

TAC Attack

OCTOBER 1991



Morrison '91

ANGLE OF ATTACK



My sincere thanks and appreciation to everyone who attended our recent Flight Safety conference here at Langley AFB. I only hope that everyone who participated took as much away from the conference as I did. The open dialogue and frank discussions were invaluable as we continue to search for ways to improve TAC's culture of safety.

This is an exciting and challenging time to be in the Air Force. It may seem that changes are coming faster than we can absorb them. One would be hard pressed to find any other time in recent history when so many world shaping (and shaking) events took place in such a short time. The fall of the Berlin Wall, the Warsaw Pact disintegration, Desert Shield/Desert Storm, a failed Soviet coup, and the suspension of the Soviet Communist Party—all in less than two years, with more to come. In isolation, each event drastically affected our Air Force; in concert, the impact has been unbelievable.

The Air Force has not undertaken such far-reaching and fundamental changes since it became a separate service in 1947. We are simultaneously engaged in a complete reorganization, a significant downsizing, and extensive base closures. When all the dust settles, the end result will be a far different Air Force than any of us could have imagined. In the meantime, changes in the world situation keep accumulating.

We must be cognizant of how world turmoil and a rapidly changing Air Force affect people. Any change leads to some degree of uncertainty, resistance, instability, and attention diversion. The magnitude and frequency of change determines to what degree each of us is affected. Any change,

large or small, has the potential to adversely affect our operations.

What can commanders and supervisors at all levels do to minimize the impact of this turbulent era on their organization? First, and foremost, keep people informed. Tell them everything you can about what is happening, what is planned, and how they will be affected. Don't keep secrets unnecessarily. Second, keep people focused. Give your organization a goal or series of goals to work toward. Maybe a mobility exercise this month, a sortie surge this quarter, Red Flag in six months. Always have something to strive for and a tangible point of focus. Third, instill an awareness within the organization: an awareness of how change affects different people in different ways; an awareness of how uncertainty, instability, and attention diversion impact job performance; and an awareness of the insidious signs that tell us when people aren't coping.

During this period of massive, rapid changes, commanders and supervisors must stay attuned to the people in their organization. Be aware of how they are reacting to the attendant uncertainty and instability. Be sensitive to the effects of change and alert to the signs of potentially disastrous attention diversion. Keep people informed, focused, and aware—they will be happier, more productive, and safer!

BODIE R. BODENHEIM, Colonel, USAF
Chief of Safety

TAC Attack

DEPARTMENT OF THE AIR FORCE



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ASHES TO ASHES

Lt Col Scott Wales
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"I"d rather die than look bad." Ever hear a fighter pilot say that?

I have, and I got a good laugh out of it the first time I heard it. It doesn't take a lot of time in the cockpit to learn that there's more than one person out there that feels this way. Since the time I first heard that phrase, I've been reassigned to the safety office here at headquarters TAC. Now those words stick in my mind as I dig through the numerous mishap

reports which we get the "opportunity" to review. Every once in a while I read an accident report where this little bit of the fighter pilot's philosophy of life seems to have resulted in what the psychologists call a "self-fulfilling prophecy."

What that means when translated to "fighter pilot-ese" is that the pilot got his wish. In short, he died trying to look good or to avoid looking bad. Usually this is the result of a pilot's own mistake (or other aircrew's). Command philosophy remains the same:

Command philosophy remains the same: don't lose your life trying to save a jet. Although we continuously preach this gospel to aircrews, efforts to save crippled aircraft have persisted.

don't lose your life trying to save a jet. Although we continuously preach this gospel to aircrews, efforts to save crippled aircraft have persisted. Another continuing problem is the guy who doesn't quite know when to say enough is enough and puts himself into a situation he can't recover from. A lot of this has to do with self discipline, which is not always something we have a great excess of in the fighter business.

The rationale behind such decisions is not hard to fathom. Although we all know deep down that this is not really a one mistake Air Force, we all operate as if it were at times. TAC headquarters often seems to bend over backwards to avoid punishing honest mistakes, even when they result in smoking holes. However, peer pressure is a principle that works just as well on captains and majors as it does on teenagers. We all feel

the pressure to conform and to strive to be the best. Conversely, we often avoid being the "squeaky wheel" even when it's obvious that something needs grease, or someone needs "counseling." The potential for embarrassment and loss of personal prestige and pride can lead us to do things we have no reason to be doing. Do you know anyone who wouldn't stay in an out-of-control jet just one more turn below 10,000 feet to try to



ASHES TO ASHES

recover it? Is there a "mud beater" out there who can say they haven't pressed just a little on a dive bomb or strafing pattern, trying to optimize a bad pass? Any air-to-air guys out there who haven't been tempted to go through one more gyration in an engagement that's rapidly degenerating into a slow-speed scissors, just to get a valid shot?

Dead men tell no tales, of course; and we don't always learn the true cause of every mishap we investigate. However, we have to be just the slightest bit suspicious when an aircraft with no apparent maintenance problems and a "full-up" pilot augers in. Officially, almost all of our mishap boards have been able to determine the cause of the mishaps they were assigned to investigate. Unofficially, there are still at least a few lingering doubts in more than one incident. The official report often lists "one or more of the following reasons" as cause in several instances, which is another way to say we don't really know what happened. As often as not, this comes down to "operator error."

Our rates have declined dramatically in the past few years, but we still have a way to go before we reach a zero mishap rate. As we approach that magical zero baseline, we need to find new ways of doing business that will make safety consciousness a part of our

culture. What this means to the average line jock is that we've got to be able to do more than just "look good in the shower." We need super jocks to match our super jets. That means we can't afford to have you flying when you're not ready to pay attention to all the training rules or when you're not up to it for other reasons. None of the pilots

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in your unit would take a jet on a red X, and you shouldn't be willing to "slip the surly bonds" when you're in this condition yourself. Flying when you're not 100% in every respect—physically and mentally—just doesn't make good sense. Each of us has to be able to have the internal discipline to say today I'm going to stand down. The

rest of the squadron also has to have the flexibility and the integrity not to challenge or criticize this decision.

We've all been in this situation at one time or another and ended up squeaking through somehow; otherwise, you wouldn't be reading this article. Maybe you scared yourself so badly you made a promise to yourself never to do whatever it was that got you in trouble again. Maybe you got lucky and the flight was completely uneventful, through no fault of your own. Just in case you've forgotten, here's a sampling of mishaps from the recent past that might be grist for future discussions on how to avoid mishaps:

1. A pilot on a night mission declared an emergency when the landing gear did not fully retract. The gear problem was resolved, but a precautionary barrier engagement was planned. During the recovery, the pilot experienced a loss of consciousness due to an unreported medical condition. The WSO attempted the barrier engagement from a wing formation approach and missed. The aircraft departed the runway and the nose gear collapsed, initiating an out of sequence ejection which killed the pilot. The WSO survived. This incident was a gross breach of self-discipline on the pilot's part, without a doubt. There's



no way to defend his actions in this case. The pilot killed himself, and his actions and inactions could have resulted in the backseater's death (and others) as well.

2. The mishap pilot was number two of a two ship which impacted the ground during a night ASLAR approach. There was no attempt to eject. The sortie was the third of the day and the pilot became misoriented. The pilot had previously been involved in a drinking incident downtown, and his nickname was LOJ for lack of judgment. Perhaps significantly, the pilot had been reported to have said previously, "I've never been spatially disoriented and I never will be." Complacency? Overconfidence? You bet!

3. The mishap sortie was an air-to-air flight lead upgrade for Mishap pilot 1 (MP 1). Mishap pilot 2 was the instructor. During the second engagement, the two aircraft collided during low airspeed limiter maneuvering. MP 2 had not flown BFM for sometime and ejected with minor injuries. MP 1 attempted to get out, but the sequencing system failed to initiate ejection. MP 1 was killed on ground impact. The investigation revealed he had no documented air-to-air academics and had demonstrated a clear lack of discipline on numerous occasions, which was known at all levels of supervision. Numerous violations of training rules were also noted. Self-discipline? Supervision? No

doubt about it!

Think about these incidents just a little before you head out to the flight line next time. The mishaps discussed here occurred primarily because the individuals involved put a premium on looking good instead of being good. Ever see that old poster - the one with the old Spad or Nieuport stuck in the middle of a leafless tree? The caption reads something like this: "Flying in itself is not inherently dangerous, but it is terribly unforgiving of mistakes in judgment or perception." That old adage still holds true. Would you really rather die than look bad?

