

The Combat EDGE

August 2001

Heat Stress

Recognize the Signs

The Combat EDGE

Volume 10 Issue 3, ACC SP 91-1

GENERAL JOHN P. JUMPER, *COMMANDER*

COL. GREGORY A. ALSTON, *CHIEF OF SAFETY*

4

Heat Stress

10

In the Hot Seat

14

Flying Safe on
Your Own Dime

22

Bicycle Safety —
The Pain You Save
May Be Your Own



22



4



14



26

www2.acc.af.mil/combat-edge/

26

Don't Worry ... I
Can Handle It!

28

Horse Sense

Departments

Safety Shorts.....18

Safety Salutes.....19

Fleagle.....30

Safety Stats.....31

MAJ. REBECCA COLAW
EXECUTIVE EDITOR

MAJ. DANIELLE COLEMAN
EDITOR

MS. BARBARA TAYLOR
ASSOCIATE EDITOR

SSGT. NEIL ARMSTRONG
DESIGN & LAYOUT

TSgt. JACK BRADEN
ASSOCIATE PHOTO EDITOR
1ST COMMUNICATIONS SQUADRON

The Combat Edge (ISSN 1063-8970) is published monthly by Air Combat Command, HQ ACC/SEM, 175 Sweeney Blvd, Langley AFB VA 23665-2700. Send address changes to the same address.

DISTRIBUTION: F. OPR: HQ ACC/SEM. Distribution is based on a ratio of one copy per 10 persons assigned. Air Force units should contact *The Combat Edge* staff to establish or change requirements.

ANNUAL SUBSCRIPTIONS: Available to non-DoD readers for \$47.00 (\$58.75 outside the U.S.) from the Superintendent of Documents, PO Box 371954, Pittsburgh PA 15250-7954. All subscription service correspondence should be directed to the Superintendent, not HQ ACC/SEM.

CONTRIBUTIONS: Please send articles, with name, rank, DSN phone number, e-mail and complete mailing address and comments to:


Editor, *The Combat Edge*
HQ ACC/SEM
175 Sweeney Blvd
Langley AFB VA 23665-2700

Telephone: (757) 764-8808
DSN 574-8808
FAX: (757) 764-8975

email: danielle.coleman@langley.af.mil

The editors reserve the right to edit all manuscripts for readability and good taste.

DISCLAIMER: This magazine is an authorized publication for members of the DoD. Contents of *The Combat Edge* are not necessarily the official views of, or endorsed by, the U.S. Government, the DoD, or the United States Air Force. Information contained in any article may not be construed as incriminating under Article 31, UCMJ.

 Denotes images digitally manipulated.

ACCent on Safety

SA-WA-DEE

My assignment to the Pentagon is confirmed, and the time has arrived for me to move on. I cannot adequately describe how much being the Chief of Safety has meant to me. I truly believe in safety, and I believe in the people of Air Combat Command (ACC).

While I certainly hope I have made a difference during the past 2 years, I know for a fact that all of you have made a big difference. Our mishap numbers are down between 50 and 60% in flight Class A mishaps and ground mishap fatalities — congratulations! Such success takes the whole team: the Commander of ACC, commanders, supervisors and, very importantly, you ... the individual. Ultimately, each of us has the final choice over our actions. We make the choices to either drive the speed limit or speed, to buckle-up or assume the risk (and result) of not fastening our seat belts and the list goes on. Every activity at work or play involves your final choice. The fact that our mishap numbers are way down says that ACC people are making the right decision much more often.

My parting words involve my sincere hope that you consider these three simple truths for successful safety:

1. Awareness is key. Make yourself (and others) aware of how you can be injured or killed, then take steps to eliminate or avoid those hazards (risk management)
2. Safety/Risk Management is a full-time job, 24 hours a day, 7 days a week. If you slack off the awareness effort, mishap rates will spike, guaranteed.
3. It takes the whole team to win at safety. Safety is everyone's business. Commanders set the tone, but ultimately each individual must do the right thing.

Pretty simple ... all you have to do is choose to live — that means be careful and be aware. I wish all of you the very best success on the safety front — live long and prosper.



Col. Greg "Vader" Alston
ACC Chief of Safety



Heat

By 55 AMDS Bioenvironmental E
and Capt. Monte Ander

Heat stress is a combination of direct environmental variables (mainly temperature and humidity), work rate and clothing requirements. These factors combine with indirect acclimatization and physical conditions to increase body temperature and cardiovascular demands. Acclimatization

to heat involves a series of physiological and psychological adjustments that occur in an individual during the first week of exposure to hot environmental conditions. Extra caution must be taken when workers who are not acclimated or physically fit must be exposed to heat stress conditions. The greater the heat stress is on these workers, the

greater the resulting physiological strain. Heat stress can diminish performance and adversely affect health and safety. Most heat-related injuries can be avoided if people are aware of their environment and can recognize heat stress symptoms.

The three types of heat-induced illnesses include heat exhaustion, heat strain and



Stress

Engineer Flight, Offutt AFB, Neb.
son, Beale AFB, Calif.

heatstroke. Transition from one to the next can be very evident, hardly noticeable or not evident at all.

Heat exhaustion is when the body temperature is between 101 and 104°F. It may cause fatigue, nausea/vomiting, cramps, rapid, shallow breathing and fainting. The skin is pale, cool, clammy and moist with profuse sweating,

and the pulse rate is weak. In its most serious form, heat exhaustion leads to prostration and can cause serious injuries.

Heat strain is when the body temperature is between 99.5 and 100°F. It reduces performance, dexterity, coordination and alertness. Incidence and severity will vary among people.

Heatstroke is when the body temperature is greater than 104°F. It is the most serious heat-induced illness because of its potential to be life threatening or result in irreversible damage. Heatstroke results from the body losing its ability to lower its temperature. The heatstroke victim is often manic, disoriented, confused, delirious or



A military member (above) takes a heat index reading from a wet bulb globe temperature index calculator during a recent exercise. unconscious. The victim's skin can be hot and dry because sweating has ceased. If treatment is not immediate, the victim's condition can deteriorate to convulsions, brain damage and eventual death. Immediate emergency care and hospitalization are essential if signs of heatstroke develop. Cool down by any method available and transport to the nearest medical facility for treatment.

Assessment of heat stress can be conducted by measuring

the physical factors of the environment. The commonly used area monitoring measurement is Wet Bulb Globe Temperature (WBGT). This index relates atmospheric effects to heat stress in outdoor and harsh industrial environments.

PHYSICS OF HEAT

According to thermodynamics, and a great deal of paraphrasing, heat is transferred in three ways: radiation, convection and conduction.

Radiation — This refers to heat that is exchanged from distant objects (like solar radiant heat or a heater in a room). Certain objects, depending on color and composition, retain and continue to radiate heat (like asphalt, rocks or dark clothing).

Convection — This refers to the relative movement of air that increases heat exchange. This method is used in convection ovens to cook food efficiently and evenly. Air movement when the temperature exceeds body temperature may increase heat stress. Imagine again your convection oven. Fans cannot cool a person when the temperature exceeds 90°F and humidity is greater than 35%. Fans have actually caused heat stress when the temperature is above 100°F. During

outdoor activity, certain types of clothing limit the relative wind across the skin, restrict evaporation of sweat and add a layer of trapped air as insulation.

Conduction — This refers to the direct contact with objects allowing heat exchange (i.e., touching a hot iron). Good thermal conductors transfer heat quickly. Sit on a hot metal playground slide wearing shorts and you will clearly understand conduction.

Humidity is an environmental factor that makes it "feel hotter." As the relative humidity increases, evaporation is inhibited, reducing the effectiveness of the body's natural response to heat. This makes it feel much hotter than the actual temperature reflects. Meteorologically speaking, this is the heat index. The heat index, similar to wind chill in the winter, establishes an apparent temperature by comparing either temperature/relative humidity (see heat index chart) or temperature/dew point.

As physical activity increases, so does the amount of muscular heat produced in the body core. The more you move and exert yourself, the more heat your muscles produce. This is why one uncontrollably shivers during very cold temperatures, heat exhaustion or even heatstroke, as the body can no longer maintain a safe core temperature.

