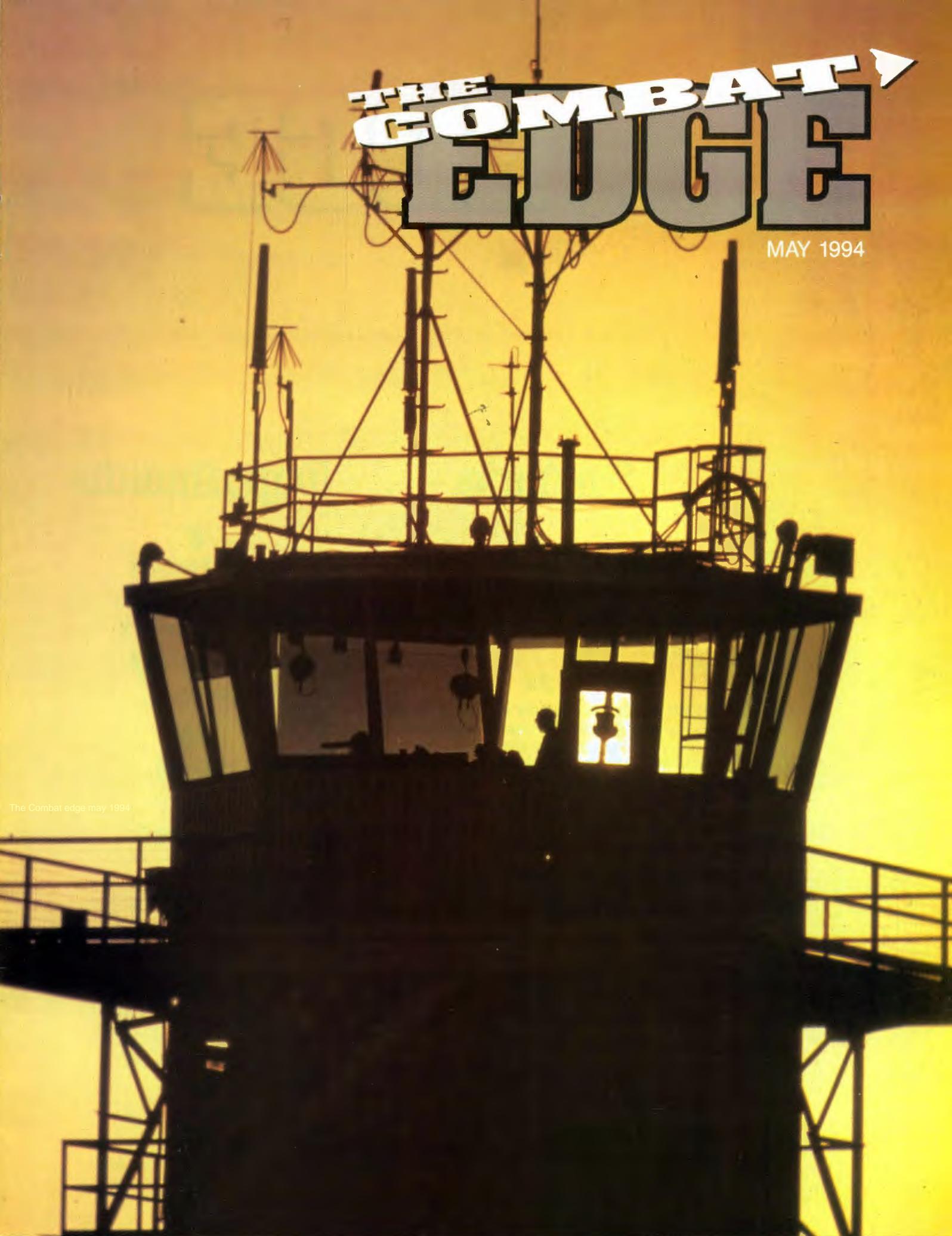


# THE COMBAT EDGE

MAY 1994



The Combat edge may 1994



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# THE COMBAT EDGE

Air Combat Command  
Safety Magazine

## Features

4

### FORMALIZED SAFETY DAY

*Aided by your leaders, these Safety Days will help the command attain our safety goals by keeping the operational mission and mishap prevention at the forefront of our activities.*

24

### WHY SHOULD I WEAR A BIKE HELMET

*During the period of 1984 to 1988 there were 2,985 head injury deaths (62 percent of all bicycling deaths) and 905,752 head injuries (32 percent of all bicycling injuries treated at an emergency facility).*

28

### SUICIDE

*Why did he do it? What went wrong?  
Could I have done anything to stop him?  
Suicide is the third leading cause of death among active duty Air Force members.*

## Departments

6

### FLIGHT SAFETY

10 12 22

### GROUND SAFETY

13 18 27

### AWARDS

26

### FLEAGLE

31

### ACCOLADES

# MAY 94

ACC SP 127-1 VOLUME 2 ISSUE 12



# ACCent on Safety

**G**reetings! As I mentioned last month, we're entering the high risk months of the summer otherwise known as the "101 Critical Days." There are many important things to remember as we start our summer programs. Just to name a few, in the flying/ops side, be ready for the longer and obviously hotter days ahead. Heat stroke, dehydration, and over-exertion are common hazards both in the cockpit and on the flightline. To amplify these problems, the longer daylight hours allow longer flying windows—in other words, increased optempo/workload. If you're not in the best of physical conditioning, don't push too hard. Pace yourself during the surges and deployments—walk before you run if you're not there yet!

On the ground side, the great summer weather and sun bring with them some other special hazards. Severe sunburns and again heat stress are special hazards to be ready for. Also, if you're thinking of hitting the favorite waterhole or beach this upcoming Memorial Day holiday, have fun, but remember—the water temperature is likely to be a lot colder than your body is ready for—it's still very early spring and old man sun hasn't finished his job of warming the water yet! Many people have drowned early in the summer period precisely from this reason—the shock of unexpectedly cold water. Also, not many of us are ready for heavy duty boating/swimming right after a long, cold winter. Again, if you haven't worked on your conditioning, don't try the English Channel on May 31st—wait until August or September when you're in better shape for it.

The ACC-wide Safety Day in May is specifically designed to cover these and many more topics addressing the shift to summertime ops. Take part—more importantly, contribute! If you have seen a particular area or operation on your base that contains excessive risk or poses a potential safety hazard, speak up and

highlight it so it can be corrected and/or eliminated. The Safety Day is designed to allow each organization in ACC to stand down, think, and talk smart and SAFE operations and activities. I urge you all to make the most of it. Your safety office is working hard on putting it together—please pitch in and give them a hand.

Finally, a brief stakeholders' report. Thus far in FY 94, our performance has been great in Weapons and Ground Safety (but still not perfect). ACC's Class A rates in these two areas are 0.8(mishaps per 100,000 flight hours) and 0.7(mishaps per 20,000,000 manhours) respectively—both are right on target to finish on or under our Command objectives for the year. With each of you helping, we can beat these objectives and finish with another record setting year in '94 in Weapons and Ground. Thus far, our performance in Flight Safety has not been as sterling. I am less concerned that our rate is too high(2.3 per 100,000 flight hours with a Command objective of 1.6 or less) than I am with the alarming trends we are seeing this year. Our command controlled and human factors mishaps are up almost 12% over a five-year lookback. I continue to see highly experienced aircrew members making incorrect/poor decisions due to complacency, overconfidence, distractions, and several other reasons. As a command, both active and gained, we've got to "get a grip" on this trend of preventable mishaps. Luckily, our logistics-related mishaps are down—otherwise our rate would be significantly higher. Once again, our resources — our people and equipment — are vital to maintaining our combat power. Our aircraft resources are finite in many cases—each one we lose is one less we can take into combat in the future—think, fly and work safe—our customers, the American taxpayers, expect and deserve nothing less than our very best! Good luck and have a very productive Safety Day!

*Colonel Bob Jones  
Chief of Safety*

# Formalized Safety Day

*The command concluded FY 93 with a flight mishap rate of 1.8, 37 Class A ground, and 5 Class A weapons mishaps. With our continually shrinking budget and downsizing force structure, we need to continue to work hard to improve our performance and preserve our valuable resources.*

*The objectives I have set for ACC in FY 94 are an overall flight Class A mishap rate of less than 1.6 (mishaps per 100,000 flying hours), a ground Class A mishap rate of less than 0.8 (mishaps per 20,000,000 man-hours), and a weapons Class A mishap rate of less than 0.5 (per 100,000 flying hours). To help achieve these very tough objectives I am directing all ACC units to conduct two no-fly safety mishap prevention days in FY 94.*

**W**ith this message to all ACC units, COMACC established and formalized the ACC Safety Day Program for FY 94 and beyond. With an aim of providing increased emphasis on improving ACC's operational and safety performance both in flight and on the ground, two Safety Days will be conducted each fiscal year to help the command focus on attaining overall flight, ground, and weapons objectives.

A survey of the NAFs, DRUs, and wings was taken to determine the best time to conduct each Safety Day. Responses to the survey indicated a strong desire for flexibility in determining the actual date each Safety Day is conducted. The specific date for each Safety Day will be determined by individual wing commanders within the windows of 9-23 May and 16-30 Sep. These windows allow the wings the needed flexibility to maximize their Safety Day activities with minimal impact on their operations and mission commitments (exercises, deployments, quality days, etc.).

