

TAC ATTACK

JANUARY 1979

January 1979



MIDAIR ROULETTE
Pg 14

GARCIA

Midair Roulette Pg 14



READINESS IS OUR PROFESSION



TACTICAL AIR COMMAND

GENERAL W. L. CREECH
COMMANDER

LT GENERAL JAMES A. KNIGHT, JR.
VICE COMMANDER

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Angle of Attack

MIDAIR ... it can happen to you

Since 1974, Tactical Air Command's active and gained units have lost 10 aircrewmembers and 17 aircraft in midair collisions. Seven other aircraft have been damaged in these mishaps.

These losses and the recent disaster over San Diego, California are reminders of the consequences of a few moments of inattention in the air. Numerous improvements have been made in radar, communications, and air traffic control equipment, but a foolproof collision avoidance system will probably never be developed. A major responsibility for midair collision avoidance still rests with individual aircrewmembers.

Midair collisions have occurred in every possible phase of flight, but are most prevalent during formation maneuvering, simulated air combat engagements, traffic patterns, including takeoffs and landings, and air refueling. The majority of midair collisions take place during VFR conditions and are the result of human error. We must not

allow these losses to continue.

What can we do?

First, know that the problem exists. Don't allow yourself to be taken in by the "it won't happen to me" syndrome. There are a lot of people who believed that same thing. They are now statistics.

Secondly, figure out where you fit into the picture and do your part to prevent these collisions. Are you a traffic controller---flight commander---crewchief---aircrewmember? We all have a stake in the game and if we fill our role properly, the chances of a midair will be vastly reduced.

Have you noticed a potential traffic conflict in your base's departure and arrival routes, but failed to bring it up to anyone else?---Have you ignored the subject of midair collisions during your flight briefings?---Did you ignore the last pilot's request to clean the windscreen?---Did you press the attack on your last ACM ride even though you had lost sight of your target? (So you did find him again--this time. What about the next?)

It's time to rededicate ourselves to examining operations for potential hazards---not only in the area of midair collisions, but throughout the entire spectrum of our operations. With a concerted effort on our part, we can reduce personnel and aircraft losses from all causes. ➤

Richard K. Ely

RICHARD K. ELY, Colonel, USAF
Chief of Safety

COPE THUNDER

By Capt William C. Vasser
6200 TFTG
Clark AFB, RP

The mock-combat programs of Cope Thunder and Red Flag offer aircrews the best training ever received in peacetime. These programs provide realistic threat scenarios and give aircrews the opportunity to gain valuable skill and knowledge, significantly raising their chances of combat survival if the real balloon goes up. Reviewing the odds in some of the more likely spots where hostilities could break out, one can see that aircrews are going to need every bit of simulated combat experience they can obtain to accomplish the mission. In spite of this training, losses, particularly during the first few days of any large scale conflict, could be significant.

Should an aircrewmember have to get out of his machine and walk home, he had better be prepared to make it on his own for days before being rescued. He may even be required to E&E all the way back to friendly lines. Coming down in the chute is not the place to be thinking, "Now what did I learn in survival school years ago?" How many of us would want to jump into a fighter for the first time in several years to engage the enemy knowing they have been doing it every day? Well, that is just about what to expect in the ground environment should an aircrew get shot down. You suddenly have to become an expert in E&E and ground combat without much premission planning. You are now in a ground combat situation with no planning and little current training, matching wits with people who have been training for ground combat daily.

Many of us give survival little consideration

because we tend to believe in the "Big Jolly in the Sky" theory. (If I go down, all forces will be dedicated to my rescue and Jolly will be right there to pluck me out of the hands of the forces of evil.) Do you want to bet your life on it? Therefore, you must have the confidence and ability to survive on the ground. Most important, you must have the will to survive and be capable



SAR

... a chance to test your skill

of moving to a less defended location for a SAR force to get to you. That place may be 20-30 miles away. In order to cover this distance, you will have to know all about escape and evasion, how to survive, and how to use your equipment. Once you arrive at a location where rescue is possible, a Jolly with all his AF gear may not be the helo coming to a hover over you. The rescue

helo may be an Army chopper on another mission. You could be faced with having to figure out what to do with a rope that is tossed from an Army Huey chopper. If a Cobra comes to your aid, do you hang on the skid or is there a better option? The gunner sure isn't going to give you his seat, although that did happen once. You need to know the difference between



COPE THUNDER SAR

the Navy method of rescue and ours.

The PACAF Cope Thunder SAR program is aimed at making aircrews aware of some of the many things they must think of should they go down. We offer a short refresher briefing in combat survival, a videotape demonstrating equipment use in a realistic situation, and a chance to practice skills in E&E up to effecting a rescue. In short, we provide a survival version of the "10 aerial mock combat missions" program. We attempt to make crewmembers mentally aware of a survival situation so they may "cope" (excuse the pun) with that "alone, unarmed, afraid, and outnumbered" feeling.

It has become apparent from the exercises that many people do not know what to do when they are thrust into a survival situation. They don't know their equipment, how to use it, or even what they have. They are not aware of the latest AF rescue procedures or anything about the Navy rescue devices. In short, some people do not take life support and survival training seriously.

Our "survivors" have experienced repeated problems with the URC-64 (PACAF & USAF only) survival radio. It may be the most important item we have for rescue pickup. Certainly, getting picked up without one would be difficult. People are still pointing the antenna at the rescue vehicle. There is a cone of silence above the antenna -- the same as we find above navigation aids. This reduces the range of the radio and hampers the DF steer capability of the rescue aircraft, especially when close to the survivor, such as Jolly just prior to pickup. Some Jollies now have special gear to locate a survivor; it would be a shame for him to miss your pickup because you pointed the antenna at him. For best results, keep the antenna at a 45-degree angle to the receiving aircraft.

If the situation requires you to monitor the radio, yet not compromise your position with radio hiss, use the ear plug. It will allow the radio speaker volume to be reduced to low level. A hand over the speaker/mike will muffle any remaining sounds. Should the speaker/mike go out, the ear plug can be used as a mike. In the



event the ear plug holder is broken, the tourniquet can be used to hold it in place.

One last comment on the URC-64 radio. The T.O. states that it's waterproof. True, you can submerge it in water and be 90% confident it won't leak. You can also be confident water won't hurt the battery. So, you should be confident the radio will work after you descend into

the ocean. Wrong! Our practical experience has shown it only works for 10-15 minutes before becoming inoperative. The reason has been traced to the battery radio contacts. Once wet with salt water, these battery contacts corrode very quickly which causes the battery to stop working. The manufacturer says there is metallurgy technology available to prevent this, but that doesn't do a person much good once he is in a survival situation. Should you have to take a dip in the ocean, try to keep the radio dry. When it gets wet, take the battery out, dry the top off, and try to shake any water out of the battery compartment. In short, try to keep those contacts dry. We have had one radio start working again once it dried out.

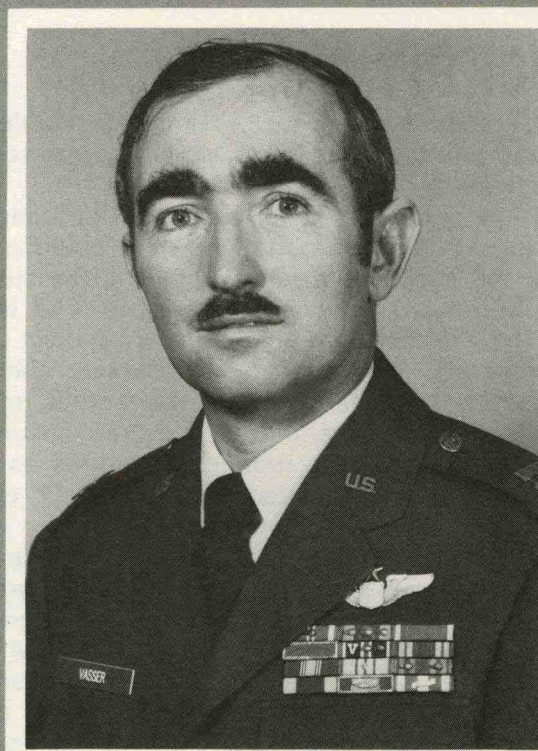
When in a survival situation, a person has to be at his creative best, improvising to fill his every need. We would like to pass on some ways of improvising from suggestions given to us by Cope Thunder "survivors." Many people have expressed the need for a hat while in survival situations and that a floppy bush hat should be included in the vest. Most units in PACAF have camouflage helmet covers in their vests. It is primarily for covering the white helmet, but it does make a usable hat. Just take two flaps and fold them under, making a front. Some long grass folded in half placed inside can be used as an air cushion to keep the hot canvas off the ole head. The tourniquet is used to hold the cover on. In an E&E situation, place some foliage in the tourniquet band to break the round outline of the head. The other flaps provide camouflage for the ears and neck and cover for sunburn. It also gives the crews that "Lawrence of the Jungle" feeling.

