

# Combat Edge

August 2006

FLIGHT SAFETY

GROUND SAFETY

WEAPONS SAFETY

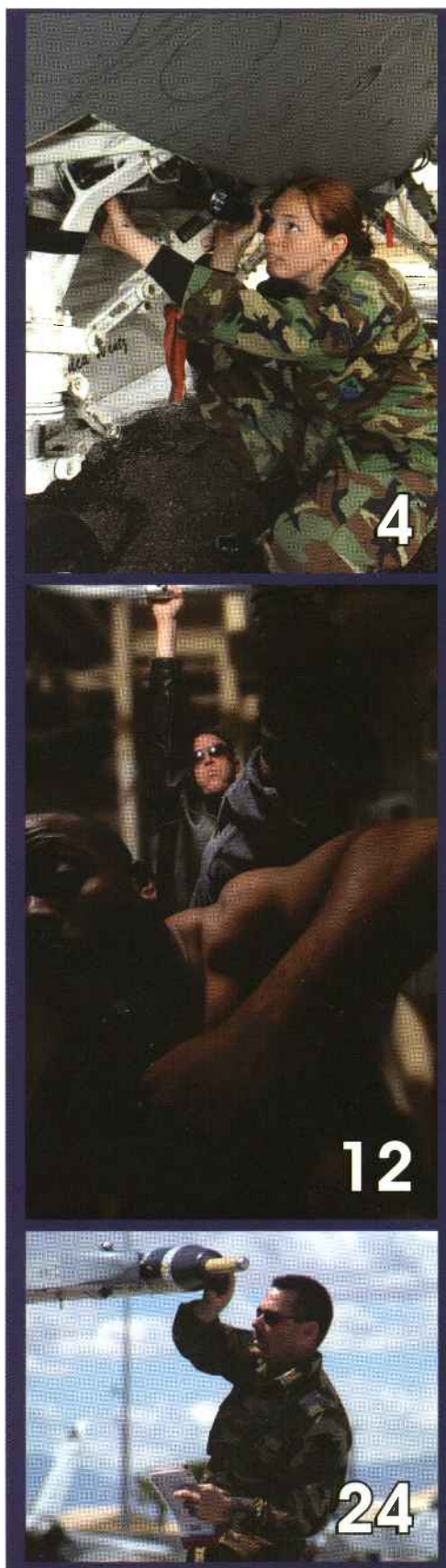


# GENERAL RONALD E. KEYS, COMMANDER

COLONEL CREID K. JOHNSON, DIRECTOR OF SAFETY

## Combat Edge

Volume 15 Issue 3,  
ACC SP 91-1



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COVER PHOTO BY SSGT LEE O. TUCKER

 OR M = MANIPULATED IMAGE



# ACCent on Safety



## Break the Mishap Chain

As we near the two-thirds point of the 101 Critical Days of Summer '06, take a moment and evaluate how well you, your squadron, your wing, and your command are doing so far. Are you prepared for the final 35 days? Safety isn't the responsibility of just one person, or organization, it's something we all own and have a stake in. We rely on squadron and wing safety offices to brief how our people have been hurt and killed in preventable mishaps, but we need Airmen of every rank to be safety advocates to help break that next mishap chain of events. We need everyone's help in the fight against preventable mishaps, and success or failure is up to all of us.

As the price of gas continues to rise, some may consider alternative methods of travel, to include walking, or biking to work, or to run errands. Walking and biking are inexpensive ways to get from point A to point B, while getting a little exercise on the side, but remember that "The heat is on!" Summer temperatures peak in late July, and early August, and with the heat comes the threat of heat-related injuries, both on and off duty. Respect the danger and be aware of heat stressors as you go about your day-to-day duties; know the effects, warning signs, and preventive measures to help "beat the heat." This month's issue has a good article concerning how one young officer mixed a 50-minute bicycle commute, immunizations, too little food and water with high heat and humidity and suffered the consequences. Learn from his mistake, don't overextend yourself, respect the danger, and take the appropriate actions to avoid a heat-related mishap this summer.

Lastly, consider the role you play in the success of ACC as a warfighting command, and ultimately the United States in our fight against terrorism. How successful will we be if you are not there to help sustain the fight? Whether you are traveling to visit friends and family, or whether you spend time near home, take the time this summer to care for yourself and those around you as we close out this year 101 Critical Days of Summer. Be a strong leader and/or wingman, and ensure you make safety your **Combat Edge!**



Colonel Creid K. Johnson,  
ACC Director of Safety

# F-16 Brake



Photo by Mr. A Sgl John E.

**Editor's Note:** this article has been edited for length. The unedited article will appear on **THE COMBAT EDGE** website.

**S**o your sortie is over and it's time to return to base. A quick look and you're on the deck, code 1, some paperwork, debrief, and home to Mama. Well, if that's the way it always turned out, this would be the end to the story. In the Viper community, we go to the jet equipped with: our takeoff and landing information, acceleration check speed, rotation, liftoff, takeoff distance, dry/wet refusal speeds, immediate landing speed, dry/wet immediate landing distance, and normal approach speed with dry/wet landing distance. While on

a typical day, all this information works very well; but the one thing we don't consider is the amount of brake energy used in stopping a jet. Brake energy is one of the least discussed areas in pilot training, and while I'm not a guru on it by any means, I've learned a lot about it in the last few days that I'd like to pass on.

## Speed and Weight

Bringing a hurtling hunk of metal to a controlled stop at the end of a

# Energy Limits

by Maj Brent "Polo" Sprouse, Shaw AFB, S.C.



sortie brings a lot of physics into play. Managing those physics sometimes seems like old hat, but occasionally, things can become a bit more memorable. Managing kinetic energy is the key, and holds the majority of the landing equation.

## Aim Points

Since we fly a Viper with a respectably high approach speed, it's worth discussing runway touchdown aim points, because how much runway

you have left after touchdown, along with runway conditions, will determine how heavy your braking needs to be. On a clear and a million day at the home drome, we tend to be quite happy using that threshold aim point with a 2.5 degree flight path. Visual Approach Slope Indicators (VASIs), and Precision Approach Path Indicators (PAPIs) provide "... safe obstruction clearance within plus or minus 10 degrees of the extended runway centerline and to 4 NM from the runway threshold." If it's an unfamiliar field with plenty of runway, then

I'm more inclined to fly the VASI or whatever system they have realizing this will most likely cause me to touchdown 1,500-2,000 feet down the runway.

Since we have the luxury of good weather most of the time when flying instrument approaches, we will transition to a visual approach (a.k.a. "duck-under") somewhere on final by shifting our aim point to the threshold to take advantage of the full length of runway. Safely accomplishing this aim point shift requires breaking out of the weather at a safe distance from the threshold



Photo by Mr. David H. Lipp

a good horizon (could be misleading) with good visual cues that allow us to recognize pitch and sink rates. So where will you touchdown during your flare if you maintain the approach glidepath? Assuming you do everything perfectly, probably 1,500-2,000 feet down the runway since the glidepath takes you to the runway point of intercept coinciding with the captain's bars.

### Aerobrake

Now that we have the jet in a 2-point attitude in either visual or instrument conditions, we have to get it stopped, and a 13-degree aerobrake becomes the most important thing in

your life. Once established in a 13-degree aerobrake, I'm close to "smoking a Lucky," working my runway alignment, and using a bit of upwind aileron if that's a player. At about 100 kts or so, the nose will start to fall and I do my best to fly it to the runway. If you have munitions on board, this will probably occur around 110 kts or so. The -1 says you can aerobrake as low as 80 kts, but aerobraking has very little effectiveness below 100 kts, and it's not nearly as effective as getting on the brakes.

This is where my time is better spent by finding out what my future holds by testing the brakes. The -1 now says to "smoothly apply moderate to heavy braking to decelerate to taxi speed." I basically brake as required,

which is a nebulous way of saying anything and everything short of anti-skid depending on the situation. Later, when we discuss brake energy limits, you'll learn why the -1 says "moderate to heavy braking" and why I've had to rethink my braking technique. If the brakes don't work at all during my initial test, I have a few options like taking off again with runway remaining to reduce my gross weight even further and accomplish a few checklist items (i.e., stall for time until coming up with a game plan). Don't forget, that once the nose comes down, to fully open the speed brakes and maintain full aft stick to create as much drag as you can with the horizontal stab, as well as increasing the weight on the main gear to help with braking action.

### "To take the cable, or not to take the cable"

Given the choice of taking the cable or dirt ... I'll take the cable. If you think you need it, then the -1 says lower the hook switch 1,500 feet prior to the cable to ensure you have full down pressure for cable engagement. Let's assume we have an 8,000-foot runway with two departure end cables. One cable strung 1,500 feet prior to the overrun and the other at the overrun. With a dry runway in visual conditions, you will normally touchdown 500 feet down the runway, on speed. This allows you 4,500 feet to slow down before you would have to put the hook switch down to catch the first cable and meet -1 numbers; but with a wet runway in an air-to-ground training configuration at normal landing weight, our typical stopping distance is around 5,700 feet. That puts you roughly 6,200 feet down the runway with the first cable only 300 feet in front of you!

