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Front Cover photo by MSgt. Dave Nolan



KNOW YOUR LIMITATIONS

As a movie icon once said, "a man has got to know his limitations." Maturity is often considered the point in life where a person starts to include an assessment of the risks in their decision-making process of the actions they take and activities they participate in.

Personal risk management (PRM) is something we all do a thousand times a day, either consciously or unconsciously. It is the choices we make from passing a car on the way to work to cutting across a field walking home.

Most of the time we make the right choices. Unfortunately, we way too often overlook some of the most important times to conduct a personal risk assessment before we act. Those that come immediately to mind are drinking & driving, electing not to connect our seat belts, riding a motorcycle without a helmet, and driving too fast for the conditions.

We need to foster PRM practices in our personnel and encourage them to take risk management home and apply it in their personal lives. We owe it to the men and women of ACC. Using PRM as the underpinning to good individual risk management decisions creates a safer environment and ultimately enriches the lives of our personnel.

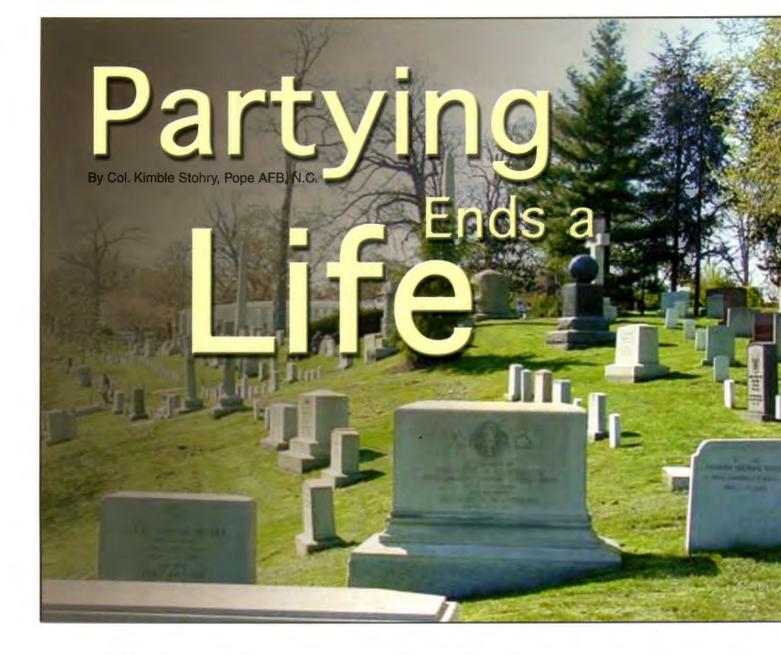
It is up to our frontline supervisors to ingrain PRM skills into their subordinates. Risk management habits have to be

second nature. Once they are part of the way folks conduct their lives (that maturity thing) we dramatically reduce the likelihood of having mishaps.

Be aware of the risks you accept in your personal life, mitigate those risks, don't take any unnecessary risks, and take your PRM habits home with you, because we need everyone to successfully complete ACC's missions.

Colonel Kevin W. Smith Chief of Safety





t was 20 years ago, but it seems like yesterday. The weather was clear, which was a rarity. I was flying out of Suwon Air Base, Republic of Korea, in my trusty A-10 leading a four-ship "Sandy" mission. This was a search and rescue training mission in central Korea. We heard the beeper on the emergency frequency sound when a U.S. Air Force F-16 from another base crashed. We quickly offered our services to the Korean Control and Reporting Center to help in the rescue. Unfortunately, there had been no parachute — just a smoking hole. Sandys weren't required.

Later that day, I found out that Chuck (not his real name) was dead. I had first served under him in our college Reserve Officer Training Corps or ROTC program; he was my idol. Sharp, forthright, ready for any challenge. He was first in his class in every flying school he had ever attended.

As a captain, he was the assistant operations officer of my OV-10 Bronco squadron at

Osan Airbase, Republic of Korea. He was out in front daily, leading the charge. Others instinctively listened to him; I thought he would be a wing commander someday. During the week we worked hard; Friday nights we played hard. We lived the life of fighter pilots. But that had been a year ago—different base, different situation. Now, he was dead.

According to reports, 3 days before his death, he and his squadron mates flew their F-16s to Yokota Air Base, Japan, and performed a splendid airshow.

Afterwards, Chuck went to Tokyo and stayed out all night partying. He broke crew rest the next day by flying back to his base without sleep and within the 12-hour "bottle-to-throttle" rule. The day after returning, he slept off the hangover on a wing down day.

In all the time we had spent together previously, I had never seen him break any rules like that. On the day of his death, he was flying his flight lead check ride. Copier problems delayed or hindered some of his mission planning. Maintenance problems delayed his takeoff and forced some en route changes to the briefed mission. He was going more than 400 knots when he impacted a mountain that was visible for over 10 miles just short of the military crest. Very little of his remains were recovered about enough to fill a normalsized coffee cup.

In my opinion, alcohol killed Chuck. I believe it slowed his reactions. His wingman said that he saw the plane start to pull up just prior to impact; like his attention had been diverted and he had looked up too late.

pervisors were shocked because everyone had thought so much of his leadership, flying ability, and future potential. I wondered what had changed so drastically in only a year. Now, his wife had lost a husband, his parents a son, and I had lost a friend. I really don't think he planned to go out that way.

I want to challenge you to think about why you drink. Do you do it to get away from problems? They won't go away until you figure out a solution. Do you do it to impress your friends? This accident didn't impress anyone; in fact, it shattered the confidence senior officers had in Chuck's supervisors and made them question the "judgment" of his peers. Why hadn't someone stopped him? Why hadn't someone brought this to the attention of his supervisor or commander?

After this mishap, I "went to school" on my own drinking. I weighed in the balances what drinking had gained me versus what it had cost me. After this review and some searching of the Scriptures, I Chuck's death, I've had the opportunity to see alcohol ruin a few more lives and careers. I've come to the conclusion that alcohol is one of the "pet sins" of the military. Not many folks want to face up to the power that this drug has (or can have) over them. In less than a year, Chuck had let alcohol "take the lead" in his formation.

Is there a lesson in here for us? I believe that whether you fly jets, airdrop paratroopers, control close air support missions for the U.S. Army, bend wrenches, or any of a hundred other support roles that are performed out there daily vou definitely need a clear head and a steady hand during your work. As a member of a larger team effort, please remember that others are looking to and depending on you for their very lives.

Most importantly — at such a time as this — your nation, your unit, and your family want you to come back home — alive. I'll never know if Chuck could have been that wing commander because he

He broke crew rest the next day by flying back to his base







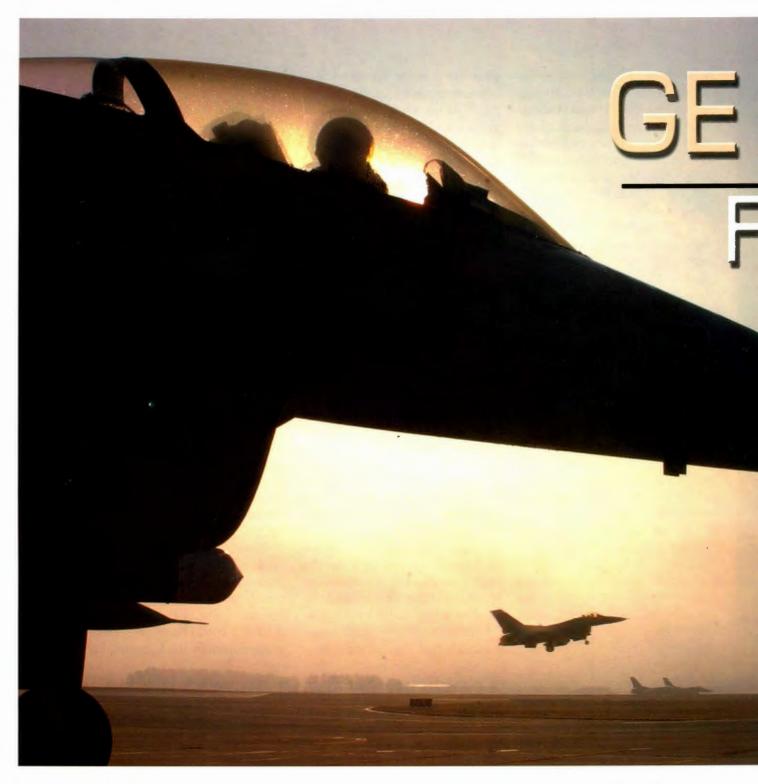




without sleep and inside the 12-hour "bottle-to-throttle" rule.