Keeping the helmet may not sound like a very desirable idea in an E&E situation, but it is recommended that it be retained for pickup. It offers head protection should an HH-53 Super Jolly come to a hover over you and you are in the trees. Its typhoon-rated downwash can bring limbs down on you and blind you with dust. If the rescue helo starts taking heavy ground fire, it may be forced to depart the area quickly, perhaps dragging you through the trees. There is also the possibility of you striking the helo while being hoisted.

There are disadvantages in retaining the helmet. You cannot hear someone moving in your area. It is also difficult to tell how loud the speaker is, should you have the radio plugged into the helmet via the earphone adapter. A

white helmet may compromise your position. If you decide to retain the helmet, it can be attached to the vest by simply slipping the chin strap through the laces in the back of the vest. In this fashion, it is out of the way, and your hands are free for use. When it is needed, it can be quickly donned. I don't want to give the impression it's not still a bother, just not as big a one when attached in this fashion.

These are some of the many helpful hints people have learned and passed on in Cope Thunder SAR exercises. When down on the ground in unfriendly territory, every helpful hint that can be recalled may aid in your return to friendly hands.



Following pilot training, Captain Vasser completed an F-4 tour in SEA. He was then stationed at Clark AB, RP from '69-'71. Following that, he flew the O-2A at Bergstrom and DaNang. This was followed by another tour in the F-4 at Eglin after which he returned to Clark where he currently serves on the Cope Thunder staff.

Captain Vasser has a BA in Aerospace Engineering from Texas A&M and a Masters Degree in Administration and Management from the University of the Philippines.

TAC *TIPS*

Common Sense is very uncommon.
Horace Greeley

..interest items, mishaps
with morals, for the
TAC aircrewman.

COCKPIT FOD

FOD doesn't occur just to engines. Foreign objects can cause problems in other areas too. Case in point . . .

An F-4 completed a formation low-approach and during the go-around, the pilot could not move the stick to the left. By moving the stick slightly forward, he could then move it to the left. The pilot declared an emergency and set up for recovery. During the controllability check and subsequent maneuvering, two abrupt rolls to the left were experienced. The crew accomplished the hard-over rudder procedures as a precaution and completed a safe BAK-12 engagement.

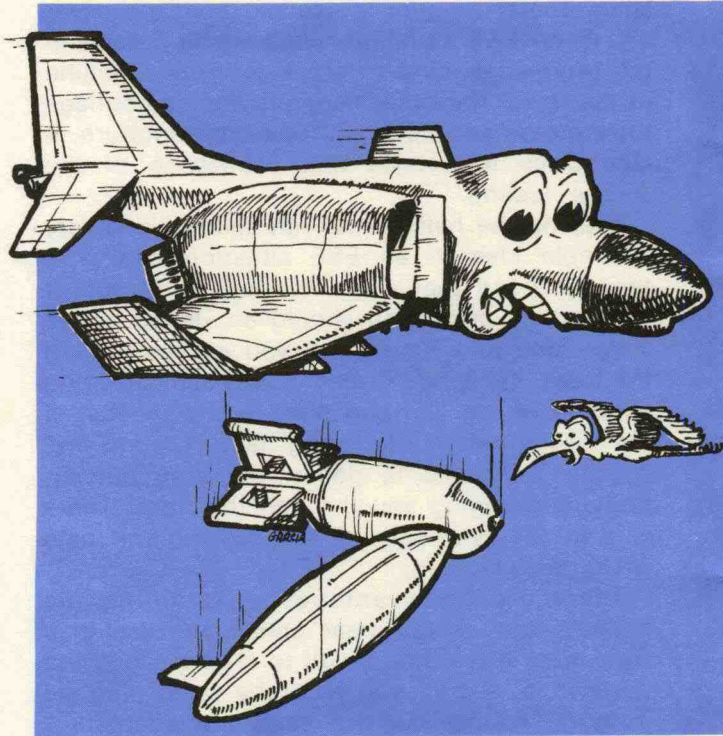
During maintenance inspections, an instrument lens cover and a mechanical pencil were found under the rear cockpit control stick boot at the base of the stick. No way of identifying who was responsible for the FOD. This is just a reminder to define your own procedures for insuring that you leave the aircraft with all your possessions. If you can't find something, write it up. Don't take it for granted you lost it somewhere else.

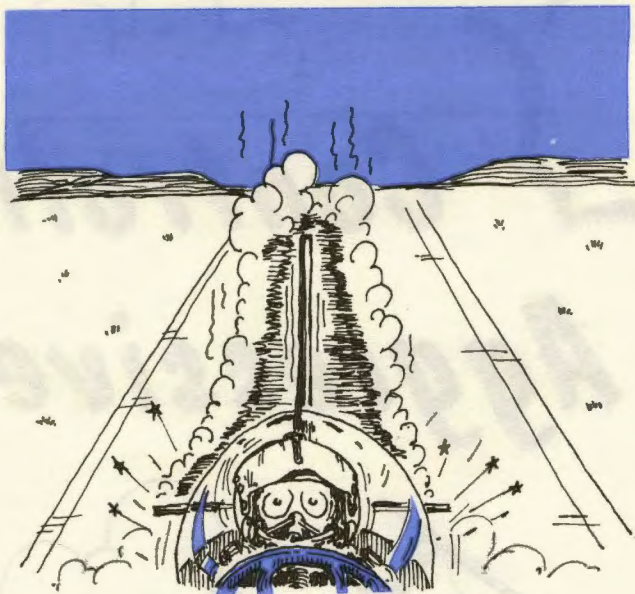
WHAT'S A DCU-94 PLASTIC GUARD?

It's a piece of plastic which fits over the switches on the DCU-94 control panel to allow use of F-4 nuclear release circuitry for practice bombs. The guard prevents the selection of centerline or outboard positions and thus,

inadvertent release of tanks or other stores loaded on those stations.

Conversely, the lack of a plastic guard allows the pilot to select any or all stations. Not too long ago, the centerline station was inadvertently selected along with the left in-board. At the release point, the bomb dropped and so did the centerline tank. Another tank lost because someone didn't want to take the time to get the guard installed. Take care not to let your efforts to hurry up catch up with you.





OOOOOPS!

What more could a guy ask for -- nice day, wingman aborted, and here I am, single-ship to the range. Dropped some good bombs, hit the rag with a group of bullets, and time to go home.

Here we are in the break -- nice -- base, gear down, and 20 minutes away from a cool one. Nice touchdown -- chute out -- wait a minute!!! That was the gear handle, not the chute handle! Oh h---! That scraping noise sure is loud -- wonder if this thing will ever stop. Well, that's it; shutdown the engine and get out of this thing. What a way to end the perfect mission!!!

CONDITIONAL CLEARANCES

If you said there is no such thing, you're right! "Conditional clearances" or "conditional subsequent clearances" are prohibited by FAA -- but that's not to say it's not possible. What is a conditional clearance, you say? Well, it's a clearance based on another or subsequent action -- such as "cleared for takeoff after the F-4 is clear of the runway" or "cleared on to hold after the F-15 lands."

If the last part of those transmissions was blocked out, it's obvious what could happen. Be aware of clearances of this type and the potential for error or misunderstanding. If you ever hear one, remind the folks involved (nicely, of course) of the hazards.

PHLAMEOUT

The F-4 was returning from a gunnery mission and flying a hung bomb mission. When the pilot attempted to slow to gear lowering speed, the left engine remained at 90%. The throttle moved freely, but there was no engine response. The crew discovered that the rear cockpit throttle was still working, so the pilot had the backseater match the throttles for the remainder of the pattern. (Good idea.)