Also remember rubber deposits in the landing zone, or the first 3,000 feet, of both ends of the runway leaving you with the middle 2,000 feet for your best braking. From a brake energy standpoint, the brakes don't really care what the braking conditions are, they'll stop you when they can. A pilot cares about braking conditions if they want to stop on the available runway, so don't save your braking until the slippery side of



Photo by Mr. David H. Lipp



the runway. Next, consider the scenario where you are landing out of a night instrument approach with a 300-foot ceiling and 1-mile visibility in fog on a wet runway. If you fly the glidepath to the captain's bars, and touch down around 1,500 feet down, you'll find yourself 7,200 feet down that 8,000-foot runway before you can stop. I always tell my students that flying is a juggling act ... it's easy to juggle a few things, but the more you pile on, the more likely something will get dropped. Going missed approach, taking it airborne, and hooks are good ways to manage bad juggling acts.

### Maximum Braking

Assuming you have no brake malfunctions, maximum Braking = Standing on the brakes + Max required Aft Stick to maintain a 13-degree angle of attack (AOA) until the nose drops in the aerobrake then apply Full Aft Stick short of the nose coming off the runway + Full Speed Brakes.

The tricky part of this is maintaining a 13-degree AOA while applying maximum braking without getting into a pitch-induced oscillation and scraping the tail. The good news is you shouldn't

have to do this for long once the nose comes down. Don't lower the nose! Let it come down on its own. Depending on your speed, the brakes may not seem to be very effective since the antiskid is preventing a wheel lockup. As the antiskid becomes more effective and begins to cycle (meaning its working), maintain full pressure on the brakes. This may also be a difficult thing to do unless you are accustomed to the shudder/vibration feel of an antiskid system operating. Let the antiskid computer do its magic. Don't come off the brakes unless you need to engage a cable or you know you have it under control!

### Brake Energy Limits

For you engineer types:

$$KE = (1/2MV^2)/X$$

KE = Kinetic energy

M = aircraft landing weight

V = aircraft landing speed

X = The number of brake assemblies per aircraft

What this means to most of us is that the kinetic energy in stopping a Viper is transferred to the brakes anytime you press on them and they can only take so much ... 23.5 million foot-pounds

to be exact. Therefore, the slower and lighter you can land, and the more energy you can dissipate in the aerobrake, the less energy/heat your brakes will absorb. After a discussion with the braking engineers, there is little difference in the brake energy used whether the aircraft is in a two or three point attitude given that the other parameters are identical. It also does no good to apply and release the brakes as a brake energy management technique since the landing phase is too short in duration to allow appreciable cooling. Interestingly, there is little appreciable difference in the total energy absorbed if you use maximum braking or normal or light braking if the speed and weight you began braking are the same. In fact, it is best to accomplish most of your braking soon after the aerobrake.

Just because you landed in the normal brake energy zone doesn't mean you're golden. It's possible to over-utilize one brake, placing it in a higher energy zone than the other. Unequal braking could be due to a malfunction, runway crown, cross winds, pilot technique, and other dynamic factors. Typically, unequal braking in the Viper is a result of the single link on the nose gear which causes a tendency to drift to the

right. The brake energy distribution is proportional to the percentage difference in left-to-right brake forces. On the F-16, 55 percent energy on the left/45 percent energy on the right is typical with moderate to heavy braking. If light braking is used, the energy distribution could easily be 70 percent on left, and 30 percent on right. In this case the left brake would be 2.33 times as hot as the right brake. For a landing using light braking with the average energy near the top of the normal zone, the left brake is probably in the lower portion of the danger zone, while the right brake is in the lower part of the normal zone. This is why the -1 recommends moderate to heavy braking because it more evenly distributes brake energy to all brakes, resulting in fewer hot brakes.

If you intend to make a quick turn, keep in mind that those brakes and tires just absorbed a given amount of energy, and they may not survive the quick turn. Have the SOF dig into the -1-1 regarding brake energy and safe tire bead temperatures. This will soon be followed by your being directed back to the chocks. We are fortunate at Shaw to be close to sea level. If you are landing at Buckley ANG in Denver, on a high density altitude day, you will have a significantly higher ground speed for that same approach speed here at Shaw, causing the brakes to have to absorb more energy.

Cross reference the brake energy chart at the end of this discussion for more information.

Block 50 aircraft have awesome brakes; but if you take the time to reference page B3-20 in T.O. 1F-16CJ-1-1, you'll see it really doesn't take too much weight and too much speed to get you into the caution zone (10.5 million foot-pounds) for the brake energy limits. Interestingly, both the caution and danger zone tell us to remain clear of the side area of the main landing gear for up to 45 minutes. A split rim wheel exploding off an F-16 can be deadly if the fusible plugs don't function as advertised. The good news is that fusible plugs, which allow the tire to deflate to prevent an explosion, have historically been extremely reliable. Fusible plugs typically function at about 390 degrees Fahrenheit, which is why you can't set the parking brake for 2 hours after landing so that you reduce the amount of direct heat transfer from your brakes to the wheels. This time interval is derived from your having placed more than 9 million foot-pounds of energy into a given brake on your landing.

Other operational areas of concern regarding brake energy are brake fires, runway departures due to controllability issues, and closed runways. Don't misunderstand; if stopping distance is critical, don't try to conserve avail-

able brake energy to avoid getting into the caution or danger zone. When push comes to shove, getting the jet stopped is the number one priority whether it's by smoking the brakes or taking the cable or both! Let flight safety investigate and sort it out later!

The following chart is a tool pilots and Supervisors of Flying (SOFs) can use pre-mission, prior to landing for early returns, for short field diverts, or post landing if braking is a concern. SOFs can benefit by weighing the operational risk of landing aircraft early on a single runway operation. In training, and especially in combat, we may be bringing our ordnance home, making our pre-planned fuel landing weight invalid, and our risk level increases since we might needlessly close our only runway or hurt someone. If we make an informed decision to land at a total gross weight, allowing us to remain in the normal zone for brake energy, then we have effectively mitigated our risk, saved money, equipment, and lives. I've taught my share of landings and sat through some really ugly ones (some my own), and I've found many opinions on how to stop an airplane on landing. I hope this article has provided some food for thought and discussion, and not added any fuel to the fire. ✈

Courtesy Photo



## Hot Brake Current Guidance and Data

A pilot referencing the hot brake checklist is usually precipitated by a crew chief telling the pilot that he has hot brakes. Referencing T.O. 1F-16CJ-1, it directs you to reference the Brake Energy Limits diagram in T.O. 1F-16CJ-1-1 which the pilot doesn't have access to, nor do many SOFs.

Below is a tab data chart derived from T.O. 1F-16CJ-1-1 regarding brake energy limits for the Block 50 F-16 that tie an 11 AOA approach speed with the appropriate total gross weight. This will allow a pilot or SOF a quick reference guide for the risks associated with brake application speeds upon landing. These speeds can also be used for aborts, but they don't include taxi energy built up in the brakes prior to takeoff. By referencing the approach speed and gross weight against the appropriate temperature/pressure altitude, pilots can see in which brake energy zone they fall (nor-

mal, caution, or danger). The speeds listed are threshold speeds or the beginning of the caution zone (CZ) or danger zone (DZ). By reviewing the planned landing speed/weight, cross referencing TOLD landing distances, and available runway length, pilots can effectively analyze brake energy levels and manage risks accordingly.

A pilot that begins braking in a CZ can now recognize his situation and go directly to the hot brake area for further assessment by ground crew rather than taxiing into de-arm for an assessment. Key information that the pilot should be aware of:

**Caution or Danger Zone** – The side area within 300 feet of the Main Landing Gear (MLG). Tires should be regarded as unsafe for 45 minutes after aircraft has stopped, unless the fusible plugs have relieved tire pressure. Reference Hot Brake Procedures T.O. F-16CJ-1-1CL.

**Danger Zone** – Use moderate braking below 25 knots groundspeed and maintain forward motion until in the hot brake area. Hydraulic fluid or tire fire is imminent. Approach the MLG from front or rear for firefighting purposes only. Reference Hot Brake Procedures T.O. F-16CJ-1-1CL.

**Normal Zone** – Do not engage parking brake for 2 hours.


Unequal braking may place one brake in a higher brake energy zone than the other. If braking was initiated near a zone threshold, anticipate one brake being in the higher zone until cleared by response personnel. Brake initiation equal to or greater than the depicted speed will place you in the CZ or DZ accordingly. If braking was initiated near, but below, the depicted speed, then anticipate one brake being in that higher zone until cleared by response personnel unless the fusible plugs have relieved tire pressure.

### BRAKE ENERGY LIMITS ONSET DANGER/CAUTION ZONE APPLICATION SPEEDS

11 AOA Approach	Total Gross Weight	15C/59F Sea Level (DZ/CZ)	9C/48F 3,000 MSL (DZ/CZ)	3C/37F 6,000 MSL (DZ/CZ)
228KIAS	42K	132/111	126/106	116/101
220KIAS	40K	136/114	131/109	121/104
212KIAS	38K	141/118	134/112	125/106
204KIAS	36K	145/112	169/116	130/110
196KIAS	34K	151/126	144/119	134/114
188KIAS	32K	158/131	150/124	140/118
180KIAS	30K	165/136	158/129	146/122
172KIAS	28K	175/142	166/135	154/128
164KIAS	26K	185/152	176/143	163/135
156KIAS	24K	199/162	188/152	174/143
148KIAS	22K	211/175	205/163	187/153

(Outside Air Temperature's below/above those depicted will lower/raise braking speeds accordingly. If within  $\pm 5$  kts of depicted speed, consider yourself at that





There you are having your morning coffee when the Shirt walks in and tells you that Airman Snuffy has requested permission to enter the Xtreme Fighting Championship Challenge. Your first thought, after mopping up the coffee from your desk, is "What is he thinking?" More importantly, "What can or should I do about this?"