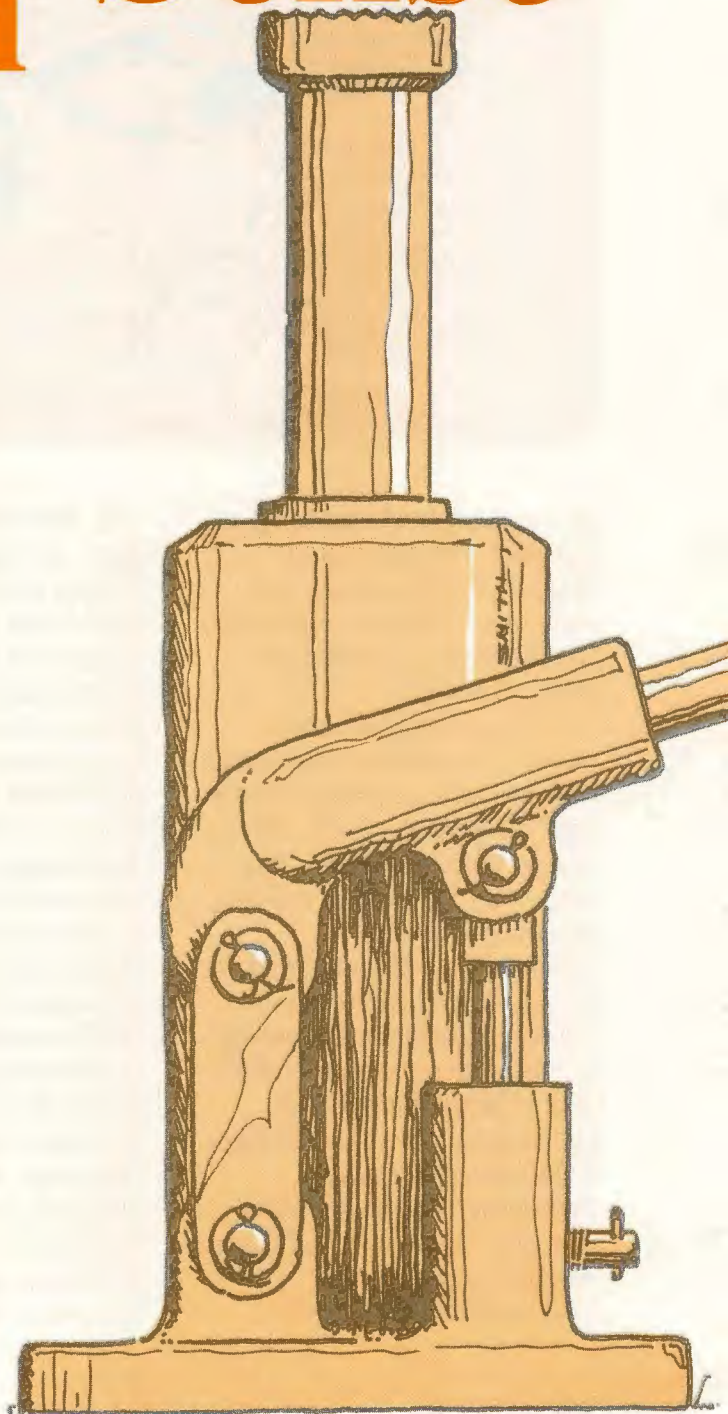
Judgment and Common Sense

TSgt Dion P. Phelps
28 AD/MET
Tinker AFB OK

DOWN TO EARTH



ITEMS THAT CAN AFFECT YOU
AND YOUR FAMILY HERE ON
THE GROUND



Safety is very personal and real to me. I've experienced several mishaps over the years causing me great pain and 17 scars on my body—not to mention financial strain and family concerns.

I tell you it's not just a matter of awareness. Judgment and common sense are necessary. For instance:

All my life I've worked around cars—my dad and two older brothers were mechanics... professional and backyard. I knew the dangers of tangling with those metal monsters. Thank goodness for small compacts!

Back in '83, I threw caution to the wind for the sake of expedience. We had one car and two people working. So when the only vehicle broke down, I felt I had to fix it—fast. I used a 1/2 ton hydraulic jack to raise the front end so I could fix the brakes. I didn't have anything handy to block it up... so I didn't. How stupid! Never get under a car that isn't properly supported!

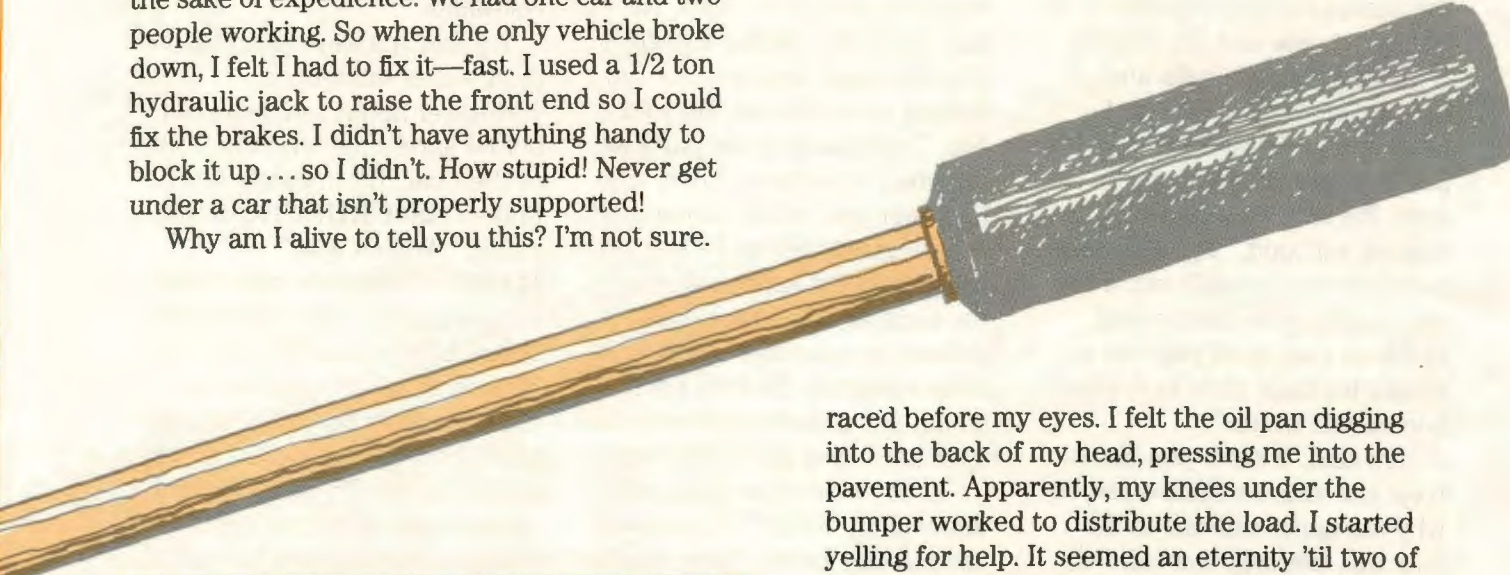
Why am I alive to tell you this? I'm not sure.

It was like slow motion. The car started moving. I knew it was going to fall on me.

I still really don't know how I did it. The car was a 1973 Mercury Capri. I had removed both front wheels and crawled under the car. As I jerked hard on the wrench, my terrifying experience began. It was like slow motion. The car started moving. I knew it was going to fall on me. I reacted quickly by thrusting my hands upward to catch it. Ha! Imagine catching an 800 lb car

My life raced before my eyes. I felt the oil pan digging into the back of my head, pressing me into the pavement.

front end! I jammed my knees under the front bumper. As it pressed downward onto me... all I could do was yell, "NOooooooooo!" and push upward with all I had and then some. My life



raced before my eyes. I felt the oil pan digging into the back of my head, pressing me into the pavement. Apparently, my knees under the bumper worked to distribute the load. I started yelling for help. It seemed an eternity 'til two of my friends came out of their house and literally lifted the car off of me. An elderly lady from down the street pulled me from under the car. I couldn't feel anything. I was bleeding from the back of my head.

Believe it or not, 3 hours later in the hospital I was told nothing was broken and I had only a deep cut behind my right ear. I had to wear a figure 8 brace for 10 weeks because of the strain on my upper torso. **I WAS LUCKY!** I know I had help. And I'll never forget it.

What's the point of this story? I'll state it again. Awareness isn't enough. Judgment and common sense must take priority. Live safety doesn't mean paranoia—it means keep learning. Don't forget. Don't get impatient. Stay calm. Be smart. Act responsibly. That's the way I see it. I hope you see it that way too!

TRY HARDER AND HIS GHOSTLY EXPERIENCE

Jimmy Campbell
HQ 1 AF/SEW

The leaves on the trees have turned brilliant colors and the pumpkins have ripened. It is Halloween eve and Try Harder is making popcorn balls and candied apples for the neighborhood children when his pesky neighbor, Jim, comes over. Jim saw what he was making and said, "Try, there are so many weird people out there who might try to hurt young children that most parents no longer let their little kids have homemade treats."

Jim said, "I know you like to treat the kids on Halloween, so why not come with me to the mall this evening. You can help me hand out candy at their annual kids Halloween costume and trick-or-treat party." Try agreed; "Sure, if you will come to my Halloween office party afterwards. We can go in my 1966 Mustang convertible." Jim agreed provided he could be the designated driver on the return trip. He had seen Try at enough parties to know he would enjoy too many liquid refreshments to drive home safely.

Try was already in costume as he drove up to Jim's house. He had a white sheet over his body and a white mask on his face. He was wearing his World

War II aviator's cap with his World War I aviator's silk scarf wrapped around his neck. He had placed his aviator's goggles over his mask and eyes. As Jim walked up to the car, Try told Jim, "I am going to the party as the ghost of aviators." Jim, who had been the safety director of a dude ranch before he started working in the safety office at the local air force base, was dressed in a cowboy outfit with a big white hat. He told Try he would put a black mask over his eyes after they got to the mall.

As Try started to drive away, Jim yelled, "STOP!" Try looked around and asked, "Now what's the problem?" Jim pointed his finger and demanded, "If you don't take your goggles and mask off, I am not going to ride with you." Try thought about refusing, but he figured Jim would carry on about how dangerous it was to drive with limited vision; so he might as well go along and keep the safety guy happy. Besides, Jim was probably right.

Try drove several blocks through the residential area of the city watching parents escort their little costumed kids from house to house. Most parents were using flashlights, and some

of the children even had reflectors attached to their costumes.