After touchdown, when the pilot brought the throttles to idle, the backseater matched the throttles. (Not such a good idea 'cause the left engine flamed out.) I'll bet you forgot that the backseat throttles have no idle stop feature, so when the GIB retarded the throttles to idle -- he went straight to the cutoff position.

The malfunction in the throttles occurred when the left throttle cable became disconnected from the F/C/P throttles. If this situation ever happens to you, be very careful when matching the throttles.

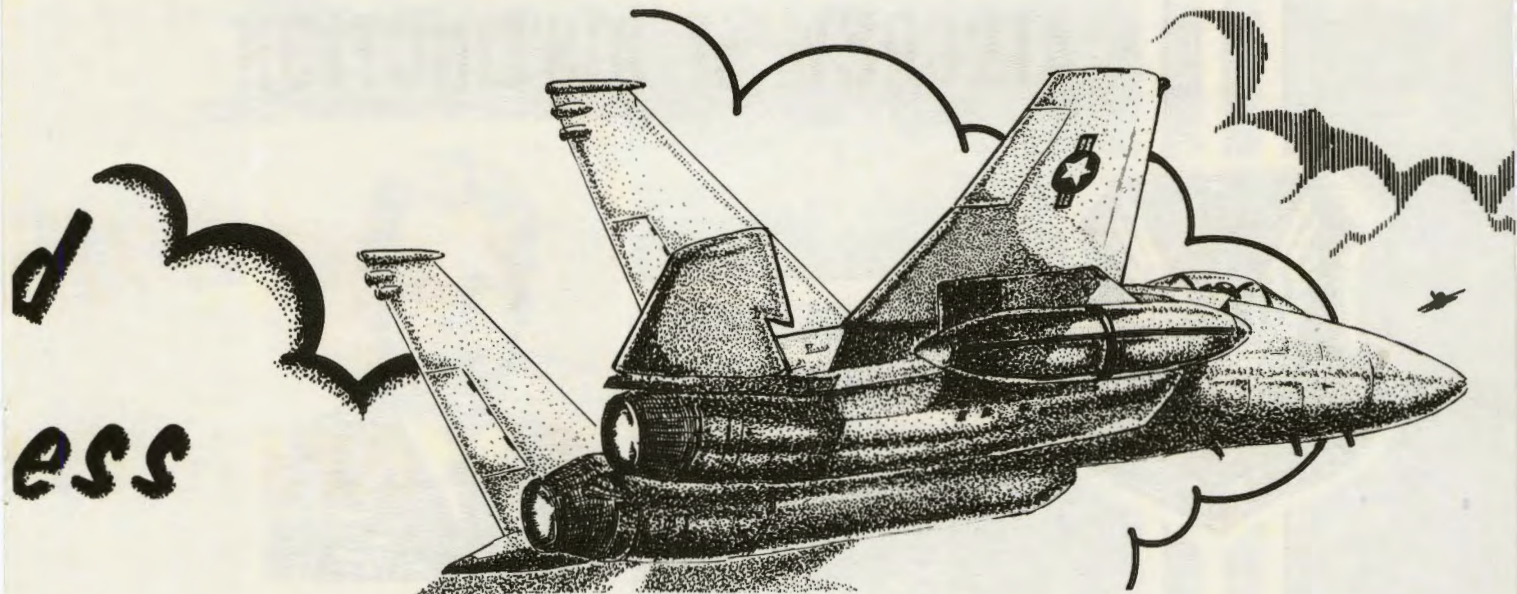


Controlle Aggressiven



By Brig Gen Robert E. Kelley
Comdr, TT, Davis-Monthan AFB, AZ

In the past 70 years, the spirit and dedication of military aviators have changed very little, while at the same time, the men, their machines, and their responsibilities have changed dramatically. Tactical aviators today are better educated, more knowledgeable of weapons and tactics, and better trained than their predecessors of World War II, Korea, or Vietnam. Aircraft have improved significantly in performance and capability and in systems that have increased their effectiveness. But perhaps the greatest change has been in the scope of responsibility which has grown in importance as we have come to appreciate that, should deterrence fail, tactical air power is our only resource capable of effectively countering the ever-growing Soviet threat.



In an era when we have come to understand change as a constant, there is one characteristic which appears to be unchanged. It can be traced from our early aviation pioneers to today's breed -- that characteristic is aggressiveness. It has been said that aggressiveness may very well be the absolute prerequisite in the military aviator. It has always been stressed but seldom well-defined and its misuse and misapplication continue to plague us.

Sterling Moss, the great British race car driver, believed the key to his success in competitive auto racing was "controlled aggressiveness." In a turn where the less experienced but aggressive driver would attempt max performance from himself and his machine, often spinning out, Moss would take the turn at near

the performing limit. He knew exactly where he was and what he was doing. Everything he did was planned and practiced. He was skilled and self-confident. He was disciplined -- not a dare devil, not a gambler, he didn't take unnecessary risks, he got the job done -- the glamour he left for others.

I would suggest that the thinking fighter pilot, the "best of breed" of every generation has exercised "controlled aggressiveness." While over time the environment has changed, the fighter pilot's job remains the same -- destroy the enemy using delivery parameters and tactics which optimize weapon effects and minimize exposure of himself and his equipment to enemy defenses. He must recognize that there is a very fine balance between target destruction and force survivability and both are important! Only the man in the machine can eliminate the mental errors that result in extra passes with additional exposure to enemy defenses, the low pull-outs which place his aircraft in the frag envelope or cause dud ordnance, or pressing which may result in his aircraft unscorable at 12 o'clock.

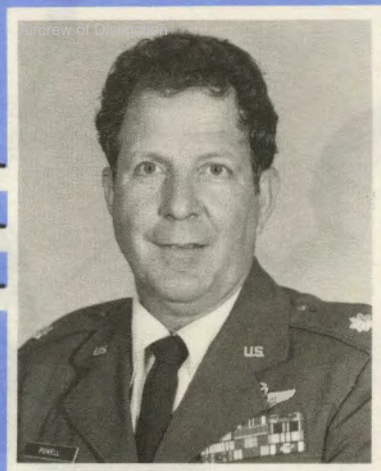
Our nation and our Air Force will always need men of audacity, but uncontrolled aggressiveness is certainly not a key to success. Dedication, discipline, study of the Dash One, the Dash 34, the tactics manuals, emergency and instrument procedures, and practice, practice, practice are the means to mastering your chosen profession. The professional fighter pilot of today, like yesterday, will apply controlled aggressiveness -- this marks the difference between the amateur and the professional, both in degree and in kind. ➤



AIRCREW of DISTINCTION



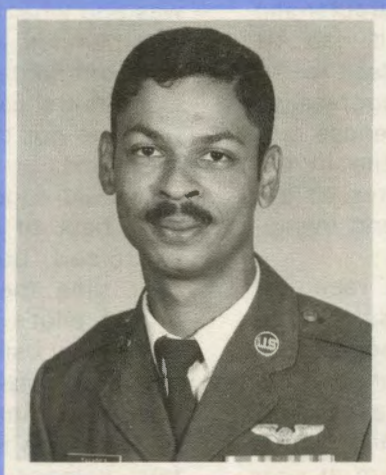
24COMPW
Howard AFB, Canal Zone



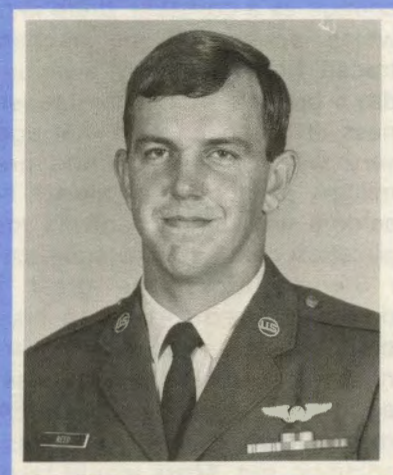
Major Robert Powell



Captain Dale Kissinger



SSgt Jose A Tavarez



SSgt Michael Reed

On the morning of 4 September 1978, Major Robert Powell, Captain Dale Kissinger, Staff Sergeant Jose A. Tavarez and SSgt Michael Reed departed Howard AFB, Canal Zone in their UH-1N for San Jose, Costa Rica in hopes of locating and recovering a seriously injured accident victim. After arriving at San Jose, the crew was directed to the small town of Amurbi, 100 NM southeast of San Jose to commence the search.