PHYSIOLOGICAL RESPONSE TO HEAT

Skin plays a central role in maintaining a constant body temperature of 98.6°F (37°C) in two ways. First, capillaries in the skin exchange heat with the environment. In hot weather, these capillaries dilate (cutaneous vasodilation), allowing increased blood flow and heat exchange along the surface of the skin through both conduction and convection. Besides sunburn, this is the reason skin appears red during exercise or hot weather. Second, the skin aids

Follow these Steps to Prevent Heat Stress Problems

1. Get adequate rest at night.
2. Eat before going to work; our bodies need fuel to properly function.
3. Dress appropriately for the weather; a long-sleeved shirt, long pants and a wide-brimmed hat give the best protection from the sun. Clothes made of cotton are cool and allow air to circulate on the skin surface.
4. Use sunscreen on exposed body surfaces.
5. Drink 1 liter of water per hour during the day. Most heat disorders are caused by dehydration. Our bodies lose water from sweating so the water lost must be constantly replaced. Do not drink beer or other alcoholic beverages; the alcohol dehydrates rather than rehydrates the body. Avoid caffeine (like cola or coffee) as it increases water loss and promotes dehydration. Heat-acclimatized workers lose much less salt than workers who are not adjusted to the heat. If salt replacement is required, the best way to compensate for the loss is to add a little extra salt to food. Salt tablets should not be used.
6. Take breaks to cool off and rest. This will extend your energy. If you feel dizzy, weak or overheated, stop working and go to a cool place. Sit or lie down, drink water and wash your face with cool water.
7. Always keep an eye on friends, family and co-workers; be prepared to intervene if they seem to be having trouble with heat stress.
8. Call an ambulance immediately if heat stroke is suspected. Place the person in a cool or shady area; fan to promote cooling; remove or loosen the person's clothing and sponge the skin with cool water.

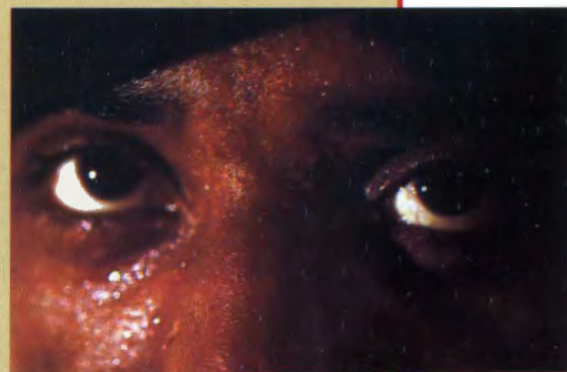


Photo by James Watson



in cooling the core temperature through evaporation. When body temperature increases above 98.6° F, the body actively secretes sweat, containing water and salt from sweat glands in the skin, increasing evaporation and heat loss. Similarly, the exchange across the capillaries of the lungs and the release of water vapor through

respiration regulate body temperature.

Additionally, the body reacts in several other ways to decrease body core temperature. The body decreases metabolic rate, thereby lowering metabolic heat production in the body core. In hot weather, behavioral reactions decrease internal temperatures. For example, people

naturally become lethargic and tend to rest or lie down. This decreases heat production and increases heat loss to regulate body core temperature.

On a normal day, the body loses approximately 2 liters or a 1/2 gallon of water as imperceptible evaporation from the skin or during respiration. During hot weather and during strenuous physical activity, perspiration increases the rate of water loss. As the body loses water, its ability to regulate temperature is greatly affected. On very hot days and during exercise, by the time you recognize the feeling of thirst it may already be too late! You may not be able to overcome your hydration deficit with continued exposure or physical activity. As one becomes more dehydrated, there is not enough water volume in the body for adequate circulation and thermoregulation. Prolonged dehydration can lead to heat exhaustion or even heatstroke, as the body can no longer maintain a safe core temperature. You should drink plenty of fluids 30 to 45 minutes before exercise and then approximately a cupful every 10 to 15 minutes during exercise.

PREVENTION

There are several things you can do to prevent heat stress injuries.

Stay hydrated. Drink plenty of fluids 30 to 45 minutes before exercise and then a cupful every 10 to 15 minutes during

<i>Condition</i>	<i>Symptoms</i>	<i>First Aid</i>
SUNBURN	<ul style="list-style-type: none"> • Red skin, sore to touch • Severe burns include swelling blisters, and fever 	<ul style="list-style-type: none"> • Cool bath or shower • Aloe Vera lotion
DEHYDRATION	<ul style="list-style-type: none"> • Thirst, dry mouth • Decreased urine output and dark color 	<ul style="list-style-type: none"> • Drink water or electrolyte drink
HEAT RASH	<ul style="list-style-type: none"> • Red bumps/rash 	<ul style="list-style-type: none"> • Cleanse • Dry thoroughly
HEAT CRAMPS	<ul style="list-style-type: none"> • Muscle cramps, twitching or spasms 	<ul style="list-style-type: none"> • Rest • Drink water or electrolyte drink
HEAT EXHAUSTION	<ul style="list-style-type: none"> • Headaches, dizziness, weakness, goose bumps, profuse sweating or shortness of breath <p><i>(Body core temperature is usually 100-104°F)</i></p>	<ul style="list-style-type: none"> • Rest in shade or cool area • Drink water or electrolyte drink • Seek medical advice
HEATSTROKE	<ul style="list-style-type: none"> • All of the above, plus ... • Disorientation, confusion, absence of sweating, loss of consciousness, coma or death <p><i>THIS IS A MEDICAL EMERGENCY</i></p> <p><i>(Body core temperature is usually > 104°F)</i></p>	<ul style="list-style-type: none"> • Douse body in cool water <p><i>GET IMMEDIATE MEDICAL AID</i></p>

exercise. Drink non-alcoholic beverages. Water or sports replacement drinks are the best way to replenish your fluid deficit. Alcohol and caffeine will promote dehydration.

Wear light colored, loose fitting clothing. Moisture wicking fabrics will help evaporation and keep you cooler than heavier fabrics that retain heat. Also, wearing a hat and sunglasses will prevent sunburn, making you feel much more comfortable in the outdoors.

Allow yourself time to acclimate to the heat. Gradually build your heat tolerance in warmer weather. It may take

several weeks before you can perform moderate to heavy tasks in higher temperatures. A heat-acclimated person may perspire more than twice as much as an unacclimated person, allowing them to better regulate body temperature.

Physical conditioning is very important as to how your body reacts to heat. Individuals with a higher oxygen uptake are more tolerant of heat than those with lower fitness levels. Also, fat is a great insulator. Extremely obese people are six times more likely to suffer heat-stroke than thin people.

Finally, avoid the heat whenever possible. Plan your activities to avoid the hottest part of the day or stay in the shade. Limit outdoor activities during humid days (high heat index).

Understanding the physics and physiology of heat is vitally important when it comes to safely enjoying any summer-time activity. Be familiar with the symptoms of heat stress disorders and know the proper first aid — for yourself and those around you. Allow time to acclimate to the heat and use proper prevention measures. Now get outside and stay cool. ►

It's August and, for most fighter pilots, wearing all that life support gear is hot — *really hot!* In fact, several of you have been expressing what you really think about wearing the Combined Advanced Technology Enhanced Design "G" Ensemble (COMBAT EDGE or CE). While the comments have been wide-ranging, the bottom line is that many of you believe that CE has added to your thermal burden, caused more dehydration and made your job more dangerous because of the increased heat stress.

The logic behind your comments is sound. If you get hot, you perspire which is the body's cooling mechanism — via evaporation. The more you sweat, the more dehydrated you become. The more dehydrated, the less

date the staff expend the effort to figure out just what the thermal load attributable to CE really was.

When the Air Force's experts told us that there were no studies to date that specifically looked at this issue, everyone decided they wanted more proof since so much was at stake. The Air Combat Command (ACC) staff decided to conduct a straightforward experiment that compared the thermal burden with and without CE. The Air Force Research Laboratory (AFRL) was asked to assist in the research and the effort was put onto a fast track to quickly provide the field with a scientifically rigorous and accurate answer, which could be used to formulate Combat Air Force's (CAF's) policy on this issue.

In the "Hot" Seat

By Col. Peter F. Demitry, Langley AFB, Va.

blood volume is available to the heart to generate the perfusion pressures necessary to keep you conscious under G. Your blood pressure will fall. As corroboration of this physiology certainty, your heart will beat faster to compensate for dehydration.