Each Safety Day window has been targeted toward specific time frames and objectives. The May Safety Day should focus on the hazards of the upcoming summer while the September Safety Day is planned to provide a chance for reflection upon past performance and an opportunity to focus on preparations for the next fiscal year.

May's Safety Day is envisioned to stress the hazards of the upcoming "101 Critical Days of Summer" and to place special emphasis on ground and recreational safety. In addition, the hazards of summer flying and weapons operations should be addressed. Each unit should formulate their game plan according to their specific mission and needs. The following information and recommendations for ground, flight, and weapons safety are offered for your consideration in building your Safety Day Program.

#### **Ground**

The two most common on-duty problem areas are inadequate training and complacency. Some possible factors are inadequate preparation for short-notice taskings, improper level of supervision for the task, overloading trainees in a short period of time, and supervisor expectations of workers don't always reflect worker's capabilities. A thorough look at your training process would be beneficial. In the off-duty arena, PMV and recreational mishaps are the problem areas. With the "101 Critical Days of Summer" right around the corner, units should strongly stress PMV, recreational, and sports mishap prevention.

#### **Flight**

There are numerous areas for discussion, such as basic airmanship (system knowledge, task prioritization, formation rejoins, tanker/cell procedures, etc.), hot weather procedures, thunderstorm avoidance, NVG operations, spatial disorientation, collision with the ground, fuel awareness (divert decision-making), use of the SOF, etc. A recent mishap where communications between the lead and wingman was cited as a factor has received command attention. In their flight safety session, units should discuss the following topic: "When is the right and wrong time to make and respond to radio calls?" The discussions could

center on when a response to a radio call (i.e., position reports, frequency change requests) is required, especially in a high task, low altitude maneuvering environment. Other situations could include when the flight is in the weather, during emergencies or other critical phases of flight. Units should also look into human factors related mishaps. These mishaps continue to challenge us. You should look at experience levels and determine if your flying personnel are being tasked appropriately in relation to their experience.

#### **Weapons**

The number one safety area is technical order discipline and the need for strict adherence to procedures. It is the difference between life or death. Units should discuss public safety concerns when conducting open houses/community appreciation days. Discuss ways to raise the public knowledge of unit equipment and operations with EOD demonstrations and static displays. There should be supervisor and team integrity during explosive operations. On the nuclear side, units should review Dull Swords and identify problem areas associated with equipment damage due to personnel errors and carelessness. Ensure personnel are familiar with nuclear weapon system safety rules. Review critical areas to include nuclear mishap and hazard reporting requirements. This is an opportune time to review weapons safety/nuclear surety lesson plans, PRP listings, and to update everything as necessary.

If anyone would like additional information or clarification on these Safety Day recommendations, please contact the ACC Safety staff at DSN 574-5821 for Ground Safety, DSN 574-7031 for Flight Safety or DSN 574-3767 for Weapons Safety.

Aided by your unit's leadership, these Safety Days will help the command attain our safety goals by keeping the operational mission and mishap prevention at the forefront of our activities. These actions, along with continuous improvement of our quality processes and dedication to teamwork, will help ensure we preserve our most valuable assets — our people and equipment. ■

# The PROBE HEAT Grinch Who Stole Christmas

Mr. M. W. "Mike" Lichty  
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*Eventhough it's a long time since (and until) Christmas, the following article is presented in the hope of reversing recent adverse trends and indications. In the interest of mishap prevention, this article is reprinted with permission from Flying Safety, February 1993. In 1906, George Santayana said in The Life of Reason, "Those who cannot remember the past are condemned to repeat it." Let's remember — not repeat!*

*-Ed*

Christmas on the slopes of Utah, and New Year's in Tahoe — what better way for four bachelor Viper pilots to spend the holidays? Especially when the Air Force is providing the transportation — 4 F-16Cs. The only catch — 6 instrument training sorties on each jet before the rubber hits the ramp at home plate — HURT me!

Conan, Mad Dog, Tuna, and Mach had been planning this cross-country for months. The important stuff — accommodations, rental cars, prior permission required (PPR), "friend's" travel arrangements — everything had fallen into place.

Now, if maintenance can deliver the jets, this 10-day extravaganza will surely provide some outrageous "Doofer Book" entries.

Takeoff and departure out of MacDill AFB were uneventful. All Xerox flight had to do now was turn at Tinker AFB in time to beat the cold front into Hill AFB. While PPR got Xerox into Tinker, it also got a flight of

4 “Mud” Eagles (F-15E) and 4 Marine F/A-18s there ahead of them. With wall-to-wall conformal and external tanks, it would be at least a 2-hour turn waiting on fuel trucks to service these “target” aircraft.

Check-in and engine start were routine and almost guaranteed a takeoff time which would get Xerox flight to Hill AFB with conditions no worse than a 1,000-foot ceiling, 3 miles visibility, with cloud tops at 18,000 feet and possible light rime icing.

With 5 minutes to go before check-in and taxi, Mach initiated the probe heat check. Selecting PROBE HEAT, he noticed a steady PROBE HEAT caution light (expletive deleted!). Selecting TEST, the PROBE HEAT caution light started to flash. Decision time — “one or more probe heaters inoperative!” Well, the forecast is for only light rime icing; and if I abort now, it’s Christmas with Tuna at Tinker — not exactly what I had in mind. Subconsciously, Mach chose not to consider the icing control equipment requirements outlined in AFR 60-16 for flight in instrument meteorological conditions. Check-in and taxi for Xerox were unremarkable.

With the sun dancing on the horizon and Bon Jovi playing through his mind, Mach’s comfort level was at a “high” as the Vipers’ contrails marked their progress across the southwest sky. Mad Dog’s weather update 30 minutes out jarred everyone back to reality with an added twinge of anxiety for Mach. Weather for the approach was forecast to be a 400-foot ragged ceiling with 2 miles visibility and snow showers in the vicinity of the aerodrome.

A departing Evergreen flight reported icing passing 12,000 feet. Time for Conan to do some of that flight lead stuff. He requested separate clearances for Xerox 1 and Xerox 3 flights and a descent to the initial approach fix for element Aircraft Surge Launch and Recovery (ASLAR) approaches. Tuna

**Historically, AOA probe icing has accounted for one F-16 loss and at least one sortie with a flight maneuver akin to one of the more violent rides at the local amusement park.**

and Mach would penetrate first, as briefed. Xerox 3 flight was cleared off prior to entering the weather at 21,000 feet.

On the wing and in the weather, Mach was reflecting on how comfortable the cockpit was compared to the cold he knew existed outside the transparency while Xerox 3 flight approached the drag point. Suddenly, Mach’s sense of well-being was interrupted by MASTER CAUTION, DUAL FC FAIL, ADC, CADC, and LE FLAPS lights followed by a “WARNING, WARNING” from the voice message unit.

Just as he was about to key the radio to advise Tuna he had a problem, the aircraft pitched down violently. Mach’s cross-country adjusted lap belt made getting to the ejection handle seem like an eternity as his sleek and racy Viper tried to execute an outside loop below published minimum safe altitude. For the remaining Xerox flight members, Mach’s emergency locator beacon, coupled with his failure to check in on the radio, indicated there might be some delay in picking up the rental cars.

Mach’s statement along with the safety findings, indicated the departure from controlled flight was, in all probability, due to angle-of-attack (AOA) probe icing caused by failures in both probe heater circuits.

Any similarity between this fictitious scenario and an actual F-16 flight mishap is purely coincidental. The intent was merely to set the stage for the following text. Although I might disappoint some of the engineers in the crowd, what follows is an attempt to tell you what time it is and not how to build a “JUVAT” watch.

The nature and frequency of recent operations factor F-16 AOA incidents could be increasing the potential for another “real” AOA probe icing Class A flight mishap. The F-16’s original failure monitoring and caution systems have been progressively modified to provide the pilot with a positive indi-

cation of open or failed AOA probe heater circuitry. These design improvements are a direct result of efforts to prevent departures from controlled flight attributed to AOA probe icing. Historically, AOA probe icing has accounted for one F-16 loss and at least one sortie with a flight maneuver akin to one of the more violent rides at the local amusement park.

For those aircraft NOT equipped with a probe heater monitoring system (TCTO 1F-16-1365, Flight Manual TV Code 94) with its corresponding PROBE HEAT caution light, your aircraft have been modified to tell you when the right AOA probe heater circuit breaker (CB) is not set (TCTO 1F-16-1333). If this CB is open, the Flight Control System (FLCS) will not pass self-test. The significance of an open right AOA probe heater circuit breakers is that all probe heater CBs may have been inadvertently left open following aircraft maintenance.

After passing FLCS self-test, the indication the right AOA probe heater CB may have opened is a nonresettable PNEU flag in the pressure altimeter, without an associated CADC caution light. This indication is addressed in a WARNING in Section 7 of the Flight Manual.

Speaking of the Flight Manual, check the PRIOR TO ENGINE SHUTDOWN checks for TV Code LESS 94. Without a probe heater monitoring system, the pilot conducts a post-flight probe heater check. This interim check is required prior to incorporation of TCTO 1F-16-1335 to monitor the integrity of probe heater circuitry. Failure of a

**As the probes sense a value in excess of 25-degree AOA, the pitch axis of the FLCS will attempt to reduce AOA by commanding the horizontal tails full trailing edge down. Thus, the attempt at an outside loop at cruise airspeeds. As the probes sense a value above 29 degrees AOA, the yaw rate limiter provides anti-spin inputs, and all pilot commands are ineffective.**

pilot and crew chief to accomplish this check increases the probability the next pilot will launch with an inoperative probe heater(s). The consequence of that could be the next pilot's total number of full-stop landings don't equal his takeoffs!