The search was extremely difficult due to the weather, mountains, and lack of navigational aids. The crew was constantly required to navigate around thundershowers and through high mountain passes. Upon reaching the accident site, the crew noted that the victim was at the bottom of rock slide in a narrow canyon. Major

Powell and Captain Kissinger flew to an area which permitted a circling descent and proceeded up the canyon.

When over the pickup point, the helicopter had to remain at 125 feet above the ground. If they had descended any lower, the rotor blades would have been too close to the canyon walls. These circumstances necessitated utilizing the hoist to lower SSgt Tavarez to determine the victim's condition. Major Powell maintained a stable hover while SSgt Reed operated the hoist, lowering SSgt Tavarez.

The crew's professional skill, airmanship and knowledge while carrying out this humanitarian mission reflect great credit upon themselves and qualifies them for the Aircrew of Distinction Award. ➤

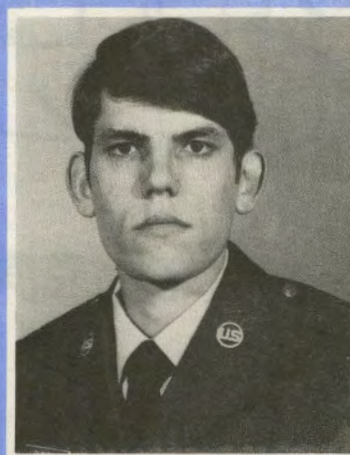


TAC

SAFETY AWARDS

INDIVIDUAL SAFETY AWARD

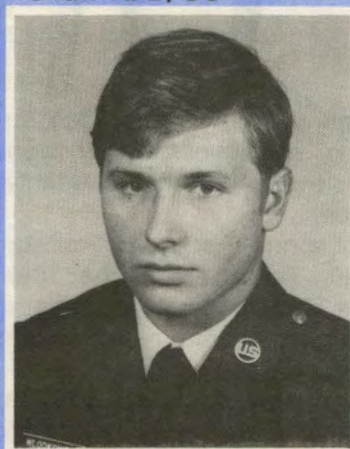
Airman First Class Bruce D. Plourde, 363rd Component Repair Squadron, Shaw Air Force Base, South Carolina, is the winner of the Individual Safety Award for January 1979. Airman Plourde was working in the shop with a co-worker who accidentally drilled through his index finger. Airman Plourde immediately went to his aid, removed the drill bit and administered first aid. After stopping the bleeding, he cleansed and dressed the wound. His quick, knowledgeable reaction prevented infection and further damage to the individual's finger.



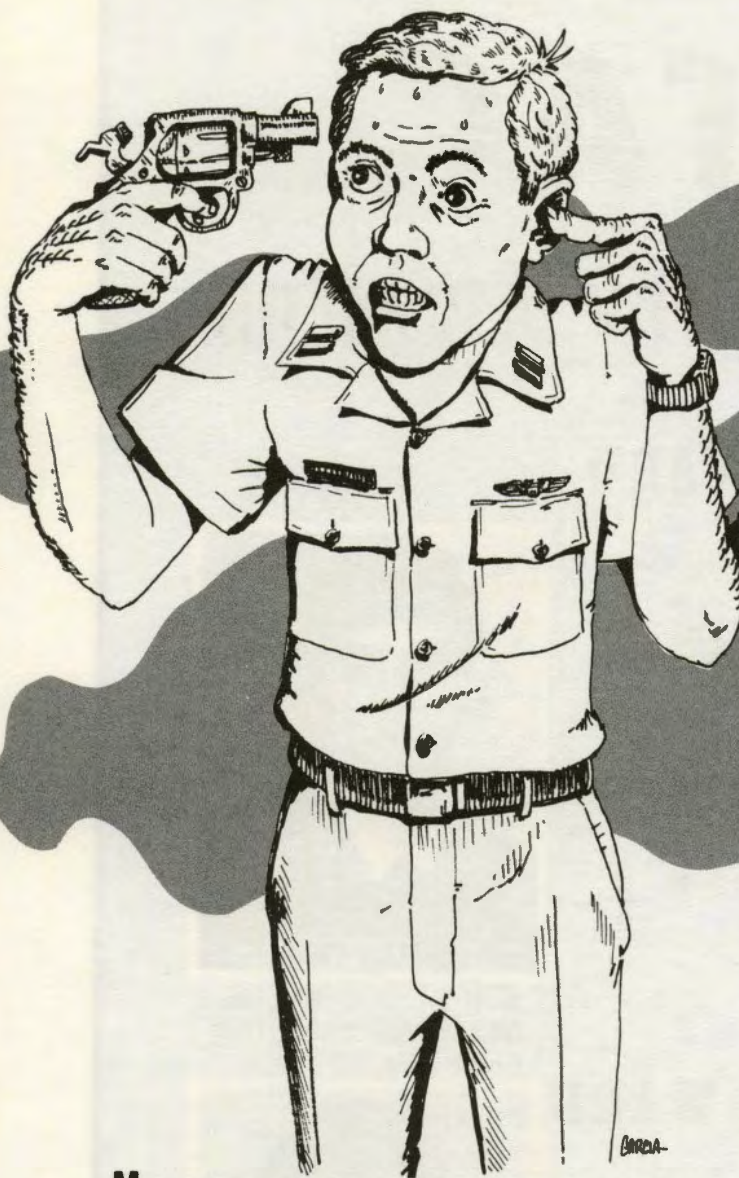
A1C Bruce D. Plourde
363rd CRS/363rd TFW
Shaw AFB, SC

CREW CHIEF SAFETY AWARD

Airman First Class Greg A. Wlodkowski, 33rd Aircraft Generation Squadron, Eglin Air Force Base, Florida, is the winner of the Crew Chief Safety Award for January 1979. While performing an inspection of his assigned F-4, Airman Wlodkowski noticed the parachute lanyards on the ejection seat were misrouted and would not have deployed if an ejection had been initiated. His thoroughness and attention to detail were instrumental in identifying and correcting this serious discrepancy.



A1C Greg A. Wlodkowski
33rd AGS/33rd TFW
Eglin AFB, FL



MIDAIR ROULETTE

By Capt Gary V. Earl
35 TFW/DOTSF
George AFB, CA

Most pilots have experienced the heart stoppers: The bugsmasher that appears out of nowhere, the glider that suddenly fills up the wind screen, etc.

Loss of aircrew coordination starts the game of "Midair Roulette." It's the "little things" that stack the odds against you, like: ignoring subjects such as scanning procedures or the importance of keeping your head out of the cockpit in crew briefings; not keeping a good constructive dialogue going during flight (also keeps the crew awake and alert); not strictly

complying with ATC directed altitudes and airspace; and giving in to that secure feeling under radar control -- Colonel George M. Sauls, former Chief of Safety, HQ TAC, wrote, "... constantly remind yourself that radar contact does not relieve you of the responsibility to look around (see and avoid)."¹ Realize that air traffic controllers today are tasked to the limit.

Important Factors to Remember: (Stats from other midairs)²

The majority of midairs are caused by a faster aircraft overtaking a slower aircraft, at or below 3,000 feet, in the traffic pattern and most likely on final approach (an easy place for attention to be diverted). It doesn't matter how experienced you are either, a "midair" is no respecter of age, experience, or whatever.

1. "Midair Avoidance," by Col George M. Sauls, TAC Attack, Jun 77.

2. "How to Avoid a Midair Collision," AOPA Air Safety Foundation. For more information on AOPA Scanning Training Program, contact: AOPA Air Safety Foundation, P.O. Box 5800, Washington, DC 20014.



Capt Gary V. Earl
is this month's
Fleagle T-shirt winner

The FAA, through their studies, figures that it takes 10 seconds for you to spot other traffic, identify, compute the collision possibility, and take appropriate evasive action. Fancy equipment has been invented to warn us of our proximity to the ground and other aircraft, but none can replace the computer system between our ears. Too often, however, we short circuit it through inattention, fatigue, emotion, etc.