# He wants to do

Mixed martial arts is a legal, regulated sport in at least 19 states (Arizona, Arkansas, Colorado, Florida, Georgia, Idaho, Iowa, Louisiana, Massachusetts, Mississippi, Nevada, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, Texas, Utah, and Washington), is unregulated in 21 states, and only a few states have laws banning such events (e.g., Illinois and Missouri). The top sanctioned mixed martial arts events in Nevada, which allows and regulates the sport, have drawn more than \$10,000 in paid attendance and gross sales well into seven figures, according to the Nevada State Athletic Commission. With its rising popularity and potential for quick income, mixed martial arts is one of the fastest growing sports in the country. As a result, it is only a matter of time before commanders across the Air Force will be faced with these questions:

## What Can I Do?

Air Force commanders have the inherent authority and responsibility to execute the mission, protect resources, and maintain good order and discipline. As such, it is well within your authority to require troops to apply for and obtain permission before participation in high risk activities. Such a requirement gives you the opportunity to evaluate the hazards and the member's skills, training, and experience to determine whether the member's participation will adversely impact the command's ability to execute the mission. Where a member's proposed off-duty activity will pose a security risk or detract from readiness, the commander has the option (or should I say obligation) to prohibit such participation. To quote General Keys (see his note to all ACC Commanders



what? Ultimate fighting

Lt. Col. Curtis McNeil

# WHAT?

# ULTIMATE FIGHTING

by Lt Col R. Curtis McNeil, Langley AFB, Va.  
Photos by A1C Christopher L. Ingersoll



on 22 Feb 06): “we need every ACC Airman healthy and able to fight. We all have a professional responsibility to be prepared 24/7/365 to go when called. Personal safety is no longer just a high-interest item during the summer months, holidays, long weekends, and annual leaves. Taking care of ourselves and each other and managing risk need to be up on our radar scopes all of the time.”

Participants in these events are paid an appearance fee or, at least, a purse for winning. As such, this also falls into the area of off-duty employment. Under the Joint Ethics Regulation (JER), the commander can disapprove off-duty employment where the activity will detract from readiness or pose a security risk (see JER sections 2-303(a) and 3-306(e)). In addition to risk of injury, the commander must consider the nature of the performance contract, the content of any sponsorship agreements, and the training and performance time commitments. These issues also have the potential to impact readiness or run afoul of the limitations in the JER (e.g., prohibitions on endorsements). Your Staff Judge Advocate (SJA) can help review these agreements and advise you concerning their impacts.

### What Should I Do?

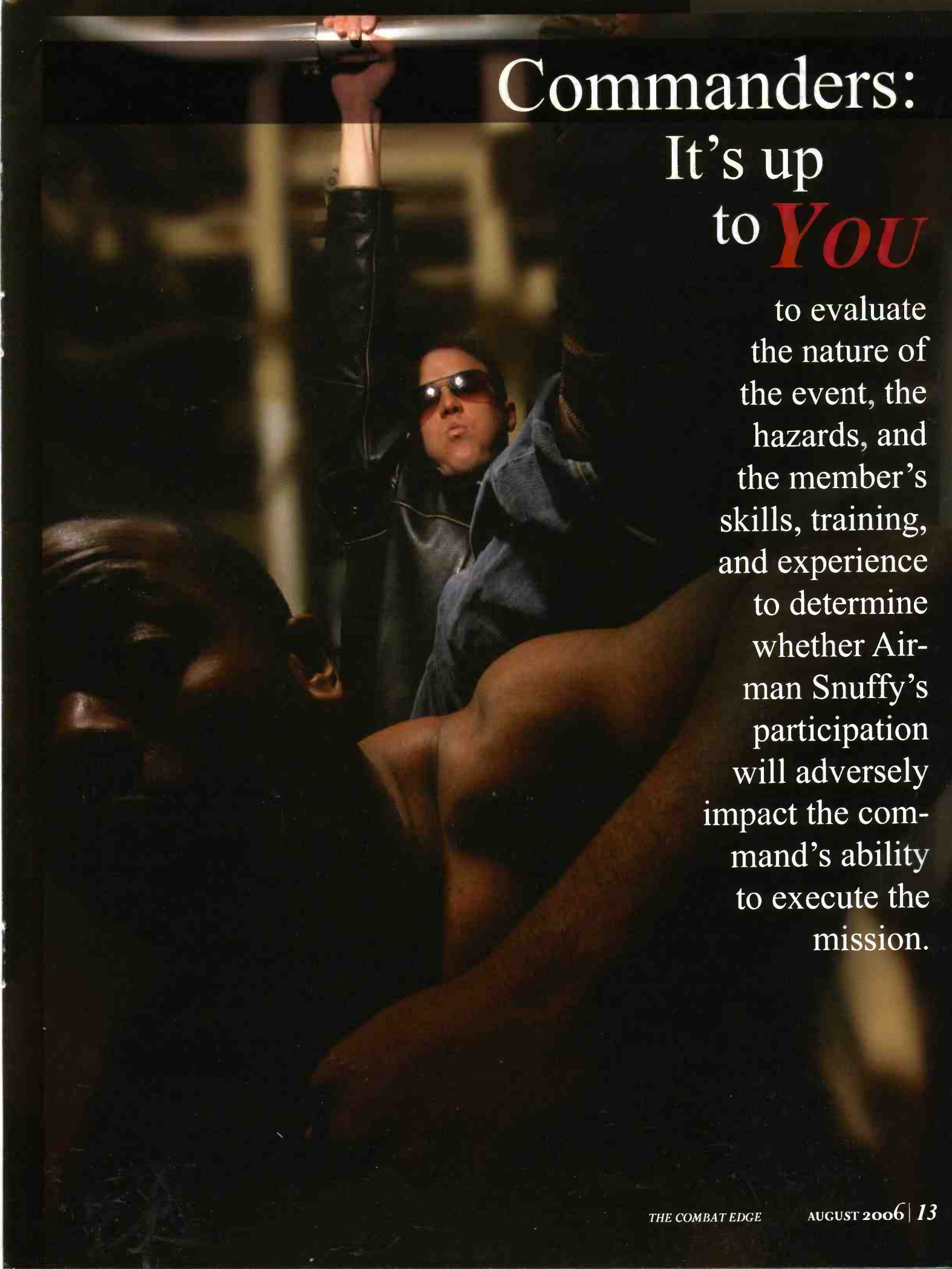
At a minimum, Extreme Fighting, Ultimate Fighting, etc. are high

risk mixed martial arts competitions. As a martial artist myself, I understand the skill such competitions require and the desire to test your skills against high-level opponents using a multitude of different techniques. However, in reviewing the materials concerning the Ultimate Fighting Championships (<http://en.wikipedia.org/wiki/UFC>), World Extreme Fighting (<http://www.weffighting.com/index.html>), Extreme Fighting (<http://faculty.valenciacce.edu/ckatz/pathfinders/extreme%20fighting.htm>), World Extreme Fighting (<http://www.worldextremefighting.tv/>), No Holes Barred (<http://www.witold.org/writings/nhb.php>), and Xtreme Fighting Championship (<http://www.xfc.tv/>), many of these competitions are sold to their sponsors, audience, and participants as brutal, unregulated, no holds barred fighting with a minimal set of rules. These “spectacles” have been accused of being a form of “human cockfighting.” At the same time, supporters of these events claim that they are “grass roots” mixed martial arts competitions composed of moves and tactics similar to sports widely recognized and included in the Olympics (see <http://www.elitecagefighting.com/martialarts.html>, [http://sfuk.tripod.com/articles\\_04/criticisms\\_mma.html](http://sfuk.tripod.com/articles_04/criticisms_mma.html)). In any event, you need to evaluate the inherent dangers of participating in these events and determine whether they could result

in Airman Snuffy’s incapacity for duty or physical disqualification.

As Airman Snuffy’s commander, it is up to you to evaluate the nature of the event, the hazards, and the member’s skills, training, and experience to determine whether Airman Snuffy’s participation will adversely impact the command’s ability to execute the mission. Obviously, military members would be precluded from participation in those competitions that are illegal “fight club” type events and mixed martial arts competitions conducted in states that prohibit them. Similarly, as the commander, you can (and probably should) prohibit participation in those events that run a high risk of injury such that they are a threat to readiness. However, Airman Snuffy may be able to participate in properly conducted martial arts competitions within a single art (e.g., boxing, karate, judo, or hapkido) or in a mixed martial art format without adverse impact to the mission. Ultimately, this is a commander’s call. ■

*~no federal or personal endorsement of any extreme or ultimate fighting association or organization is intended by the use of names or the appearance of links in this article*



# Commanders: It's up to *YOU*

to evaluate the nature of the event, the hazards, and the member's skills, training, and experience to determine whether Airman Snuffy's participation will adversely impact the command's ability to execute the mission.



