.

Make no mistake about it — the anthrax bacteria are deadly. It is a silent and deadly weapon enemies could potentially use against us. At least 16 countries are believed to have offensive biological weapons programs, and Iraq has admitted to producing and weaponizing anthrax.

Anthrax poses a legitimate threat to our service members, so the Department of Defense has taken steps to protect us against this deadly danger. The anthrax vaccine was implemented as a mandatory defense for our service members based on scientific evidence. This approved and licensed vaccine has been inspected and tested for almost 30 years.

The Federal Drug Administration approved the vaccine for use by humans in 1970. The vaccine is a cell-free filtrate, produced by a strain of anthrax that does not cause disease. The vaccine has been safely and routinely used with veterinarians, laboratory workers and livestock handlers. In fact, before Secretary Cohen authorized the use of a single dose, he ordered supplemental testing of the vaccine, doubly ensuring the vaccine's safety and far exceeding any pharmaceutical industry standards. Many independent organizations have explicitly endorsed the vaccine, including the FDA, the World Health Organization, the American Public Health Association, the National Academy of Sciences, the American Academy of Pediatrics, the Centers for Disease Control, the American College of Physicians, and the National Institutes of Health.

As with any of the other routine vaccines such as the ones we use against typhoid, yellow fever and influenza, the anthrax vaccine can cause possible adverse reactions such as mild redness, minor swelling and tenderness at the site of injection. . . ouch! Throughout the long history of this vaccine there have been no long-term side effects from the vaccinated population and only 30 percent of that population had any of the local reactions mentioned earlier.

In an effort to protect our military personnel from the anthrax threat, the Department of Defense has begun inoculating the Total Force with the anthrax vaccine. As of August 1999, more than 320,000 service members have received over one million shots. The rate of FDA-reported adverse reactions for this vaccine is less than those reported for other vaccines, such as typhoid and hepatitis A and B, making this one of the safest vaccination programs in history. Over the next seven years, 1.4 million active duty personnel and some 900,000 members of the Selected Reserve will be immunized.

Although some of our fellow service members have decided to disregard this evidence and believe rumors they've heard, everyone in Air Combat Command needs to take a good look at the facts. The anthrax vaccine is a safe vaccine designed to eliminate the most lethal biological warfare agent weaponized today. There is no effective treatment for unvaccinated victims of inhalation anthrax, and antibiotics will suppress the infection only if they are administered early after exposure — usually within the first 24-48 hours. Unfortunately, there is no indication of exposure, so people don't realize they've been exposed until it's too late. By the time symptoms develop, it is highly likely a painful death will result.

Air Force leaders know people are concerned about the vaccine, but a closer look at the facts shows that this vaccine is not only safe, but it is a potential lifesaver. For more information, check the DoD anthrax web site at [www.anthrax.osd.mil](http://www.anthrax.osd.mil) ■

# Firearm Safety Tips

**Treat every firearm as if it was loaded.** You can never guarantee that your chamber is unloaded. Give an unloaded firearm the same respect you would give a loaded firearm.

**Watch where you point your firearm muzzle.** Never point the muzzle of your firearm at yourself or anyone else, even if it is unloaded.

**Know your firearm and its ammunition.** Before you load, be sure your firearm is in safe operating condition and the barrel is free of obstructions. Double check the specifications of your ammunition to be sure it fits your firearm.

**Do not load your firearm before you are ready.** Why take chances? When traveling to and from your hunting blind, take down or have your actions open, and always carry your firearms unloaded in their cases.

**Be sure of your target – and beyond – before you squeeze the trigger.** Be sure that you have carefully identified your target, then look past it to be sure it is safe to shoot. Hunters need to keep track of buildings, roadways, and other hunters.

**Beware of fatigue when hunting.** When you've been out in the woods a long time, fatigue can cause accidents. A loaded firearm can accidentally fire with a single, unexpected jar – so watch your step.

**Don't take chances with a loaded firearm.** Never step over fences, jump ditches, or make other awkward or unbalanced moves while holding a loaded firearm.

**Use care when practicing.** When shooting for practice, make sure your backstop will prevent ricochets and protect bystanders. Bullets can ricochet off water, rocks, trees, metal, and other hard surfaces.

**Store your firearms safely.** When not in use, always store firearms unloaded, away from ammunition, and out of the reach of children and inexperienced users.

**Remember:** Alcohol, drugs, and firearms don't mix. Never consume alcohol or other mood-altering drugs before or during target shooting or hunting.

*Courtesy Michigan Department of Natural Resources*