For those aircraft equipped with a probe heater monitoring system, the information contained in Sections 1, 2, 3, and 7 of the Flight Manual provides an adequate description of the system, its operation, and applicable WARNINGS.

So why the fur ball? Every Viper pilot knows AOA is a critical input to the F-16 Flight Control Computer (FLCC) for pitch axis stabilization and limiting; roll limiting and switching; yaw stabilization, switching and gain scheduling; and computing the LEF command function and the low-speed warning switching logic.

What every pilot may have forgotten is how the AOA inputs get to the FLCC and how the logic can have a dramatic impact on pitch commands if AOA probe icing has occurred.

The operational aspects of the AOA function in pre-Block 40 aircraft with an analog FLCS consider the left and right AOA probes to be in track when there is less than a 6-degree position error between the two probes. As long as this error tolerance is not exceeded, the side-mounted pneumatic probe AOA information is normally not selected. Failure of any one of these three probes to track the other two results in an ADC light. If all three sources fail to track, the following warning and caution lights will illuminate: FLCS, DUAL FC FAIL, ADC, CADC, and LE FLAPS.

For any of these AOA signals to be input to the FLCC, they must first be processed by the Electronic Component Assembly (ECA) middle-value selector. (Bear with me, we're still talking about Mickey's big hand!) The ECA's AOA output to the FLCC will always be the middle input value even when a failure(s) exists. Extensive wind tunnel testing has shown probe icing usually results in both left and right probes falsely sensing angles of attack in excess of 29 degrees. If both probes remain in track during icing conditions, the side-mounted pneumatic air data probe input value would not be selected.

As the probes sense a value in excess of 25-degree AOA, the pitch axis of the FLCS will attempt to reduce AOA by commanding the horizontal tails full trailing edge down. Thus, the attempt at an outside loop at cruise airspeeds. As the probes sense a value above 29 degrees AOA, the yaw rate limiter provides anti-spin inputs, and all pilot commands are ineffective. Use of the Manual Pitch Override (MPO) switch in an attempt to regain aircraft control is not likely to succeed under such conditions.

If icing causes the AOA probes to be out of track when they sense an increase in AOA, the ECA middle-value selector will still select an input value which, in all likelihood, will eventually exceed 25 degrees and result in the previously mentioned horizontal tail command and negative G departure.

While less likely, a pitchup could occur as a result of leading-edge flap misscheduling which could dramatically increase stall airspeed and, at the same time, contribute to a pilot-induced pitch oscillation. Peculiar to dual AOA failures is the fact that if the failure condition is corrected, ELEC reset will reset all the warning and caution lights.

Aircraft equipped with a digital flight control system are less likely to experience a departure as a result of AOA probe icing, but it can occur. A significant difference between the F-16 digital FLCS and the analog FLCS described in the preceding paragraphs is that in the digital aircraft, corrected AOA signals are input directly to the DFLCC where, under a no-fail condition, the middle value of the three inputs is selected. To detect

failures in any of the 3 signals, a monitor compares the difference of each of the 3 signals to a computed trip level.

The trip level is a function of impact pressure and has a minimum value of 6 degrees. As impact pressure decreases, the trip level increases. Once a failure is detected and persists for half a second, the AOA source is declared failed. The failed input is then replaced by a constant input of 11 degrees of true AOA, and the monitor now only compares the two good AOA sources for a difference greater than the trip level. The middle-value selector will select the intermediate input value between 11 degrees and the remaining two good AOA inputs.

At cruise AOA, if a second probe falsely senses 25 or more degrees of AOA due to icing, the middle-value selector will use 11 degrees as actual AOA, and a controllable pitch down will likely occur. Expanding on this last statement, the actual FLCS pitch command at the time of this second failure is dependent upon aircraft flight parameters. So, there you have it, some basic flight control system and procedural knowledge for Viper drivers. Use it if you need it, or pass it on to someone you know who can. Directly, it won't help a Maverick rip through a tank or stuff a Lima down an adversary's intake, but it just might ensure there are a few more Vipers available to do so. Perhaps of more importance, it may prevent someone from becoming an ACES II test pilot and getting a no-notice check of his survival training. Good hunting and check six! ■

	DESCRIPTION	HABITAT	PROBLEM
 <p><b>CHIGGER</b></p>	<p>Oval with red velvety covering. Sometimes almost colorless. Larva has six legs. Harmless adult has eight and resembles a smaller spider. Very tiny--about 1/20-inch long.</p>	<p>Found in low damp places covered with vegetation: shaded woods, high grass or weeds, fruit orchards. Also lawns and golf courses. From Canada to Argentina.</p>	<p>Attaches itself to the skin by inserting mouthparts into a hair follicle. Injects a digestive fluid that causes cells to disintegrate. Then feeds on cell parts. It does not suck blood.</p>
 <p><b>BROWN RECLUSE SPIDER</b></p>	<p>Oval body with eight legs. Light yellow to medium dark brown. Has distinctive mark shaped like a fiddle on its back. Body from 3/8 to 1/2-inch long, 1/4-inch wide, 3/4-inch from toe-to-toe.</p>	<p>Prefers dark places where it is seldom disturbed. Outdoors: old trash piles, debris and rough ground. Indoors: attics, storerooms, closets. Found in Southern and Mid-western U.S.</p>	<p>Bites producing an almost painless sting that may not be noticed at first. Shy, it bites only when annoyed or surprised. Left alone, it won't bite. Victim rarely sees the spider.</p>
 <p><b>BLACK WIDOW SPIDER</b></p>	<p>Color varies from dark brown to glossy black. Densely covered with short microscopic hairs. Red or yellow hour-glass marking on the underside of the female's abdomen. Male does not have this mark and is not poisonous. Overall length with legs extended is 1 1/2 inch. Body is 1/4-inch wide.</p>	<p>Found with eggs and web. Outside: in vacant rodent holes, under stones, logs, in long grass, hollow stumps and brush piles. Inside: in dark corners of barns, garages, piles of stone, wood. Most bites occur in outhouses. Found in Southern Canada, throughout U.S., except Alaska.</p>	<p>Bites causing local redness. Two tiny red spots may appear. Pain follows almost immediately. Larger muscles become rigid. Body temperature rises slightly. Profuse perspiration and tendency toward nausea follow. It's usually difficult to breathe or talk. May cause constipation, urine retention.</p>
 <p><b>SCORPION</b></p>	<p>Crablike appearance with clawlike pinchers. Fleshy post-abdomen or "tail" has 5 segments, ending in a bulbous sac and stinger. Two poisonous types: solid straw yellow or yellow with irregular black stripes on back. From 2 1/2 to 4 inches.</p>	<p>Spends days under loose stones, bark, boards, floors of outhouses. Burrows in the sand. Roams freely at night. Crawls under doors into homes. Lethal types are found only in the warmest desert-like climate of Arizona and adjacent areas.</p>	<p>Stings by thrusting its tail forward over its head. Swelling or discoloration of the area indicates a non-dangerous, though painful, sting. A dangerously toxic sting doesn't change the appearance of the area, which does become hypersensitive.</p>
 <p><b>BEE</b></p>	<p>Winged body with yellow and black stripes. Covered with branched or feathery hairs. Makes a buzzing sound. Different species vary from 1/2 to 1 inch in length.</p>	<p>Lives in aerial or underground nests or hives. Widely distributed throughout the world wherever there are flowering plants--from the polar regions to the equator.</p>	<p>Stings with tail when annoyed. Burning and itching with local swelling occur. Usually leaves venom sac in victim. It takes between 2 and 3 minutes to inject all the venom.</p>
 <p><b>MOSQUITO</b></p>	<p>Small dark fragile body with transparent wings and elongated mouthparts. From 1/8 to 1/4-inch long.</p>	<p>Found in temperate climates throughout the world where the water necessary for breeding is available.</p>	<p>Bites and sucks blood. Itching and localized swelling result. Bite may turn red. Only the female is equipped to bite.</p>
 <p><b>TARANTULA</b></p>	<p>Large dark "spider" with a furry covering. From 6 to 7 inches in toe-to-toe diameter.</p>	<p>Found in Southwestern U.S. and the tropics. Only the tropical varieties are poisonous.</p>	<p>Bites produce pin-prick sensation with negligible effect. It will not bite unless teased.</p>
 <p><b>TICK</b></p>	<p>Oval with small head; the body is not divided into definite segments. Grey or brown. Measures from 1/4-inch to 3/4-inch when mature.</p>	<p>Found in all U.S. areas and in parts of Southern Canada, on low shrubs, grass and trees. Carried around by both wild and domestic animals.</p>	<p>Attaches itself to the skin and sucks blood. After removal there is danger of infection, especially if the mouthparts are left in the wound.</p>

## SEVERITY

## TREATMENT

## PROTECTION

Itching from secreted enzymes results several hours after contact. Small red welts appear. Secondary infection may follow. Degree of irritation varies with individuals.

Lather with soap and rinse several times to remove chiggers. Severe lesions may require an antihistamine.

Apply proper repellent to clothing, particularly near uncovered areas such as wrists and ankles. Apply to skin. Spray or dust infested areas (lawns, plants) with suitable chemicals.