Try and Jim were enjoying the drive when suddenly a youngster about ten years old bolted across the street in front of their car. Try instantly hit the brakes, **SSSCREECH!**, as Jim yelled. "**Watch out!**" —

BANG!!! The car's right front tire struck the curb, causing the tire to blow out as Try swerved. The car stopped about a foot from the little boy. The boy was so frightened that he had frozen in his tracks. Try sat still for a few seconds with cold chills running up and down his spine as sweat popped out on his brow. Visions of what almost happened were flashing rapidly through his mind.

Once he got control of his shaky knees, they both climbed out of the car to check on the boy. As his mother came running up to comfort him, the boy started to cry. After his mother checked him over and found that he was unhurt she said, "I told him to be careful because he couldn't see very well with his mask on. I guess he just didn't listen." As he walked away, Jim shook his head and thought to himself, "Maybe she



should have been paying closer attention to what the boy was doing.”

After they changed the flat tire, Try said, “Wow, am I ever glad you made me take off my mask. I probably wouldn’t have seen that boy in time to stop if I had been wearing it.”

They set up their booth in the mall and passed out candy until closing time, then they headed to Try’s party. When they arrived, Try wanted to park his Mustang under a street light, but the spaces were all taken; so they parked in the alley behind the house. Some kids were watching the car from the shadows, but Try and Jim didn’t see them as they headed for the party. After a couple of hours and several drinks, Try was really feeling good; but he needed a cigarette. While he was searching for them, a young lady in a witch’s costume walked up and asked for one

also. Her costume was frilly and black with long black fake hair and a big rubber nose with a wart on the tip.

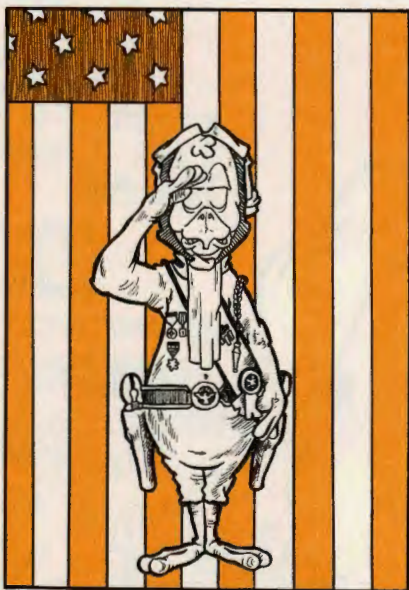
He finally found his cigarettes, but he was all thumbs when he tried to operate his lighter because his hand-eye coordination wasn’t very good. He couldn’t get it to work, so he sat his drink down to use both hands. **SNAP, SNAP, SWISSHH!!** The lighter ignited, spun from his fingers, and landed in the witch’s fake hair. **SWISSHH!** Her hair instantly flared into a bright flame as she screamed.

Jim, who was standing at the side of the room and watching, anticipated what was about to happen and had already started making his move. He grabbed the punch bowl, took two more steps and dumped the contents over her head. That put the fire out before any serious damage was done; however, the

excitement was enough to break up the party.

As Jim was guiding Try back to his Mustang, Try mumbled, “I didn’t mean to set her hair on fire. I didn’t know Halloween costumes could catch fire like that.” Jim said, “Yes, I know, but some store-bought costumes will burn, not to mention those that people make on their own out of who knows what.”

As they approached the Mustang, they could see that someone had thrown raw eggs all over it. Try stopped, looked at Jim and said, “Well, the way this evening has gone so far, I am glad you are the driver. I bet if I drove, I would get us both killed.” As Jim got into the car to drive them home, he could see the flashing red lights of a drunk driver checkpoint in the distance. He looked at Try and thought to himself, “Man, have you ever been lucky tonight.”



FLEAGLE

TAC'S OUTSTANDING AIRMEN

On 24 March 1991, at approximately 1230 hours, a transient OA-37B aircraft made a high speed abort during takeoff roll. The extreme brake application required to stop the aircraft resulted in a catastrophic failure of both of the main landing gear wheel brake assemblies. The failure caused the brakes to lock up, putting the aircraft in a skid, blowing both main tires and setting the brakes on fire.

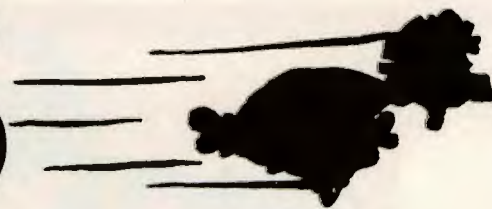
Sergeant Neale O. Cummings and **Sergeant Aram Normandin** from the 405th Equipment Maintenance Squadron Transient Alert, 405th Tactical Training Wing, Luke AFB AZ, noticed the aborted takeoff and the smoke coming from both main landing gear. As they approached the aircraft, Sgt Cummings noticed the right brake and tire were on fire. Since the pilot did not realize the aircraft was on fire, Sgt Cummings instructed him to egress. Sgt Cummings assisted the pilot to egress safely and sent

Sgt Normandin to get a fire bottle. Sgt Normandin then requested the fire department's assistance via his ramp vehicle's radio. As he returned with the fire bottle, the right brake and tire were engulfed with the flames reaching into the wheel well. Sgt Cummings and Sgt Normandin both positioned and prepared the fire bottle for use. Together the two of them successfully extinguished the fire. They assisted crash recovery in placing wheel skates under the blown tires and towing the disabled aircraft to the parking ramp, thus, quickly clearing the runway. Sgt Cummings and Sgt Normandin's demonstrated exceptional professional skill and team work earned them a **Fleagle Salute**.

Technical Sergeant Davey M. Schneider, 169th Tactical Fighter Group, McEntire ANGB SC, had

just completed a twelve-hour work shift in support of Operation Desert Storm. He and a fellow airman sat down to enjoy the evening meal in one of the two base dining halls, and they were soon joined by two other airmen. Casual conversation began as they ate. Suddenly, one of the airmen struggled to his feet and moved strangely. Sgt Schneider, recognizing the actions of the airman as that of a person who was choking, immediately performed the Heimlich Maneuver. This resulted in the restoration of normal breathing and color to the airman. The correct recognition of a choking victim and initiation of immediate corrective actions by Sgt Schneider saved the life of the airman. Sgt Schneider's act of compassion and responsiveness has earned him a **Fleagle Salute**.

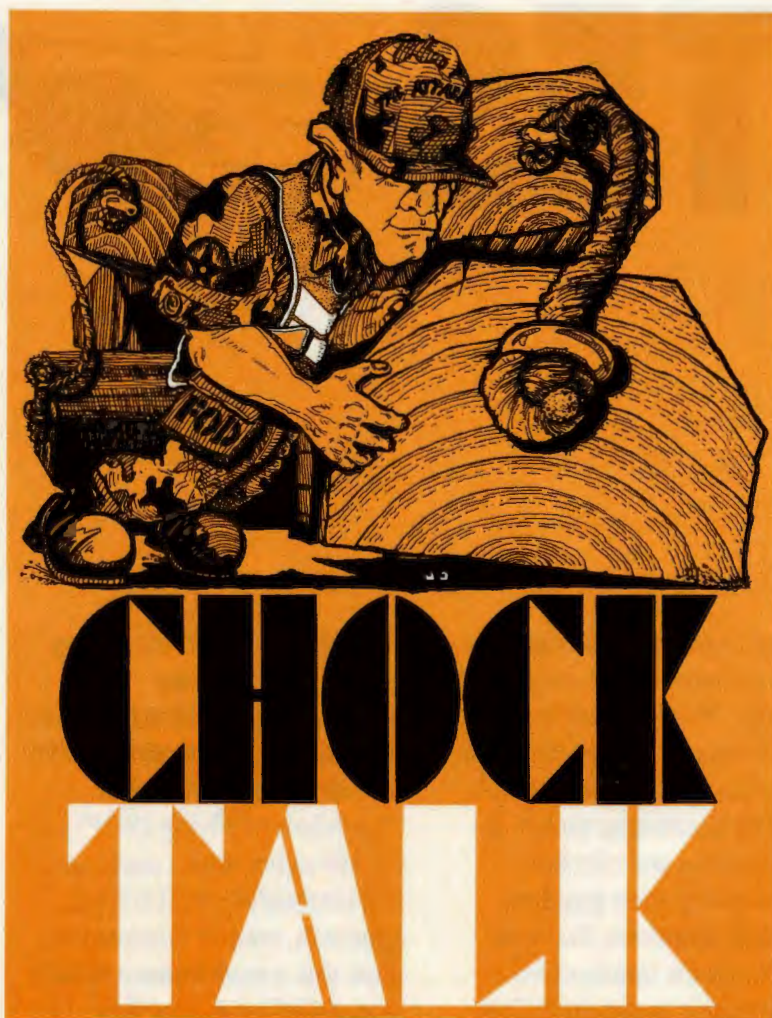
SALUTES



First Lieutenant Robert A. Marrazzo, Aircraft Commander, and **Captain Joseph F. Cheney**, Instructor Weapons Systems Officer, 523d Tactical Fighter Squadron, 27th Tactical Fighter Wing, Cannon AFB NM, were number two of a two-ship night surface attack sortie. While terrain following at 1,000 feet above ground level in an extremely mountainous portion of the low level route, Lt Marrazzo noticed that the number two engine of his F-111D was stuck in military power with no response to throttle movements. Lt Marrazzo informed Capt Cheney and their flight lead of the problem and initiated a climb to a safe altitude. The flight lead acknowledged the knock-it-off call, turned to rejoin the flight, and ensured that Lt Marrazzo and Capt Cheney climbed to a sufficient altitude to clear the high terrain. During the climb, Lt Marrazzo retarded the number two throttle lever to idle with no effect. With the throttle lever still in idle, the engine