In fact, many will have resting heart rates over 100 if they suddenly lost just 5 to 6% of their body weight from sweating. Because it is harder for the heart to maintain adequate pressures, this promotes decreased G-induced Loss of Consciousness (G-LOC) tolerance. All of this means your arguments were physiologically compelling enough to man-

To mirror what crews were doing on flight lines every day, fighter crew validation of each step of the process became essential.

Each squadron and wing that submitted concerns was invited from throughout the CAF to assist in the writing and reviewing of the experimental protocol, as well as being there on-site ensuring there were no anomalies in methodology or data collection.

In this way, we reasoned, it would be your protocol and the outcome would likewise be yours and compelling. And, of course, we needed volunteers. Crews consisted of both male and fe-

males from all the fighter types with ages from 22 to 48. They included lieutenants through colonels, wingmen to wing commanders (really!).

Each rated crew volunteer was matched with another test subject from the lab doubling the total sample size, which provided good statistical power for you scientist "wannabes."

The experimental design was simple. After baseline G-tolerance testing, crews were asked to enter a thermal chamber, which



Photo by TSgt. Jack Braden

simulated a severe summer scenario (i.e., no shade, no wind, 95° F temperature and 85% humidity). They were exposed to 20 minutes of these uncomfortable conditions while walking 2.5 miles per hour on a treadmill. This simulated the walk to and preflight of their aircraft, which met criteria for "Condition Black" in the old Fighter Index Thermal Stress or FITS jargon.

Crews admitted it was plenty hot and correctly represented a

hot day on the ramp. The crew was then strapped into an aircraft seat next to the treadmill, donned their helmets, masks and flight gloves after which the chamber temperature was linearly decreased (to 70° F and 40% humidity) representing the cooling and drying expected in flight. After the environment was cooled, subjects were then quickly moved to the awaiting centrifuge where resting G-tolerances were evaluated to determine what effect the dehydration

had on them.

Several metrics were used to measure dehydration, skin temperature, core temperature and heart rate. Each subject went through the entire setup twice, once wearing the Standard Flight Equipment (SFE) with CE and once wearing the SFE without CE (no pooppy suits in either condition).

Individual core temperatures reached 100.6° F regardless of whether the crews wore CE or not. Skin temperatures were

Each rated crew volunteer was matched with another test subject from total sample size, which provided good statistical power for you scien

within a fraction of a degree and were not statistically different under either condition. **Conclusion:** Crews *do* get hot, but CE *did not* make it worse.

It might help to know that core temperature controls sweating and dehydration while skin temperature controls how we feel. In fact, we really are not aware of our core temperature at all, but when skin temperature rises, we feel hot due to heat proprioceptors in the skin.

A previous study done several years ago by Col. Rod Vanderbeek, an F-16 pilot physician, corroborated earlier AFRL work showing that aircrews could not reliably report when their core temperature was elevated, but subjective complaints tracked skin temperature. That means when our skin overheats we report being hot, but that alone does not cause the more important core changes. Once core temperature rises, sweating starts, dehydration ensues and we are removing some of our G-G-forces. LOC buffer.

Under both conditions, crews were losing an average of 2.4 lbs or 1.3% of their body weights. The fractional differences between wearing and not wearing CE were not statistically significant either. Blood tests further corroborated the same information. **Conclusion:** Crews *are* becoming dehydrated, but the dehydration *is not* made worse by wearing CE.

Also crews experienced a 9% decrease in resting G-tolerance when they were not wearing CE under these dehydrating hot conditions. This may make more sense if you recall that under both conditions, you will lose about 2.4 lbs of fluid from the heat. Your heart will be working harder to generate the pressure wedge to keep blood pressure constant. CE increased blood pressure around the heart and neck when it kicked in after 4 Gs. **Conclusion:** The data strongly makes the case that current life support gear will dehydrate crews in hot conditions *and* once dehydrated, crews gain an addi-

tional 9% of resting G-tolerance when they are using CE. Remember, this is your data, generated by fighter crews in conditions that they acknowledged were realistic.

What does all this mean operationally? Crews, myself included, feel that all this life support gear is too darn hot in the summer. The data shows that current gear will raise core temperature, but CE really does not add any significant burden than what we are getting already. Since we will fly with some level of dehydration, the data shows that we are better protected with CE than without for G-tolerance.

Another very interesting and pertinent piece of science is this: Once your body core temperature rises, your body will stay overheated for nearly 2 hours even if the ambient temperature is returned to cooler temperatures. This means that once you overtemp your body on the walk around, even if your airplane gave you cooling air as soon as you started engines, you would not return to your physiological normal core temperature for nearly 2 hours. For some of you, that means you will be on short final, and for others (i.e., on F-15 Basic Fighter Manuevers) you will be well into the debrief before your body recovers from the heat load it received prior to engine start. That should be sobering. If we cannot stop the thermal load from hitting you during step, preflight and engine start, we have lost the battle.

Some short term suggested solutions are to carry the CE vest to the jet before donning as well as arranging for buddy preflights during extreme periods.

1Lt. Heather M. Alexander (below) sits in the gondola at the physiology chamber and completes her paperwork before testing the CE G-suit and its ability to tolerate various G-forces.



Photo by Mr. Bobby Burnes

the lab doubling the
t “wannabes.”

During other extreme periods, operational risk management would mandate altering the flight schedule to take advantage of the cooler portions of the day. Air-conditioned crew vans make a lot of sense, as does aircraft cockpit shading.

Remember, adequate hydration prior to step is a must. You will not even feel thirsty until you are 2 to 3 liters down. I became very concerned when I learned that several crewmembers were purposely dehydrating themselves during surge days in an effort to preclude having to relieve themselves during or between sorties. This is a dangerous practice, especially on hot days. Some of you are dehydrating yourselves nearly 1 to 2% before ever stepping

into the cockpit. Your body will drop another 1.3%, which takes your dehydration state somewhere near 3% of your body weight. With this much volume depletion, you are removing lots of cardiovascular reserve to respond when you make your break turns. Not only are you placing yourself in a significant tactical disadvantage, but you are also taking safety risks that could cost you your life through

a G-LOC. This is not a hypothetical problem, but a real hazard for anyone who has not gotten the word. Life support shops have several approved options for finding good urinary relief solutions for everyone. The bottom line: It is up to you to stay cool and do smart things the next time you step into the “hot” seat! For more experiment details, go to <https://wwwmil.acc.af.mil/dr/staff/drx/drx.shtm>. ►



Photo by TSgt. Lance Cheung

Fighter pilots step into a van that will take them to their F-16 “Fighting Falcons” for a late afternoon sortie.

COMBAT EDGE Technology

COMBAT EDGE or CE technology came along at a time when the Air Force was experiencing a large number of G-LOC-related incidents. Several initiatives were implemented to combat this hazard. This included fielding CE technology, physical conditioning and centrifuge training. In the past few years, there has been a downward trend in G-LOC-related incidents. The reasons for this trend may be multi-faceted and it is not known how much may be directly attributable to the CE ensemble. With this in mind, it is important to note that CE was

fielded mainly for sustained G-tolerance, not upper end tolerance. The CE concept originated from theoretical work in the late 1970s, which showed that assisted positive pressure breathing would enhance aircrew G-performance by decreasing the intensity and fatigue from the Anti-G Straining Maneuver (AGSM). The CE vest is a pneumatic torso jerkin, which provides counter pressure to the chest walls and offsets increased oxygen pressure being simultaneously delivered to the lungs. This combination (jerkin and pressure breathing) increases blood pressure around the heart, neck and head. This increase enhances perfusion of the brain under G-forces and allows

decreased straining effort; the combination of pressure breathing and jerkin counter-pressure can also compensate somewhat for a poorly executed strain, which can occur with aircrew fatigue. Since positive pressure breathing is tiring just in itself, the CE ensemble helps reduce the effort needed to exhale. A properly executed AGSM remains absolutely essential to offset G-LOC!



Photo by TSgt. Jack Braden

Flying Safe on Your Own

By Maj. David P. San Clemente
Barksdale AFB, La.

With summer weather rapidly approaching, many of us — especially those of us with “clipped wings” on the staff — look to the local Fixed Base Operator (FBO) or aero club for some “real” stick and rudder flying. We dust off our civilian tickets or make the decision to finally get one, but then realize that the days of an aero club on every

base are gone. Where are we supposed to go now? The answer to this question is worth discussing in more detail since it will be one of those situations where the following saying applies, “You pay your money and you take your chances.”