Another critical factor is that aircraft on a collision course appear almost motionless, thus avoiding early detection. The aircraft color may blend into the background making it almost impossible to see. An eye has a field vision of only 10 to 15 degrees in which it can focus and identify. Movement can be detected in the periphery, but the eye must be moved to verify. Avoid "tunnel vision" by keeping your eyes scanning!

When reporting other aircraft, use terminology which includes left/right, clock position, high, low, level, no factor, closing, etc. Make sure you are seeing the traffic your crew and ATC are

reporting and vice versa. Example: While we were flying over a populated area, a light aircraft was reported by my copilot at two o'clock. Checking, I found, sure enough, that he was low and no factor. I continued on, looking for other possible bogies. Suddenly an aircraft appeared big and menacing on the right side (another one of those heart stoppers). I quickly made a diving left turn and exited the area. When I regained some composure I jumped on my copilot, asking why he hadn't reported that aircraft. He informed me, "That was the one I called at two o'clock!" I had made the mistake! I had assumed the first one I saw was the one he had reported; and he should have been more specific.

Keep your windshield clean! A bug killed on a previous flight could reciprocate, obscuring oncoming traffic until it is too late for an evasive maneuver or diverting your attention away from the real bogey.

It's not going to get any better. There will be no fewer aircraft in the air anytime soon, and it's a pretty safe bet that the numbers will multiply substantially. The odds are increasing that you and someone else will try to possess the same airspace at the same time. SEE AND AVOID!!!!

TEN "KEEPS" OF MIDAIR AVOIDANCE

1. Keep briefing scanning duties! (START NOW IF YOU DON'T!!)
2. Keep your eyes moving!
3. Keep in mind "Lost Wingman Procedures!"
4. Keep good aircrew discipline!
5. Keep your windshield clean!
6. Keep alert!
7. Keep yourself in proper condition mentally and physically!
8. Keep checking your safety equipment!
9. Keep listening to local traffic advisories!
10. Keep yourself and crew safe!



Captain Gary V. Earl received his BS in English and Education from Utah State University in 1968, and an MA from Chapman College in 1976. His military experience includes: Titan II Combat Crewmember at Little Rock AFB, AR; UHT (UH-1F) Missile Site Support at F. E. Warren AFB, WY; and (CH-53) 21 SOS NKP, Thailand. He presently is Chief of Support Flight Operations at George AFB, CA.

SKY HAZARDS



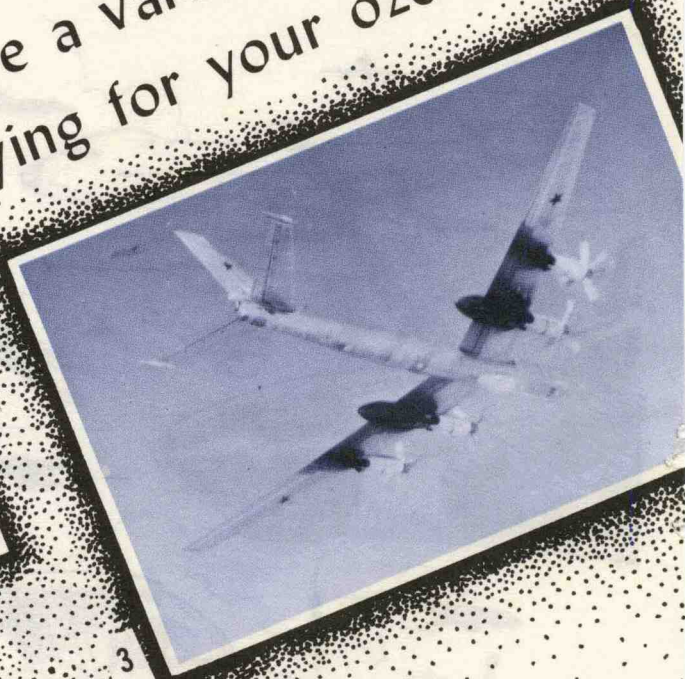
Even in the vastness of air space
You are not alone.
Here a variety of flyers,
Vying for your ozone.



1

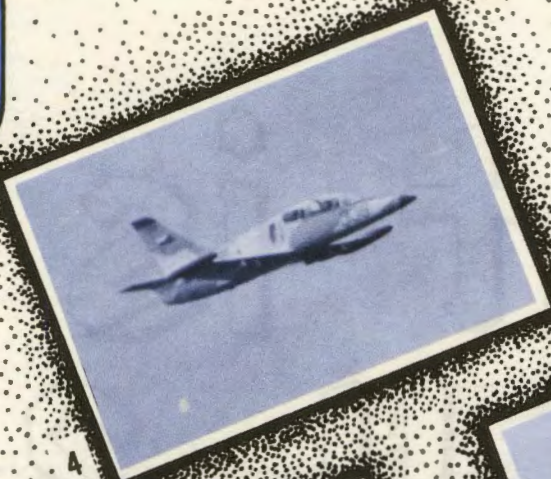


2



3

Photos courtesy of the 460th RTS



4



6



5



1



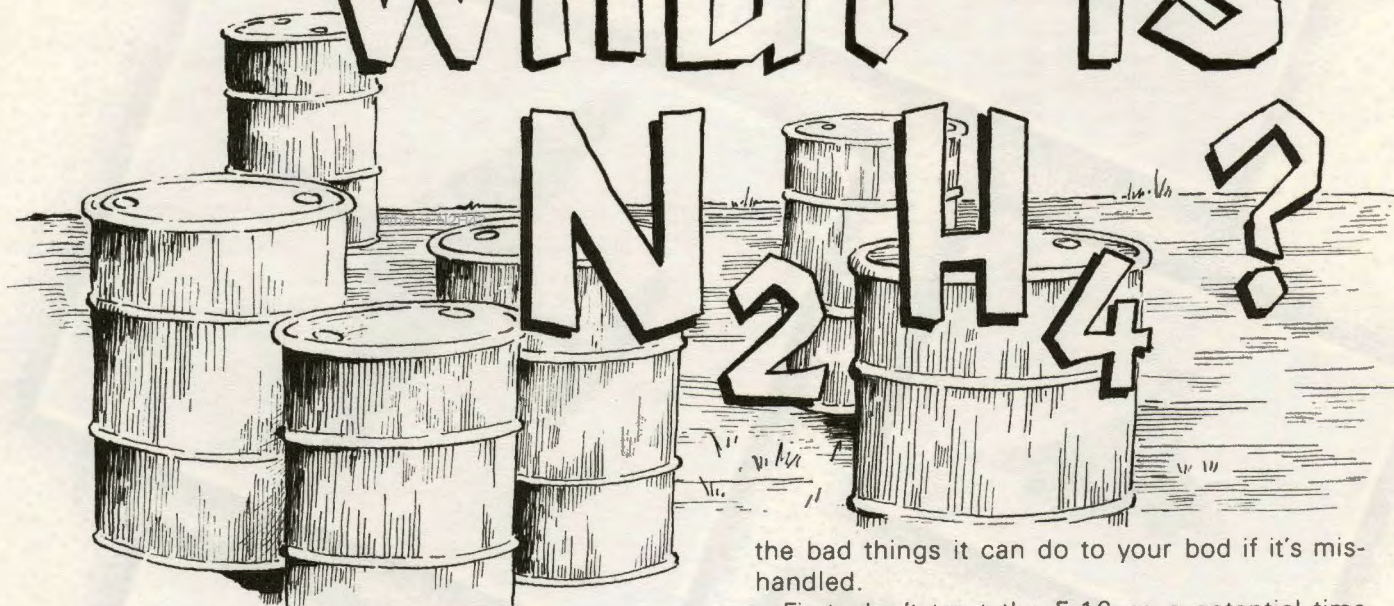
8

WHATS YOUR AWARENESS LEVEL?

- 1 F-18 Hornet
- 2 A-10
- 3 Bear
- 4 L-29
- 5 Concorde
- 6 Nimrod
- 7 T-41
- 8 Hip C

What is

N₂H₄?



By Capt Pete Abler

Hydrazine that's what. You say you've never heard of hydrazine? Sorry, perhaps I got a bit ahead of the story. If you haven't heard of hydrazine, or are only vaguely familiar with the term, you probably aren't alone.