**CHIGGER**

In two to eight hours pain may be noticed followed by blisters, swelling, hemorrhage or ulceration. Some people experience rash, nausea, jaundice, chills, fever, cramps or joint pain.

Report to a doctor. Bite may require hospitalization for a few days. Full healing may take from 6-8 weeks. Weak adults and children have been known to die.

Use caution when cleaning secluded areas in the home or using machinery usually left idle. Check firewood, inside shoes, packed clothing and bedrolls--frequent hideaways.



**BROWN RECLUSE SPIDER**

Venom is more dangerous than a rattlesnake's but is given in much smaller amounts. About 5 per cent of bite cases result in death. Death is from asphyxiation due to respiratory paralysis. More dangerous for children; major reaction for adults is pain. Convulsions may occur.

Keep victim quiet and call a doctor. Do not treat as you would a snakebite since this will only increase the pain and chance of infection; bleeding will not remove the venom.

Wear gloves when working in areas where there might be spiders. Destroy any egg sacs you find. Spray insecticide in any area where spiders are usually found, especially under privy seats. Check them out regularly. General cleanliness, paint and light discourage spiders.



**BLACK WIDOW SPIDER**

Excessive salivation and temperature rising to over 104° may follow sting. Convulsions, in waves of increasing intensity, may lead to death. First 3 hours most critical.

Apply tourniquet. Keep victim quiet and call ambulance immediately. Do not cut the skin or give pain killers. They increase the killing power of the venom. Antitoxin, readily available to doctors, has proven to be very effective.

Apply a petroleum distillate to any dwelling places that cannot be destroyed. Cats are considered effective predators as are ducks and chickens, though the latter are more likely to be stung and killed. Don't go barefoot at night.



**SCORPION**

If a person is allergic, more serious reactions occur--nausea, shock, unconsciousness. Swelling may occur in another part of the body. Death may result.

Gently scrape (don't pluck) the stinger so venom sac won't be squeezed. Wash with soap and antiseptic. If swelling occurs, contact doctor.

Have exterminator destroy nests and hives. Avoid wearing sweet fragrances and bright clothing. Move slowly or stand still in the vicinity of bees.



**BEE**

In some foreign countries, yellow fever, malaria, encephalitis and other diseases are transmitted by mosquitos. Excessive scratching can cause secondary infections.

Resist scratching. Lather with soap and rinse to avoid secondary infection. Apply calamine lotion to relieve itching.

Destroy available breeding water to check multiplication. Place nets on windows and beds. Use proper repellents. Avoid activities at dawn & dusk. Take anti-malaria pills as directed.



**MOSQUITO**

Usually no more dangerous than a pin-prick. Has only local effects.

Wash and apply antiseptic to prevent the possibility of secondary infection.

Harmless to man, the tarantula is beneficial since it destroys harmful insects.



**TARANTULA**

Some species can transmit Lyme disease, Rocky Mountain spotted fever, tularemia, Colorado tick fever.

Gently grasp head & tug gently upward with tweezers so none of the mouthparts are left in skin. Wash with soap & water; apply antiseptic. Do not heat or squash tick on the skin.

Wear blouse, pant legs, & roll down sleeves when in brushy areas. Use proper repellents. Closely inspect & remove ticks attached to clothes & body at end of day.



**TICK**

# CHECK IT OUT

Ron Smith  
HQ ACC/SEP

**V**irginia had experienced another of its rainy springtimes, and I had a serious case of “cabin fever.” The workload kept me in the office most of the daylight hours, and the weather kept me from doing what I needed to do outside at home when I was there. I was ready for some leave, and a week at the beach seemed ideal. Finally things slowed down and the weather broke, so my wife and I packed up the camping trailer and headed off for our favorite ocean-front campground near Nags Head NC.

The week passed rather uneventfully with a well needed change of pace and our fill of local seafood. After several days of gorgeous early summer weather, the trip home started out in the typical summer weekend procession of those leaving the beach for home and those arriving to take their places — wall-to-wall vehicles, impatient kids, and even more impatient parents! We hardly spoke during the 2 1/2-hour drive home as we both reflected on the enjoyable time and fantasized about having an ocean-front home and a year-round “occupation” of fishing, swimming, and long relaxing walks on some of the finest beaches the eastern seaboard has to offer.

Well, as it always seems to do, summer slipped on past at the speed of light. Already it was time to winterize the camping trailer and haul it off to storage, reclaiming our driveway for use by friends and family during the upcoming holidays. Drain the water, pump in the RV antifreeze, and spray WD-40 on everything that could rust or corrode. I remembered how the trailer seemed to squawk and

groan when I had backed into the driveway after our vacation, so I decided to crawl under and oil all the tandem axle suspension parts that had been exposed to the salty sand and air at the beach. As I checked out the right-hand spring and axle assembly, my heart seemed to stop when I saw the leading shackle bolt, without nut, almost ready to fall completely out. I laid there for a moment, my mind racing back to when we were cruising along at 55 mph on a 2-lane highway with endless oncoming traffic. Another 1/2-inch movement of that shackle bolt and my 24-foot trailer and pickup would have become a 4-ton lethal projectile. It could have been a very disastrous ending to our vacation and an equally tragic beginning for those who shared the road with us. I don't like the prospects of such an event or the burden of guilt one might have to bear.

After coming back to reality, I made a commitment to myself, my family, and everyone else on the road that I would initiate a plan to prevent this kind of risk. I now inspect, lube, and tighten every mechanical thing I own on a regular basis. This is nothing new to those of you who are seasoned motorcycle riders. It only takes a couple of times when costly, chromed parts vibrate loose and fall off to learn to check and tighten everything once or twice a week! I am particularly critical of those seasonal items like mowers and edgers. Yes, boats and trailers too! The peace of mind is great.

Remember, if it rolls, spins or vibrates, **CHECK IT OUT!** You (and the rest of us) will be glad you did. ■

# Flight Safety Award of the Quarter



Capt Staats has demonstrated sustained superior performance through exceptional, repeated contributions to flight safety and mishap prevention. His ability to conduct in-depth research on potential problem areas and his thorough investigative skills have resulted in lasting contributions to avert potential mishap situations. Recognizing the potential for a serious mishap originating from a relatively slight F-16/F110-GE-100 oil underservicing, he thoroughly researched and analyzed the system, servicing procedures and ENGINE LUBE LOW emergency procedures. As a result of his analysis, he developed procedures that would allow a pilot to easily verify a low oil



*Capt Michael C. Staats  
347 FW  
Moody AFB GA*

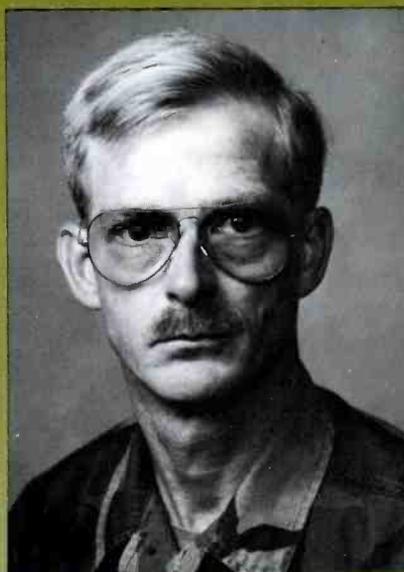
quantity problem before jettisoning stores or attempting a heavyweight landing at night or in the weather. Lockheed and General Electric engineers have

concluded with his 847 submittal and have proposed an Interim Safety Supplement to the F-16 Dash One. Capt Staats has served as the investigating officer for two Class A mishaps in the last nine months. In each case, his thorough analysis and concise reporting has resulted in significantly heightened awareness of potentially fatal physiological factors. The command briefing of the latter mishap was termed by one ACC safety officer as the "best seen in a long time." Moreover, his close involvement in the 347 FW Flight Safety program has resulted in zero Class A or B mishaps and a Class C rate nearly half of the best the wing has ever recorded.



# Ground Safety Award of the Quarter

While performing a refueling operation of the JP4 fuel tanks that supply fuel for uninstalled engine operations, Sergeant Hodson observed that current technical order procedures were vague, confusing, and from the safety standpoint, clearly incomplete. Single-handedly he researched, developed, and re-wrote the refueling procedures. He then completed an AF Form 1000 and AFTO Form 22 ensuring these procedures would be incorporated in the technical order. Both of these forms were



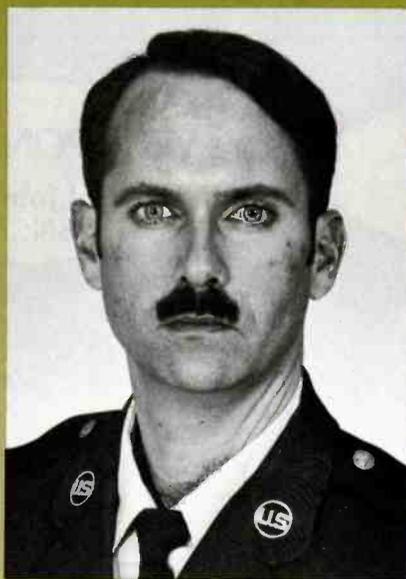
*SSgt Kenneth J. Hodson  
388 MS, 388 FW  
Hill AFB UT*

approved and a technical order change is forthcoming. Sergeant Hodson's dedication and experience greatly improved a dangerous refueling procedure where safety is the utmost concern. In any type of aircraft maintenance, safety is always a top concern. Sergeant Hodson improved safety by eliminating ambiguity and improving the engine test refueling procedures. Because of his "can do" attitude, he is more than deserving of this award.