If an aero club is available, flying with them will probably reduce your element of chance while increasing your safety. Safety stats show that

you are twice as likely to have a mishap at a local FBO than with an aero club. Does this mean FBOs are unsafe? No, not necessarily, but there are differences between the two. First, local FBOs do not have the benefit of an Air Force-supported safety and inspection program. Also, aero clubs tend to be populated by both instructors and students with high-time military backgrounds. Finally, aero clubs require a membership. Joining means an instructor will review your background to tailor your training to your



Photos by TSgt. Jack Braden

...when entering an FBO and looking at their aircraft, does the op

own Dime

capabilities and needs. Many military pilots new to civil aviation find the military style of training and evaluation to be excessive and you hear things like, "I just want to hop in and fly, it's not like I'm buying it!" It is important to remember, however, that these same "annoyances" are the same reasons aero clubs tend to be much safer than local FBOs.

At this point, you might be saying to yourself, "Thanks for the advice, but I don't live near an aero club!" Well, there are some practical things to look for when shopping the FBO scene for the one that is right for you. First, when entering an FBO and looking at their aircraft, does the operation *look* professional? Do they have organized aircraft logs and operating manuals? Do they have local flight hazards posted? Do they have any type of safety poop laying around or posted on a bulletin board? The Federal Aviation Administration (FAA) produces all kinds of civil safety documents discussing the latest light aircraft mishaps and "nice-to-know" info. Do they have FBO safety meetings? Very few actually do because they rely on the FAA programs to enlighten the masses.

operation look professional?

When perusing the flight line, does it resemble a professional flying operation? Do the aircraft appear well maintained? Are they clean or covered with grease, dirt and oil? Are there large "oil" spots around the aircraft? When you look inside, does the aircraft look like a throw away from a bad "barnstorming" movie or is it neat with clean gauges and the proper operating certificates?

When discussing training with the instructors, is there a "Don't worry about it" attitude or do they have established training programs? Since you are, perhaps, a high-time military aviator (i.e., someone with over 3,000 hours of multi-engine jet time) do they assume — as you probably do — that it will be no problem flying that bug smasher? Do you assume that because your A-10 can fly inverted, a C-172 can as well? Whether you are an F-15 or a B-52 pilot, those 3,000 hours will avail you very little when the one propeller you have stops turning. As with all air-

craft, it takes good training and practice.

Regardless of where or what you fly, look for some key elements: a thorough checkout program, mandatory safety meetings (what did you expect, a safety guy is writing this article) and a strict adherence to the federal aviation regulations and FBO guidelines. Remember, most of us can always rely on the good 'ol ACES II ejection seat when things get really ugly in our military flying — just ask your closest F-16 guy. But you will discover that Cessna just has not quite gotten around to that mod of the C-172s. Fly Smart, Fly Safe! ►

Thomas Byrnum (above), Chief Mechanic for the Langley Aero Club, safety wires propellor bolts on one of the club's Piper Arrows.





F-16 Fight

Primary Function: Multirole fighter • Builder: Lockheed Martin Corp. • L
Speed: 1,500 mph • Ceiling: Above 50,000 feet • Range: More than 2,000



ing Falcon

Photo by TSgt. Jack Braden

Length: 49 feet, 5 inches • Height: 16 feet • Wingspan: 32 feet, 8 inches
Miles • Crew: F-16C, one; F-16D, one or two • Date Deployed: January 1979

Recalls

Chain Saw

Stihl Inc., is voluntarily recalling about 1,000 chain saws. The recalled chain saws are model number 019T with serial numbers 249129398 through 249956311. A label on the chain saw reads in part "STIHL" and "model number 019T." The serial number is imprinted on the front of the chain saw. Stihl dealers sold the chain saws from December 2000 through May 5, 2001 for about \$270. The reason for the recall is a missing screw can cause the chain brake to fail to operate, presenting a laceration hazard to consumers. So far no injuries have been reported. Consumers should stop using the recalled chain saw immediately and return it to the Stihl dealer where purchased for repair. For more information, contact Stihl Inc. at (800) 467-8445.



Child Table Seats

Child Table Seats — Inglesina USA Inc., is voluntarily recalling about 780 child table seats. The recalled table seat has a metal frame with a fabric cover, and connects to the edge of a table to allow a child to sit and eat at the table. The table seat does not have legs; instead, it is suspended in the air by clamps that connect to the underside of the table. The chairs come in blue and yellow and have the name "Inglesina" printed on the arms and the back of the seat. Department stores and toy stores sold the table chair from June 2000 through May 2001 for about \$50. The reason for the recall is that the seats were sold without a seat belt, posing a risk to children who climb out of the seat.



Consumers should immediately stop using the seats and call Inglesina USA toll-free at (877) 486-5112.

Child Strollers

Century Products Co., of Macedonia, Ohio, is voluntarily recalling about 650,000 strollers. The strollers can unexpectedly collapse or the car seat/carrier adapter can unexpectedly detach. When this happens, an infant or young child inside the stroller or an attached car seat/carrier can fall to the ground and suffer serious injuries.

Consumers should stop using these strollers and call Century toll-free at (800) 766-9998 anytime to order a free repair kit.



Model Name

Years Made

Take 2	2000
Travel Solutions	1999-2000
Pioneer	1998-2000
Travelite	1997-1998
Pro Sport	1996-1999

ACC Safety is Proud of All Our Award Nominees

SSgt. Edward Lawson
SrA. Nicholas Hovingh
A1C. Wilfred Clavell
Weapons Maintenance Crew
4 FS, 388 FW
Hill AFB, Utah

TSgt. David A. Demma
TSgt. Roy Santos
Aircraft Maintenance Technicians
442 MXS, 442 FW
Whiteman AFB, Mo.



Submit your Safety Achievers for awards!
Point of Contact is Barbara Taylor, DSN 574-8846, Commercial (757) 764-8846, fax 8975;
e-mail: barbara.taylor@langley.af.mil

Unit Safety Award of Distinction

Members of the 33rd Combat Communications Squadron deployed to the Southern Command's exercise NEW HORIZONS 2001 in Paraguay, which is a 300-person, multi-national, joint-service, nation-building exercise. Upon arrival, the team which consisted of 18 personnel and \$5.1 million in equipment, encountered the inherent dangers of working in a tropical jungle environment, 115°F temperatures with 90% humidity and hostile wildlife. Operational Risk Management (ORM) was seen in a new light when tarantulas, brown recluse spiders, snakes and even an inquisitive 6-foot alligator frequented the setup site. The team immediately instituted, with excellent results, strict work-rest cycles to prevent heat-related injuries. As a result, not a single person was injured during this potentially dangerous deployment. At the same time,



squadron personnel were deployed to another combat exercise, SITTING BULL 01-01, where they practiced safe and systematic equipment setup, as well as, effective command and control. Personnel were able to get the job done safely while maintaining 100% accountability for everyone's welfare. Despite the high operational tempo, high winds and dust, the squadron promoted safety through training and it showed in the end-of-the-month training statistics. During these exercises, the squadron ensured anthrax, suicide awareness, hearing conservation, fire extinguisher, chemical warfare, blood-borne pathogens, radiation hazards, lockout/tagout, anti-terrorism and bomb threat training was conducted for all personnel. The 114-member squadron reached between 95 and 100% qualification rating in all training areas even with 20% of the squadron deployed to three continents, Bosnia, Paraguay and Saudi Arabia. No hurdle is too big when safety is concerned. The 33 CCS truly lives up to its motto, "We Cover the World!" and they do it safely.