The 388th TFW at Hill AFB is converting to the F-16 and they're getting their first airplane this month. One of the features of the F-16 is an emergency power unit which runs on---hydrazine. Not that an F-16 is going to drop in to your field tomorrow on cross-country or static display. But by the end of the year, a number will be flying around and the chances of one visiting your field will be getting greater every day. So what do you do with one when it gets there? We'll cover the specific hazards of the F-16 and its EPU in a separate article next month. This month we'll talk about hydrazine and some of

the bad things it can do to your bod if it's mis-handled.

First, don't treat the F-16 as a potential time bomb because of hydrazine. If the potential were too high, the Air Force wouldn't be using the stuff at all. Many of the precautions taken when handling hydrazine are similar to ones used when working with liquid oxygen (LOX); and the risk factors are somewhat comparable. Now about hydrazine itself

Hydrazine is a clear, oily, water-like liquid with an odor similar to ammonia (NH₃ for those chemists in the audience); is a strong reducing agent (combines readily with hydrogen) and hygroscopic (absorbs moisture). Hydrazine mixes with water in all proportions and is stable under extremes of heat and cold. Basic hydrazine boils at 236 degrees F and freezes at 35 degrees F. When it freezes, it contracts so there's no danger of rupturing its container. The flash point in an open container is 125 degrees F which is very close to JP-4 under the same conditions; so the fire hazard is much the same. But let's talk about the specific hazards and the conditions necessary to create the hazard.

Hydrazine exhibits three general types of

hazards: Health hazards resulting from direct exposure to the liquid or its vapors, fire hazards, and explosion hazards. Let's talk about the most prevalent hazards---those which are likely to directly affect you.

First off, the hydrazine compound used by the F-16 is designated H-70 which means that the liquid is a mixture of 70% basic hydrazine and 30% water. However, the 30% water does not significantly reduce the toxicity and does not alter the hazards of exposure. Hydrazine can affect the eyes, skin, respiratory tract and internal organs.

Vapors of hydrazine will cause itching, burning, and swelling of the eyes and may not occur until 10 hours after exposure. If the vapors are inhaled, the nose, throat and respiratory tract may become irritated. Prolonged inhalation can cause dizziness, nausea, and loss of voice. The real problem with detecting the vapors is that exposure to concentrations below the threshold level of smell (3-5 parts per million) can result in toxic effects, so if you want to rely on your sense of smell to keep you out of trouble, forget it. If you can detect the smell, you've already been exposed to a toxic level. Whenever handling hydrazine, or neutralizing a suspected spill, ventilation and proper breathing equipment are mandatory.

Skin contact of hydrazine in liquid form can cause severe local damage and burns. In addition, it can penetrate skin to cause effects similar to those produced when the chemical is swallowed or inhaled. If hydrazine is taken internally, nausea, dizziness, headache and possibly death could result. The potential for permanent blindness exists if the eyes are damaged from the liquid. Repeated exposure to hydrazine can also cause irreversible damage to the liver and kidney. One other point, the long term effects are still under investigation so there may be other adverse effects which may result from repeated exposure. That should give you an idea of the toxic effects of the chemical if it is spilled or mishandled. Now for the fire and explosion hazards.

Hydrazine is a compound which is hypergolic. That's a 75¢ word which means that if hydrazine comes in contact with a strong oxidizing agent, the chemical reaction may produce sufficient heat for the material to ignite without any other source of ignition. It will react with carbon dioxide and oxygen in the air if it is absorbed by rags, cotton, sawdust, or other materials with a

large surface area. This material will probably ignite spontaneously under these conditions. A film of hydrazine in contact with metallic oxides (rust for instance) may also ignite. Vapors of hydrazine can be exploded by an electric spark or an open flame, but as stated, the liquid is not sensitive to impact or friction. In most cases there is very little chance of an explosion around the aircraft. Also, a spill of hydrazine on concrete under the aircraft creates little fire hazard.

Just a few words on how hydrazine is neutralized. Notice I said neutralized. Plain water will simply dilute the hydrazine, it will not change the basic character of the compound or reduce the dangers involved. Depending on the size of the spill, procedures usually call for the hydrazine to be partially diluted and then neutralized with solutions such as sodium hypochlorite (household bleach) and then washed away. Specific procedures for the neutralization vary with the amount of chemical spilled and the location. Consult the Disaster Preparedness Office and Bioenvironmental Personnel for specific information.

Finally, a word about first aid. If an individual becomes exposed to hydrazine, the following procedures are recommended:

1. Remove the victim from the scene, remove all contaminated clothes and flush skin using large amounts of water and follow with thorough washing with soap and water.
2. If eyes are exposed, flush with water for at least 15 minutes.
3. Soak contaminated clothing in water and bleach or incinerate.
4. Although it is unlikely--if H-70 is ingested administer large quantities of water and induce vomiting.
5. Transfer the victim to professional medical care as soon as possible.

This initial article is not meant to be a "time to panic" approach to hydrazine. My sole reason for writing it is to introduce you to the hazards involved with this new substance--and what can happen if it is mishandled. More than ever, the adage "If you don't know what it is, don't mess with it," is paramount. The article next month should answer many of your questions concerning hydrazine and the F-16.

Editor

IT APPEARS THERE HAS BEEN A VIOLATION



By Major E. E. "GENE" McVay
188TFG/Chief of Safety
Arkansas Air National Guard

The threat of an FAA violation will send chills up a fighter pilot's spine about as quick as a surface-to-air missile smoke trail. As planes go faster, training space grows smaller and rules get stricter, we are becoming big ducks in small ponds. The desire to accomplish the mission without regard for airspace and other limitations has resulted in more than one accident.

My own career became highly suspect a couple of years ago when I was advised that the FAA would file a violation against me and my flight members. There were the initial feelings of guilt because I knew that I had deviated from my clearance by climbing seventeen hundred feet above my assigned altitude of eight thousand feet. Then there was the message to call the FAA when I landed. The FAA advised me that Memphis Center had observed a computer conflict alert indication between my flight, Atlas 61, and N699S, a civilian BE55. The FAA had no choice but to file the deviation report. Next came the

letter from the Little Rock General Aviation District Office (GADO) advising me that they were investigating the incident. The letter went on to say that three F-100s were observed flying above nine thousand feet when the final clearance was eight thousand. Furthermore, operation of this type is contrary to Section 91.75(a)(b) of the Federal Aviation Regulations. It concluded by stating that if the facts as presented are correct, it appears that there has been a violation. I was given ten days to respond to the letter with any discussion or written statements I wished to make.

As I began collecting my thoughts as to what had actually happened I realized that several important factors were involved. My response to the letter was to be the simple truth -- What had happened and why.

The flight was to be a training flight in the Rivers Training area, 65 miles away in Oklahoma. However, shortly after takeoff Fort Smith Departure passed the message from Fort Worth Center that there were extensive thunderstorms in the Rivers area making it doubtful that the flight could work there. Our clearance was to six thousand with an expected altitude of sixteen thousand, ten minutes after departure. Shortly after join up the flight was cleared to eight thousand and vectored on a southwesterly heading toward the Rivers Training area and a line of thunderstorms just Southwest of Fort Smith. Shortly after the climb from six to eight thousand was initiated there were three traffic calls. All traffic was sighted visually and the only traffic that was a factor was at eleven o'clock to the flight. Because the thunderstorms obscured the horizon it appeared that the traffic was at approximately our same altitude. The traffic was not identified as IFR so it could have been VFR at seven thousand five hundred. Without taking my eyes off the traffic I increased my climb angle to maneuver well clear of the approaching airplane. It was during this climb that the flight passed the assigned altitude. Because of the closure rate I did not take my eyes off the traffic to check my altimeter. In most cases one of the other flight members would have caught the altitude deviation. In this case, however, they too were watching the traffic and the geometry of the climb angle, the approaching traffic, and the lack of a visual horizon made it appear that the right thing to do

was increase the climb angle as we did. After passing the traffic and redirecting my attention inside the cockpit I saw that we had passed our assigned altitude and when queried about that by Fort Smith Departure I gave them the actual altitude and began a descent back to eight thousand.