According to testimony given to the Accident Board, this had not been the first time he had been seen partying hard or long. His senior sugave up drinking altogether. Perhaps, I finally grew up.

This is a real life issue and shouldn't be swept under the rug. In the years since let partying end his life and lost the Air Force a valuable combat asset. Don't let it end yours before your potential is realized.

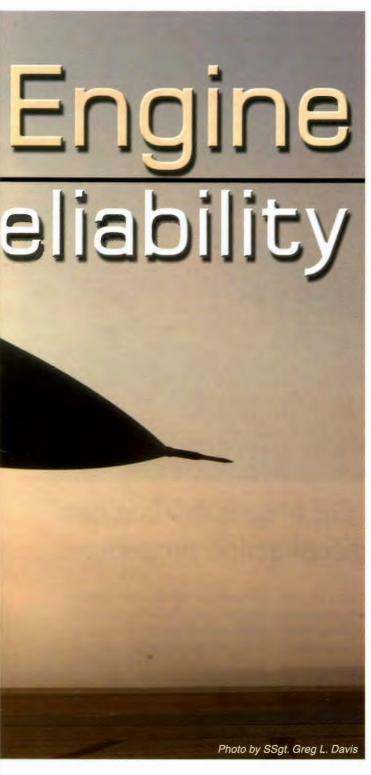


ou are flying your Block 40 F-16 into the target area. Five seconds prior to release, you ensure the "Pickle Button" is depressed and you're on steering. At release, you feel the two GBU-10's "clunk - clunk" off the aircraft and crank your aircraft left. One last check of the Tar-

geting Pod (TGP) shows the cross hairs are dead center on the hardened aircraft shelter doors. A quick check over the shoulder and you see your wingman flowing from 4 to 5 o'clock, as briefed. The laser fires, a few bump slews, and the two GBU-10's penetrate the door. The high order explosion washes out the TGP video

and you go to wide field of view in time to see the secondaries occur. You start the turn to the egress heading, and the wingman flows back to line abreast formation.

The rest of the sortie home is uneventful until you accomplish your battle damage check and check the test page for the in-flight



report. You see the Engine (ENG) 058 Maintenance Fault List (MFL), call in Code 3 engine, and request the engine specialist meet you at the jet. A review of the MFL reveals that the Engine Monitoring System (EMS) detected a sub idle flameout sometime during the mission. However, you never felt a loss of thrust or had any other engine

abnormalities. This is a tribute to the advanced electronic control systems on the General Electric (GE) F110 engines that power the Block 40 F-16s. These systems have proven to be very successful in accommodating system malfunctions that might otherwise shut down a healthy engine.

In over 3 million flying hours of worldwide operation. the F110 control system has proven reliable at providing stall-free operation and accommodating system malfunctions short of engine turbo machinery problems (i.e., mechanical hardware malfunctions such as liberated internal engine components). A review of the

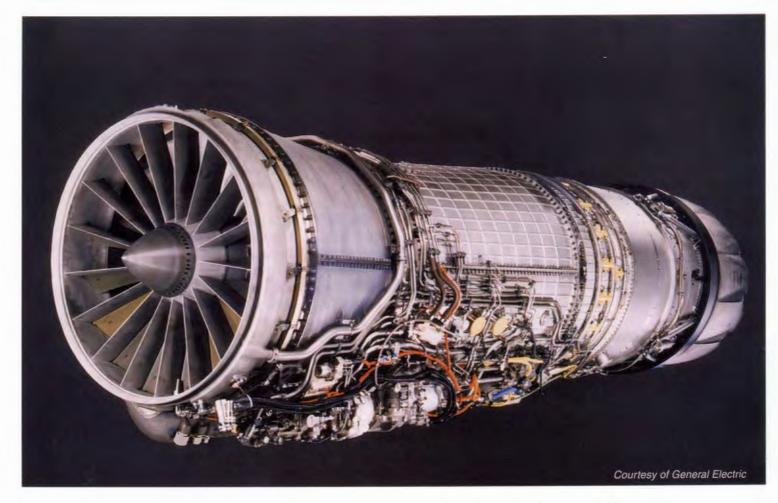
F110 engine in-flight shutdown events indicates that 70 percent of the events are attributed to engine turbo machinery problems. These are incapable of a restart, no matter what fault accommodation is provided by the Augmenter-Fan-Temperature Control (AFTC) or a Digital Electronic Control (DEC). The other

events are related to the fuel delivery system or engine controls and accessories. The majority of the causes for these events have been corrected through improvements in the control and accessory design and enhancements to the control system logic. These logic changes either accommodate the malfunction and avoid the shutdown or, in some cases, have provisions to tolerate the malfunction if Primary (PRI) mode is reselected as part of the airstart procedure.

During investigations of F-16 Class A mishaps over the last decade, some of the safety investigation boards have noted that there is a perception in the F-16 Fighting Falcon flying community that once an F110 engine guits, it will not restart. However, a review of data from F110 events, dating back to 1987, identified 15 events (approximately 30 percent of the in-flight shutdowns) that were recovered by accomplishing full or partial execution of the airstart procedures in the checklist.

While a successful restart depends on many variables, the data from these events indicates that a key step in restart procedure was the timely selection of Secondary (SEC) mode. Typically this eliminates the PRI mode system malfunction that was not accommodated by the control logic. Incidentally, the current DEC software is much more capable of detecting and accommodating a control system malfunction than the AFTC. Therefore, expect the incidents of restartable shutdowns to be reduced further as the DEC retrofit is completed.

Successfully airstarting the engine does not require exact airspeeds or Revolutions Per



... Approximately 30 percent of GE engine failures can be recovered by applying the critical action procedures ...

Minute (RPM) ranges so much as timely execution of key events in the airstart sequence. These key events are: initiating the airstart while engine RPM is still high, selecting SEC if at low altitude or when RPM drops below 50 percent, and preserving RPM prior to light off. While each of the procedural steps is important for difreasons. ferent history indicates that selection of SEC has been the most successful step in allowing engines to re-

Experience with F110 airstarts in flight test has shown the engine to reliably start at altitudes below 25,000 feet with little difference between the characteristics in PRI or SEC.

Emergency procedures require SEC mode in critical situations (low RPM or low altitude) to account for a PRI mode malfunction that was not accommodated by the DEC or AFTC. When responding to an engine emergency, the overall health of the engine is best judged by evaluating all the engine gauges and thrust being provided by the engine.

Knowing the critical action procedures cold is essential to ensuring safe aircraft operations. If you are one of the unlucky souls to experience an engine shutdown, odds are that it may be non-recoverable. However, if time or altitude permits, there is a reasonable chance of recovering the engine and aircraft through timely and

proper execution of the airstart procedures. To further increase your knowledge of GE engines, request your GE unit representative schedule an F-16/F110 Pilot Awareness Program briefing.