# Weapons Safety Award of the Quarter



A stellar performer, Sergeant Haney's impact on the 347th Fighter Wing's Weapons Safety program has been immeasurable. Upon arrival, courtesy of Hurricane Andrew, his experience and dedication served to ease the Homestead AFB beddown at Moody AFB, resulting in zero mishaps during the wing's "Operation Safe Falcon," a concentrated effort to ensure a mishap-free beddown. He also immediately took responsibility for and provided active involvement by Weapons Safety in the Base Nuclear Surety/Contingency PRP program, garnering praise for his efforts during four higher headquarters assessments.



*TSgt William M. Haney  
347 FW  
Moody AFB GA*

Discerning the need for the safety team to spend more time "on the line" than shuffling papers, he created and implemented automated tracking logs for explosive facility licenses, OIs, regulations,

and lesson plans to ensure all annual reviews are accomplished. This initiative was highly commended by Higher Headquarters and has subsequently been adopted by several other ACC units. During a recent mishap investigation, Sergeant Haney's analytical approach to problem solving provided a clear/concise road map to the cause of mishap. Further, having identified the cause, he took immediate action to correct the technical order. Sergeant Haney's commitment to safety is evident throughout the 347th Fighter Wing and his contributions have furthered mishap prevention throughout Air Combat Command.

# HQ ACC OFFICE

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**DSN: 5**

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**DSN: 574-7031**

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**FLIGHT SAFETY**

**Col Jim Christol**  
**DSN: 574-7031**

**WEAPONS SAFETY**

**Lt Col John Wysowski**  
**DSN: 574-3767**

**PUBLIC**

**Lt Col Ne**  
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**Asst Chief, Flight Safety**  
**Bomber/Tanker/**  
**Command Control**  
**B-1/B-2/U-2**

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**Asst Chief, Flight Safety**  
**Fighter, Attack**  
**F-117/F-4/RF-4/QF-4**

**Lt Col Larrie Sykes**  
**Asst Chief, Flight Safety**  
**Transports**  
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**Maj Larry Clark**  
**B-52/CTP/E-3/E-4/E-8/**  
**C-21/RC & EC-135/Aero Clubs**

**Maj Marty Ogorzalek**  
**A-10/OA-10/F-111**

**Capt Mark Lee**  
**F-15/F-15E/QF-106/F-22**

**Capt Tom Trudeau**  
**H-1/H-3/H-60**

**Capt Dave Blanks**  
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**CMSgt Larry Cissell**  
**Superintendent, Nuclear Safety**

**Capt Mark Martin**  
**Chief, Explosives & Missile Safety**

**CMSgt Tom Danihel**  
**Superintendent, Explosives &**  
**Missile Safety**

**MSgt Jim Aust**  
**Command Manager, Explosives**  
**Safety**

**TSgt Neil Sipe**  
**Command Manager, Missile Safety**

**Mr Ro**  
**Art D**

**Sgt Ma**  
**Staf**

**Mrs Bar**  
**Awards A**

**COMBA**

# CE OF SAFETY

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74-4354

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Ms Eileen Bland  
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### SPECIAL ASSISTANT

Col David E. Storey  
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### GROUND SAFETY

CMSgt Wallace King  
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### STUDIES & ANALYSIS

TSgt Cody Steadman  
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n Smith  
irector

Mr Cal Faile  
Chief, Operations Section

rk Bailey  
Artist

TSgt Eddie Thomas  
NCOIC, Operations Section

ara Taylor  
Administrator

Mr Mike Mehalko  
Chief, Support Section

MSgt Jim Kivell  
NCOIC, Support Section

CMSgt Marv Freeman  
Chief, Programs & Analysis  
Section

TSgt Ben Chua  
NCOIC, Programs & Analysis  
Section

Mrs Betty Titus  
Secretary

### ADMINISTRATIVE STAFF

MSgt Maria Webb  
Chief, Information  
Management

SSgt Gary Rucker  
Asst Chief, Information  
Management

DSN: 574-2611



## PILOT SAFETY AWARD OF DISTINCTION

*Capt David S. Prather, 94 FS, 1 FW, Langley AFB VA*

I was a student in the F-15C Weapons School, scheduled to fly the first BFM ride in the syllabus. Our formation take-off and gear retraction seemed normal until my leader saw my left tire rolling along the left side of the runway and informed me of that. Continuing to our assigned working airspace, we slowed to perform a battle damage check. My leader confirmed that my aircraft was missing its left main wheel assembly, although the majority of the brake stack was still intact and there was no other evidence of damage. I was given the lead of the flight to run the emergency landing checklist, reducing weight, and coordinating an approach-end barrier engagement.

My plan was to have lead chase my landing and inform me about the success of the barrier engagement. I maneuvered for a VFR straight-in, landing about 1000' before the cable. As the aircraft crossed the cable, the brake stack caught it before the tail hook, extended it about 100', when the cable broke. By this time I was down to nearly 100 knots; I had the aircraft under control, so I elected to stay on the runway rather than go-around. I used differential braking and nose wheel steering to stay on the runway. After I stopped, the fire department quickly extinguished a fire in the left main gear area. I shut down the engines and ground egressed.



## GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

*MSgt Alfred Suarez, 31 CCS, 552 ACW, Tinker AFB OK*

There I was driving an M-series 923, five-ton truck, towing a 5,000 pound mobile control tower east in the right lane on Oklahoma Interstate 40. I was returning from an exercise site, going on a downhill incline with moderate-to-heavy traffic and approaching a bridge, when there was a slight thump. Almost instantly the mobile control tower began to swerve in the left lane, nearly colliding with an automobile. The emergency brakes on the XM-720 mobilizer locked up; so I took my foot off the gas, controlled the truck, and slowed the truck safely to the shoulder and stopped, just

missing a bridge abutment. Come to find out, the pin had sheared off completely, causing the mobilizer to swerve violently in all directions. The one saving grace was that the safety chains worked as advertised—this prevented the mobilizer from separating from the truck completely. Subsequent investigation by squadron quality assurance personnel revealed that the dimensions of the pin were out of tolerance, smaller than required. Actions are in work to replace all the pins on the tow bar assembly of the XM-720 mobilizers that are out of tolerance.

# FLIGHTLINE SAFETY AWARD OF DISTINCTION

*SSgt Maura K. Graham, SSgt Mark E. Simpson, SSgt Gregory A. Kelly, SrA Paul A. Johns, 4 OSS, 4 WG, Seymour Johnson AFB NC*



During what appeared to be a routine recovery of F-15, KC-10, and T-38 aircraft, Murphy's law took effect. Just as Quick 21 touched down, there were two large explosions, smoke, and fire coming from Quick 21's main landing gear. SSgt Graham, Watch Supervisor, quickly took command of the situation by working directly with the RAPCON Watch Supervisor and SOF to ensure minimum delays to the 4th Wing. Realizing her flight data controller was busy and that any delay could jeopardize aircraft and aircrew safety, she immediately activated the primary crash phone to initiate emergency response. SrA Johns, Local Controller, quickly advised the aircraft commander of the situation while simultaneously clearing out and redirecting his traffic pattern. He then initiated guard transmissions to advise all airborne aircraft of the impending runway closure and estimated time of delay. SSgt Kelly, working ground control,

swiftly formulated a taxi plan and provided superb control instructions for ground traffic, allowing emergency vehicles to respond unimpeded to the emergency aircraft. While working as a Coordinator, SSgt Simpson recognized the potentially dangerous situation developing. Working with his counterpart in the approach control, he took action to immediately advise airborne aircraft of the situation, and coordinated short range IFR clearances for tower's traffic to be sequenced back into the radar pattern. Prompt action to divert three airborne flights to Cherry Naval Air Station was outstanding.

Within 27 minutes, all aircraft in holding had recovered and runway operations were back to normal. Their attention to detail, sense of urgency, and regard for safety, without a doubt, averted a potentially devastating situation.

## CREW CHIEF EXCELLENCE AWARD

There I was doing a routine Preflight inspection on an F-15E that had not flown for several days. The main landing gear doors were open for a scheduled 90-day wash and corrosion inspection, so I decided to add a detailed wheel well inspection to the -6 Work Card inspection requirements. While examining the right main landing gear unlock mechanism, I discovered a cotter pin and nut missing off the jury brace downlock spring assembly. More than likely the cotter pin broke from stress and then the nut simply backed off. Had the bolt fallen out, the uplock mechanism would have failed caus-

ing an unsafe gear. In addition, the spring may have become jammed against the wheel during retraction damaging the bulkhead or puncturing the main fuel line that runs through the wheel well. Further investigation revealed that 21 out of 65 jets were "bad" (all were repaired). The local checklist procedures have been changed to include inspection of this part. This change has been forwarded to ALC for inclusion fleet-wide. I've been taught that paying attention to detail is important, and now I'm convinced it is a key element in flying safe jets.