I concluded by saying that I felt the only error was our perception of the traffic's altitude. FAR 91.123(b) permits maneuvering your aircraft to pass well clear of other air traffic. Because of the lateral spread of the F-100 three ship formation a lateral maneuver would not have provided the separation that the vertical maneuver did. In VFR conditions under the see and avoid concept I believe we did the safe thing by directing most of our attention toward the traffic rather than flying instruments.

The FAA GADO chief is a reasonable man and upon reviewing all the evidence concluded that a violation had not occurred. The whole thing was dropped and I continued my flying career a little more mindful of the turmoil an alleged FAA violation can cause an eager aviator. ➤

• • • • •

Not to mention the turmoil that a midair could cause to a lot of other individuals. The lessons from Maj McVay's experience appear obvious -- but bear repeating anyway.

1. Keep your head out of the cockpit and look around. Remember, you're not alone.
2. If you have a potential conflict with another aircraft, don't allow yourself to become so absorbed with that situation that you ignore basic control and adherence to clearances, when appropriate.
3. If you feel you must deviate, tell the controlling agency what you're doing and why.
4. The folks at FAA and the control centers have a difficult job. Above all, they are reasonable and not standing ready to rip your wings off (even if they are put on with velcro). Help them do their job and if something goes wrong, fess up. Half truths may get you out of a jam, but won't help the next guy who might have learned from your experience.

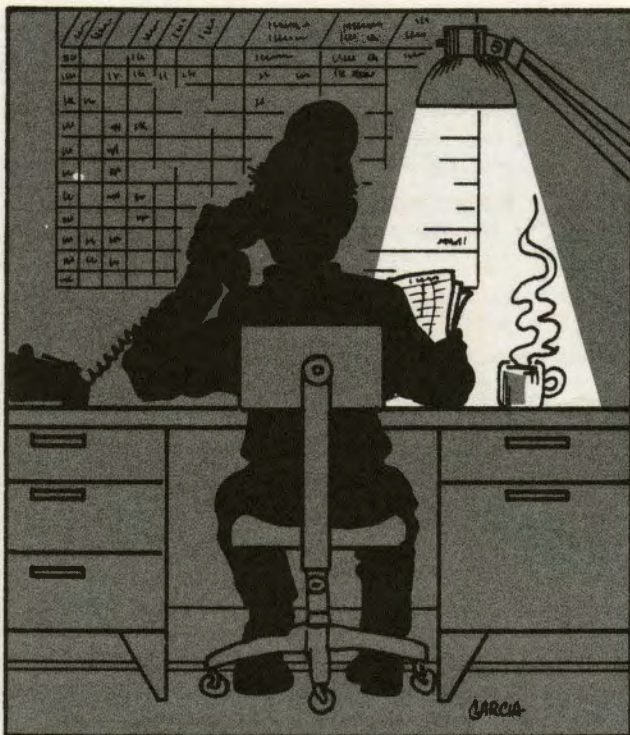
ED

WEAPONS WORDS

The Real Cause

By MSgt John Mann
HQ TAC/SEW

"RRing, RRRing, RRRRing!" On the 6th ring, a groggy, sleepy voice answers the phone. It's 1330 hours and after only two hours of sleep, Sgt Nightrider isn't exactly rested or fully awake. SSgt Produce is on the other end firing ques-



tions a mile a minute about who forgot the captive adapter and when exactly was aircraft 087 loaded. Where were you when the AIM-9 was loaded? What happened out on the line last night? The Commander wants the answers and he wants them now.

"Hold it Produce, I don't know what you're talking about. How about giving me a chance to wake up and get on the same wave length."

So after Sgt Produce explains that a captive AIM-9 came back with a Guidance and Control unit fired and that everyone is after him for answers, Sgt Nightrider begins to mentally recap yesterday's events

Now let's see--oh yes, yesterday was when I took my end-of-course exam after working mid-shift and Julie, my daughter, was sick and when I got home I had to take her to the hospital. Julie was still sick last night and I didn't get much rest even though my wife tried to keep her quiet. I went to work a little early because the rain was really coming down and I didn't want to take a chance on being late. I arrived at the shop a few minutes before roll call and found out my regular #2 man wouldn't be in---he had an accident.

We were already short of people on mid-shift and with the workload shaping up the way it was, we could use at least another full load crew. Swing shift had passed on some extra maintenance that they couldn't get finished due to last minute schedule changes and the weather didn't help to speed things up any. The night wasn't much different than many other mid-shifts I had worked. The dark, wet, tired, graveyard shift. I used to wonder why it was called the graveyard shift---but I guess the reasons are endless. It sure is a dreary time and out of cycle with the rest of the world. During roll call we were briefed on the workload and about somebody making a careless mistake or something. Nobody was really listening, we were all wondering how we were supposed to get all the work done tonight.

About 0300 we had completed the maintenance portion of our work and started the uploads for today's missions. We had just finished the last upload and started back in for a break before doing the arming and weapons preflights for the 0600 launch. Sgt Rightnow, the line expeditor, told us he couldn't find a Weapons' Supervisor and the aircraft 013 didn't pass the preflight inspection. He wanted us to cross-load an AIM-7 and AIM-9 from aircraft 013 to 087. I looked for Amn Loademup, but time was running out. Sgt Priority, the production superintendent, came by and said that he needed the missiles ASAP. I sent Amn Driveit for the jammer. With this much push, I figured it must be really urgent.

I knew it took 30 minutes or more to get a trailer from the storage area. And by the time I called and they came all that distance just for one missile, it seemed like a waste of time. I figured we could speed things up and get everybody off our backs if we just went ahead and got the job done the best we could. I decided to carry the AIM-9 over to the other aircraft.

Joe disconnected the umbilical and we unlocked the launcher and wrestled the missile over to 087. We had enough light. Two aircraft down, they had a light-all and it was shining enough so we could make out the rail and all. Amn Driveit showed up with the jammer and we got the AIM-7 moved and completed the checkout.

We still had the other aircraft to get armed and everyone was rushing us, so I must have completely forgotten to check the umbilical hookup for the captive adapter. My regular #2 man always remembered that so I never had to check him close and I guess I just assumed it was taken care of ...

Sgt Produce listened to it all and said, "Well, I guess it's pretty obvious what really happened. We can talk some more when you come in. You'll have to go to the load training barn for additional training tomorrow afternoon. Be there at 1300 and we'll discuss it further. Take tonight off and get your rest. Oh, by the way, how's your daughter feeling?" I told him she was fine and he sounded glad to hear that. He did say he was grateful for my being honest about what happened last night.

I sure didn't get much rest before showing up for load training the next day. I just lay there awake wondering what the Commander was going to say. The strangest part about the whole story is that I knew better.

From day one I've heard that it doesn't pay to take shortcuts-- the only way to do the job is right all the way down the line. Heck, I can remember preaching that to the new guys we were checking out. I'd even point to the mistakes of others as examples of what to avoid. I guess I learned another lesson---probably no one is immune to the pressures to get the job done now. Being tired, cold, wet can all rub just enough on your judgement to skip that one step you know needs to be done but at the moment would just take too much time. ➤



SPO CORNER



DIVERT !

**By Maj Gerry Felix
HQ TAC/SEF**

Two incidents, one of which resulted in a destroyed aircraft, could have been avoided had the right decision been made. In the first, an RF-4C hit the ground on short final during the second attempt of a night weather landing on the wing. The weather: partial obscuration, one-half mile visibility in fog. The question: why even attempt the landing, in formation no less, when you've got a perfectly good alternate?

The second could have been as bad. The A-7 driver landed on a wet 6,500-foot runway -- the normal runway was down for maintenance. Passing the departure-end barrier, tail hook up, he thought he had it made. He thought wrong -- off the end, into the toolies. A quick check into the Dash One charts shows that successfully stopping on the runway was a shaky proposition to begin with.

You gotta wonder what the SOFs were doing. In each of these incidents, diverting the aircraft was the correct call. If the SOF doesn't make that call, take it upon yourself to RON somewhere else if things aren't right at home.

THE OTHER GUY

**By Major Skip Weyrauch
HQ TAC/SEF**

Both single engine jets maneuvered easily through the crisp desert air as they practiced tactical formation entering the MOA (Military Operating Area). Suddenly, lead observed a light

aircraft at 11 o'clock, slightly high. A quick bogey call enabled number two to get an immediate tally-ho. Lead passed well clear, and two initiated a slight pushover and passed underneath the Cessna with 200-300 foot spacing.