continued to advance through minimum afterburner to maximum afterburner. While Capt Cheney consulted the emergency checklist, Lt Marrazzo attempted to control airspeed by decreasing power on the good engine and climbing. After discussing their position, fuel state, and options, the crew decided to let the number two engine continue to run until Capt Cheney, using the attack radar, could confirm that they were clear of the 12-13,000 foot peaks in the area. Once clear of the high terrain, Lt Marrazzo attempted to shut down the malfunctioning engine by moving the throttle to cutoff, with no success. Passing .97 Mach, Lt Marrazzo directed Capt Cheney to shut down the number two engine with the fire pushbutton. The crew was now faced with a single engine flight of 150 NM back to Cannon. After analyzing their fuel state and aircraft performance, the crew began to descend and dump fuel until they could maintain level flight at approximately 4,000 feet

above ground level in military power. Capt Cheney communicated their status to the flight lead who coordinated their recovery with the Cannon Supervisor of Flying (SOF) over the HF radio. Once configured and established on ILS final approach, control informed the crew that a maintenance vehicle was stalled on the runway. Lt Marrazzo initiated a single engine go-around while Capt Cheney set up for their approach to a much shorter secondary runway which had minimal approach lighting and no precision approach available. Lt Marrazzo flew a flawless single engine approach to the secondary runway, despite a wind shear which changed from a 40 knot crosswind to calm winds at 300 feet above ground level. The professional airmanship and exemplary flying skills demonstrated by Lt Marrazzo and Capt Cheney earned them a **Fleagle Salute**.



How You

MSgt Donald L. Neece
186 TRG
Meridian MS

What started out as a single problem on an RF-4C turned into multiple ones before it was all over and done with. After the second flight of the day, the aircrew wrote up the equipment cool light for coming on three times during flight. A ground run troubleshooting was accomplished, and a bad turbine was replaced. A second ground run was required for an operational check of the newly installed turbine.

During the second ground run, things turned from questionable to bad. About 15-20 minutes into the run, the MARS specialists informed the crew chief that fuel was coming out of the bottom back end of the aircraft. The crew chief asked if the fuel was coming from the #2 engine drain line located on door 92R or from one of the drain lines in the aft center line keel area. The specialist walked to the back of the aircraft to

determine exactly where the fuel was coming from and said the fuel was pouring out of all four drain lines in the keel area. Knowing that these were fuel cavity drain lines with no leakage allowed, the crew chief immediately shut down the #2 engine. Then he informed his flight chief and maintenance control of the problem; he also requested a fire truck to stand by the aircraft since fuel was continuing to pour out of the drain lines even after engine shut down. Fuel specialists were dispatched to the aircraft and they drained the fuselage fuel down to the wing tanks. Fuel eventually stopped pouring out of the cavity drains.

During the preliminary troubleshooting, it was determined that the fuel leak was coming from #3 fuel cavity; panels #135 and #48 were removed. With the external air supply hooked up

Lucky Can Get?

and energized, the crew chief noticed that an unusual amount of high volume air was coming from a forward position of #3 cell and from under and around panels #134 and #34; these panels were subsequently removed. The high volume air leak was found to be a ruptured air line which supplies air pressurization to the fuel bladders.

The result was one massive fuel leak.

The ruptured section was located in the bend where the line comes out of the left side of the #2 fuel cavity and turns to go back to the air regulator. To replace this line, the #2 fuel bladder must be removed. Air pressure from the ruptured line was the determining factor in causing the #3 fuel bladder to collapse; this caused the metal flange at the #3 to #4 cell interconnect to separate from the rubber bladder. The result was one massive fuel leak.

The situation turned from bad to worse once the #2 fuel bladder was removed. A 22 3/8" metal separation in the cell cavity was found. This split

was located on the right, outboard, forward portion of the cavity.

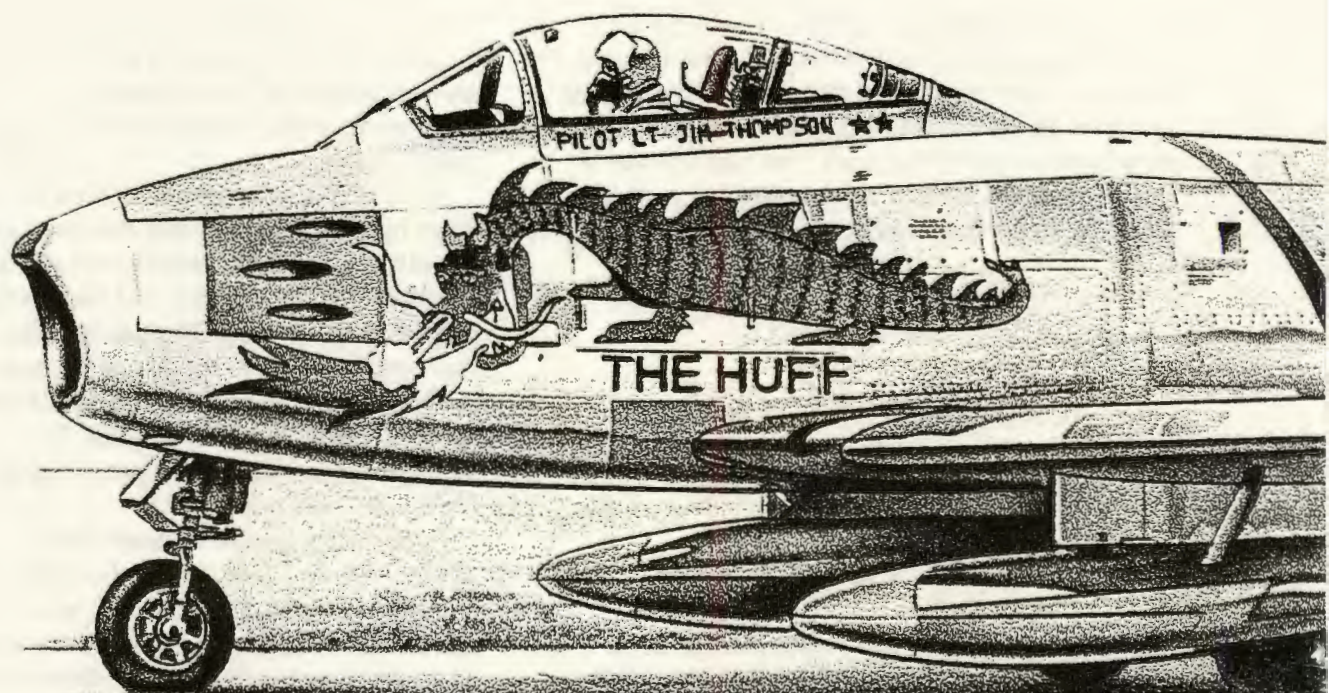
Beginning with the original equipment cool write-up, we now had a ruptured air supply line, a 22-3/8" metal separation in the #2 fuel cavity, and a ruptured #3 fuel bladder. At this point in time, we requested assistance from depot maintenance.

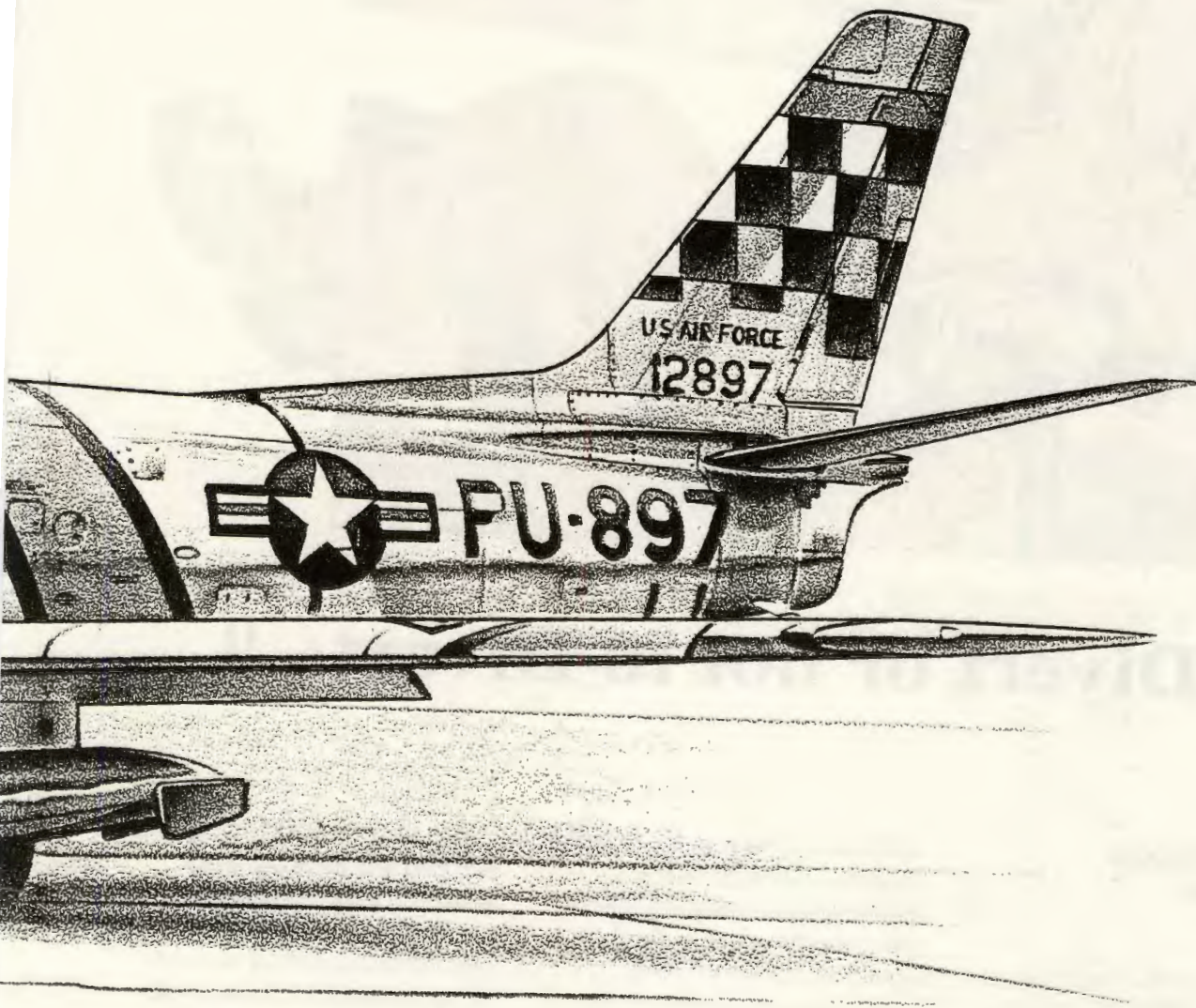
An engineer from depot arrived two days later. After much discussion and examination of the aircraft, it was recommended we pull all the fuel bladders except #1. The end results were replacing #3, #4 and #6 fuel bladders. Number 3 was replaced due to the flange separation; #4 and #6 were replaced due to questionable material integrity in some areas. The ruptured air line was replaced and the metal separation in #2 fuel cavity was repaired.