Editor's Note: THE COMBAT EDGE staff would like to thank Maj. Steven E. Chandler, Air Combat Command's F-16 Standardization Program Manager, and the following committee from GE for their contributions to this article:

Mr. Kevin C. Wilson - Manager of Military Flight Safety

Mr. David Jeffcoat - F110 Project Mr. Phil Garda - Engine Systems Design and Integration

Mr. Rusty Kosel - Engine Systems Design and Integration

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F110 Modes of Engine Operation

The F110 engine control system delivers the required fuel to the engine for thrust and for use by the control system for scheduling the engine variable geometry. The control system is composed of three major components: the Digital Electronic Control (DEC) or Augmenter-Fan-Temperature Control (AFTC), the Afterburner Fuel Control (AFC), and the Main Engine Control (MEC). These three components work together to schedule the five engine control loops of main and augmenter fuel flow, fan Inlet Guide Vanes (IGVs), compressor Variable Stator Vanes (VSVs). and the exhaust Nozzle Position (NOZ POS).

Primary (PRI) Mode Engine Operation

In PRI mode, the DEC is controlling all five engine control loops. On AFTC engines, the AFTC is controlling four of the systems, while the MEC provides hydro mechanical control of core engine VSVs. Some pilot notable characteristics of primary mode include:

 Mach biasing of the engine schedules based on aircraft speed inputs for the aircraft central air data computer automatically prevents inlet buzz during deceleration from supersonic speeds.



Photo by MSgt. Dave Nolan

- Automatic fault detection and accommodation.
- Use of redundant sensor, system, or default values when required.
- Automatic transfer to back-up modes if appropriate.
- With DEC engines, the reduced speed excursion feature provides for longer engine life, resulting in higher idle core speeds and a more open NOZ POS at airspeeds above 0.5 to 0.6 mach.

Hybrid (HYB) Mode Engine Operation (DEC Only)

The DEC will transfer the engine to HYB mode if malfunctions are detected with the electrical scheduling of main engine fuel flow to meet required throttle demands. HYB mode is not pilot selectable. In HYB mode, the main engine fuel flow and VSVs are controlled by the MEC. Control of the three other control loops, IGV, afterburner fuel, and NOZ POS remain, with the DEC. Most of the characteristics of HYB mode are the same as PRI with a few exceptions:

- Automatic inlet buzz protection is disabled because the MEC is not capable of Mach biasing of the main engine fuel schedules.
- Minor thrust and transient response degradation.

Secondary (SEC) Mode Engine Operation

The DEC/AFTC will transfer the engine to SEC mode when certain



malfunctions are detected. SEC mode may also be pilot selected by placing the Engine Control switch in the SEC position. In SEC mode, the main engine fuel flow and VSVs are controlled by the MEC. The IGVs and NOZ POS are scheduled to a fixed closed position and augmenter is disabled. Notable characteristics of SEC mode include:

- Automatic inlet buzz protection is disabled.
- In-flight, military power thrust will be 70 to 95 percent of PRI mode thrust.
- Idle thrust is higher than PRI because the nozzle is closed.



recently overheard a fellow "safety troop" explaining to a young officer that the new Assessment System Hazard Survey II (ASHS II) software would eventually do all site planning here at Moody AFB, Ga. Now, of course, he didn't mean that the actual computer program, through artificial intelligence, would independently develop and produce explosives site plans. He was simply im-

plying that ASHS II would do everything related to site planning once all the particulars of our base were entered into the database. Nonetheless, there is still an underlying flaw in his statement. ASHS II will not "do all site planning" — at least not yet.

How many of you have heard promises that a "new" computer program will help you do your job better, faster, and more efficiently? In fact, these "new" systems can sometimes cause problems that did not exist before. For example, manpower savings that might be promised are usually traded to pay for a system that brings with it additional manpower costs of its own (i.e., learning curve time, troubleshooting and maintenance requirements, etc.). ASHS II has similar chal-

ool for Trained WSMs

By MSgt. Pete Falkenhausen, Moody AFB, Ga.

lenges. It has the same garbage-in, garbage-out realities of any other computer program.

It's true that once the ASHS

II database is correctly populated with pertinent data, it will calculate and generate site-planning products. Unfortunately, for those who might see ASHS II as a savior, there is more to site planning than just calculating distances and generating forms or maps.

Probably, the most important - yet least appreciated - aspect of site planning is knowledge of your unit's mission and requirements under various conditions (i.e., day-to-day, exercises, contingencies, and wartime). Mission familiarity and the realization that establishing unnecessarily large clear zones can hamper comprehensive planning are thought processes that cannot be pre-programmed into a computer.

It is also important to incorporate operational risk management into the site planning process. That means determining risk, mitigating that risk, then either accepting or rejecting it while keeping in mind

the desired mission outcome. While the ASHS II program will help determine what explosives weights can be safely stored or maintained, it is ul-

timately up to knowledgeable functional managers and commanders to accept, reject, or even exceed established safety standards.







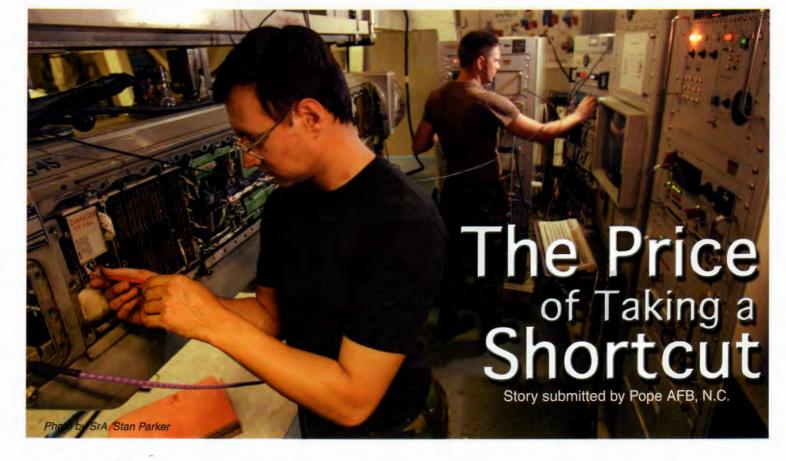
ASHS II is a tool that can provide the Weapons Safety Managers (WSM) with the ability to quickly and accurately create a risk picture. The WSM can communicate this risk picture to commanders so they know the loss potentials involved before making a decision. This knowledge helps

them determine whether they should accept or reject an explosives safety plan of action.

It is foreseeable that a mission's criticality will warrant accepting risks that are not within the parameters of the explosives safety criteria programmed into ASHS II. When parameters are exceeded, the site planner needs to consider compensatory actions. Again, ASHS II will not develop these actions or options. That is still something the WSM must do by working with other professionals in logistics, operations, and other support functional areas.

Additionally, ASHS II is useful to the site planning process when it is kept updated with current explosives safety criteria and standards that can be downloaded from the contractor's website. Even if all the WSMs remember to do this though, ASHS II is not

a replacement for the WSM or their knowledge of Department of Defense and Air Force guidance. WSMs must still know "the books."



t was approximately 6:00 p.m. on a "normal" workday ... or so I thought! Little did I know that a safety mishap was going to change the next 2 months of my life.

As an avionics troop working in the Electronic Countermeasures (ECM) shop, my task that evening was to electrically power an AN/ALQ-184 ECM pod and return it to the flightline. Another airman and I ran the pod in accordance with the technical order and called the fighter squad-

area. Outside the building, a jammer stood ready to accept the pod for delivery to the flightline. The ground surrounding our shop gradually slopes down and away from the building. The walkway consists of concrete for about 25 feet, then turns to blacktop. A small lip marks the seam between the concrete and blacktop.