Aircrew Safety Award of Distinction

On June 1, 2001, the quick thinking and responses of Maj. Ed Redman and Capt. Dan Manuel distinguished their handling of a potentially catastrophic emergency in their T-38 Talon aircraft. During initial takeoff, Redman who was in the front seat, performed a normal engine run-up and brake release. As the aircraft rolled approximately 1,500 feet down the runway for departure, immediately before lift-off, Redman saw a flash as two birds flew by the left side of the aircraft. As soon as the birds had passed, he heard a popping sound followed by the buzz of a compressor stall. The aircraft yawed to the left. Manuel who was in

the back seat, verified engine #1 was rolling back and losing power rapidly. With no hesitation, the crew commenced a high-speed abort, pulled the throttles to idle and began aero braking. Assessing their position on the runway, the crew determined they had 8,000 feet remaining. They commenced wheel braking with 4,000 feet remaining at a speed of 115 knots. The crew suspected the amount of braking it took to stop the aircraft would lead to hot brakes. They declared an emergency and positioned the aircraft into the wind to aid in the cool down of the brakes. During post flight inspection, maintenance crews discovered all visible engine blades received severe damage from the ingested birds. The damage might have led to total catastrophic engine failure. The instantaneous reaction and superior airmanship of Maj. Redman and Capt. Manuel during this critical phase of flight was directly responsible in the safe recovery of two irreplaceable crewmembers and a valuable training asset.



Maj. Ed Redman (L) and Capt. Dan Manuel, 393rd Bomb Squadron, 509th Bomb Wing, Whiteman AFB, Mo.

ing this critical phase of flight was directly responsible in the safe recovery of two irreplaceable crewmembers and a valuable training asset.

Flightline Safety Award of Distinction

Sgt. Mark Isaacs, SrA. Albert Weathersby and A1C. Daniel Timper composed the run team for an environmental systems operational checkout on an F-15 from the 71st Fighter Squadron, which was deployed to Tyndall AFB, Florida, in support of the Weapons System Evaluation Program. During engine start, Weathersby noticed a decrease in Jet Fuel Starter rpm. A Central Gear Box (CGB) internal clutch and brake assembly had failed, which resulted in a massive oil leak. He immediately moved toward the fire bottle and notified Isaacs, who was the engine run man. When he reached the fire bottle, smoke poured out of the CGB and jet fuel starter area. Intensive flames followed the smoke. He quickly updated Isaacs about the fire and instructed him to shut down the engines. Isaacs initiated emergency engine shutdown procedures, while Weathersby grabbed the fire extinguisher hose from Timper, who was the fireguard. Weathersby then moved under the aircraft to fight the fire. Timper armed the fire extinguisher and Weathersby began to ex-

tinguish the fire. The fire died down quickly, but re-ignited a few seconds later. It took the entire Halon fire bottle to extinguish the flames. Actions of the run team resulted in a quick emergency engine shutdown and the extinguishing of a secondary power fire prior to the fire department arriving on scene. This saved the Air Force thousands of dollars in collateral damages and possibly saved the aircraft and personnel involved.



From left to right: SrA. Albert Weathersby, A1C. Daniel Timper and SSgt. Mark Isaacs, 71st Fighter Squadron, 1st Fighter Wing, Langley AFB, Va.

Crew Chief Safety Award of Distinction

On June 7, 2001, while performing a thru-flight inspection on an A-10 aircraft, SSgt. Robert Caithaml discovered a bolt lying in the drain hole of the F-19 panel under the GAU-8 30mm gun. He immediately notified his production superintendent of the discovery. Caithaml then removed the aircraft panels covering the gun system. A thorough search revealed two other foreign objects: two-screw heads safety wired together and the retaining nut that matched the bolt he discovered. The bolt had sheared in half. Both the washer and a half-moon retainer piece that attached to the gun mount were missing. An all-inclusive search later determined that the washer and retainer had probably

fallen out during flight, possibly through the same drain hole that he discovered the bolt in. However, the sheared bolt could have caused extensive damage to the gun system upon its next firing. The keen eye and superb attention to detail of SSgt. Caithaml definitely saved a \$300,000 GAU-8 gun system from certain catastrophic failure. His actions could have also saved a \$13 million A-10A aircraft and prevented possible loss of life.



SSgt. Robert Caithaml, 57th Aircraft Generation Squadron, 57th Wing, Nellis AFB, Nev.

ACC is proud of our Monthly safety honorees

Weapons Safety Award of Distinction

The Nellis AFB Weapons Safety Office is the largest and most active Weapons Safety Program in the Air Force. It has a Numbered Air Force equivalent function and implements Weapons Safety for 7,585 personnel. It has an annual munitions expenditure of 3,658,899 live items and the largest operational tempo during RED FLAG deployments in the history of the base. The Weapons Safety office personnel, without prior experience, faced the two most critical weapons safety inspections in the Air Force back-to-back: the Nuclear Surety Inspection (NSI) and the Department of Defense Explosive Safety Board (DDESB). TSgt. Frank Mahovlich spent over 75 hours after work and on weekends to bring all the programs up to speed and on track. A 1992 DDESB report questioned the structural worthiness of 100 weapons stor-



TSgt. Frank A. Mahovlich,
Air Warfare Center Weapons
Safety Office, Nellis AFB, Nev.

age facilities. Mahovlich contacted Civil Engineering, researched structural drawings dating back to 1954, evaluated the facilities' structures, ran interference for base leadership and maximized storage with a cost savings of \$2 million. Previous management identified problems with new explosives storage requirements and attempted to reactivate certain weapons storage facilities. He intuitively reassessed the issue and ran comparisons on munitions storage, which solved the base-wide storage problem. In addition, a 1998 explosives site plan request for the base was never initiated and base leadership lost funding for the project in FY 01. Mahovlich volunteered to manage the program and instituted processes that received immediate responses from key safety personnel and provided historical tracking of all site plan requests. At the DDESB out brief, the colonel repeatedly expressed the outstanding contributions the Weapons Safety Office has made in the last 4 months and presented the office with a Department of Defense Explosive Safety Board coin.

Ground Safety Award of Distinction

On April 18, 2001, while evaluating bench stock component storage at an Air Control Wing, SMSgt. Stephen P. Wyatt discovered oxygen mask hoses for MBU-13/P chemical/biological and aircraft smoke mask assemblies were commingled in the same replacement parts bin. Realizing this could be the start of a serious "mishap chain," Wyatt quickly notified both the wing life support officer and superintendent. An immediate internal one-time inspection was initiated of all aviator chemical/biological and smoke masks, both at home and temporary duty locations. If the improper oxygen hoses were mistakenly installed on the protective mask assemblies of all wing flyers, this could lead to loss of life and/or critical combat aircraft. The MBU-13/P oxygen hose is con-

structed of butyl rubber, has chemical resistant properties and can withstand temperatures of 275°F. In contrast, the aircraft smoke mask utilizes a silicone rubber hose without chemical resistant properties and can withstand temperatures up to 600°F. The inspection confirmed that 50 MBU-13/P chemical/biological oxygen masks and three aircraft smoke masks hoses had been incorrectly installed. SMSgt. Wyatt's forward thinking and thoroughness likely prevented a serious airborne mishap. His actions are indicative of the high standards expected in ACC that enable flight operations to be conducted in a safe and efficient manner.



SMSgt. Stephen P. Wyatt,
Air Combat Command
Inspector General Office,
Langley AFB, Va.

Bicycle Safety

The Pain You Save May Be Your Own

By Maj. Richard E. Prater, Davis-Monthan AFB, Ariz.

Here in Tucson, Arizona, bicycling has become more a way of life than a means of transportation. It has evolved into a ritual where hundreds of riders can be seen on their "pelotons" riding to refresh their souls and invigorate their bodies. The modern "velocipede" is truly ingrained in our way of life.

With this increased popularity, the potential for injuries is

greater as these bicycle enthusiasts share the roadways with their multi-ton, multi-wheeled, engine-driven counterparts. Even the largest bike rider seldom wins these encounters. In looking at the physics of a bike accident, it is painfully clear that the head (approximately 7 pounds of organically significant material) serves as a ready made, low-grade battering ram. Any rider who has been so gracefully

launched over their handlebars can attest to this — usually with a bump on their bean. Fortunately for those of us who need the full use of our noggin, the helmet has evolved nearly as fast as the bike. The quality and price of the helmet is only limited by the value you place on your cranium. Because the most serious injuries suffered by the majority of bicyclists killed are head injuries.





Sixteen states have helmet laws applying to young bicyclists; none of them apply to all riders. Local ordinances in a few states do require some or all bicyclists to wear helmets. If these statistics are not enough to convince you that helmets are important for riders of all ages,

sponsible for their crashes. However, age has little to do with how well you, as a bicyclist, will fair against a car.