Photo by SSgt Matthew Hammen

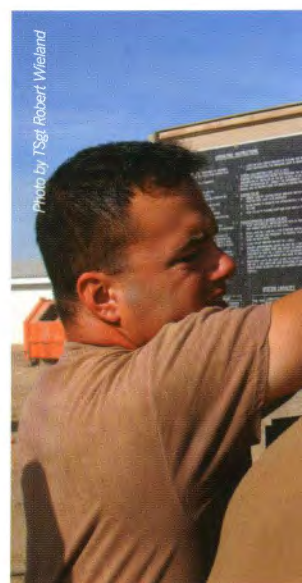


Photo by TSgt Robert Wieland

# TOP 10 SAFETY VIOLATIONS

by TSgt John T. Hale, 407th Air Expeditionary Group

# ON AN AOR DEPLOYMENT

**10. Improper use of electrical cords in tents.** Check electrical cords and surge protectors in your tent and workplace to ensure they are in good condition and are not being smashed by furniture or concealed behind a wall, ceiling, or floor. As a precaution, inspect your smoke detector each week to make sure the battery works. It is also a good idea to look for light bulbs resting against cloth or other combustible material.

**9. Lack of required Personal Protective Equipment (PPE).** Wear a Kevlar helmet in a HMMWV (High Mobility Multipurpose Wheeled Vehicle) or any other tactical vehicle. Protect your eyes with approved face shields or eye protection. PPE requirements protect your eyes, hands, face, or body from specific hazards associated with every task. Supervisors should ensure the proper PPE is available and used.

**8. Improper reporting of a near miss.** A piece of equipment malfunctions. You quickly fix it and do not report the problem to your supervisor. Your lack of communication contributes to a lack of awareness by your fellow Airmen, which could lead to someone getting maimed or killed if that equipment fails again. Keep everyone informed about problems encountered on the job.



Photo by Algeon E. Crawley, USA



**7. Sitting incorrectly in the bed of a pick-up truck.** As a general rule, sitting in the bed of a truck is not allowed, unless prior approval has been granted following an operational risk management assessment. If seating capacity has been exceeded and use of the truck bed has been approved, knowing where and how to sit is paramount to your safety. Sitting on a wheel well or the side edge positions of the truck bed puts your body above the protection of the truck bed and increases the risk of falling out. Leaning against the tailgate is not allowed according to the regulations. It could give way and result in a fall. If a person falls out of a truck even at 20 miles per hour, there is potential for severe injuries, including a smashed skull or getting run over by the truck.

**6. Pickup Basketball Games.** Prevention is the key to avoiding sports injuries. Stretch and warm up before any type of exercise or sports activity. Take breaks and know your limits.

**5. Using the wrong tool for the job.** Don't use a knife to turn a screw. If your hand slips, you could severely cut it. Take the time to go and get the right tool. For each task, follow Air Force Instructions, technical orders, and other applicable procedures.



**4. Tampering with electrical or mechanical equipment panels.** Only authorized expeditionary Civil Engineers Squadron electricians or heating, ventilation, and air conditioning technicians are permitted to work on or fix any mechanical problems with environmental control units or electrical panels. This equipment is hazardous and tampering with it could result in serious or fatal injuries and damage or service disruptions.



**3. Lack of reflective belts.** Walking or jogging outside at deployed locations can be very dangerous because of the lack of street lights and heavy vehicle and pedestrian traffic. Use of reflective belts is mandatory at night in the AOR with exceptions only for Force Protection. Use sidewalks where available and always face oncoming traffic.



**2. Lack of seat belt usage.** Always wear your seat belt; your life may depend on it. In a vehicle rollover, your head becomes a sledge hammer breaking through the windshield. In addition, passengers partially thrown from a vehicle can get crushed to death when the vehicle rolls over or lands on top of them.



**1. Speeding and reckless driving.** Follow all posted speed limit signs and evaluate road conditions for other hazards. Stop at stop signs and be aware of the intentions of others approaching an intersection. Trucks or HMMWVs driving too fast for off-road conditions have easily flipped over and maimed or killed passengers. 🦋

# RUMBLE! BOOM! CRASH!

by Mr. Vincent C. Dotson, Barksdale AFB, La.

**L**ightning and electrical storms are especially dangerous during summer thunderstorms, and many people are unaware of the associated hazards. With approximately 360,000 bolts of lightning bombarding the earth every hour, lightning is one of nature's most spectacular yet deadly displays. It can be devastating, spectacular, and unpredictable, and it is far from being understood. Many people are injured or killed by lightning strikes every year. National statistics show that

lightning kills more than 600 people in the United States every year (more than tornadoes), with most lightning strike fatalities occurring between 10 a.m. and 7 p.m.

If you think lightning isn't a potential hazard for you, think again! Two years ago, a military member was killed at Hurlburt Field, Florida, when the aircraft he was working on was struck by lightning. Although lightning is generally considered to be unpredictable, there are steps you can take to reduce your chance of injury.

rumble boom crash

Mr. Vincent C. Dotson

### WHEN LIGHTNING IS FORECASTED:

- Stay indoors. Don't venture outside unless absolutely necessary
- Stay away from open doors or windows, fireplaces, radiators, stoves, metal pipes, sinks, and plug-in electrical equipment such as radios and televisions
- Do not use plug-in electrical items such as hair dryers
- Do not use the telephone unless absolutely necessary

### AVOID HAZARDOUS LOCATIONS DURING THUNDERSTORMS:

- Hilltops and ridges
- Areas on top of buildings
- Open fields, athletic fields and golf courses
- Parking lots, Tennis Courts
- Swimming pools, Lakes, and Seashores
- Near wire fences, clotheslines, overhead wires and railroad tracks
- Under isolated trees
- Areas near electrical appliances, telephones, plumbing fixtures

### REDUCE YOUR RISK BY SEEKING SHELTER IN:


- Dwellings or other buildings that are protected against lightning
- Protected underground buildings
- Large metal framed buildings
- Enclosed autos, buses and other vehicles with metal tops and bodies

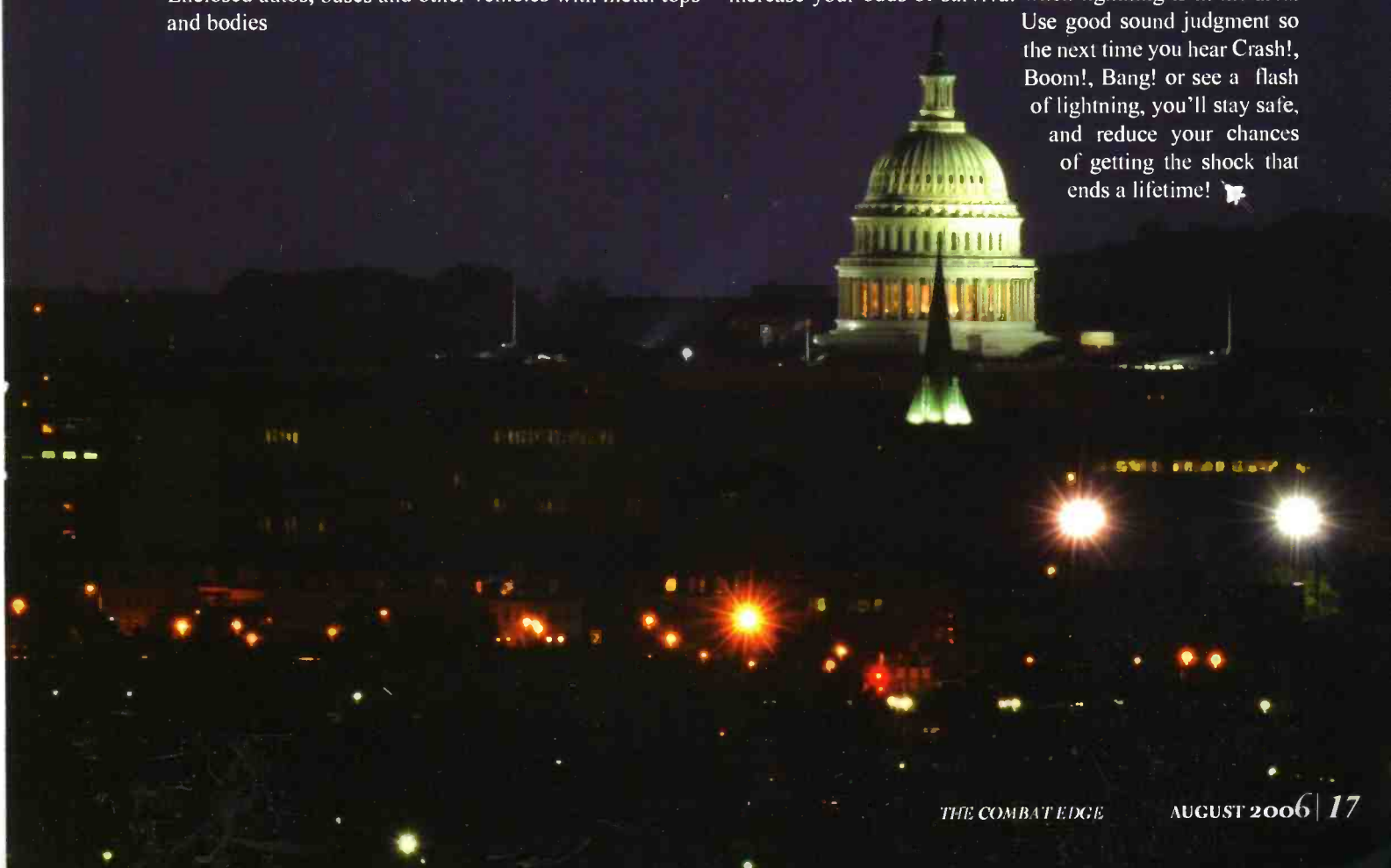
### IF CAUGHT OUTDOORS:

- Don't work on fences, telephone lines, pipelines, or structural steel fabrications
- Don't use metal objects such as fishing rods or golf clubs
- Don't handle flammable materials in open containers
- Stop tractor or riding lawn mower work
- Stop swimming. Get off small boats
- Stay in your car if traveling. Automobiles offer excellent lightning protection
- Get out of open areas

Your first choice should be to seek shelter in a sturdy building or shelter. If no building is available, your best protection is a cave, ditch, or low lying area. Never take shelter under a single tree or in any open spaces. If all else fails and you are stuck out in an area that offers no protection; crouch on your heels and get as low to the ground as possible with your head down until the storm passes. This position reduces your chances of being struck, by reducing your vertical profile, while crouching on the balls of your feet reduces the amount of body to ground contact area in case you are struck. Be aware of your surroundings, and keep abreast of current weather reports. If thunderstorms are developing, don't be caught where you can't take shelter. If it will take awhile to reach a safe place, give yourself time to reach it, as storms can grow from the small towering cumulus stage to a lightning producer within less than half an hour.

Following these precautions will reduce your risk, and increase your odds of survival when lightning is in the area.

Use good sound judgment so the next time you hear Crash!, Boom!, Bang! or see a flash of lightning, you'll stay safe, and reduce your chances of getting the shock that ends a lifetime! 





# Me. a Wimp? NEVER!

by Lt Vince Willis, USN

**H**ow would I be able to get a good aerobic workout to complement my running program for the Navy's physical-readiness requirements? A 10-mile ride on my mountain bike to work was the perfect answer. I even had a riding partner, Tim, from my squadron.

Starting the day with a 50-minute bike ride is great. The New Orleans heat hasn't hit yet, the sun is just rising, and over half our route is along a levee of the Mississippi River. However, at the end of the day, the New Orleans heat is

raging, and I usually manage to get a ride home with someone. Tim, who is in a bit better shape than I am, usually rides his bike.

One day, as Tim and I walked our bikes into the hangar, he asked me if I would make the ride back home with him that afternoon. With my endorphins flowing from the ride in, I said I would. On my way to a locker room for a badly needed shower, I met our corpsman in the passageway.

"Sir, we're updating shot records. Come on in."

Three shots later (gotta love that Anthrax — and it seems I always need a Hepatitis A or B or something); I finished my shower and put on my khakis for another day as squadron personnel officer.

Lunchtime quickly approached. I usually carry a lunch to work, but I hadn't that day. Too much trouble when I'm biking. However, I did have snacks in my desk, which got me through.

When 1600 came around, I was having second thoughts about riding home. The heat and humidity were up,

Photo by Photographer's Mate 2nd Class Nathaniel T. Miller, USN



Photo by Ms. Christy Ayvett

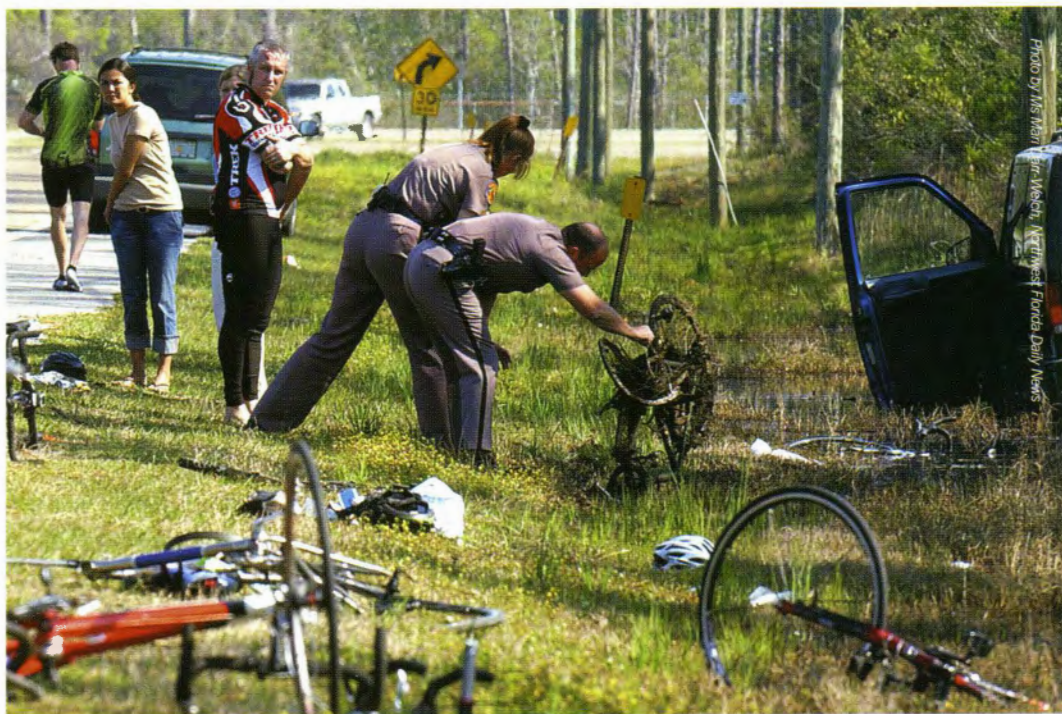


Photo by Ms. Mary Ann Welch, NETWEEK Florida Daily News

and I wasn't feeling that great. However, bagging out of the ride home would have been a sign of weakness, and I couldn't do that. So off we went. And, eventually, off the bike I went — less than a mile into the ride, I was splayed on the side of the road, having gone down hard on my right side. I had cracked my helmet on the curb and skinned myself pretty good. The fall also broke my cell phone in my Camelback, but Tim had his. I called my wife to pick me up.

Satisfied I was O.K., Tim continued home. As I waited for my wife to

load up three kids and head toward the base to pick me up, I went over the day's events and started thinking how I could have managed the risks.

Three significant things contributed to my mishap. One, getting those shots, which had to have some effect on me physically, regardless of what the injections were for. Two, skipping lunch was stupid. There was a coffee mess downstairs from my office with sandwiches and more. Three, succumbing to peer pressure and having a fragile ego kept me from making the right decision

to catch a ride home on a day when I didn't feel I was at 100 percent.

My injuries could have been much worse, and I know my helmet served its purpose. Before we got home, my wife insisted on taking me to the base clinic, where the same corpsman that had given me the shots that morning scraped the gravel out of my right shoulder, elbow, palm, and knee. He then told me that my tetanus shot was approaching 10 years old and gave me a fourth (and final) shot for the day. 🐉

# HELMETS

**M**otorcycles are becoming more and more abundant due to their relatively low cost, miserly fuel economy, and inexpensive insurance rates. They have high performance capabilities; however, they are less stable and visible than cars. This is the very reason why you should invest wisely in your Personal Protective Equipment (PPE). What is PPE? Well, PPE is what we wear to protect ourselves from injury. For example, football players wear pads, helmets, and other protective accouterments to protect them while playing. Miners wear hard hats, eye protection, gloves, and heavy boots in performance of their duties. For motorcyclists, however, PPE can mean the difference between simple "road rash" and a lengthy hospital stay with long torturous hours of rehabilitation, or one step further ... death.

Of the various pieces of PPE that a motorcyclist needs, your helmet is the single, most important piece of equipment a rider can do. A helmet protects your head against injury from flying road debris, dust, and the occasional beetle. But the primary function of a helmet is to protect your nugget in the case of an impact. Here's a test: take your hand palm side down and smack the pavement as hard as you can. Sound crazy? Simply imagine the same force you used to hit the pavement with your hand, but substitute your head. Do I sound crazy, now? Research has shown that during a motorcycle accident, deceleration forces acting upon the head can reach upwards of 200-600 Gs in a matter of 2-4 milliseconds.

Do I have your attention now? Good! Now we'll delve into what a proper certified helmet should consist

of, and how to choose one that fits properly. There are two different agencies that certify motorcycle helmets for use. One is the Department of Transportation (DOT) and the other is the Snell Memorial Foundation. Both groups test helmets for crash worthiness and other factors to see if the helmets meet specified criteria, but helmets are only required by AFI 91-207 and DODI 6055.4 to meet the "DOT" standard when riding on or off base.