My partner and I pushed the maintenance table outside the shop and onto the sloping concrete walkway. As we were pushing the table, the wheels gravity in its favor. The pod fell off the table and landed on my left foot.

Fortunately, the ECM pod sustained only minor damage and was soon returned to service. My foot, however, was another story. The pod cut a 1-inch long gash on the top of my steel-toed boot and broke two of my toes. I will be on crutches for the next 2 months and may require surgery to straighten my toes if they do not heal correctly.

This all happened because we were in a hurry and did not take the time to do the job

right the first time. Instead of bringing the jammer to the pod, we took the pod to the jammer, using a table that was not designed for

the rough walkway. It was a costly shortcut that I will have to pay the price for over the next few months. The lesson of this mishap applies to everything we do, both on and off duty: take the time and do it right the first time!

... Thank goodness for my steel-toed boots ...

ron to retrieve it. All systems checked good and it seemed like another mission accomplished.

The pod and its cradle were resting on a maintenance table that is authorized for transporting equipment within the shop became unbalanced, causing the table to sway gently. When the wheels hit the seam, the table leaned further and the pod began to slide off the table. I immediately attempted to stop the pod's movement, but the 461-pound cylinder had



Importance of Safety Training

By MSgt. Mark C. Blevins, Shaw AFB, S.C.

wo of the most important requirements in weapons safety (outside the cardinal rule to expose the minimum amount of people to the minimum amount of explosives for the minimum amount of time) concern training.

The first requirement is found in Air Force Manual 91-201, Explosives Safety Standards, paragraph 2.2: "Personnel who work with explosives will be trained ... and qualified in the tasks to be performed. They must understand all safety standards, requirements, and precautions that apply to the operation. The supervisor must be knowledgeable of all hazards involved in the operation, convey emergency procedures to workers and visitors, and maintain strict housekeeping standards. The supervisor must also know what steps to take when abnormal conditions arise." (emphasis added)

The second requirement is from Air Force Instruction (AFI) 91-202, The U.S. Air Force Mishap Prevention Program, paragraph 10.10.2: "All personnel (supervisory or nonsupervisory) who operate, handle, transport, maintain, load, or dispose of missiles, explosives, or nuclear weapons must receive initial weapons safety training before performing any of those tasks. Conduct recurring training annually thereafter ..."

You can see from these two requirements how much responsibility is placed on the supervisor to ensure that all subordinates are properly trained. It is critical that everyone who is involved with any explosives operations — whether they are a worker in the bomb dump, a loader on the flightline, or an egress technician — receive current weapons safety training. See AFI 91-202, para-

graph 101.10.2 for those personnel who are exempt from initial and refresher training. It is especially important to conduct training prior to deployments.

In addition, Career Field Education Training Program or CFETP Forms, Air Force Forms 55, Core Automated Maintenance System or CAMS Forms, and other training documentation should be reviewed prior to placing individuals in duty positions involving explosives operations. Review your office's personnel records and ensure everyone is current in weapons safety training. If not, get them scheduled and trained using an approved lesson plan.

Bottom Line: No one should handle or work with explosives until they have received *proper* certification on the task and weapons safety training.

Call Ends Life

By TSgt. Marcella B. Hayes, Langley AFB, Va.

a Safety professional, I had gotten used to running out to investigate a minor mishap here and there. Someone used the wrong tool for the job at hand, sprained an ankle during basketball, tweaked a muscle in their back, or stepped off a curb wrong and broke a bone. Then I received a different kind of call. An active duty member had lost his life, a spouse had lost a husband, and coworkers had lost a friend. I was faced with approaching his friends and loved ones during this terrible time of grief and expecting them to give me personal details about circumstances surrounding this

uring my 2-plus years as most difficult things I have the way - after several done. At the same time that I was asking some tough questions to get to the truth, I had to be sensitive and sympathetic to the feelings of those involved. The way I did this was to allow the interviewees to open up and talk freely about the person and the incident. I have found that whenever I ask a closed-ended question, I tend to get a closedended answer. I strived to establish a good rapport with the interviewees, which seemed to make them more comfortable with talking and answering my questions. These methods made it home. While he had full helped me discover some very valuable information.

beers — he changed his plan and decided to have a friend drive him home instead. There was only one problem; he was not able to contact his friend. He did leave a voice message on his friend's phone, but verbal contact was never made. For a reason we will never know, he did not resort back to his original plan and call his wife. There he was at a bar fully loaded with keys in hand.

Unfortunately, he never intentions at the beginning of the evening to have someone The young airman in this else drive him home, he did not

... getting behind a steering wheel after drinking is no

this loss of life had been unnecdrive, my task became that much tougher.

tragic loss. When I realized that particular investigation had de-follow through. When he cided to go out with some old changed his plan, he changed his essary because it resulted from friends to have a few drinks. He fate. If he had stuck to his origia very bad decision to drink and knew before he left that he nal course of action, he would would be drinking, so he still be a husband, a friend, a coplanned ahead and asked his worker, and a valuable Air Force Talking to some of his friends wife to pick him up when he was member. The other thing I disand loved ones was one of the ready to go. Somewhere along covered is that friends can also



take a more proactive role in through these uncertainties aflooking out for each other. I believe the outcome of this case might have been different if

ter you have been drinking.

This is just one case where failure to use good personal risk management resulted in a loss of life.

Driving while intoxicated is as dangerous as playing Russian roulette

friends had decided to be the with a loaded gun. Not only are you jeopardizing your own life, but you are also endangering the lives of others. The outcome in this case could have been much worse. Several lives could have been lost and, thankfully, that did not happen. But the loss of this

one person has had repercussions that will continue to ripple through the lives of those he touched when he was alive.

Remember this, getting behind a steering wheel after drinking is not an accident; it's a choice. We've lost too many of our valuable Air Force family members to this senseless act. As supervisors, coworkers, and friends, continue to stress the dangers of drinking and driving. If our people know we are serious about our concern for their safety, hopefully, they will begin to take it a little more seriously too.

someone within his group of an accident; <u>it's a choice</u>!

designated driver at the start of the evening. Counting on someone to pick you up at a time to be determined after a few drinks leads to too many uncertainties. It is not a good idea to rely on your ability to rationally think





Joint Strike Fighter, X-35C: Lockheed Martin's testing nears completion at Edwards Air Force Base, Calif. Following 2 months of flight testing here, concept demonstrator will be moving to Naval Air Station Patuxent River, Md., for flight testing at sea level. Testing at NAS Patuxent River will give evaluators a more accurate picture of the JSF's carrier-suitability performance. The JSF has made 20 sorties at Edwards to field test carrier landings, expansion of the flight envelope, and initiating tanker-qualification trials.