Now that you have a better picture of the odds stacked against you and your bike, does that mean you should put your bike in cold storage? Absolutely

maybe the fact that older bicyclists represent more than two-thirds of all bicycle deaths will do it.

Responsibility for serious collisions between bicycles and motor vehicles corresponds to the rider's age. In this case, responsibility refers to crash initiation, not necessarily legal culpability. Young riders most often are responsible for their crashes. Probable responsibility decreases as age increases, which means that older riders more often are not re-

not. In fact, the benefits created for body, mind and soul far outweigh potential risks. If we take the proper precautions, it is a truly rewarding sport. As in flying, most crashes are the culmination of a long line of failures in action or equipment. We can help decrease the odds of impacting the ground by applying certain rules to our daily riding. The more we apply these rules, the more ingrained they become in our psyche. This will enable us to develop a capability to quickly react to an impending emergency rather than just watch it happen.

You can effectively decrease the odds of experiencing painful falls by practicing simple preventative measures. The bottom line is that the Air Force needs you with an intact cranium and a fully functioning body. Careful riding with proper equipment will help ensure you maintain this condition while still allowing you to enjoy the benefits of feeling the breeze flow through your helmet as you cruise along feeling the mental and physical rejuvenation that only this sport can offer. Be safe. Be aware. Wear a helmet. See you on the peloton! ►



Bicycle Statistics

- Bike-related crashes kill 900 people every year and send about 567,000 to hospital emergency rooms with injuries.
- Bicycle helmet usage has increased from 18% in 1991 to 50% in 1998.
- Wearing a bike helmet can reduce the risk of head injury by 85%.
- Today there are an estimated 80.6 million riders, 43% of whom never wear helmets and 7% of whom wear helmets less than half the time.
- In 1998, over 65,000 bike injuries were treated in hospital emergency rooms,

while basketball injuries came in second place at under 50,000.

- In 1998, no other sport killed as many baby boomers. Swimming was a distant second with 67 deaths and skiing came in third with seven deaths.
- In 1998, baby boomers on bicycles died from head injuries at nearly twice the rate of children on bikes.

From the Bicycle Helmet Safety Inst. at:
<http://www.helmets.org/webdocs/stats.htm>

Biking Rules to Live By

Rule 1: Wear a helmet

A helmet can save you from head injury, which can save your life. Not only should you wear a certified helmet, but it should be fitted and worn properly. How else can something work if it is not used correctly?

Rule 2: Never surprise anyone and never be taken by surprise

Every cyclist should always be aware of his or her surroundings. Will that person in the car not see you and suddenly open the car door? In Central Park, a cyclist died trying to avoid a runner that jumped out onto the path. He was not wearing a helmet and was taken by surprise. A cyclist needs to automatically assess all situations for critical variables and know a way out of a potential problem.

Rule 3: Leave yourself a margin of error

In other words, do not ride too close to other cyclists, pedestrians, vehicles, etc. Always leave room for that unexpected move.

Rule 4: Don't take your eyes off the road

Watch for potholes, level changes in the road or loose gravel. Each of those things can

cause your bike tires to turn and throw you sideways.

Rule 5: Don't relax your grip — ever

Keep both hands on the handlebars because it does not take much for you to lose your grip and lose control of your bike.

Rule 6: Keep your bike and the way you ride, problem free

Do you have loose or hanging accessories that could get caught in a wheel or spoke? Are there reflectors on the bike for increased visibility by other vehicles? It is important to tune up a bike just like you would a car. Check the tires for wear and tear.

Rule 7: Know your limitations and listen for tips

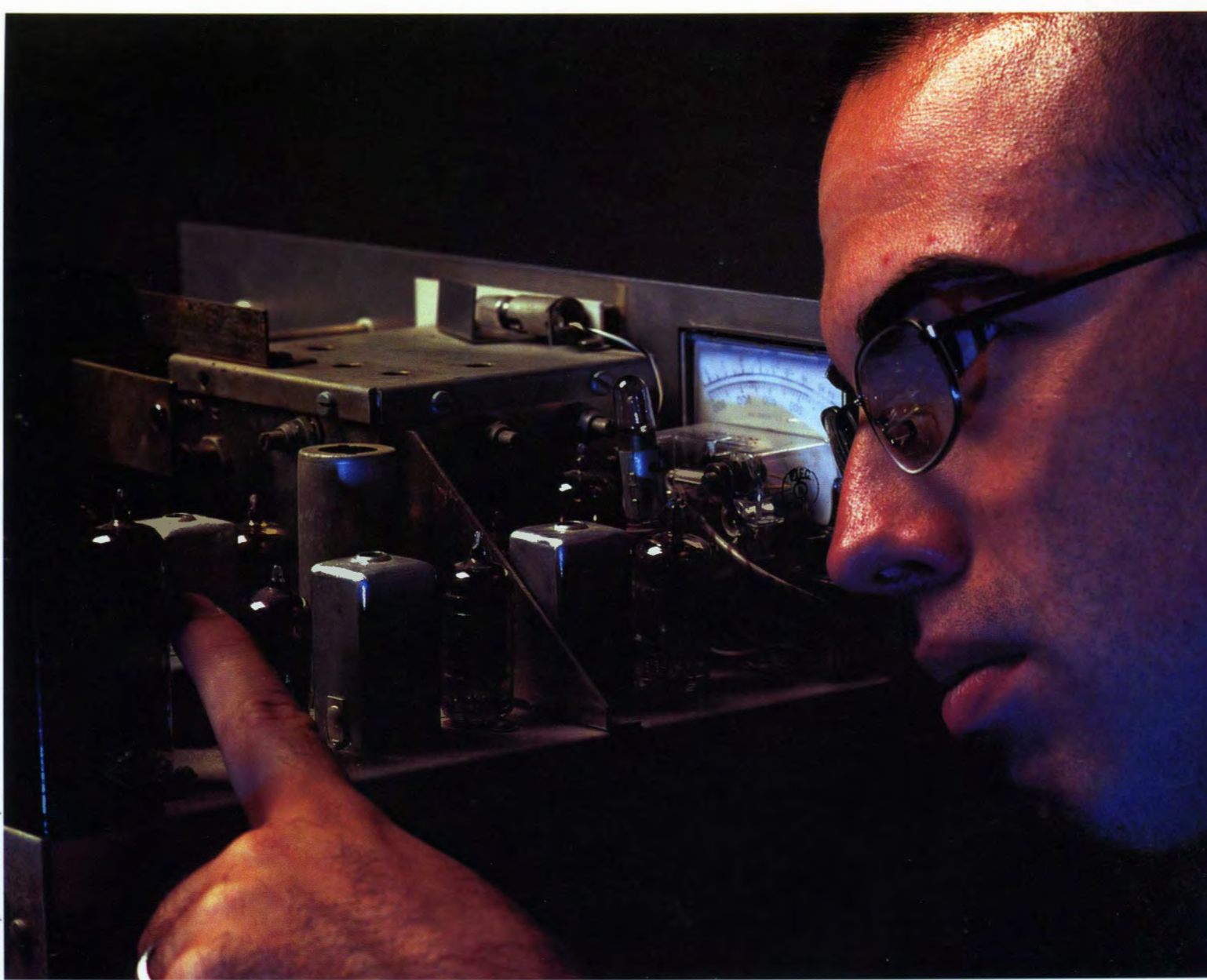
Can you handle riding in the rain or on not so smooth terrain? Do you have poor night vision? Know how much you can handle before you get out there to ride.

Rule 8: Learn from your mistakes

They can be too painful to repeat.

From the World Health Organization's Helmet Initiative, authored by Richard Lukin at <http://www.sph.emory.edu/Helmets/Headlines/spring98.html#Defensive>. Also, see <http://bicyclesafe.com/> by Michael Bluejay for an excellent set of guidelines that detail how to not get hit by cars.





Don't Worry ... I Can

By SSgt. Chris M. Harner, Nellis AFB, Nev.

There I was ... a highly motivated and energetic young airman fresh out of a 6-month technical training school at Keesler AFB, Miss. I was very excited to finally get to my first official duty station. Having always been a "go-getter," I volunteered for everything. When the shop's supervisor asked for tasks to be done, I was first in line even

if I was not sure how to complete the assignment. That is exactly what happened the day that I almost seriously hurt my coworkers and myself and came close to destroying Air Force assets.