## WEAPONS SAFETY AWARD OF DISTINCTION

*SSgt Katherine L. Armstrong, 77 FS, 20 FW, Shaw AFB SC*

My crew and I were dispatched to the flightline to reconfigure several aircraft with TGM-65 Maverick missiles. We were utilizing the Launcher Adapter Unit (LAU-117) to load the missiles onto Aircraft 90-0737. During the weight check on the launcher/missile pre-load package, I realized the whole assembly was sitting at an odd angle. I immediately raised the table of the bomb lift truck and started inspecting the MAU-12 bomb rack for a malfunction. When I looked at the aft end of the launcher, I noticed the aft lug on the rail had broken off in the bomb rack. We immediately resecured the launcher/missile package to the bomb lift truck and downloaded the entire package from the aircraft. A QA investigation re-

vealed the cause was corrosion eating away at the bolt shank of the lug in the launcher (where you cannot see it). However, SSgt Armstrong investigated this incident further and her research revealed: In Sep 91, ALC, Hill AFB UT, issued a message recalling all 30-inch lugs of the LAU-117 missile launcher with Lot #E-009. A one-time inspection was accomplished back then, but numerous LAU-117 missile launchers were received from other closing bases since the 1991 inspection. Her action report to wing QA resulted in another wing-wide one-time inspection of all LAU-117 launchers and prevented a possible tragedy if the LAU-117 had broken in flight with live munitions loaded.

## UNIT SAFETY AWARD OF DISTINCTION

*93d Supply Squadron, 93 BW, Castle AFB CA*



The 93d Supply Squadron's safety team works closely with flight representatives to instill an attitude of "safety first" at all levels throughout the squadron. Looking for measurements and continuous improvements to enhance their safety effort, they performed an in-depth analysis of all squadron mishaps, charting them by reportability, flight, type, and rank. This is used to identify areas for improvement and act as a baseline to measure their goal of reducing the number of mishaps. A second analysis revealed the number of mishaps declined by eight percent. Other significant results were the reduction in GOV mishaps by 50 percent

and POV accidents by 90 percent. Every squadron member receives a personal "We Care" interview to identify high risk profiles. The individual can personally see the nature of the program; it is no-threat, proactive, and intended to help individuals reduce the risk factors in their lives. The 93d Supply Squadron's commitment to safety is total. Safety is stressed at all commander's calls and in monthly newsletters. The goal is to reduce mishaps by 10 percent in 1994, and they are well on their way with a 27 percent reduction this past quarter in off-duty first aid injuries over the same quarter last year. In a culture of safety, everyone benefits.

# CONVERSION SAFETY

*SMSgt Robert E. Ronaghan  
107 FG/SEG  
Niagara Falls NY*

**P**ain, anguish, torment, loss of identity. "Oh my God," it must be conversion time. Aircraft conversion is probably the most traumatic time in the life of an Air Force organization; but with the Air Force downsizing and redistributing aircraft, conversions/changes are becoming a fact of life. What can we, the people of the Safety community and managers, do to aid in the transition from one aircraft to another or in some cases the closing of facilities? Become concerned! Be out front and involved! Be visible! We in Safety provide a service to the base community consisting of education, awareness, a voice to report safety concerns to commanders, and a vehicle to correct identified safety problems. During an aircraft conversion we must do more than our traditional roles; we must break out of our paradigms and be more proactive and involved.

If your unit is planning new construction as part of the conversion, is the Safety shop involved early in the design process? Has the Civil Engineering function identified Mil-Std 882D, System Safety Program Requirements, as a reference document for the architects and engineers to use during the design phase? Is a preliminary hazard assessment accomplished on new construction to identify and design out safety hazards rather than trying to correct them later? Has anyone addressed ergonomics and human factors issues during design? If hazards are designed out, personnel may not have to be issued PPE (personal protective equipment), there may be no need for work arounds and the goals of a safe and healthful work environment will be one step closer.

Try to identify what new training requirements may be needed with the new mission. Is fall protection now required? Do you have to expand

the confined space program? Is the lockout/tagout program adequate? Are more people covered by the blood borne pathogen program? Do you need increased identification of high interest areas? Is Safety, in conjunction with supervisors, assuring the necessary equipment is ordered and that it is the appropriate equipment for accomplishing the task? Involve everyone, managers, supervisors and workers in the identification process by forming process action teams (quality improvement teams, etc.) to recommend solutions, thus re-enforcing everyone's ownership (stake) in the safety program.

Human errors are still the causal factor in 88% of our accidents/incidents, and during a conversion human factor considerations become even more critical. People preoccupied with the uncertainties of conversions are more likely to be injured or damage equipment than they normally would be. Supervisors must emphasize that safety is more than wearing safety shoes, a hard hat, or a seatbelt — safety is an attitude, a way of looking at the world. To be effective, safety has to be internalized and believed in. Individuals must remember that **THEY** are ultimately responsible for their own safety. Yes, safety is the commander's program; but the results of a safety program, a program that is proactive with ownership invested in all unit members, is a program that accomplishes its goal — **A SAFE AND HEALTHFUL ENVIRONMENT!** Individuals, not programs prevent mishaps. As stated in **ROBERT FIRENZE's** Corollary: "Accidents are rare events, most things work out right for the wrong reasons." Don't be the one person where most things don't work out right. One final thought — "Knowledge + Professionalism = Safety." ■



I've been in the safety business for a little more than 13 years now. I've investigated more than my share of vehicle mishaps where the operator and/or passenger was a fatality. I've even investigated a few where the people involved walked away from the mishap! Those that walked away used their seatbelt. In viewing the carnage, I have found myself asking, "Are the safety features on a car really that reliable?" A few weeks ago I found out — first hand. The answer is a definite YES!

Interstate 435 is a 6-lane divided road that rings Kansas City. At approximately 1500 on a cool day with dry pavement under the tires of our '92 Firebird, my wife and I entered onto the Missouri River Bridge in the center lane. We were doing the posted speed of 65 MPH. Unknown to us, the

struck that lovely Firebird in the front right with its front right. In those few seconds that separate life from death, mishap from misses, and before you could say "We're going to have an mishap," a beautiful Firebird sacrificed its life. But before dying, it saw to it that all of those safety features, seen and unseen, worked as advertised.

That little strap of man-made fiber 1 3/4 inches wide and 1/16 of an inch thick really does everything it was designed to do. Air bags also work as advertised. Crumple zones absorb the shock and the breakaway motor mounts do just that. The impact sensor in the fuel system that cuts off the fuel to the motor also works. In fact, all of the safety features worked! However, I will add a caveat — they only work if you use the devices and

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Nissan 280Z had been abandoned in the right lane without any warning signals, flashers, flares, or whatever about 2/5 of the way across the bridge. A tractor-trailer and a Dodge sedan, vehicle #2, were also in the right lane. As the semi approached the parked vehicle, the semi operator suddenly realized the 280Z wasn't moving and quickly moved the tractor-trailer into the middle lane. In the meantime, my wife had moved the Firebird into the left lane. The operator of the Dodge had about the length of the semi to realize what was happening. It was too late to avoid the mishap, but the operator was able to strike a glancing blow — his right front against the Nissan's left rear causing the Dodge to spin out of control. It struck the outer bridge abutment, bounced back across the lanes, and was facing on-coming traffic. That horrid old Dodge

ensure they are maintained in a good working condition.

Until the mishap, I wore seatbelts for appearance sake; "How would it look if the base safety manager were injured or killed in a mishap without his seatbelt on?" Now I wear a seatbelt because I want to and I know it will do its job! ■

# Why Should I W



Mr. Frank A. Altamura  
416 BWISEG  
Griffiss AFB NY

**A** study on head injuries incurred from bicycle mishaps was conducted from 1984 to 1988. The results, published in the *Journal of the American Medical Association*, showed that during that period there were 2,985 head injury deaths (62 percent of all bicycling deaths) and 905,752 head injuries (32 percent of all bicycling injuries treated at an emergency facility). Forty-one percent of head injury deaths and 76 percent of head injuries occurred among children less than 15 years old. Bicycle helmets have been shown to reduce the risk of head injuries by 85 percent and brain injuries by 80 percent. In addition, they protect the wearer's face and head from scrapes and cuts. Universal use of helmets by all bicyclists could have prevented as many as 2,500 deaths and 757,000 head injuries, i.e., one death every day and one head injury every four minutes.

Acute head injuries incurred

from bicycle mishaps can be very overt, such as instantaneous death, fractures, and lacerations; or they can be insidious, such as the mishap that happened to Cathy Powell of Glenmont NY. At the age of six, while riding her bicycle, Cathy hit a piece of gravel and made a one point landing on her temple. The original diagnosis was a simple concussion; but when Cathy didn't get better as expected, further tests showed she was bleeding internally from ruptured small blood vessels. Surgery was performed and she eventually recovered completely. Another mishap occurred to Kartina Carter, age five, when she lost control of her two-wheeler. Though her head hit the pavement, Katrina had no visible injuries. The impact had torn an artery attached to Katrina's skull, however. Later that day, a massive blood clot on her brain caused respiratory failure. For three months Katrina lay hospitalized in a coma. She now moves around with a walker, and her speech is

permanently impaired.

Many severe head injuries leave their victims with chronic problems such as seizures or convulsions which can occur soon after a brain injury or years later and may be permanent. They may also suffer from physical problems such as headaches and decreases in muscular strength and coordination. Difficulties with vision, speech, hearing, smell, and taste are also very common.

Cognitive impairments may be less apparent than physical problems, but are more serious. Examples include problems or deficits in short and long term memory, slowness in thinking, poor attention span, difficulties in reading, writing and speaking, inability to comprehend or process information, and problems with planning, organizing, and judgment.