Preliminary causes indicate that the failure of #3 fuel bladder was due to the ruptured air line. Numbers 4 and 6 fuel bladders were condemned due to fair wear and tear which was found during extensive troubleshooting recommended by the depot engineer. The metal separation found in the #2 fuel cavity was determined to have happened before the fuel leak, but no less a real problem. Final causes have yet to be determined by the depot investigation.

I sit here in a calm, thankful frame of mind realizing how fortunate I am to write about this as a learning experience rather than a smoking hole in the ground aircraft accident report. Correct adherence to tech orders and procedures once again averted a potentially dangerous situation.

CENTER ART OF F-86 SABREJET
COURTESY OF **BOB ENGLE**
(Copyright 1991)





FINC



"To Divert or not to Divert..."

Maj John Marshall
HQ TAC/SEF

The mission had begun as a vanilla 1 v 1 BFM CT mission, with Lead being a fairly new guy to air-to-air and the F-5, and I (Two) having been squadron permanent party for three years. We were flying out of Williams AFB, Phoenix - part of the former F-5 Foreign Military Sales RTU. It was a hot, sunny

afternoon with some noticeable cumulus buildups over the Superstition Mountains, east of the base. We were in airspace about 60 miles southwest of Willie, finishing up our third engagement.

What had been a grouping of clouds as we stepped to the jets had now evolved into a couple of good towering cumulus cells. They were moving west toward the field and starting to kick up dust at the foot of the

mountains. The SOF came up on our freq and issued a quick weather recall, so Lead circled the wagons and began what seemed like a normal recovery. As we headed home, we could see the storm moving toward the base; it was now about 8 miles east as we approached Willie from 25 miles west. Lead didn't request a vector direct to initial, so we followed the standard ATC entry to the field: Pass overhead high, drive east

Done That

(you guessed it) for 5 miles, then teardrop down to the entry point. I was definitely getting a little PO'ed by now (there had been no air traffic between us and initial); and as we did our curly-que to initial, I could look through Lead and see a good deal of dust and wind that we just might beat to the field.

"Normal" procedures (we had been doing plenty of those the past 10 minutes) called for a right (east) break, but I requested that Lead arrange for a left break so we might avoid the garbage inbound if we were too late.

As we rolled out on downwind, Tower got a bit confused and delayed our turn off the perch. I had had enough and, gas being no problem, called that I was diverting to Luke, about 50 miles to the west. Good decision. Lead elected to continue his turn to final as I climbed and turned west toward Luke. I was still VFR, heading up to the mid teens, and called the SOF to inform him of my divert. I then flipped back to Willie tower, expecting to hear Lead initiating a go-around, as the dust and stiff winds had reached the field. Instead I heard Lead call that he was on short final; and no, Tower, the flight conditions weren't too bad to preclude him from landing.

That's when I started RATIONALIZING my thought process and second guessed my divert decision. I was about 10 miles west of the base at 7000 or 8000 feet now and asked Tower if there was any traffic on straight-in final. There wasn't (should've been a clue!); and as I visually cleared the southwestern approach, I spiralled down, informing Tower I'd be reporting direct to 5-mile final. Dumb decision; I was seduced by "Get-home-itis" and "If he can do it, so can I." I got on final, configured and was attempting a VFR straight-in while noticing that slant range visibility (which didn't look too bad when viewed from 7000 feet up) had dropped and crosswinds were very stiff. Out of habit I had spun the CI to runway heading and now had a 20 degree or so crab, but was still drifting toward the inside runway - which I had trouble distinguishing from the desired center runway. (A 20 degree crab would indicate crosswinds of near 50 knots.) As I was in no position to land safely, I made my second divert decision of the day, and Tower excitedly called the field closed.

Now I was gonna hurt for gas. I again climbed tech-order to 14,500 feet and headed direct to a 5-mile final at Luke. Requesting vectors and priority

from Phoenix, and trying to keep the gas gauge needles from getting any lower by my gaze, I had a relatively uneventful landing at Luke where I joined 3 other F-5 drivers who had diverted in a more timely manner. The jet had about 250 pounds of fuel left.

So what lessons were learned/re-learned?

1. Keep an eye, as best you reasonably can, on the weather. Pre-step forecasts usually come from phones, telewriters, or computer links with base weather. The last two avenues may be giving you "old" info, so maybe a call to Metro during taxi is worth your time some days. In flight, if you can't see what's happening at Home Plate, ATIS can be checked (before bingo) or a quick call to the SOF can help. Most of us probably wait until well into RTB to check ATIS. In NATO, for example, when the weather is bad, radios are so busy you really can't monitor ATIS then. By the time you might call the SOF (if he isn't busy), you're probably already in the low altitude structure and committed to an approach. You may well have several divert options fairly close; however, many have restricted hours, cramped ramp space that precludes them being routinely used as Wing alternates, and the

weather may well be deteriorating at them, also.

2. Know your jet - particularly its best long-range cruise altitudes/mach or indicated airspeed for typical training (and wartime) configurations. Get in the charts (or get in the jet on an IPRO, etc.) and find out or verify those rules of thumb that abound in your community. For the Eagle, 11 units is a pretty good guide, but not at altitudes above 40,000 feet. Altitude (in thousands) plus 50 gives close to best cruise mach for a half-internal weight

F-15 (but no faster than .89 IMN). Gas mileage is a must-know. For a single-bagged Eagle with a PTM and CATM, best low-altitude cruise mileage is about 20 pounds per mile; cruise in the mid-20's takes about 15 pounds per mile; and best long range cruise in the low to mid-40's is about 9 or 10 pounds per mile. It will cost you 400 pounds to climb each 10,000 feet, and you'll be using about 100 pounds (and cover 25 miles) to descend every 10,000 feet.

3. (Last, but not least)

Plan ahead; make conscious decisions on fuels, be prepared to divert and execute, when required, in a timely manner. Don't expect someone else to make the tough decisions for you. Better to be safely on the ground at another base than circling in the soup low on gas where you shouldn't be, sucking up your seat cushion. As for me, I'd rather be on the ground wishing I could be flying, than in the air, wishing I could land. Fly Smart!

WANTED



"TALES FROM THE DESERT"

ALL CATEGORIES NEEDED.
SO MUCH TIME IN THE SANDBOX;
AND NO SAFETY STORIES?

Outstanding Individual Safety Achievement Award



At Mountain Home AFB ID, on 7 May 91, approximately 2100, Master Sergeants Donald Blier and Arvol Brown drove to a fuel maintenance hangar to check on the estimated time in commission for an F-111A being repaired for a forward trap tank leak. As they drove past the nose dock toward the hangar office, they observed the aircraft and an MDU-13 electric heater with purging hoses attached. At that time, all operations appeared normal. They went into the office to speak with the fuel maintenance personnel and returned to their truck about 5



MSgt Donald G. Blier
366 AGS, 366 TFW
Mountain Home AFB ID

minutes later. As they drove past the nose dock, they discovered the entire right side of the aircraft and the heating unit were engulfed in flames. Sgts Blier and Brown immediately notified the maintenance operations center of the ground emergency. Then both men entered the hangar which was filled with dense, gray smoke and began yelling for personnel to evacuate the hangar and, at the same time, look for any injured personnel. Sgt Brown went to the aircraft and began directing fuel maintenance personnel (who had arrived simultaneously) to get a fire extinguisher from the hangar wall and begin putting the fire out. Sgt Brown also directed someone to get the flight line fire extinguisher from outside the hangar. Using the two extinguishers, they were able to put out the aircraft fire. However, the electric heater continued to burn. Sgt Brown directed it to be taken out of the hangar where the fire department (just arriving) was able to extinguish the fire. While Sgt Brown was directing actions inside the hangar, Sgt Blier was

busy evacuating the four surrounding hangars that were in danger in the event the burning aircraft exploded. Sgt Blier returned to the hangar in time to help remove the smoldering electric heater. If not for the decisive and heroic actions of Sgts Blier and Brown, the loss of lives, aircraft, and facilities may have been horrendous as the fuel tanks on the aircraft were open at the time of the fire. These actions by Sergeants Blier and Brown earned them the TAC Outstanding Individual Safety Achievement Award.