It started out like any other normal duty day at the shop. Everyone reported in at 7:00 a.m. and sat down for the morning brief. Just days prior I had been troubleshooting a radio receiver

with my supervisor and discovered a bad squelch module. During the morning brief, the shop's supervisor announced that the new squelch module for the receiver had arrived and asked for volunteers to do the replacement. Feeling pretty proud of the fact that I was the one who had diagnosed the problem, I wanted the first chance to finish the job. My supervisor had an appointment



that morning and all the other qualified personnel already had other tasks assigned to them. I went ahead and volunteered wanting to prove to all the "old heads" and my peers that I was a hard worker and that I had a strong handle on what I had learned in technical school. The shop's supervisor was very reluctant to send me out on a job without a more experienced airman available to monitor. I quickly assured him that I, along with a couple other "one-strippers," could handle it. After all, I had been the one to figure out the problem in the first place. A simple remove and replace action would be no trouble for a few hard working airmen. After he relinquished and agreed to my proposal, the three of us "new-bees" gathered our tools and headed to the transceiver site located a few miles off base.

Once on site, we set up the workbench with all the necessary tools and safety

We were ready to remove the old squelch module when we quickly noticed that the top of the screw head was stripped. No Phillips head screwdriver was going to loosen that screw. I looked at the other two airmen and asked what they thought we should do. One sat there with a dazed look and the other one suggested that we call the shop's supervisor and get guidance. "Call back," I said, "so that they will never again have confidence in us to complete a simple task that we should already know how to complete?" I thought, "No way! This is a simple job with a minor setback."

After considering our predicament, I told them that I had an idea. I promised it would be simple and told both of them not to worry. This was my first mistake. If you have to tell somebody not to worry, then maybe you should think twice about what you are about to do. I told them if a Phillips screwdriver would not fit, then we could alter the screw to make a flat head screw driver fit. I looked through all the tool drawers looking for something

that could notch a groove into that stripped screw. All I could come up with was a hacksaw. It was not the ideal tool for work-

ing inside a cramped piece of electronic equipment, but I was determined to make it work. I removed the blade from the saw and broke it in half so it would fit in the radio. I looked at the radio to make sure it was powered down. I then glanced inside to make sure that I hit nothing that might cause a short. After making what I thought was a good assessment of the radio, I placed the bro-

ken metal saw blade on top of the screw and started grooving a notch into the screw head. So far, everything went well and my confidence rose a bit. It turned out, however, that the groove was not big enough for the screwdriver to fit in. This was not a problem. I would just saw a little wider and complete the job. Thinking back on it all now, I should have listened to my peers, swallowed the "old pride" and called the shop's supervisor to inform him of the situation. By focusing on the screw, I had not seen the capacitor sitting there ready to zap me. Needless to say, as I reached into the radio with the saw the second time, sparks went flying and I got knocked to the floor.

How can you avoid repeating my mistakes? First, never feel, if you are a young airman or even an "old head," that you have to complete a task without any guidance to prove that you are worthy of the job. Swallowing the "old pride" and asking for help is always a sure bet. Do not play that gamble with your own life or the lives of others. Second, always use the proper tools for the situation and always follow technical orders to the tee. I want to stress how lucky we were for not getting hurt that day. I was also lucky that the radio worked fine after we replaced the faulty squelch module. As a young airman or even now as a staff sergeant, I know that I could not have afforded to replace that \$25,000 radio. Remember, the first warning sign of a mishap on the horizon is when the conversation starts with, "Don't worry ... I can handle it!" Stay safe and always think "SAFETY FIRST!" ►

-handle It!

equipment like we had been instructed since the first day of technical school. This would have been a pretty simple procedure to perform if everything had gone as planned. It involved loosening one screw and sliding it out to the left of the pin socket. "Easy enough," I thought, "Let's get on with it." We powered down the radio and followed all the safety warnings that applied to removing the top cover panel.

Since my arrival here at *The Combat Edge* as the new Executive Editor, my staff has been reminding me to write a "Passing the Pen" story for the magazine. I must admit that I was not too thrilled about the idea so I bribed them with promises of days off to, instead, let me tell a story about something I dearly love: horseback riding.

When I was growing up in the middle of suburbia in Knoxville, Tennessee, I longed to be in another place, living another life. You see, I always wanted to be a cowgirl. From the time I was 6 years old, I would stand on our back porch with my mother and point out a farm located high on a hill in the distance. It had

acres of pasture and a white fence that seemed to stretch for miles around the most beautiful horses I had ever seen. Yep, that's what I wanted: horses and a farm.

As I grew up, I would spend hours on Saturdays watching old movies like, "The Man Who Shot Liberty Vallance," "How the West Was Won" and, of course, anything with John Wayne. I quickly realized that I should have been born more than a 100 years ago — back when the west was wild, the buffalo still roamed in herds and, naturally, horses were the main mode of transportation. I know in my heart that when the land speculators started advertising "Go West Young



Photos by Charles Man Photography

Man!" I'd have gone.

My grandparents fed my wild-west desire by leasing me ponies to ride during summer

horses in Reining and Working Cow Horse events and love to work cattle. Yep, I've finally made it to my goal of being a cowgirl. Now I'd like to share with you some of what I've learned along the way.

A couple of years ago, I determined that there was only one notch I had left to add to my belt. I wanted to "start" a young'un, which means teaching it the things it needs to know in order to be ridden. A friend of mine down in

North Carolina has a whole herd, and we decided that I would "start" one of her horses. For those city folks out

Horse Sense

By Maj. Rebecca Colaw, Executive Editor

visits — you've gotta love grandparents! That's when I began wearing cowboy boots — this was long before they were considered "in style." In my teenage years, I was fortunate to have a friend whose family owned a 650-acre farm with horses. Needless to say, I spent every available weekend playing "Bonanza" or trail riding until dark — and sometimes after. So you could almost say that I've been riding horses most of my life.

It was not until I hit "near" middle age that I finally got my own horse. It's amazing how one horse leads to others. Now there are five in my herd with hopefully two more "babies" on the way. I show

there, "start" is the same thing as "break" without all the bucking and fighting. So at 38, I began my next western adventure by training my first colt.

Now, you'd a thought that I would've wanted to wear all of the protective gear ever made for this great adventure. With helmets, vests, knee pads and back braces, I could have protected myself like a knight in shining armor instead of the cowgirl I imagined myself to be. Of course, I did not — that stuff's for sissies! That being said, I was not a complete fool. I did insist on one safety precaution. I decided not to ride the horse unless my friend was there to watch me. And that

one decision is the one that probably saved my life.

It happened on my fifth ride. I had been successfully working the horse in a large round pen and everything was going well. The horse was responding and my confidence was beginning to grow. I squeezed the horse into a slow trot and we began to move around the round pen. With each circle, however, the horse picked up speed until he was running as fast as he could go and accelerating with each turn. The sheer force of his gallops caused the saddle to slip to the side. Any second, I knew I was a goner. I held on as long as I could, but then decided to bail off to keep myself

asked me to get up. All I remember saying in a weak voice was "just a minute." I had never been in such pain in my life.

I was down for more than 30 minutes and had gone into

safety step you can take is to make good decisions. Mine was to have a friend watch me in case something happened. It did. I also learned that the most important thing you can learn about horses is to not

As I was flying through the air, all I could think was "this is going to hurt." It did.

shock. If I had been alone that might have been all she wrote. My friend was more than a concerned onlooker. She was a nurse and her son, a paramedic, lived next door. As luck would have it, his ambulance just happened to be in the yard so, once they stabilized me, they took me to a local hospital. The diagnosis: I had suffered blunt force trauma — ya think? — torn my kidney, dislocated and bruised my ribs and, basically, bruised my entire body from my left shoulder to my knee. I hurt. It was 5 months before I was able to ride again. But, just like the cowgirls of the old west, I did get back in the saddle. You can't stop doing what you love just because of a little incident; however, I did learn a few things from that traumatic day.