Monthly Award Winners

Pilot Safety Award of Distinction

Maj. Christopher W. Robinson 34th Fighter Squadron 388th Fighter Wing Hill AFB, Utah

aj. Christopher Robinson was the flight lead of Bay flight, which were two F-16s launched as an alert scramble in support of Operation NOBLE EAGLE. Weather was overcast from 2,500 feet Mean Sea Level (MSL) to 35,000 feet, with light rime icing from 8,000 to 18,000 feet. During the departure, his wingman's Angle of Attack (AOA) probes froze at the five-degree position, which caused improper Leading Edge Flap (LEF) scheduling and decreased the aircraft's slow speed performance and departure resistance. After breaking out of the weather above 35,000 feet, Bay 02 initiated a turning rejoin on Robinson. Bay 02's jet performed poorly, and his airspeed decreased below 150 knots indicated airspeed. Bay 02 subsequently departed controlled flight and entered a spiraling left turn as his airspeed decreased to zero and AOA remained frozen at five degrees. Bay

02 selected idle power and released the controls. The aircraft was incapable of self-recovery; due to the erroneous AOA indications, the flight control computer did not apply anti-spin or stall recovery inputs. Passing 21,000 with a 17,000 Feet Per Minute (FPM) descent rate, Bay 02 informed Robinson that he had an emergency and may have to eject. Robinson queried Bay 02 for flight parameters, and assessed that his wingman had time to try one last ditch attempt at a recovery before he reached the uncontrolled ejection altitude. Robinson directed Bay 02 to try something new and go full forward stick and full afterburner. This action recovered the aircraft from the deep stall. Bay 02 bottomed out of the resulting dive at 3,800 feet MSL, never breaking out of the weather. The AOA probes began to function normally again as Bay 02 climbed back through the weather. Robinson directed a rejoin above the weather, performed a battle damage check along with ascertaining that all of Bay 02's navigation, control, and performance systems were operating correctly. Bay flight then burned down fuel to permit a safe landing on a wet runway. Post-flight analysis revealed that had Bay 02 delayed his recovery 10 more seconds, he would have impacted the ground. Maj. Robinson's quick actions and direction prevented the loss of a valuable aircraft and the possible loss of life.

Ground Safety Award of Distinction

n Oct. 18, 2001, SSgt. Myles McLemore and SrA. Lillian Charlton displayed attention to detail while abating a Hydrazine (H-70) hazard associated with the Emergency Start System (ESS) on a U-2 aircraft prior to an Operation ENDURING FREEDOM mission. After performing routine ESS checkouts, Charlton heard a loud pop from the direction of the H-70 tank in the engine bay where she was working. She visually inspected the test equipment still connected to the aircraft and found nothing unusual. She proceeded to the H-70 "sniffer" to verify the area was still safe, a habit conditioned from repeated training on H-70 response actions. The "sniffer" was in alarm mode. Charlton immediately instructed personnel to evacuate the hangar and initiated an H-70 response involving emergency response personnel. Donning her protective suit, Charlton began configuring the aircraft "Hot Zone" for possible ESS activation. McLemore arrived, he was briefed on the situation, and immediately took command as the Hydrazine Response Team leader. Under extremely difficult conditions, McLemore followed flow plans to the letter, firing the ESS system to dissipate the hazard while maintaining the integrity of the "Hot Zone" to prevent other personnel being exposed to this highly toxic agent. He then performed follow-up actions to ensure the area was completely hazard-free before other personnel were allowed to enter the area. Because of their quick and decisive actions, SSgt. McLemore and SrA. Charlton identified, controlled, and removed a deadly hazard.



SSgt. Myles C. McLemore and SrA. Lillian K. Charlton 9th Maintenance Squadron, 9th Reconnaissance Wing Beale AFB. Calif.

Aircrew Safety Award of Distinction

n Jan. 31, 2002, an HC-130P departed Moody AFB, Ga., on a local tactical sortie. Immediately after takeoff, the right main landing gear indicator remained in the down and locked position. The crew waited 18 seconds, the approximate gear transit time given by the Dash-1, before entering a holding pattern at 2,000 feet. While holding, the loadmaster and flight engineer visually inspected the landing gear and confirmed that the forward right main gear was in the down and locked position while the aft right main gear had partially retracted. While troubleshooting the problem, the crew was unable to correct the split condition in the right main gear. The copilot radioed the situation to the operations superintendent on duty and asked him to call a Lockheed technical advisor for further assistance. The crew reviewed the Dash-1 in preparation for the applicable emergency procedures. They first tried to free-fall the aft right main gear by disengaging the gear drive. They then unsuccessfully tried to manually hand-crank the gear down. As the engineer and copilot discussed options, the navigator again attempted to hand-crank the gear down. This time, the gear began moving toward the down position and was eventually lowered. The flight engineer visually confirmed the right main gear down and locked but also noticed scraping and rub marks on the

aft right main strut. The pilot, copilot, and engineer all agreed to restrain the aft right main gear with a restraining collar as a precautionary step. The pilot and navigator coordinated with air traffic control for permission to dump fuel to reduce weight. The pilot then set up for a straight-in approach to the runway at Moody and executed an uneventful landing. By precisely following technical order guidance and the expertise of outside resources, the crew were able to return their aircraft home with minimal damage and no injuries.



Capts. Ellis Garner, Wilfred Rodriguez, and Roark Endlich, MSgt. Julian Johnson, TSgt. William Calkins (not pictured), SrA. Brandon Schultz, 71st Rescue Squadron, 347th Rescue Wing, Moody AFB, Ga.

Flightline Safety Award of Distinction

hile performing an hourly post-flight inspection on an F-15C, A1C. Joshua Gosney discovered a horizontal stabilizer bushing wedged underneath the right horizontal stabilizer control arm or horn. He performed a stabilizer security check ensuring all bushings and hardware were properly accounted for and no further damage had resulted. In the meantime, a visual inspection of the recovered bushing revealed it had been crushed by the right stabilizer horn. The stabilizer horn is responsible for

controlling the right horizontal flight control surface and could cause the flight control surface to jam in flight. A1C. Gosney's meticulous attention to detail and recovery of this bushing alleviated probable aircraft pitch control system failure due to foreign object migration and possibly prevented loss of a pilot's life.



A1C. Joshua R. Gosney 60th Fighter Squadron 33rd Fighter Wing Eglin AFB, Fla.

ACC is proud of our monthly safety honorees

Congratulations to all ACC winners for a job well done!

ACC Flight Safety Award recognizes units that flew the previous fiscal year without a command-controlled Class A or B flight mishap.



ACC UNITS

2nd Bomb Wing, Barksdale AFB, La. 5th Bomb Wing, Minot AFB, N.D. 7th Bomb Wing, Dyess AFB, Texas 9th Reconnaissance Wing, Beale AFB, Calif. 85th Group, NAS Keflavik, Iceland 93rd Air Control Wing, Robins AFB, Ga. 388th Fighter Wing, Hill AFB, Utah 509th Bomb Wing, Whiteman AFB, Mo. 552nd Air Control Wing, Tinker AFB, Okla.

ACC-GAINED GUARD UNITS

102nd Fighter Wing, Otis ANGB, Mass. 103rd Fighter Wing, East Grandby, Conn. 104th Fighter Wing, Barnes ANGB, Mass. 106th Rescue Wing, Westhampton, N.Y. 110th Fighter Wing, Battle Creek, Mich. 111th Fighter Wing, Willow Grove ARS, Pa. 113th Wing, Andrews AFB, Md. 114th Fighter Wing, Sioux Falls, S.D. 115th Fighter Wing, Truax Fld Madison, Wis. 116th Bomb Wing, Robins AFB, Ga. 119th Fighter Wing, Hecktor IAP Fargo, N.D. 120th Fighter Wing, Great Falls, Mont. 122nd Fighter Wing, Fort Wayne IAP, Ind. 125th Fighter Wing, Jacksonville, Fla. 127th Wing, Selfridge ANGB, Mich. 129th Rescue Wing, Moffett, Calif. 131st Fighter Wing, Lambert IAP Bridgeton, Mo. 138th Fighter Wing, Tulsa, Okla.

142nd Fighter Wing, Portland IAP, Ore. 147th Fighter Wing, Houston, Texas 148th Fighter Wing, ANGB Duluth, Minn. 150th Fighter Wing, Kirtland AFB, N.M. 158th Fighter Wing, South Burlington, Vt. 159th Fighter Wing, NAS-JRB, New Orleans, La. 169th Fighter Wing, Eastover, S.C. 174th Fighter Wing, Syracuse, N.Y. 175th Wing, Baltimore, Md. 177th Fighter Wing, Egg Harbor Twp, N.J. 180th Fighter Wing, Swanton, Ohio 181st Fighter Wing, Terre Haute, Ind. 183rd Fighter Wing, Springfield, Ill. 184th Bomb Wing, McConnell AFB, Kan. 185th Fighter Wing, Sioux City, Iowa 187th Fighter Wing, Montgomery, Ala. 188th Fighter Wing, Fort Smith, Ark.