Changes in behavior and personality may be the most difficult problems to face. Depression, confusion, irritability, restless-

# Wear A Bike Helmet?



ness, and the lack of inhibitions are common problems.

One of the biggest misconceptions among bicycle riders is that lower speeds put bicyclists at less risk than motorcyclists. Head injuries can be just as severe. "Head injuries generally occur not because of the vehicle's speed, but because of vertical distance — how far your head travels to hit the pavement," explains Harry Hurt, Director of the University of Southern California's (USC) Head Protection Research Laboratory and principal investigator in studies involving 2,000 motorcycle and 800 bicycle mishaps. "Put a 600cc. motorcycle beside a good touring bike, and the guy on the bicycle has farther to fall, vertically, than the other guy. And that's what counts." "It takes about a half second for your head to go from a bike to the pavement," says David Thom, research associate at USC's Head Protection Research Laboratory. "Blink once. That's how long you have — not enough time to

protect your head in a fall." Why does vertical distance matter so much? "The average height of a person sitting on a bike is 5.3 feet," Hurt says. "At that distance, your head hits the ground at 12.6 miles an hour. That speed is the threshold of irreversible injury to the brain." Other studies at USC show that a fall from only 3 feet, 10 inches at about 11 MPH can cause fatal brain damage.

There are two types of helmets — hard and soft shell. Both work the same way and are similarly constructed. The hard shell helmet has a hard plastic or fiberglass shell with a liner of expanded polystyrene foam — similar to the plastic foam that protects VCR's and TV's in their shipping boxes. The lightweight material crushes on impact thus absorbing the shock that would otherwise be transferred to the wearer's head. The soft shell helmet has done away with the plastic shell. Instead, the foam is wrapped in a lycra cover reduc-

ing helmet weight by up to half. The cover is there for appearance, but it may also protect the head after the initial blow by holding broken helmet pieces together.

Two private organizations, American National Standards Institute (ANSI) and Snell Memorial Foundation set the standards for bike helmets. The two standards differ mainly in degree; both group's standards are based on impact protection and strap system strength. The Snell tests are more demanding and the Snell foundation, unlike ANSI, tests samples of certified helmets to make sure they meet the standards. Fewer helmets meet Snell standards than the ANSI ones. Approved Snell helmets have an official green Snell sticker.

Given all this information, there should be no question as to whether or why a bicyclist should wear a helmet — only what style and color! ■

Fleagle



TINY SURE HAS BEEN CHOWING DOWN TH' LAST FEW DAYS.

I KNOW. HE BEEN EATIN' LIKE HE WUZ GOIN' INTO HIBERNATION OR SUMPIN.



SEE YOU GUYS. (BURP) GOT A 1400 TAKEOFF.



THINK HE GOT TIME TO GET TH' FLIGHT IN 'FORE SUPPER?

NOW DON'T BE MEAN.



PEDO... TINY SURE IS TAKING HIS TIME LIFTING OFF.

HE... HE'S IN TROUBLE!!

CRASH!



I GUESS TINY FERGOT THAT TH' MORE FUEL YOU IS CARRYING, TH' MORE RUNWAY YOU NEED.

SO IT SEEMS.

# Safety Professional Spotlight



*Mrs. Barbara Taylor  
Awards Administrator  
ACC Safety Awards Program*

**R**ecently celebrating the completion of her first year as the ACC Safety Awards Administrator, Barbara Taylor was heard to remark, "I love my job." How fortunate we in the Office of Safety, and indeed everyone in the command, are that Barbara feels that way about her job. Every monthly, quarterly and annual safety award winner owes Barbara much gratitude. Without her, the awards program would have faltered during the turmoil and change of the last year. Her steadfast commitment to appropriate recognition for deserving safety acts has guided the awards program over hurdles such as the addition, and later deletion, of ICBM forces to ACC, the transfer of ACC units to AETC, the transfer of Air Rescue Service and C-130 units into ACC, budget decreases and manpower reductions. Each of these events could

have led to devastating consequences for an inflexible or insensitive program. However, armed with the guiding principle that people deserve to be recognized for their efforts, Barbara has steered the awards program over the hurdles and made it better by adding, deleting, and realigning awards. One thing is for certain, the ACC Safety Awards program can never be accused of stagnation. Her innate abilities as a team leader coupled with her intimate knowledge of awards and the quality process continue to produce an awards program that remains responsive to all the diverse functional interests of the command.

Originally from New York City, where she graduated from the New York Business School, Barbara came to Virginia by way of a short stay in Maryland. She started her career at Langley AFB as a secretary for the War Readiness Spares Kit (WRSK) Branch. After secretarial positions with HQ TAC/DRCC and 1 TFW/SE, she became the Flight Safety Administrative Coordinator in 1986. Her in-depth safety experience and concern for people made her the logical choice for the position of Safety Awards Administrator. She became ACC's first Safety Awards Administrator in December 1992 and

immediately set about eliminating the problems caused by the position being vacant for 4 months. In the fast-paced, hectic world of safety awards, 4 months can seem like an eternity; so Barbara's introduction to her job was truly a "baptism by fire," a task to which she has proven more than equal.

In addition to her role as the Safety Awards Administrator, Barbara is an active member of the Black Employment Program (BEP) where she has played a key role in exposing area high school students to the work environment of Langley AFB. Several local students have been provided the opportunity to experience first-hand the creation of The Combat Edge magazine and the recognition provided by the awards program. Barbara's sense of fairness tempered with genuine concern resulted in her appointment as a collateral Equal Employment Opportunity (EEO) Counselor for the civilian employees of Langley AFB and resident tenant units.

Barbara's persistence, fortitude, and dedication have secured her a leading role in our safety culture and have guaranteed that the ACC Safety Awards program will be second to none. Air Combat Command quality performers will continue to be recognized in a timely, first-class manner because Barbara Taylor loves her job and cares about people!

# SUICIDE

*SMSgt Donald Crow  
28 AREFS/MA  
Ellsworth AFB SD*

Several months ago, a tragic event shocked my organization. As I drank my first Monday morning cup of coffee, I received the news that one of my "Super Troop" Sergeants had taken his own life over the weekend. Evidently, he had been in a crisis situation with his wife and the stress was too much for him. He waded out into a local pond and shot himself in the head with a

.357 magnum pistol. I was stunned! He seemed to have it all together. He was always calm and his appearance was impeccable. He looked like he had just stepped off the cover of Airman Magazine. Questions flashed through my mind. Why did he do it? What went wrong? But more importantly, could I have done anything to stop him?

Since this incident, I have learned some startling facts. First

of all, suicide is the third leading cause of death among active duty Air Force members, ranking just behind accidents and natural causes. Figure 1 shows the number of active duty Air Force suicide deaths since calendar year '80. Figure 2 depicts the active duty suicide rate (suicide deaths/100,000) since calendar year '80. Second, nearly 63 percent of those suicides were accomplished by firearms, mostly handguns.