A motorcycle helmet manufacturer's compliance with the DOT standards is strictly based on the "honor system." Helmet manufacturers design and build their helmets to meet the performance criteria contained in the DOT standard. The helmet manufacturers self certify the helmets as meeting the DOT performance criteria and are then allowed to display the DOT sticker on the back and



# FIRST LINE OF DEFENSE

by TSgt Joe Winfield, 8th Air Force Safety

inside of their helmets, and manufacture and sell the helmets as being "DOT Certified." Helmet manufacturers are not required to submit a sample helmet to the DOT for testing or independent verification prior to displaying the "DOT Approved" sticker, but by displaying the sticker they are agreeing to be subjected to spot inspection and testing by DOT. DOT will occasionally conduct spot checks of a random sampling of helmets manufactured and sold as meeting the DOT standard for compliance at commercial and private labs, but not on a set schedule or interval. If a helmet manufacturer's product is spot tested and fails to meet the DOT performance criteria, the manufacturer may be forced to recall and replace all of the helmets purchased by consumers, as well as additional fines and penalties.

This brings us around to Snell. No, it's not a French delicacy, it's an independent, non-profit organization known for its stringent motorcycle helmet testing standards and requirements. Snell testing and certification is voluntary, therefore, if a helmet manufacturer chooses to apply for a Snell rating, they are required to provide production samples of their helmets to Snell for evaluation. The helmets are then put through a punishing battery of tests including impact severity (how much deformation sustained during a measured impact), shell material construction, retaining system, foam density/thickness, and peripheral view, just to name a few. What Snell does not test for is comfort and style. What does all this testing to destruction mean? It means that Snell certification may be your best assurance

the manufacturer has made a real commitment to your safety. You can identify a Snell-rated helmet by a rectangular sticker or cloth label emblazoned with the Snell logo and serial number. In the background of the label you'll either see "M95," "M2000," or on the newest version "M2005." Snell reevaluates and updates their standards every 5 years. The decal is usually affixed to the foam under the comfort padding. Cloth type labels are generally sewn onto the chin strap and folded over. If you search your helmet and cannot find a Snell label, chances are that it's not a Snell-certified helmet.

Most manufacturers suggest riders replace their helmet every 5 years. This is not a clever marketing ploy to ensure fresh sales; glues, resins, and other materials used in helmet manufacturing



break down over time. Hair oils, styling products, and normal "wear and tear" all contribute to helmet degradation. Petroleum based products in some cleaners can deteriorate your helmet as well. Additionally, experience has shown there will generally be a noticeable improvement in helmet technology over a 5-year period due to advances in materials, designs, and production methods. Thus, the recommendation for 5-year

helmet replacement is a sound judgment call stemming from a solid risk management mindset.

Novelty helmets ... what can be said about novelty helmets other than they DO NOT meet ANY acceptable standard. The shell is usually thick and hard, the foam is less than 1-inch thick, and does not display any type of DOT or Snell certification markings. These helmets have become extremely popular

and have contributed to many serious injuries and deaths. Some manufacturers include a separate "DOT" sticker that consumers apply after buying the helmet. If you want to be sure your helmet actually meets the standard, get a Snell- or DOT-certified helmet to begin with.

A few tips on picking the best helmet for you. Once you've found a certified helmet you like, be sure to try it on. A proper fitting helmet will not limit

# How To SPOT A DOT CERTIFIED

The National Highway Traffic Safety Administration (NHTSA) issued Federal Motor Vehicle Safety Standard (FMVSS) 218, Motorcycle Helmets, on August 20, 1973. The standard went into effect on March 1, 1974, and was most recently amended on October 3, 1988.

All motorcycle helmets sold in the United States are required by law to meet or exceed the minimum performance requirements established by FMVSS 218. These requirements include minimum impact and penetration capabilities, chin strap retention qualities, and a 210-degree field of view, along with a number of labeling requirements. To certify that their helmets meet all the requirements of FMVSS 218, a manufacturer places the letters "DOT" on the back of each helmet. This lettering is often referred to as a "DOT label" or "DOT sticker." If a manufacturer sells a helmet certified as meeting the FMVSS standard and NHTSA discovers the helmet does not, NHTSA conducts an investigation

that can result in the manufacturer's having to recall the helmets in question. Recently, the manufacture and sale of costume or novelty helmets has dramatically increased. These helmets, if not sold as motorcycle helmets, are not required to meet FMVSS 218. If the manufacturer does not place a DOT sticker on the back of the helmet, they are not certifying that the product meets FMVSS 218, and they do not claim that it offers any protection at all to the wearer. A problem arises with a novelty helmet when its manufacturer or distributor encloses or offers a DOT label separately for the consumer to place on the back of the helmet. Reputable manufacturers place the DOT sticker on their helmets before shipping them to distributors.

Most state helmet use laws require motorcyclists to wear helmets that meet FMVSS 218. NHTSA has developed a training videotape and an informational brochure to assist law enforcement per-

sonnel in identifying helmets that do not meet this national standard. For copies of the video and brochure, call NHTSA at (202) 366-1739.

## FMVSS 218 Requirements

A DOT label must be affixed to the center, lower back of each approved helmet. FMVSS 218 also requires the manufacturer to sew into the helmet liner a label or labels that can be easily read without removing padding or any permanent part. This label must include the following information:

- Manufacturer's name or identification
- Precise model designation
- Size
- Month and year of manufacture, which can be spelled out (June 1988) or expressed in numerals (6/88).
- Instructions to the purchaser as follows:

"Shell and liner constructed of (types of materials spelled out)."

your vision and should feel comfortable on your head. Usually the "thumb test" will help determine proper fit. With the helmet on and the chin strap unfastened, place your thumb on the bottom edge of the helmet and push up. If the helmet slides too easily, it's too big. If you need a shoe horn to get it off, it's too small. A proper fitting helmet should be snug enough to slightly move your cheeks. Next, fasten the chin strap, grab the out-

side of the helmet and push it up, down, forward, and back. If it seems snug, but not too tight and your vision is not obstructed, this is the helmet for you. Remember, all brands do not fit the same, so try on more than one. Take your time finding the right helmet for you.

While helmets are primarily a protective device, the defensive qualities of a helmet only come into play for 2-4 milliseconds and only if things go

wrong. This leaves a lot of time for that brain bucket to be doing nothing more than sitting on your head. Make sure you cover your nugget with something safe, comfortable, and most of all, certified. You've spent your hard earned money on your bike and your riding gear — why not spend a little cash to protect your head. After all, without the sticker, it's purely a gamble the helmet meets any standard at all.



Courtesy of Naval Safety Center



Courtesy Photo

# HELMET

"Helmet can be seriously damaged by some common substances without damage being visible to the user. Apply only the following: (recommended cleaning agents, paints, adhesives)."

"Make no modifications. Fasten helmet securely. If the helmet experiences a severe blow, return it to the manufacturer for inspection or destroy it and replace it."

- A helmet must have an inner liner, about 1-inch thick and made of polystyrene (styrofoam).
- The chin strap must be strong and well-attached.
- There can be no attachments or protrusions over two-tenths of an inch long.

## How to spot an Illegal Helmet

The following is a list of items, in lay terms, which are indicators of illegal helmets.

- If there are protrusions from the helmet, such as the old German style with a spike on the top (World War I vintage), it will not meet the FMVSS standard. (Caution: Some helmets styled like World War II German helmets are legal. Some very reputable manufacturers produce them to meet FMVSS.)
- If the helmet consists of a beanie that covers only the very top of the rider's head, it probably doesn't meet the standard.
- If the helmet has a web liner, no padding, or padding only, or a thin shell of less than 1 inch of styrofoam on the inside, it likely will not meet FMVSS 218.
- Fake helmets usually weigh less than 1 pound, whereas legal helmets usually weigh more than 3 pounds.
- If the strap is less than one-half inch wide, or with a single strap attached to the helmet, it probably doesn't meet the federal standard.
- If the strap is poorly attached with

small rivets, it probably doesn't meet the standard.

- If a DOT label is on the lower back of the helmet, but you suspect it really does not meet FMVSS 218, inspect the inside of the helmet to see if the manufacturer has complied with the labeling requirements previously described. If all labeling requirements are not met, the helmet does not meet FMVSS requirements.
- Helmets may have labels from the American National Standards Institute (ANSI) or the Snell Memorial Foundation, which has somewhat different requirements. However, the DOT standard is the only one the helmet is required by law to meet.

This information was provided by NHTSA's Safety Countermeasures Division and compiled by the Licensing Department of the Motorcycle Safety Foundation. Visit their website at the following address: <http://ntl.bts.gov/DOCS/deskbk.html#MSH>



# When weapons come visiting

by TSgt Jonny Lung, Nellis AFB, Nev.

The 549th Combat Training Squadron (CTS) operates out of Nellis Air Force Base, Nev. Our operations revolve around the training of aircrews and ground personnel in the arena of close air support and forward air controlling. The units that participate in this training deploy from every U.S. service and from five allied nations. Because these units operate 10 different airframes, they employ a wide variety of live and training munitions. Managing and mitigating the myriad of hazards involved with all of these diverse weapons systems is my prime responsibility.