ACC-GAINED RESERVE UNITS

301st Fighter Wing, NAS-JRB, Fort Worth, Texas 419th Fighter Wing, Hill AFB, Utah 442nd Fighter Wing, Whiteman AFB, Mo. 482nd Fighter Wing, Homestead ARB, Fla. 513th Air Control Group, Tinker AFB, Okla. 917th Wing, Barksdale AFB, La. 920th Rescue Group, Patrick AFB, Fla. 926th Fighter Wing, NAS-JRB, New Orleans, La. 939th Rescue Wing, Portland IAP, Ore.

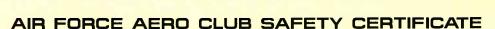
ACC wins the...

SECRETARY OF THE AIR FORCE AWARD

This is the highest safety award of the Air Force. It recognizes the MAJCOM, DRU, or FOA with the most effective overall safety program.

COLONEL WILL L. TUBBS MEMORIAL AWARD FOR GROUND SAFETY

This award recognizes the most effective MAJCOM, DRU, or FOA ground safety program.



Promotes aviation safety and awards the Air Force Aero Clubs for flight safety achievements.

Barksdale AFB, La. Beale AFB, Calif.

AIR FORCE NUCLEAR SURETY PLAQUE

Recognizes organizations below MAJCOM and FOA level for outstanding achievements or contributions to the AF nuclear weapon system and nuclear power system programs.

4th Fighter Wing, Seymour Johnson AFB, N.C.

AIR FORCE NUCLEAR SURETY OUTSTANDING ACHIEVEMENT AWARD

Recognizes an individual who has significantly contributed to nuclear surety. SMSgt. Ronald H. Dryburgh, Jr. 2nd Bomb Wing, Barksdale AFB, La.

AIR FORCE FLIGHT SAFETY PLAQUE

Recognizes organizations below Numbered Air Force level for outstanding mishap prevention.

55th Wing, Offutt AFB, Neb.

AIR FORCE MISSILE SAFETY PLAQUE

Recognizes organizations below MAJCOM and FOA level for outstanding achievement and contribution to missile safety.

33rd Fighter Wing, Eglin AFB, Fla.

AIR FORCE EXPLOSIVES SAFETY PLAQUE

Recognizes organizations below MAJCOM, DRU, and FOA level for outstanding achievement in, or contribution to, explosives safety.

9th Munitions Squadron, Beale AFB, Calif.

33rd Fighter Wing, Eglin AFB, Fla.

366th Wing, Mt. Home AFB, Idaho















Critical Days of Summer

By ACC/SEG, Langley AFB, Va.

e are about to enter the Air Force's 2002 "101 Critical Days of Summer" campaign. It begins on Memorial Day and ends on Labor Day. This time frame is referred to as the "Critical Days" because of the substantial increase in off-duty mishaps experienced during this period. Traditionally, Air Combat Command's (ACC's) numbers are higher during these "101 Days" because of the additional travel associated with vacationing and the increased participation in recreational events.

It should surprise no one that the leading cause — historically, 80 percent — of accidental deaths in ACC is Private Motor Vehicle (PMV) crashes. Our Fiscal Year 2001 (FY01) numbers were consistent with this 80-percent trend, which has been the average over the last 4 years. In FY01, 11 of the 13 fatalities — or 84 percent —

hicle they leave supervision, checklists, operational instructions, etc., behind. It is when they are on their own like this that disaster usually strikes. In FY01, 11 ACC members died needlessly in traffic mishaps.

It is rare for a car crash to be so simple that it has only one cause. Most accidents are the re-

> sult of a complex sequence of events that come together at a particular point in time the scene of the mishap. The circumstances and causes may have been different in all 11 of our fatalities, but there was definitely one thing they all had in common - they were preventable!

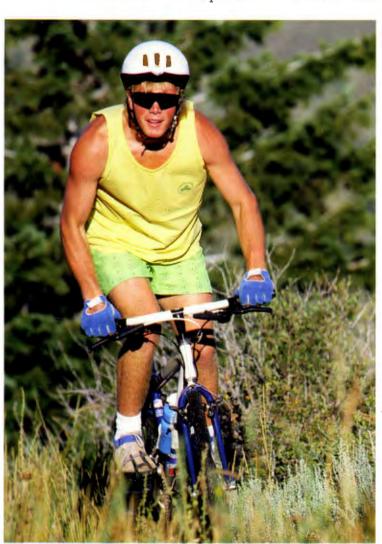
In practically every instance, operator error was a factor. It may have manifested itself as in attention, driving too fast, exercising poor judgment, driving under the influence of alcohol, or failure to wear seat

to wear seat belts. But in the final analysis, every vehicle operator could have changed his or her behavior in some manner and prevented the resulting tragedy. These airmen unfortunately lacked the necessary discipline to do this, and they paid with their lives.

So far this fiscal year, ACC has already experienced nine Class A off-duty PMV mishaps, which have resulted in 11 fatalities. Our numbers are already up, and we have not even entered the "101 Critical Days of Summer." There are no magic formulas to get people to exercise common sense and good judgment when they're behind the wheel. But we must try to convince them that they aren't invincible. Even though accidents can — and will happen to all of us if we aren't careful, commanders and supervisors can mitigate some of them by continuing to stress the big three: speed, alcohol, and seat belts.

We need to all dispel the myth that mishaps only happen to the other guy. Let's face it; there is nothing wrong with taking that long awaited summer vacation road trip or visiting your favorite beach or campsite. Just take the time to apply Personal Risk Management (PRM) to your particular situation and circumstances. What exactly does this mean? Simply put — think before you act. Transfer those professional risk management principles you practice every day on the job to your personal lives this summer.

Ask yourself what could possibly go wrong and then take preventive actions where necessary. Be prepared when you do decide to take that trip to the beach, the great outdoors, or some other type of family outing. If you take your PMV, then be sure to take a good first aid kit (including sunscreen) and a roadside emergency kit that contains



involved PMVs. Ten of the 13 were four-wheel vehicles, one was a miscellaneous vehicle, and the other two were on-duty, involving industrial and government motor vehicles.

It seems that once people get behind the wheel of a veflares. Proper clothing, supplies, food, water, and protective equipment will also ensure you have a happy and successful trip. Plan for things to not go exactly as planned.

Even though the focus of the "101 Critical Days of Summer" campaign is summer safety, don't neglect safe practices at work. Manning is usually short this time of year due to leave schedules and a pretty high operations tempo, including deployments. Because of these factors, it may take a little longer to do the job right the first time, but make sure that you do just that. Strict compliance with technical data, checklists, and regulatory requirements is a must.

Bottom Line: Do the right things, the right way, and plan safety into everything you do.



The "101 Critical Days of Summer" do not have to be our most hazardous time of year — ACC's record for FY02 is in the hands of each and everyone of

us. Mishaps are preventable. We all must do our part to promote safety. Do it for yourself and your family. Have an enjoyable and safe summer.

IMPORTANT SUMMER SAFETY TIPS

PERSONAL RISK MANAGEMENT

Think before you act.

SEAT BELTS SAVE LIVES

Enough said.

DON'T DRINK AND DRIVE

More than half of the fatal motor vehicle mishaps involve speed, no seat belts, or alcohol.

The limit in most states is 0.08.

REMEMBER THE SWIMMING RULES

Never swim alone and don't dive into unfamiliar waters. The temperatures in rivers, lakes, or the ocean can result in hypothermia.