FIGURE 1

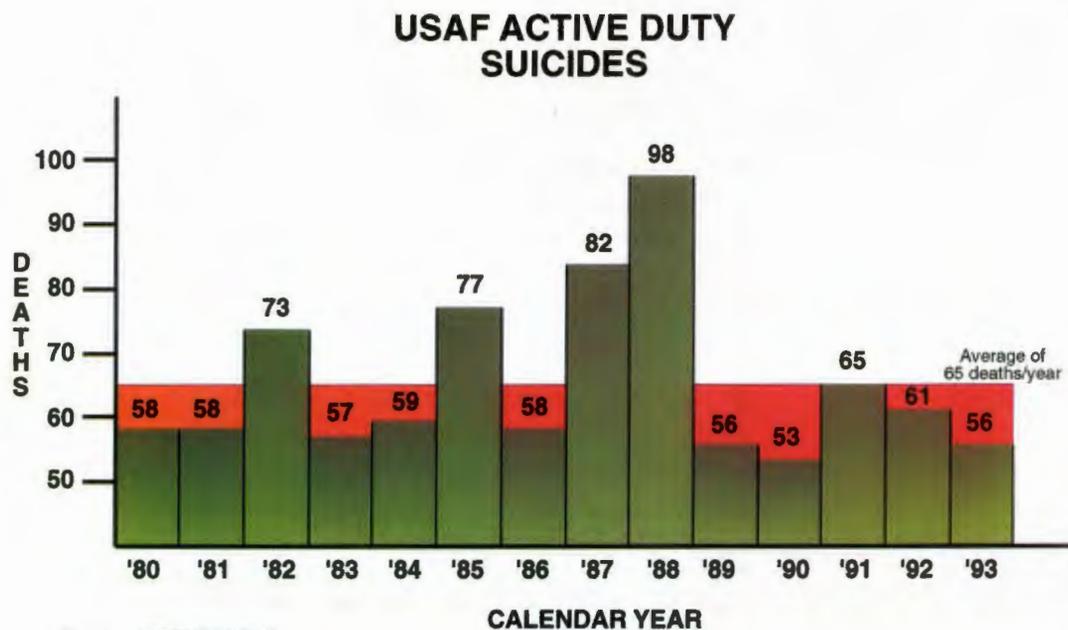
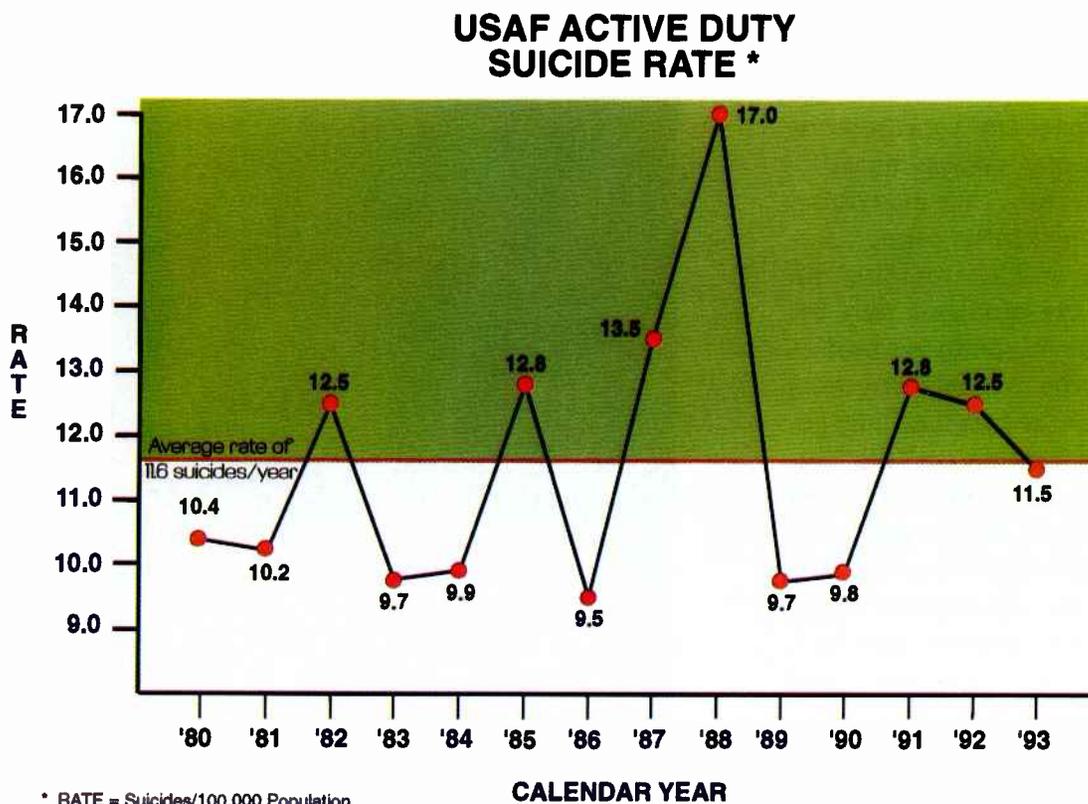


FIGURE 2



Third, most of the victims had experienced significant personal problems and appeared to lack adequate coping skills. About 1/3 of the victims were seeing or had seen medical or mental health professionals within the preceding 30 days. And lastly, over half of the victims gave unmistakable indications of their intentions to commit suicide with almost 40 percent leaving "suicide notes" behind.

Dr. Charles P. McDowell from the Special Studies Division of the Air Force Office of Special Investigations, Directorate of Investigative Analysis, has developed a profile of the typical

Air Force suicide victim. This is a 22-year-old Senior Airman with marital or girlfriend problems. He could also have a potential drinking problem and his duty performance is suffering. He normally discusses his difficulties with a co-worker and alludes to how death may be the best way out of his problems. If no one intervenes, he may shoot himself in the head with a pistol. His research also indicated that one common indicator found by all the studies on suicides has been an abrupt change in the victim's personality. These changes are usually characterized by feelings of hopelessness, insignificance,

mood swings, and a general depressed attitude. Additionally, a loss of an important person or thing was high on many of the warning sign lists. A preoccupation with death or an increase in drug or alcohol use were other potential warning signs. However, the most obvious indication is when a person starts giving away treasured possessions and makes out a will.

Knowing how to talk to someone contemplating suicide is very critical to saving their life. There are some DO's and DON'Ts that everyone needs to be aware of. Always use non-judgmental questions such as "are you feeling

## SUICIDE STATISTICS CALENDAR YEAR 1993#

depressed about something?" or "How long have you been feeling this way?" These questions give the individual a chance to "vent" some of the emotions they are having difficulty dealing with. Take everything they say seriously, offer support, understanding, and compassion no matter what the problems may be. Encourage the person to get professional help; offer to accompany them to the provider the first time they go. Don't assume someone isn't the "suicidal type," or debate the morality of the issues. Don't keep a deadly secret; convince the individual that they need to seek the assistance of someone. The local chaplain may be a good place to start. Don't over react either; this may induce more guilty feelings or increase their feelings of inadequacy. Don't criticize anything the person tells you as this only leads to their feeling that no one really cares. And last but not least, don't try to pass the person off to someone else; sticking with them lets them know that someone really does care.



# Data for 1993 are preliminary as approximately half of these investigations are still pending.

\* The High Risk population consists of white male enlisted members.

+ Categories of personal problems may overlap in individual cases.

++ B/G problems refer to boy or girlfriend problems, including recent breakup, stormy relationship, or an over-determined relationship.

<b>NUMBER</b>	<b>56</b>
<b>RATE PER 100K</b>	
Gross	11.5
High Risk*	18.9
<b>MALES</b>	<b>55</b>
White	47
Black	8
Other	0
<b>FEMALES</b>	<b>1</b>
White	0
Black	1
Other	0
<b>OFFICERS</b>	<b>3</b>
<b>ENLISTED</b>	<b>53</b>
<b>AVERAGE AGE</b>	<b>29</b>
<b>LOCATION</b>	
On Base	5
Off Base	41
<b>METHOD</b>	
Firearms	32
Hanging	11
Drug Overdose	5
Auto Exhaust	4
Drowning	1
Jumping	1
Poison	1
Other	1
<b>MARITAL STATUS</b>	
Married	24
Separated	8
Single	20
Divorced	4
<b>SUICIDAL COMMUNICATIONS</b>	
Suicide Note	27
Verbal (beforehand)	22
Both	10
Neither	15
<b>PERSONAL PROBLEMS +</b>	
Medical	5
Depression	30
Personality Disorder	1
Crazy	1
Financial	18
Legal	5
Subject of OSI Investigation	5
Alcohol Abuse	8
Drug Abuse	2
Job-related Problems	19
<b>MISCELLANEOUS FACTORS</b>	
Previous Attempt	4
Recent Mental Health Visit	5
Marital Problems	27
B/G Problems ++	12

# ACCOLADES

QUESTIONS OR COMMENTS  
CONCERNING DATA ON THIS  
PAGE SHOULD BE  
ADDRESSED TO HQ ACC/SES,  
DSN: 574-3814

	TOTAL			ACC			ANG			AFR		
	MAR	THRU MAR		MAR	THRU MAR		MAR	THRU MAR		MAR	THRU MAR	
		FY94	FY93		FY94	FY93		FY94	FY93		FY94	FY93
CLASS A MISHAPS	3	11	11	1	6	6	2	5	4	0	0	1
AIRCREW FATALITIES	1	4	6	0	2	5	1	2	1	0	0	0
* IN THE ENVELOPE EJECTIONS	3/1	9/1	9/0	1/0	4/0	4/0	2/1	3/1	4/0	0	0	1/0
* OUT OF ENVELOPE EJECTIONS	0	0/1	0	0	0/1	0	0	0	0	0	0	0

\* (SUCCESSFUL/UNSUCCESSFUL)

## CLASS A MISHAP COMPARISON RATE

(CUMULATIVE RATE BASED ON ACCIDENTS PER 100,000 HOURS FLYING)

	FY 93	2.0	3.1	2.2	1.6	1.7	2.1	1.7	1.7	1.7	1.6	1.6	1.8
	FY 94	0	1.1	1.5	1.8	2.4	2.4						
8 AF	FY 93	0	5.2	3.7	2.7	2.1	1.6	1.4	1.2	1.0	0.9	0.8	2.3
	FY 94	0	0	0	0	0	0						
9 AF	FY 93	6.7	6.5	4.4	3.3	3.9	3.1	2.7	2.3	2.7	2.4	2.2	2.0
	FY 94	0	0	0	2.1	3.3	4.0						
12 AF	FY 93	0	0	0	0	0	0	0	0	0	0	0	0
	FY 94	0	0	2.0	1.6	1.3	1.1						
DRU	FY 93	0	0	0	0	0	2.8	2.4	4.2	3.7	3.3	4.4	4.0
	FY 94	0	14.9	8.6	6.7	11.2	9.5						
ANG	FY 93	0	0	0	0	0	0	0	0	0	0	0	0
	FY 94	0	1.9	2.6	2.2	2.7	3.7						
AFR	FY 93	0	2.2	2.9	2.1	3.5	2.9	3.1	2.7	3.4	3.0	3.2	3.3
	FY 94	0	0	0	0	0	0						
TOTAL	FY 93	0	0	8.0	5.9	4.8	4.0	3.4	3.0	2.7	2.4	2.2	4.0
	FY 94	0	1.2	1.7	1.8	2.3	2.7						
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

\* (HOURS NOT AVAILABLE)



# 101

# CRITICAL DAYS

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

S	M	T	W	T	F	S
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

S	M	T	W	T	F	S
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

S	M	T	W	T	F	S
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

S	M	T	W	T	F	S
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	