As a member of the 549th CTS weapons liaison team, I ensure that our deployed units operate within the established guidelines that regulate weapons safety. There are two critical tools I use to familiarize myself with the variety of unfamiliar munitions and equipment that are brought to our base.

The first is the technical guidance or data that the units bring with them. It is critical that I read and understand the hazards contained within the guidance so I can reconcile unit procedures with local ones.

The other tool I use is the Internet. The Internet provides me with critical pieces of specific information (e.g., net explosive weights) that I need in order to apply local guidance to our transient units. A couple of useful sites I have found that provide reliable data include the Weapons File at PEO.net on the web site of Eglin AFB, Fla., and the Janes Defense web site. Without the details that I collect from these sites, applying local guidance to the munitions and equipment used by our visiting units would be difficult or impossible.

The actual systems and weapons a unit uses is only half of the equation when dealing with weapons safety. The

other is the people and procedures that are involved. I have a couple of other tools that I use to deal with this problem: my own technical data or guidance and observation.

I deconflict whatever procedure the visiting unit is performing with my own technical data and guidance. When a conflict does occur, I set up a meeting with the visiting expeditor to hammer out the details. This usually results in a compromise being set up between the units. Base or wing weapons safety per-

sonnel usually assist in this process by providing any waivers that are required.

Observation is the second tool I have found that is key to my success. No matter how prepared I am, situations occur that were not covered in the deconfliction process. When this happens, I immediately stop any questionable procedure. I then determine precisely what is and/or will be occurring and finally decide how it does or does not conform to established procedures. Free flowing communications and supervision of de-



ployed units is vital to my unit's success during these joint operations.

Dealing with transient units is a challenge to a unit's weapons safety NCO, but not an insurmountable one if the right tools are used. Technical data familiarity (both from the home and deployed units) is essential to understanding the hazards of unfamiliar equipment. Open lines of communication will ensure that everyone knows what the rules are and how to adapt to new situations. Observation will ensure that all of the players are operating within the approved framework. Joint operations are a way of life in the world as we know it. Using the correct tools makes this joint world as rewarding as it is challenging.



# MONTHLY AWARD WINNERS

## Flight Line Safety Award of Distinction

**A**ir Traffic Control Tower personnel, under the supervision of Chief Controller MSgt Thomas Hensley, were providing safety oversight and monitoring services to all aircraft on, above, and in the vicinity of Barksdale AFB for the base's annual air show. During the course of the fast-paced aerial demonstrations, MSgt Hensley listened in as the civilian Air Boss instructed Poison 11, a flight of two T-38s, to taxi into takeoff position on the active runway and hold for further instructions. Meanwhile, a B-52, B-17, B-26, P-51, AT-6, and two other non-military performers were circling the airfield, waiting for sequencing instructions to land. As the airborne aircraft started their final approach, MSgt Hensley noticed the T-38s were still holding in position in the middle of the active runway. Recognizing the potential for a major catastrophe, MSgt Hensley immediately notified the civilian Air Boss of the

T-38s' position. The Air Boss broke out the aircraft on final approach and re-sequenced them for landing, enabling the T-38s to depart, eliminating the possibility of a disastrous collision. MSgt Hensley demonstrated outstanding leadership and situational awareness in his role as lead air traffic control safety observer. His decisive action and unhesitating willingness to speak up when something did not look right prevented a major mishap involving multiple aircraft, military and civilian personnel, and ensured the success of an outstanding public relations event for 135,000 enthusiastic aviation fans.



**MSgt Thomas E. Hensley**  
2nd Operations Support Squadron  
2nd Bomb Wing  
Barksdale AFB, La.

## Pilot Safety Award of Distinction

**M**ajor Costello was number 1 of a two-ship of F-15Cs on a Coronet South redeployment sortie from Arturo Merino Benitez Airport in Santiago, Chile (SCEL). The mission was scheduled to depart SCEL to MacDill AFB, Fla., as a cell of four F-16s, two F-15s and a KC-10. On takeoff, Major Costello's landing gear indicated an abnormal retraction, indicated by a light in the gear handle. In accordance with DASH-1 procedures, he stayed below 250 KIAS and put the landing gear handle back down. After lowering the gear, he noted an unsafe left main landing gear indication and the light in the gear handle was still on. Upon visual inspection, his wingman confirmed that the left main landing gear was down, but the wheel was canted 30 degrees inboard. Given this configuration the F-15C DASH-1 recommends an approach-end arrestment; however, the closest airfield with a suitable cable was over 500 NM away. Major Costello calmly completed all checklist items and reviewed all of his recovery options. He concluded the safest course of action was to reduce to the minimum practical fuel weight and attempt a "normal" landing at SCEL. After coordinating with

the tower to have his wingman recover on the parallel runway, Major Costello flew a visual approach to runway 17L and intentionally touched down 60 feet down the runway 50 feet right of centerline. Immediately after touchdown, the left main tire began to smoke and the aircraft began to significantly pull towards the center of the runway. Major Costello countered the drag forces with differential braking and used right aileron to minimize the downward pressure on the bad landing gear. With perfect flight control and braking inputs, Major Costello kept the left main tire intact and brought the aircraft to a stop 6,000 feet down the runway, on centerline. As Major Costello shut down the engines, hydraulic pressure ceased and the left main landing gear collapsed. The aircraft came to rest on the left main landing gear door and the left wingtip and Major Costello quickly egressed



**Maj James W. Costello**  
1st Operations Group  
1st Fighter Wing  
Langley AFB, Va.



## Ground Safety

Award of Distinction

**M**Sgt Lingham's daily interaction with Geographically Separated Unit safety reps provided safety insight for upcoming Unit Compliance Inspection and tools necessary for success. She spearheaded a highly effective summer safety day to kick-off the 101 Critical Days of Summer Safety Campaign by inviting guest speakers from Med Gp and hands-on activities. Her coordination of the 8 AF's "180 Critical Days of Summer" group campaign material & briefings targeted and reduced mishaps. As a member of host base Traffic Safety Committee she increased safety awareness to group and was an expert volunteer traffic warden who conducted aggressive seat belt and motorcycle personal protection equipment spot checks that ensured 100 percent compliance across the board. She also attended a National Fire Protection class which enabled her to expertly overhaul the entire group's emergency action plans to meet national safety codes. She was also hand-picked by the 15 ABW Chief of Safety to assist the wing Safety office in investigating a near fatal motorcycle mishap. Her review discovered sound causes and developed positive recommendations which will prevent mishaps of a similar occurrence. As facility manager, she facilitated a \$6K project to install UV lights in HVAC units that dramatically impedes the spread of mold bacteria.

Simultaneously, her effort orchestrated spring cleanup of all 692 IOG offices, the disassembling and disinfectant of 12 vents to mitigate further bacteria spread. As a key member of the Hickam AFB elementary school Tiger Team, her actions resulted in the restructure of traffic flow that ensured safer child drop-off points for countless school children. Her strict self inspection of 692 IOG safety programs identified a training shortfall. This enabled quick revamping of Unit Safety Representative training for squadron safety reps that complemented training received by the host base. She efficiently reorganized records and streamlined an outdated filing system; all records are now available electronically. Her institution of a "non-reportable" mishap Memorandum for Record checklist reduces documentation time by 75 percent. She personally researched and coordinated development of the group commander's motorcycle safety brief that effectively covered all group motorcycle riders. The 70 IW commander lauded her comprehensive High Risk Activity program, which was adopted and used as a "benchmarked" document for all 8 AF units to use and follow.



**MSgt Kim E. Lingham**  
692nd Intelligence Group  
70th Intelligence Wing  
Hickam AFB, Hawaii



## Weapons Safety

Award of Distinction

**D**uring a weapons working group meeting, AMMO personnel stated there were seven cracked roll pins on AIM-9X missile umbilicals with no known cause. TSgt Crump, TSgt Smith, and SSgt Baldwin eagerly volunteered to investigate and find the root cause. Initial measurements of the AIM-9X forward missile hanger revealed the hanger to be two-tenths of an inch lower than that of the AIM-9L/M, thus causing the missile to sit further into the rail. Additionally, the missile umbilical block itself sits slightly higher than the AIM 9L/M. While sliding the missile onto the rail, everything was normal until the missile reached approximately 1 inch from the final "lock-in" position. This position is where the LAU-128 missile mechanical arm (snatch away) is located. At this point, it was observed that the missile umbilical roll pin was making contact with the mechanical arm. Furthermore, removal of the missile revealed heavy contact with the missile mechanical arm on the LAU-128 and the roll pin. Using a bore scope kit, the NCOs were able to

obtain valuable pictures and video for the Launcher Item Manager. Additional research uncovered that TCTO-510, dated May 1998, provided procedures to grind down the lower portion of the mechanical arm fingers on the LAU-128 launcher but did not account for the differences between the AIM-9X and AIM-9L/M missiles. The NCOs quickly set forth a One Time Inspection plan and worked with the item manager to further modify the LAU-128 mechanical fingers to better accommodate the AIM-9X missile. The system knowledge and diligence displayed by these three NCOs not only found the root cause of the roll pin cracking but put into place a plan to prevent accidental shearing of the missile umbilical, a depot level repair, thus preventing possible weapons mishaps.