MSgt Arvol R. Brown, Jr.
366 AGS, 366 TFW
Mountain Home AFB ID



THE DANGERS OF HAND INITIATED MUNITIONS

Jimmy Campbell
1 AF/SEW

What do aircrew, security police, Prime Beef, and Prime Rib personnel have in common? They all train and work with hand initiated munitions such as the MK-13 flare, smoke grenades, and ground burst simulators. All these munitions are capable of causing serious injuries and property damage.

A pilot, during the Vietnam war, was helping one of his buddies celebrate his 100th mission over the North by "smoking" him with an MK-13 flare. He initiated the flare and held it in his hand, which is normal with the MK-13. However, some of the hot pyrotechnic residue overflowed onto his fingers and the palm of his hand. He was grounded for several weeks while skin grafts were used to close the burn wounds on his fingers and hand.

Smoke grenades are frequently used to add realism and confusion to training exercises. They are designed to initiate by pulling a safety pin and placing the grenade on the ground where it will spew out smoke and a mixture of very hot residue that has the ability to set fire to dry material. Almost everyone who has used these munitions has a personal story to tell about setting the grass on fire. Some smoke grenades also contain toxic materials and should not be used without respiratory protection.

One of the most hazardous of these hand initiated munitions is the ground burst simulator. It is a white container about the size and shape of a toilet paper tube. It is designed to be initiated and thrown away from all

personnel and structures before it explodes a few seconds later. It looks and is sometimes thought of as "harmless." After all, it is called a "simulator" which implies something less than a serious explosives hazard. But, a ground burst simulator is anything but harmless. It is very, very dangerous and carries the punch of a partial stick of dynamite.

I once ran a demonstration with a ground burst simulator placed under a sandbag. When the simulator exploded, the results were spectacular. There were no recognizable parts of the sandbag left, and sand was spread over a 25 foot circle. There was no doubt that a person would have been critically or fatally injured under similar circumstances.

The explosive material in a ground burst simulator is a mixture containing photoflash powder similar to that used in the early days of photography. It is a very serious explosives hazard with a very hot flash. Several years ago, an individual stationed at one of our

southwestern bases found a simulator. He cut the simulator open to take it apart and ignited the photoflash powder. As a result, he spent several weeks in the Brooks burn center with flash burns on his face and hands.

Additional guidance and requirements for controlling the use of hand initiated simulators and smoke producing munitions have recently been added to AFR 127-100, Explosives Safety Standards, paragraph 2-17. Specific safe distances are now required between initiated simulator or smoke producing munitions and surrounding structures. Before you establish a training program that uses these types of munitions, check with your wing weapons safety officer or NCO.

Remember, **HAND INITIATED MUNITIONS ARE NOT TOYS!** These things are real munitions, regardless of their "apparent" harmlessness, and have a potential for causing severe damage or injuries.



REFUELING THE PILOT

How and what you eat and drink before flying can affect how you function in the cockpit

By Douglas S. Ritter

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If, as the saying suggests, you are what you eat, could it also be true that you fly like you eat?

In fact, what, when, and how you eat can affect your flying. Like so many other things, your diet can have a positive or negative impact on your piloting ability and flying safety. A healthy, balanced diet results in better performance. Poor eating habits can be detrimental, and

it's surprising how the impairments can sneak up on you.

Not eating properly before and during a flight can result in discomfort, drowsiness, overstimulation, hyperactivity and nervousness. These unpleasantnesses often are followed by depression and fatigue.

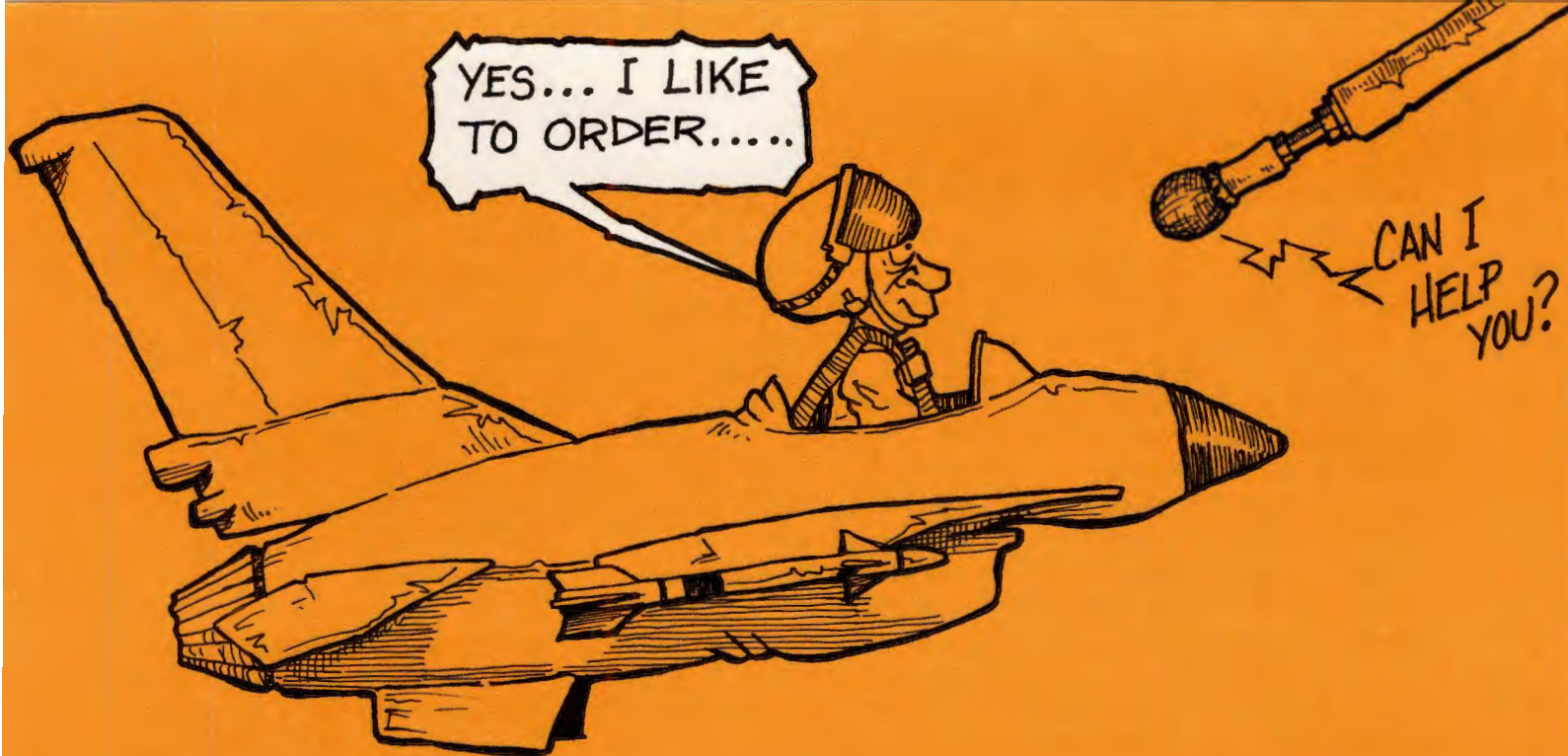
When you are not comfortable, wide awake or in complete control, your ability to fly safely is jeopardized. But avoiding these problems is not difficult. The two simple tenets to follow are **consistency** and **moderation**.

Any time you make a radical change in your eating habits, your body reacts in a way that

degrades performance. The reaction could be triggered either by what, when, how much or in what manner you eat. Like the effects of drugs, the reaction tends to be highly individualized.

Flying seems inevitably to involve upset schedules and inconsistent eating habits. So, let's look at some of the things that can happen and how to deal with them. Along the way, we will explore some of the myths surrounding diet and performance.

The most common way we alter our normal routine is by either skipping a meal entirely or by eating some "junk food" on the run. When you skip a meal, your body interprets this to



mean it should “slow down” its metabolic rate. This happens within a short time (for some, in less than an hour) and often is accompanied by slowed reactions and even drowsiness.

Routinely skipping a meal does not have as severe an impact. Pilots who regularly skip breakfast do not generally experience any performance degradation initially. Studies by the Royal Air Force of “fast-jet pilots” have shown that initial performance levels are not adversely affected; but if energy reserves are exhausted later, there can be degradation. This is not a universal experience; however, and the effects are very individualized and dependent on many factors.

JUNK FOOD—Regular, reasonably balanced meals provide the benefit of maintaining more even energy levels. Furthermore, studies have shown that memory recall and information retention are improved after a normal meal.

“Junk Food,” such as candy,

doughnuts and soda pop, are often very high in sugar content. Eaten in place of a regular meal, they invite hypoglycemia, or low blood sugar. Hypoglycemia is not a disease, though its antithesis, hyperglycemia (high blood sugar), is a symptom of diabetes.

It seems contradictory that foods high in sugar would cause low blood sugar, so let’s briefly examine how this happens. Insulin is needed to metabolize the glucose that is converted from sugar. Glucose is the primary “food” for the brain and comes mainly from simple carbohydrates like sugars and complex carbohydrates like starches.