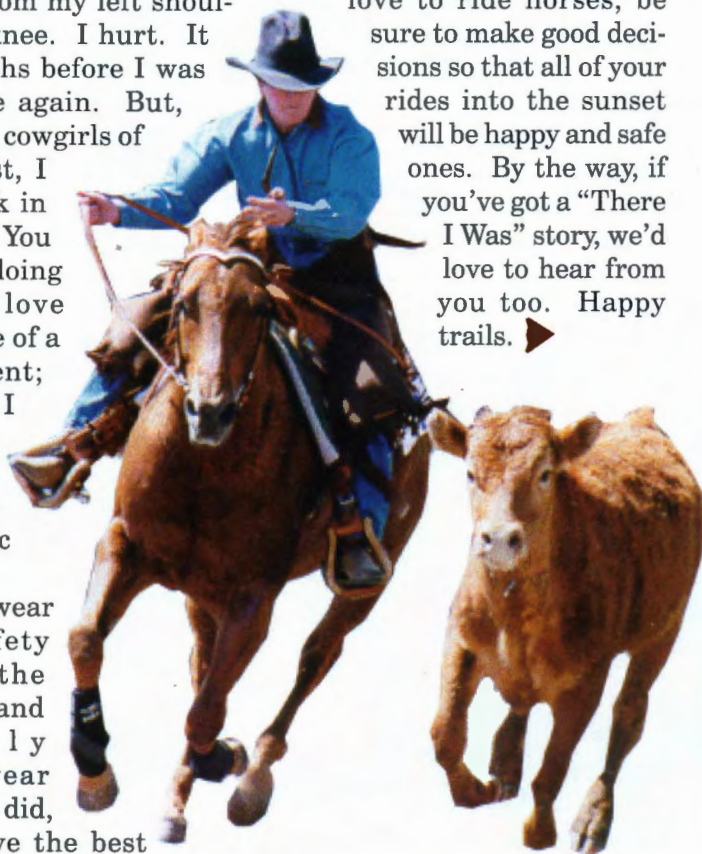
You can wear all the safety gear on the market — and probably should wear more than I did, but I believe the best

ride above your ability. I had, and I paid the price. Luckily, it was not a permanent price.

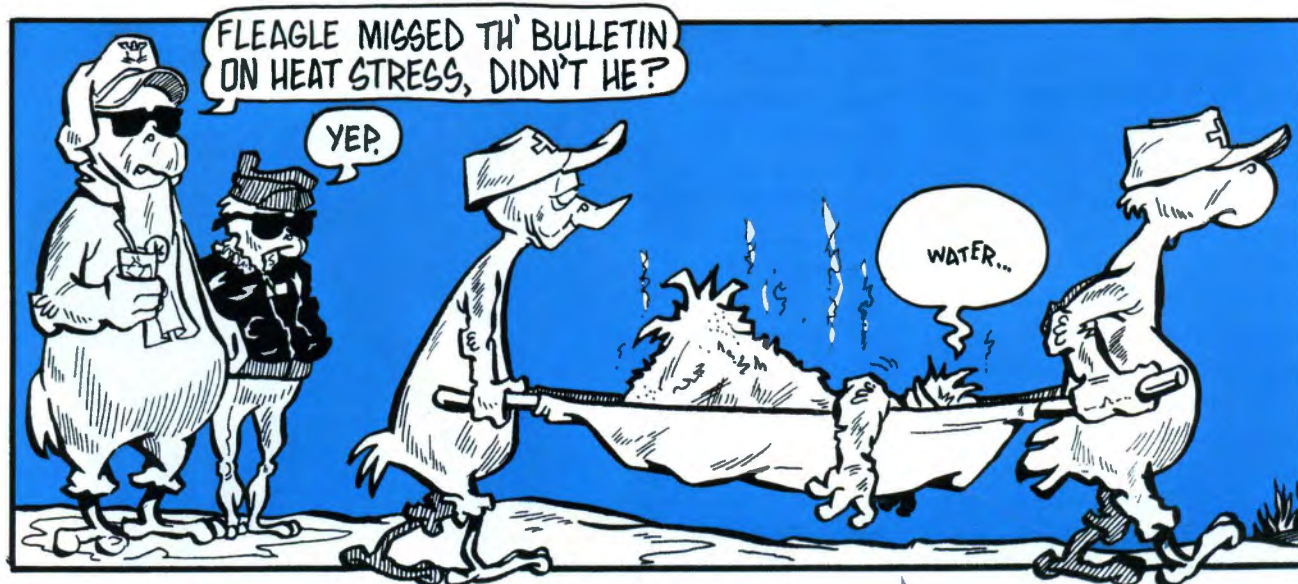
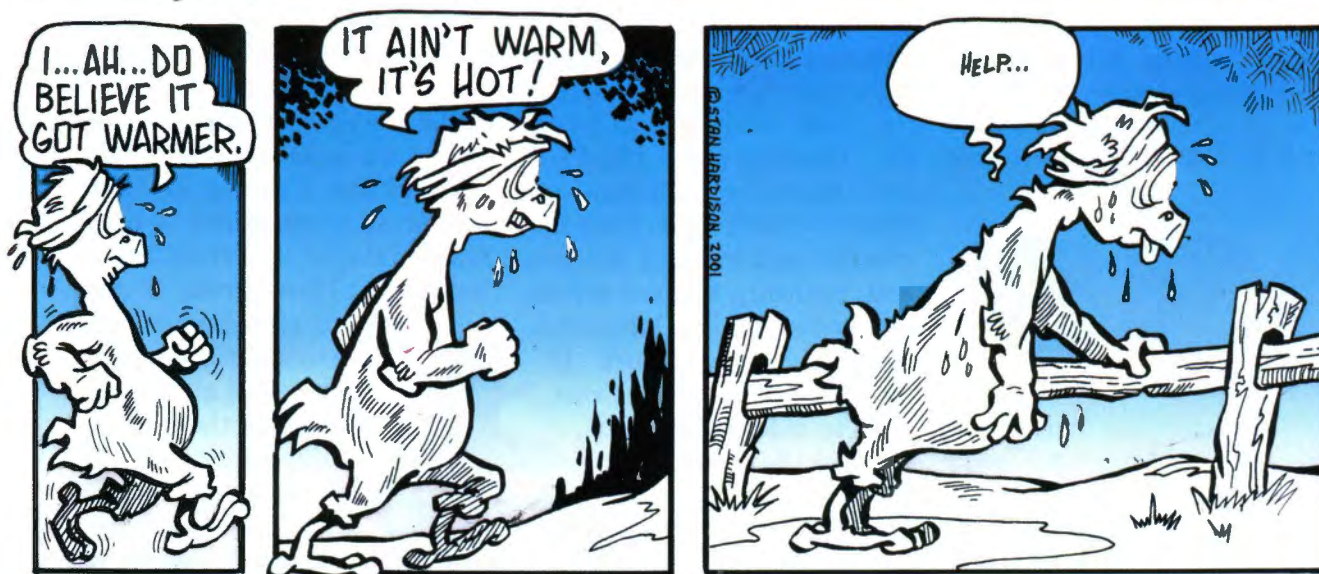
Today, I still have my horses and a farm, although, I no longer ride horses I don't know, I will never again try to "start" one on my own. However, I will ride as long as I can breathe. I'm still a cowgirl inside — and now a lot smarter one. I am grateful that I have a job that allows me to pay others — professionals — to "start" the horses that I love to ride. If you love to ride horses, be sure to make good decisions so that all of your rides into the sunset will be happy and safe ones. By the way, if you've got a "There I Was" story, we'd love to hear from you too. Happy trails. ►

out from under his feet. When I bailed, I grabbed my head with my arms to protect it. As I was flying through the air, all I could think was "this is going to hurt." It did.

When I left the horse, he was probably traveling about 25 to 30 miles per hour. I was spun backwards and my back led the way as I traveled through the air. Suddenly, I was not moving any more. My back plunged into a fence post, and I ended up face down, embedded in the ground. I remember my friend yelling for me to get up. She feared the horse would come around again and trample me. He didn't. Thankfully, he had stopped as soon as I was off. I was lucky. Again my friend





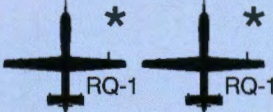

Photos by J bar D Photography



Flight Safety Stats

ACC & ACC-Gained Losses for FY01

(1 Oct 00 - 30 Jun 01)
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**

TSgt. Daniel Freiderich,
45th Reconnaissance
Squadron jet engine
craftsman, prepares
to inspect a fuel filter
on an RC-135 aircraft.
Squadron maintenance
workers ensure
55th Wing aircraft
operate safely.

Lock on **Safety**