**TSgt Christopher D. Crump, TSgt Michael A. Smith, SSgt Aaron J. Baldwin, 33rd Maintenance Group**  
33rd Fighter Wing, Eglin AFB, Fla.

# MONTHLY AWARD WINNERS



Approximately 6 hours into a U-2 operational mission supporting Operation ENDURING FREEDOM, the pilot reported feeling ill due to Decompression Sickness (DCS). This information was quickly passed back to his Mobile Officer, Capt Alex Castro who recalled key personnel including medical, Life Support, fire, and security for a situation brief. The team, led by the SOF, Capt Ralph Shoukry, worked out a plan for the recovery which included scenarios for ejection, crash landing and emergency landing. Maj Bob Gardner, another U-2 pilot, was positioned in the control tower and acted as a liaison between the Mobile, SOF, Dragon Operations, and the host nation Air Force. He also coordinated local host nation rescue helicopters to be on alert with engines running while Capt Christina Millhouse coordinated the life flight to the local dive chamber. Maj Kirt Stallings, a U-2 pilot and Wing Chief of Flight Safety, drove a second Mobile chase vehicle to the backup runway and maintained radio contact with Tower and Ops. Capt Jeremy Potvin coordinated with the Mission Operations Controller (MOC) to maintain

communications with the pilot via Lt Col Dave Russell, a U-2 pilot stationed at the MOC location. Lt Col Russell continuously coached the pilot on flying the aircraft and navigation back to base over the voice link for the entire 5-hour recovery. Shortly after contact with Lt Col Russell, the pilot's full pressure suit helmet microphone shorted out. Lt Col Russell continued to guide him throughout the recovery with microphone clicks used as acknowledgement. Lt Col Russell gave the pilot 4 hours of no-gyro turns to navigate through several sensitive corridors. Teamwork and ingenuity of all the individuals involved saved an invaluable national asset.



**Lt Col David L. Russell, Capt Alex Castro  
Capt Jeremy Potvin, Maj Robert Gardner  
Capt Ralph Shoukry, Maj Kirt Stallings  
Capt Christina Millhouse  
99th Reconnaissance Squadron  
9th Reconnaissance Wing  
Beale AFB, Calif.**



The 8 AF Chief of Safety recognized the 509th Bomb Wing Human Performance Training Team during the 2005 Staff Assistance Visit for their work on creating a Driver Alert Initiative. Capt Barry Reeder, 509 MDG, took 8 AF/SE suggestions to take the Fatigue Avoidance Scheduling Tool and integrate it on the Ground Safety side of the house and built an excellent program that has caught on and gained momentum. The program was briefed to and adopted by COMACC, which is highlighted/linked on the ACC/SE web site under Hot Topics. This preventative action exposes a real issue for leaders that must force a cultural change in the behaviors of our high-risk Airmen with loss of driver situational awareness. The 8 AF Safety Team noted, during their visit in May 2006 that the 509 BW has initiated a "Unit Teaming" approach in 10 different areas to lead/oversee the execution of the wing commander's

intent and to digest/communicate policy and standards amongst wing and other DoD agencies. The teaming approach is further amplified by Col Twilley, 509 MDG/CC, and her 509 MDOS Human Performance Training Team, whose initiatives, along with inputs from Unit Safety Reps and staff physiologists, helped bring forward the ACC Driver Alert Initiative now taught by HPTT Instructors at FTAC and brilliantly expanded the program to include other avenues of exposure to include spouses of deployed members.



**Human Performance Team  
509th Medical Operations Squadron  
509th Bomb Wing  
Whiteman AFB, Mo.**



**D**uring a routine preflight inspection, SrA Staley noticed the main landing gear of his assigned U-2 high altitude reconnaissance aircraft had been serviced with the wrong grease. Recalling the landing gear had recently been replaced, Airman Staley quickly notified the flight line expeditor of the discrepancy. The AMU production supervisor noted the aircraft's next scheduled sortie was a mission critical high-altitude flight required for mission qualification. SrA Staley took it upon himself and acquired the correct main landing gear lube called for by the technical order. The lube used on the main landing gear is vital for proper operation of the landing gear. The lubricant is designed to properly keep vital components of the gear from freezing at extremely low temperatures while flying at high altitude. Had SrA Staley failed to notice the main

landing gear had been improperly lubed, actuation above FL 700 would have resulted in a landing gear malfunction — failure of the landing gear to extend prior to landing. SrA Staley also briefed the findings at all shift roll calls for training purposes and ensured the support section had the lube guns properly identified to prevent the incident from happening again. SrA Staley's actions prevented a certain aircraft malfunction, a gear-up landing, limiting U-2 training and Global Intelligence, Surveillance and Reconnaissance against the war on terror.



**SrA Paul M. Staley**  
9th Aircraft Maintenance Squadron  
9th Reconnaissance Wing  
Beale AFB, Calif.

## ACC Safety Salutes Superior Performance



**Maj Ike Williams**  
B-1B Instructor Pilot  
**Capt Ryan Weisiger**  
B-1B Instructor WSO  
**1Lt Richard Gorrell**  
B-1B Student Pilot  
**1Lt Matt Tull**  
B-1B Student WSO  
28th Bomb Squadron  
7th Bomb Wing  
Dyess AFB, Texas

**Capt Jerry R. Brown**  
Predator Pilot  
**SrA Stephen W. Yob**  
Sensor Operator  
15th Reconnaissance Squadron  
57th Wing  
Nellis AFB, Nev.

**MSgt Ken L. Oswald**  
Flight Safety Superintendent  
27th Fighter Wing  
Cannon AFB, N.M.











**TSgt Kevin E. Buff**  
Weapons Safety Manager  
2nd Bomb Wing  
Barksdale AFB, La.

**Maj Charles T. Byrd**  
RQ-4A Instructor Pilot  
Detachment 11  
9th Reconnaissance Wing  
Beale AFB, Calif.

**Capt Thomas Flood**  
Pilot  
**1Lt Joe Howell**  
Weapon Systems Officer  
335th Fighter Squadron  
4th Fighter Wing  
Seymour Johnson AFB, N.C.












## FY06 Aircraft

As of June 30, 2006

	Fatal	Aircraft Destroyed	Aircraft Damaged
8 AF			
9 AF			
12 AF			
AWFC		 	 
ANG (ACC-gained)			
AFRC (ACC-gained)			

## FY06 Ground

As of June 30, 2006

	Fatal	Class A	Class B
8 AF	 	2	5
9 AF	    	6	2
12 AF	  	4	2
DRU's		1	2



= Fatal



= Fatal due to misconduct

## FY06 Weapons

As of June 30, 2006

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

## Aircraft Notes

ACC lost one UAV this month when it lost power shortly after takeoff. We also had four engines damaged from FOD – all from fasteners in and around the intake. Aircraft panels are still falling off in-flight. Some of these incidents may have been prevented by taking a closer look, particularly at fasteners, during preflight. Looking over flight mishaps from the past year, it may be time to focus on checklist discipline. It is easy to forget steps when habit patterns get interrupted by a non-standard event. Good checklist discipline can help keep a distraction from becoming a mishap. Be ready.

## Ground Notes

ACC has experienced three Class A fatalities in the first 35 days of the 101 Critical Days of Summer. All were four-wheel PMV mishaps. Cause factors include lack of seat belts and speed. Over the two holiday weekends so far, ACC did not experience any Class A mishaps.

## Weapons Notes

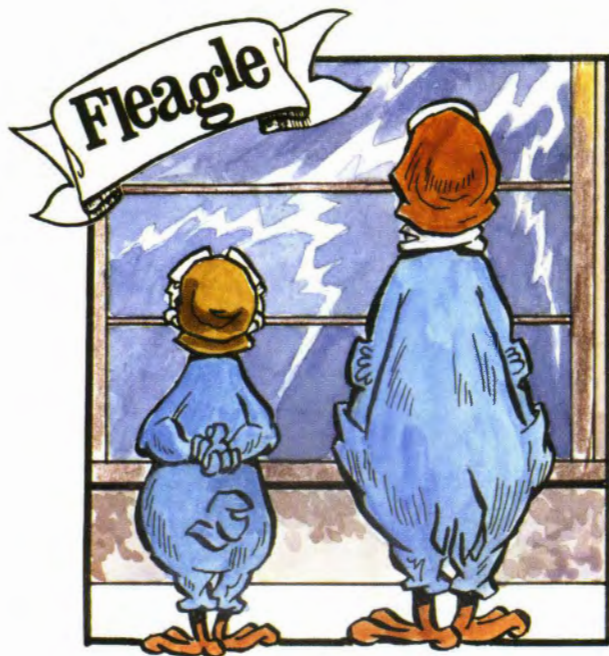
Another good month for weapons safety; we have had two consecutive months without a mishap. It is evident your vigilance in mishap prevention is paying off. Keep up the good work and stay vigilant.

### Legend

Class A - Permanent Total Disability; Property Damage \$1,000,000 or more  
 Class B - Permanent Partial Disability; Property Damage between \$200,000 and \$1,000,000  
 Class C - Lost Workday; Property Damage between \$20,000 and \$200,000  
 \*\* Non-rate Producing

### Symbols for Mishap Aircraft





# MOTORCYCLE MENTORSHIP



get 'em  
while they're  
young