When your body has, or expects to have, glucose in the digestive system, it manufactures insulin. If, for example, you usually eat a regular breakfast, insulin is produced in anticipation of a normal breakfast digested in the normal manner. When you eat a high-sugar meal, additional

insulin is produced. The burst of glucose is rapidly depleted by the large quantity of insulin, resulting in hypoglycemia.

At first, you might feel a “high” as the glucose is converted into energy. But it lasts only a short time. The glucose is rapidly exhausted, but the surfeit of insulin leaves you suffering the end effects of the sugar high. Notable among these effects are fatigue and depression which will last until you eat again.

The effects can range from distracting to debilitating. Common symptoms of hypoglycemia include headache, weakness, faintness, lethargy, increased pulse rate, visual disturbance, tremors, nervousness and increased perspiration. These most commonly occur 2 to 4 hours after the “meal” and typically last for 15 to 30 minutes, though frequently longer.

Mild or subtle symptoms may become a hazard without your even being aware. You can quell

the overt symptoms by eating more high-sugar foods. But this is only a stopgap. Too much sugar can result in a roller coaster of highs and lows. Studies have shown that hypoglycemia can heighten a pilot's susceptibility to the effects of G-forces. It is far better to avoid the problem by eating something high in complex carbohydrates, which will be digested slower, more like the normal meal.

Among complex carbohydrates, the snack food that is currently in vogue with nutritionists is, of all things, the bagel. It is readily available, keeps well and is loaded with complex carbohydrates but little fat and sugar.

Other recommended snacks are pretzels, fig or fruit bars, granola bars low in sugar, yogurt, milk and high-protein drink mixes, such as breakfast shakes and the like. Fresh fruit and vegetables are always good choices.

PIG OUT, NOD OFF—

Other dangers to pilots are the aftereffects of overeating. When you eat a meal, your body supplies additional blood to your digestive system to cope with the large influx of nutrients. When you consume moderate quantities of food, this is not a problem.

Overeating, however, results in a disproportionate amount of blood being sent to your stomach and gut, depriving the brain of some of the blood it needs to supply oxygen. This and other related chemical processes in the brain cause

drowsiness.

Studies reported by Dr. Douglas Herrmann in his book, Super Memory: A Quick Action Program for Memory Improvement, indicate that the sluggishness associated with large meals has been implicated in a degradation of the ability to concentrate and recall from memory. Perhaps more important, even if you use a stimulant such as caffeine to perk yourself up, the adverse effects on the flow of oxygen to the brain might make you particularly susceptible to hypoxia if you fly too soon after eating a large meal.

Certain types of food can exacerbate this drowsiness problem because they take longer to digest. Liquids are digested faster than solids because they skip the first step of the digestive process. Carbohydrates start to be absorbed into the bloodstream in 15 to 20 minutes. Proteins take 25 to 60 minutes, and peak absorption occurs about the time that most of the carbohydrate absorption is slowing down. Fats are last to be absorbed and can take as long as 3 to 5 hours. Obviously, the more fats you eat, the longer you will feel tired. Give yourself enough time after eating before you fly.

One way to guard against overeating is simply to eat slower. No matter how much you may enjoy what you're eating, eventually you will get "full" and stop. Your body takes about 15 minutes to respond to

the physical and chemical messages that it has "received enough." Eating slowly gives your body time to get "full" on a much smaller quantity of food.

For many pilots, coffee is a staple for flight. In moderation, coffee does little harm. In excess, it can cause everything from mild stomach distress to extreme nervousness and actual unsteadiness.

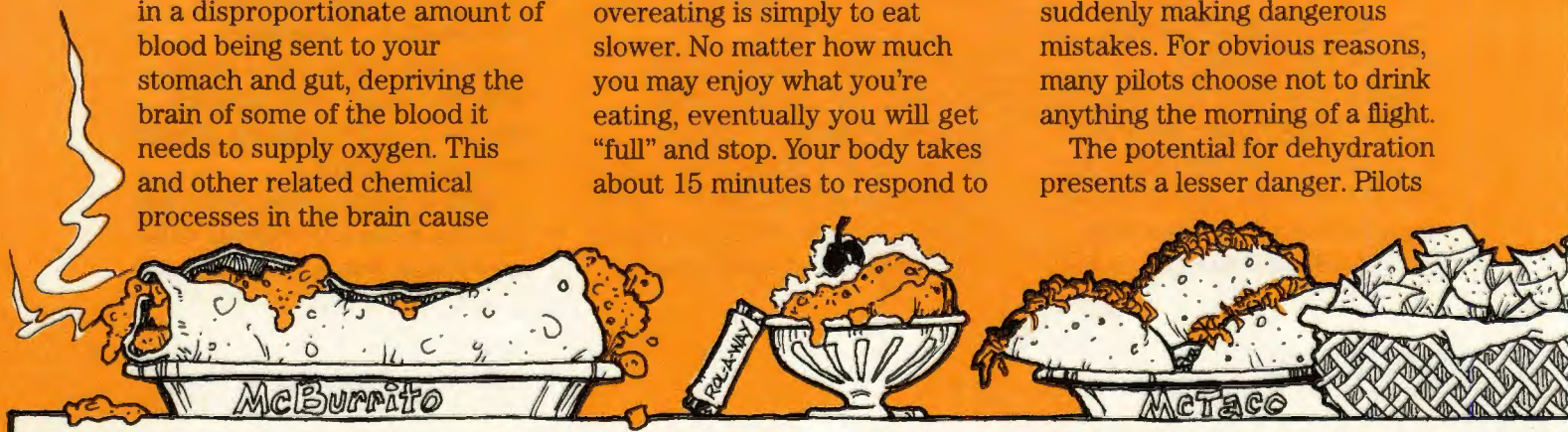
You should be aware of what your reactions are likely to be and limit yourself to any amount well below the point where it causes you a problem. The less you drink, the better.

But caffeinated coffee is addictive. If your body is used to receiving a regular fix, don't deny it what it needs. The results of deprivation can be as troublesome as the results from too much. Moderation is the key.

Too much of any liquid can be a problem. After all, most of us do not fly aircraft with toilets aboard. Coffee and other drinks with caffeine compound the problem because they are diuretics. They induce the elimination of water from your body.

This sort of problem is usually only an irritation and may sound trivial, but it can be a serious distraction. If you are distracted, even a little, you are not paying sufficient attention to the tasks at hand. You may find yourself suddenly making dangerous mistakes. For obvious reasons, many pilots choose not to drink anything the morning of a flight.

The potential for dehydration presents a lesser danger. Pilots



are not likely to become dehydrated unless they're operating in a dry, hot climate. Under these conditions, pilots should be sure to drink enough water. ("Enough" is usually more than normal thirst would encourage, and a conscious effort to drink extra water is required.) Fruits and vegetables also are a good source of liquids.

If you are going to fly after vigorous exercise or exertion, it is especially important to increase your intake of liquids. For the typical recreational athlete or pilot, plain water is adequate. Salt and electrolytes are not normally required until a 6 per cent loss of body weight has occurred. There is no need to use "sports drinks" such as Gatorade or Exceed, though there is certainly no harm in drinking them (unless you're counting calories).

The color of your urine is an indicator of dehydration. Under normal conditions, it should be very pale yellow. Anything darker indicates a need for additional liquids, as soon as possible.

The common symptoms of dehydration include lightheadedness, dizziness, nausea and fainting (in extreme cases). If the symptoms appear, immediate fluid replenishment is necessary and rest is recommended.

Food Poisoning—Food poisoning is a continuing hazard that is often overlooked. Over

60,000 cases are reported each year, according to the Center for Disease Control. But most cases are not reported. The center estimates the actual incidence may be as high as 6.5 million cases.

Documented incidents have shown that pilots certainly are not immune, but you can take a few steps to guard against food poisoning. Avoid restaurants with appearances that don't inspire confidence in their sanitation. Avoid raw fish and shellfish. Avoid foods prepared ahead of time, such as chicken salad.

Never eat anything that doesn't smell or taste right. If you have a copilot or "pinch hitter" aboard, it is best that you eat completely different foods, just to be safe.

Food allergies and related adverse reactions to food additives can also cause problems. Contrary to popular belief, nearly everyone is susceptible, to one degree or another, to some type of food allergy. The big difference is that the symptoms are much more pronounced in some individuals. In addition, each person's reactions may change over time, and people often "grow into" and "out of" allergies.

Symptoms range from the merely inconvenient (like flatulence, nasal congestion or discharge, loose bowels and headaches), to the more serious

(dizziness, heart palpitations and nausea), to critical, incapacitating health problems.

Many common food additives such as Sodium Benzoate, MSG and Aspartame (NutraSweet, Equal) have been linked to health problems for pilots. If you don't seem to be able to pinpoint an obvious reason for any of the types of symptoms listed above, it may be a good idea to seek out a health specialist with experience in this area.

If you don't eat in a healthy manner now, it's not likely you will turn over a new leaf and start eating the way your mother always wanted. But, perhaps you will give a little more thought about how and what you eat before and during a flight. It can give you an edge in flying safely.



QUALITY PERFORMERS IN ACTION

The following individuals and units have earned special recognition for outstanding contributions towards a safe, quality culture. Their actions portray a pride in performance and teamwork which fosters a climate of excellence and results in greater mission accomplishment. Congratulations, and thanks for making TAC a safer, more effective environment.