WEAR A PERSONAL FLOTATION DEVICE WHEN ON THE WATER

Life jackets won't save your life if they are not worn or not worn properly.

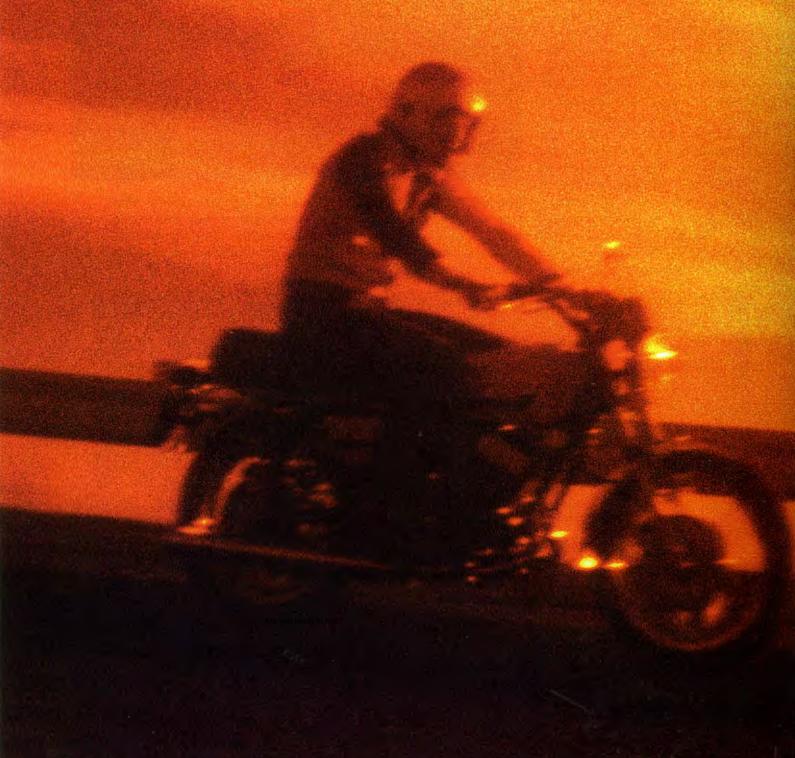
DON'T OPERATE A BOAT WHILE INTOXICATED

It is illegal to operate a boat under the influence of alcohol.

SET THE EXAMPLE

Convey your knowledge and share your experiences with our younger folks.

Are You Re



ady to Ride?

By MSgt. Terry V. Haskew, Edwards AFB, Calif.

ep, those fabled "101 Critical Days of Summer" are sneaking up on us again. With the mild winters and mostly dry spring weather, a good deal of motorcyclists here in California ride year round. Even so, the summer brings with it a whole new realm of safety issues to tackle.

If you haven't already done so, it would be a good time to give the bike a checkup to make sure it is in safe operating condition. It's not fun to be stranded on a scenic, sparsely traveled road because of a mechanical problem. The obvious items can be checked without exhausting a great amount of time or expense. Lights, including turn indicators, should be working properly to allow other road users a chance to see you and understand your intentions for changing directions. We definitely want that tailgater to know when we are stopping, don't we?

In addition, tires and wheels should be checked for damage or excessive wear. Some roads can eat up tires usually before their normal service life if you are riding in extreme heat conditions. That is why you see all those Road Alligators (separated tire treads) along the freeways. Don't wait until your tread wear indicators tell you to buy new tires; procrastination can be deadly.

Check your Motorcycle Owner's Manual or MOM for specifications on other various items. Of course adequate fluid levels are a must. Fuel, battery electrolyte, oil, and — if you have a water-cooled engine — coolant levels need to be maintained. These need to be checked more frequently as the temperatures rise. Don't forget the

brakes, clutch, and throttle for proper operation and lubrication. Look at the overall condition and make sure all hardware is in place and secured.

So much for the bike, what about the operator? As with any ride, at any time, mental preparation is vital. Staying mentally alert means avoiding alcohol and drugs neither mixes with a motorcycle to produce safe operation. If you've had one too many the night before you ride, on the day of your ride your mental and physical state can still be altered by the resulting dehydration (i.e., hangover). Enough said. Don't do it! What you do need to do is plan your ride and know where your scheduled stops will be made. Riding alone may not be the best way to go if you're out for a considerable length of time on back roads. If this is unavoidable, let someone know what your route will be and when you expect to arrive at your destination.

Know what to wear while riding. This includes a Department of Transportation or equivalent approved helmet, impact-resistant eye protection, brightly colored long-sleeved shirt or jacket, full-fingered gloves, long pants, and sturdy footwear (preferably with over-the-ankle protection). Properly fitted clothing should make the ride more comfortable. Long sleeves and pants keep the sun from scorching your skin, which is hard to notice because of all the wind you experience as you are riding. Brightly colored clothing will also help protect your skin by deflecting the sun's rays and reducing their effects. Long sleeves and pants will also reduce the severity of injury in the event of a mishap.

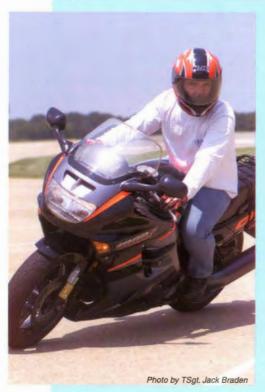
Do not forget to **hydrate** yourself before and frequently during the ride. If you start to notice the signs of dehydration (i.e., decreased coordination, fatigue, and impaired judgment), it is already too late. Carry a water bottle, or other type of water

carrying device such as a Camelback, on every ride.

If it has been a while since you last attended a Motorcycle Foundation course, it is a good idea to take another one. The class may refresh your memory on how to manage the risks involved in

riding. It will also help to refine some of those not-so-good habits you may have developed over time.

These tips should make your riding experience more enjoyable this summer as well as keep you around for the next "101 Critical Days of Summer."



free weekend! Time to dust off the old Harley, head out of town, and start feeling that wind whistling through your hair. STOP! Back up!! Before you ride off into the sunset on your hog, take a look at the Personal Protective Equipment (PPE) requirements for motorcycle riding. "But I was born to be wild — I don't need any stinking PPE." Sorry Peter Fonda, here's the skinny on requirements.

First of all, these requirements are not legislated by your local base or the Air Force. The Department of Defense (DoD) publishes them. Air Force Instruction 91-207, Air Force Traffic Safety Program, com-

Born to be Wild — Not Unsafe

By TSgt. Jeffrey A. Bark, Nellis AFB, Nev.

mand, and local supplements are merely source documents for the DoD directive. Secondly, if you are a military member, you must comply with the requirements both on and off base. This applies whether you are operating the motorcycle or riding as a passenger. If you are a civilian, you must comply with the requirements while operating your motorcycle on any military installation. Yes, that includes dependents, contractors, and DoD civilian employees.

So what do these requirements actually say? Well, here is the list:

- Complete a motorcycle safety course that includes hands-on training and evaluation (i.e., Course IVA — "Riding and Street Skills" or Course IVB — "Experienced Rider Course"). You must have proof that you have received this training.
- Wear a helmet approved by the Department of Transportation, Snell Memorial Foundation, or the American National Standards Institute.
- Turn your headlight on and leave it on while riding — day and night.
- Have rearview mirrors installed on the motorcycle.

- Wear impact-resistant goggles or a full-face shield on your helmet.
- Wear a brightly colored or contrasting vest or jacket as an outer garment in the day and a reflective one during the night. The orange reflective vest complies with this requirement.
- Wear a long-sleeved shirt or jacket, full-fingered gloves or mittens, and long trousers.
- Wear sturdy footwear. We encourage these to be leather boots or over-the-ankle shoes. Sandals are not sturdy footwear.

Are these rules really necessary? Yes. If you think these requirements are an invasion of your civil rights, remember that you are a vital part of the Air Force team and we need each of you to accomplish the mission. Motorcycle PPE helps you reduce the risks involved with motorcycle riding. Please comply with the requirements. They will help you stay safe and make it possible for you to relive that "born to be wild" experience over and over. If the PPE helps keep just one of you from becoming a motorcycle accident statistic, it's all worth it.

Climbing Safety:

Check, Double-Check

By Mr. Daniel M. Rodriguez, Peterson AFB, Colo.



he weather is nice again and the local crags are calling your name. You've spent all winter in the gym honing your skills, and now you're ready to test yourself on real rock — you've had enough plastic rock wall climbing practice! However, let's not forget climbing is a dangerous sport, so safety is very important to your survival. Here are the 1-2-3 rules that might save a life — YOURS!

1. Check and double-check your tie-in knot (leave a minimum 6-inch tail and tie off the loose end).

2. Check and double-check that your harness is buckled properly with the webbing doubled back and there is at least a 3-inch tail.

3. Check that the rope passes through both the leg loops and the waist belt of your harness.

Check points 1, 2, and 3 on your partner.

Here are some other pointers to consider as well. Once tied into the rope, NEVER untie until you are absolutely safe. When climbing, be careful not to dislodge loose rock. It is also important to not assume a flake is solid just because it is on an established climb. Be especially careful at the top of routes and do not relax your vigilance once you reach the top. Equally important is not standing around the base of the cliff if you are not belaying. This will limit your chances of being hit on the head.

Consider wearing a climbing helmet on routes with lots of traffic and loose rock. Do not drink and climb (or drink and belay). Know how you will get down before you start up. Check the weather forecast before leaving for the rocks because lightning is no fun on a ledge 100 feet off the deck!

Finally, know your limits! A 5.10 in the gym is not the same as a 5.10 on the rock. To learn the difference, take a climbing class. A class will also teach you how to tie knots and place equipment. Know the history of your gear, especially vour rope. Do not borrow gear unless you know it is safe — CHECK IT OUT. It also really helps to know some basic first aid. It is very important that you tell someone where you will be and when you will be back. Bottom line: be responsible for your own safety and look out for everyone else's safety

HAZARDS ARE REAL. Below is a synopsis of a mishap that occurred during the 3rd week of our 101 Critical Days Campaign in 2001.

An active duty staff sergeant from a northern tier base fell 30 feet from a cliff while rock climbing. He was air-evacuated to a regional hospital and sustained what could be a lifetime of hurt and pain as he reportedly suffered a fractured neck and back.

While individuals with these kinds of injuries sometimes recover, they will always have lifelong aggravating reminders of a recreational activity that did not go well. Rock climbing has become a sport that requires only one slip and as the saying goes: "the rest is history."















30

FY02 Air	craft	As of April 1, 2002	
	Fatality	Class A	
8 AF		A A*	
9 AF		HH-00	
12 AF		*	
AWFC		♣* ★* ★** ★****************************	
ANG (ACC-gained)		+	
AFRC (ACC-gained)			

FY02 Ground			As of April 1, 2002	
	Fatal	Class A	Class B	Class C
8 AF	***	2	2	61
9 AF	111	0	2	50
12 AF	111	0	0	94
DRU	11	0	0	14

FY02 Weapons		As of April 1, 2002	
	Class A	Class B	
8 AF	0	0	
9 AF	0	0	
12 AF	0	0	
AWFC	0	1	

Aircraft Notes

Congratulations on another Class A mishap-free month! Again, after a dismal start to the year we have been able to keep more assets flying and doing the mission. Operations have not slowed down and, in some cases, have increased. A tremendous thanks to all the maintenance professionals that keep the aircraft flying and to the aviators that keep bringing them back. However, we almost had a repeat of January's tragic midair collision between a FAC and fighter aircraft. Luckily, this time both jets made it home with minor damage valued in the Class C range. Vigilance must be maintained during all phases of flight and we must learn from mistakes made in the past to prevent future mishaps.

Ground Notes

ACC experienced two Class A fatal mishaps and a Class A permanent total disability during the month of March. This brings the total Class A mishaps to 14 just halfway through the fiscal year. Last year, we had eight Class A mishaps at the halfway point and 16 for the year. Speed, lack of seat belt use, alcohol, and fatigue continue to be contributing factors.

Weapons Notes

Thankfully, no significant mishap events have occurred for this last reporting period. An overall analysis of all mishaps to date shows that there have been the same number of personnel, equipment, and unknown causes. While the causes are even at this point, emphasis should remain on preventing personnel errors. Traditionally, they have contributed to 98 percent of all events.

Legend

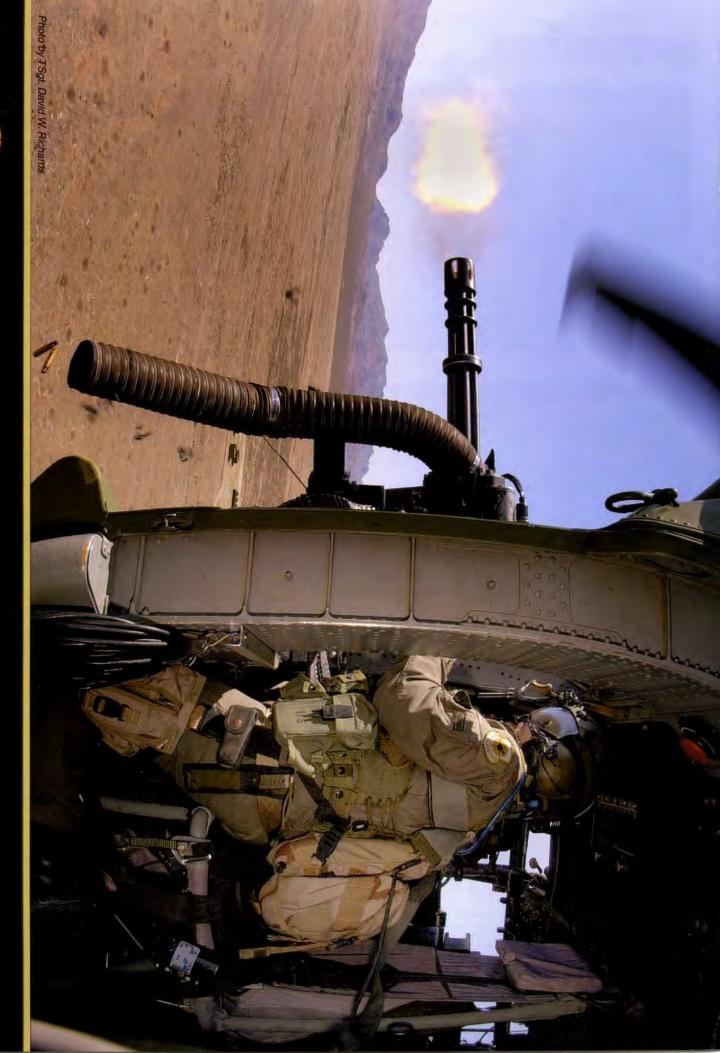
Class A - Permanent Total Disability; Property Damage \$1,000,000 or more

Class B - Permanent Partial Disability; Property Damage between \$200,000 and \$1,000,000

Class C - Lost Workday; Property Damage between \$20,000 and \$200,000

* Non-rate Producing







SrA. Ryan Renuart, an HH-60G Gunner assigned to the 66th Rescue Squadron, Nellis Air Force Base, Nev., engages targets downrange during a search and rescue training exercise involving Navy, Army, Air Force, and Marine personnel.