Capt Robert A. Rickert
70 TFS, 347 TFW
Moody AFB GA

SSgt Scot Ashton
4 CRS, 4 TFW
4404 TFWP

Capt Ralph Taylor
20 TASS, 507 TAIRCW
Shaw AFB SC

SSgt Brian H. Smith
SSgt John L. Horne
SSgt Mark W. Finstrom
SSgt Larry Stephens
SSgt Christopher Ryan
SSgt Byron Thompson
Sgt Kenneth Skinner
Sgt Clifford Tilley
Sgt Roy Persons
36 TFW/4 TFWP
94 CSG/4 TFWP

TSgt Terry L. Speer
SSgt Bryan W. Olsen
SSgt Michael S. Jones
SrA Bradley S. Bell
4 CSG, 4 TFW
4 TFWP

TSgt Victor E. Maduro
Sgt Bruce L. Eldridge
A1C Ronald R. Bridgman
405 TTW
Luke AFB AZ

TSgt Davey M. Schneider
169 CAM/157 TFW
4 TFWP

Sgt Harlan T. Onaga
21 TASS, 507 TAIRCW
Shaw AFB SC

SSgt Benjamin H. Rausa, Jr.
Sgt Dennis R. Mangus
33 TFW
Eglin AFB FL

1Lt Greg D. Faltin
308 TFS, 31 TFW
Homestead AFB FL

SSgt Douglas A. Kline
SSgt Gregory B. Pritt
Sgt Kurt A. Quade
Amn William Applewhite
4 EMS, 4 WG
Seymour Johnson AFB NC

SMSGT Allen R. Perry
347 CES, 347 TFW
Moody AFB GA

TSgt Mark R. Larned
SSgt John A. Campbell
4507 CAMS, 21 AMU
Shaw AFB SC

SSgt Fred A. Jackson
355 TTW
Davis-Monthan AFB AZ

TSgt Richard J. Fenbert, Jr.
405 EMS, 405 TTW
Luke AFB AZ

Capt Ben M. Schladenhauffen
58 TFS, 33 TFW
Eglin AFB FL

SSgt Donald Burgess
58 TTW
Luke AFB AZ

Capt Richard A. Meyer
94 TFS, 1 TFW
Langley AFB VA

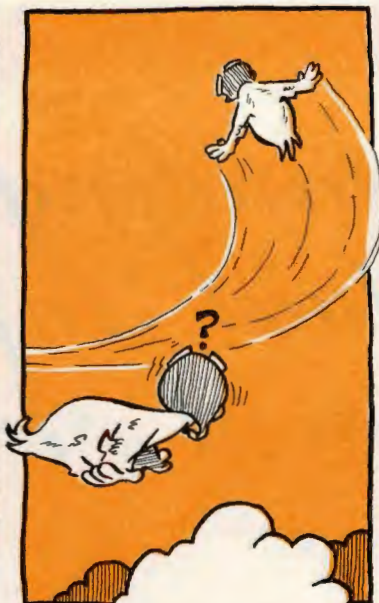
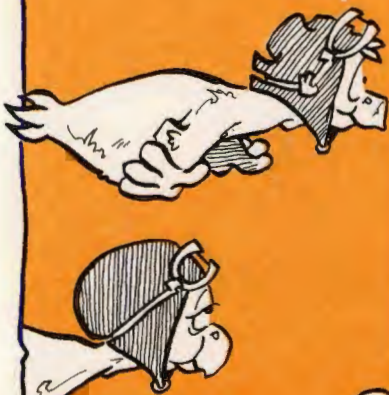
SSgt Gary W. Brinson
347 CS, 347 TFW
Moody AFB GA

SSgt Robert D. Crichlow
Det 8, 507 TAIRCW
Ft Drum NY

Capt Scott V. Landis
62 TFS, 56 TTW
MacDill AFB FL

Amn Oscar C. Roberts III
67 TRW
Bergstrom AFB TX

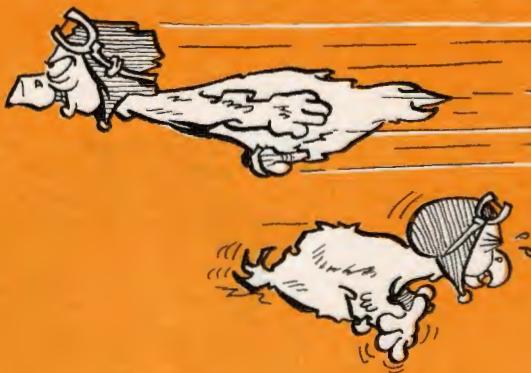
Fleagle



WHAT IN HELENA MONTANA
IS FLEAGLE DOING?

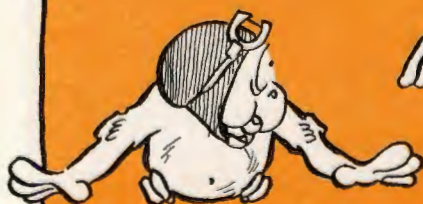


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WHAT'S TH'MATTER, OLD
BUDDY? YA' LOOK A
LITTLE TUCKERED.

MUST BE A VIRUS
OF SUM KIND.



VIRUS MY FOOT. HE DONE AN' GONE
AN' OVER-CYCLED HIMSELF.

SURE DO
APPEAR SO.



HARRISON

Outstanding Individual Safety Achievement Award

On 18 April 1991, Staff Sergeant Robert S. Cecil was dispatched to troubleshoot an A-10A aircraft which had landed with an in-flight emergency when the landing gear failed to extend using normal procedures. The pilot extended the gear with the alternate extension system and made an uneventful landing. While troubleshooting the aircraft, Sgt Cecil duplicated the problem and traced the malfunction to a fault in the landing gear control panel. Though not required as part of his troubleshooting procedures, Sgt Cecil decided to visually inspect the interior of the landing gear control panel. During the inspection, Sgt Cecil discovered the identification data plate located on the side of the landing gear handle sub-assembly had fallen off and become lodged in the



SSgt Robert S. Cecil
355 AGS, 355 TTW
Davis-Monthan AFB AZ

microswitches causing constant power to be applied to the upside of the landing gear control valve. Quality assurance and air division safety inspectors were immediately notified, and a local one-time inspection was performed on all A-10A aircraft assigned to Davis-Monthan AFB. The inspection revealed that several aircraft had loose data plates and two data plates were missing. Sacramento Aircraft Logistics Command was notified and a material deficiency report was submitted on the landing gear control panel. Sgt Cecil's initiative, job knowledge, and attention to detail identified a serious problem and prevented the possible loss of aircraft and life. For his actions and proactive maintenance efforts, Sgt Cecil earned the TAC Outstanding Individual Safety Achievement Award.



TAC TALLY

CLASS A MISHAPS
AIRCREW FATALITIES
* IN THE ENVELOPE EJECTIONS
* OUT OF ENVELOPE EJECTIONS

* (SUCCESSFUL/UNSUCCESSFUL)

TOTAL			TAC			ANG			AFR		
AUG	THRU AUG		AUG	THRU AUG		AUG	THRU AUG		AUG	THRU AUG	
	FY91	FY90		FY91	FY90		FY91	FY90		FY91	FY90
1	23	24	1	11	16	0	12	5	0	0	3
0	7	13	0	3	7	0	4	4	0	0	2
2/0	19/1	20/0	2/0	8/0	12/0	0/0	11/1	6/0	0/0	0/0	2/0
0/0	0/2	1/1	0/0	0/0	1/1	0/0	0/2	0/0	0/0	0/0	0/0

CLASS A MISHAP COMPARISON RATE

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

TAC	FY 91	0.0	0.0	0.7	1.8	2.2	2.2	2.2	1.9	1.7	1.8	1.8	
	FY 90	1.8	2.8	2.7	3.0	2.4	2.7	2.8	2.9	2.8	2.7	2.8	3.2
ANG	FY 91	3.8	2.0	1.3	3.9	3.2	4.0	5.2	5.0	4.9	4.8	4.3	
	FY 90	0.0	0.0	1.6	1.2	0.9	0.8	1.3	2.2	2.4	2.2	2.0	2.2
AFR	FY 91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	FY 90	20.4	11.2	8.2	5.9	4.7	7.7	6.4	5.5	4.8	4.4	4.0	3.6
TOTAL	FY 91	1.2	0.6	0.8	2.3	2.4	2.6	2.9	2.7	2.5	2.5	2.4	
	FY 90	2.4	2.5	2.7	2.6	2.1	2.4	2.6	2.9	2.8	2.7	2.6	3.0
MONTH		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

TAC'S TOP 5 thru AUGUST 1991

1st AF			9th AF			12th AF		
"COMMAND-CONTROLLED CLASS A MISHAP-FREE MONTHS"								
142	48	FIS	50	1	TFW	52	479	TTW
67	57	FIS	29	56	TTW	44	355	TTW
27	325	TTW	21	31	TFW	43	366	TFW
			20	33	TFW	38	27	TFW
			16	23	TFW	24	49	TFW
ANG			AFRES			DRUs		
"COMMAND-CONTROLLED CLASS A MISHAP-FREE MONTHS"								
463	119	FIG	124	482	TFW	179	552	AWACW
439	147	FIG	121	924	TFG	70	28	AD
249	110	TASG	109	906	TFG	49		USAFTAWC
223	138	TFG	84	507	TFG	41		USAFTFWC
202	174	TFW	71	917	TFG			

SAFETY

**DON'T JUST THINK IT,
LIVE IT**

THIS...



NOT THIS...



(BEFORE BURNING LEAVES OR TRASH CONTACT YOUR LOCAL FIRE DEPT.)