Several weeks earlier, another formation was letting down into a strange field when a "bug smasher" (light aircraft) popped up in front of the fighters. They avoided the bug smasher but one fighter clipped the other causing minor damage. Fortunately, both aircraft recovered safely.

Both these incidents involved "another guy" who may not have seen the fighters involved. The civilian pilots continued on their way, perhaps safe in their own mind. After all, ignorance is bliss. Well, it's time we did something to eliminate some of this ignorance. And there is a way we can get to "the other guy" involved in a near midair collision---report it!

Most aircrews are aware of the mandatory 24 hour reporting requirements of AFR 127-3. However, by then it's usually too late to locate the "other guy." An airborne report to the nearest available air traffic agency will initiate immediate efforts to locate and identify the other guy. Be sure to tell them you will be filing an official written near midair collision report (NMAC) upon landing. Then, remember to file it.

This verbal report of a NMAC may insure that at least one light plane driver learns about his close call with a fighter. If he is well informed about the circumstances surrounding his own NMAC mishap, it is highly probable that he will keep his eyes open and avoid those high density military operating areas and probably will spread

the word about his experience.

Meanwhile--keep it loose and alert. See and be seen; and if it's a "close call" give a "verbal call" immediately.

ADD A LITTLE SPICE TO YOUR LIFE

**By Capt Roger Parks
HQ TAC/SEF**

Tired of drab, unexciting safety programs that just "fill the square" and put the ops officer to sleep? Sound-on-slide packages produced by AFISC and available through your local film library might be just what you need. Two of their newest ones are timely and interesting. The first package, entitled "Lessons Learned -- Midair Collisions," makes an excellent supplement to a midair collision avoidance program. The presentation includes 80 slides, runs about 15 minutes, and provides a basic overview of the

midair collision problem. Some flight safety offices have "localized" the basic package and use it during midair orientation briefings at civilian airports. The second package, "Lessons Learned -- Habit Pattern Interference," addresses the problems of procedural carryover from one weapons system to another. Several squadrons in the RTU business are using this package to complement their unit flight safety efforts for student crewmembers.

If you decide these packages might fit your needs, use the following nomenclature for ordering:

"Lessons Learned -- Midair Collisions" -- #TS-749

"Lessons Learned -- Habit Pattern Interference" -- #TS-750

If you want to incorporate the packages into an on-going program, ask your film library to order them on a permanent loan basis.

In a mid-air collision....NO ONE WINS



chock talk

*...incidents and incidentals
with a maintenance slant.*

BLIND MAN'S BLUFF

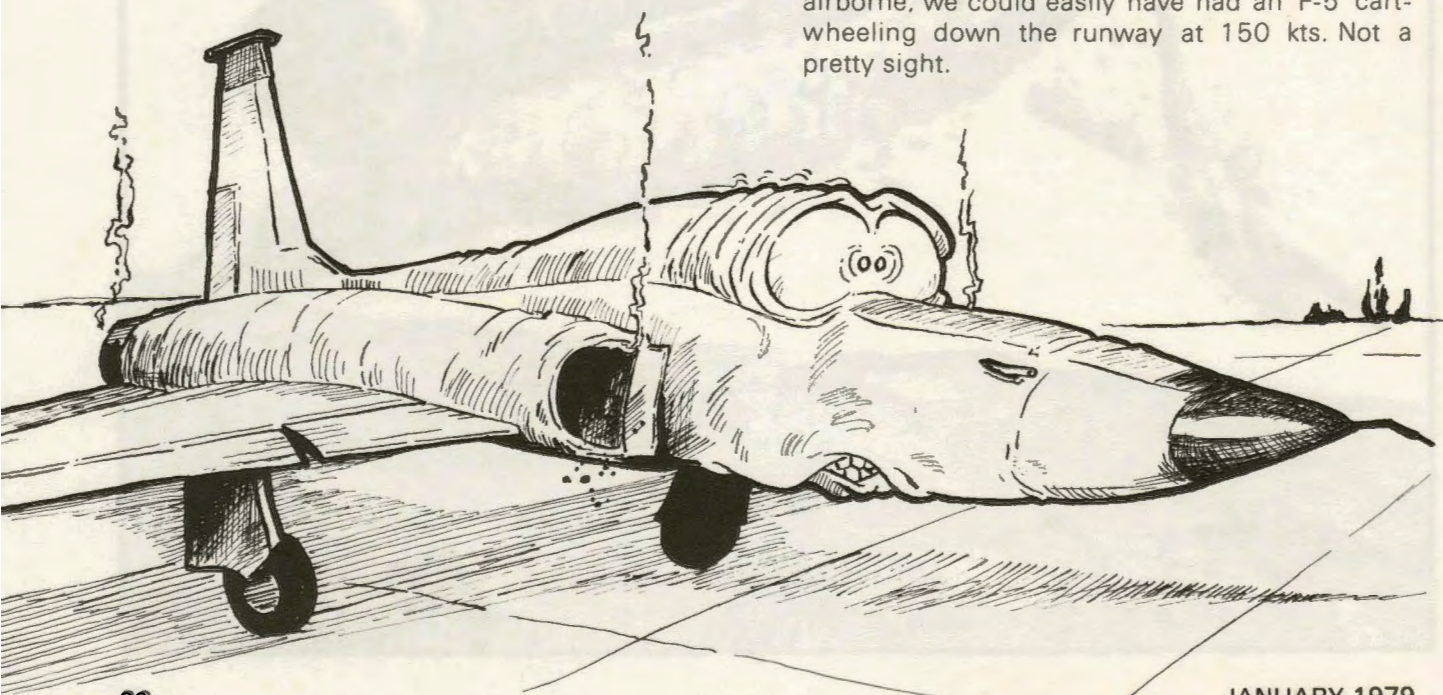
After takeoff, the F-5 experienced smoke in the cockpit. The pilot selected ram dump, 100% oxygen, and made an emergency landing. The smoke came from an overheated cooling turbine.

"How did it overheat," you ask? Glad you brought that up. The ram air inlet cover was still on the airplane. The "remove before flight" red streamer was missing from the cover. So, on preflight, the crew chief failed to remove the cover; the pilot didn't note that the cover was still in place; and the end-of-runway crew overlooked it. What's a mother to do?

TIGER LOSES PAW

The F-5 was motoring down the runway on initial takeoff. Shortly after liftoff, the right wheel fell off the aircraft, unknown to the pilot. Once the tower got hold of the pilot and informed him of the problem, he burned down fuel, had the runway foamed, and made an uneventful landing.

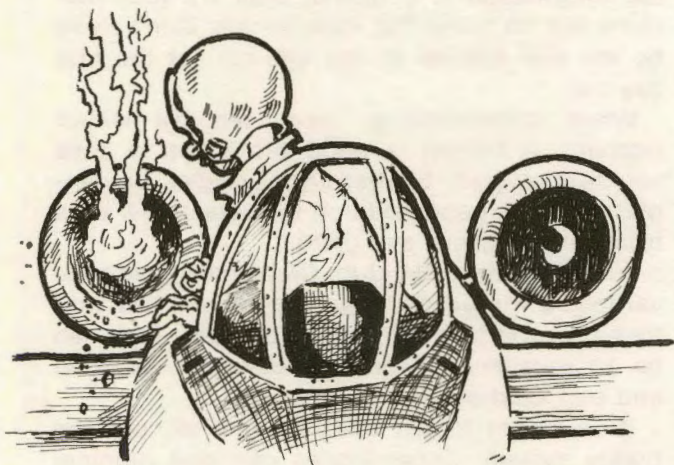
Investigation revealed that the outer spacer was missing and had not been installed when the wheel was changed just prior to the incident. The missing spacer allowed the wheel to work loose on takeoff roll. The wheel bearings subsequently failed, and the wheel fell off. Had the wheel fallen off before the aircraft became airborne, we could easily have had an F-5 cartwheeling down the runway at 150 kts. Not a pretty sight.



FODDED THUNDERBOLT

The A-10 was at an en route stop on a cross country when FOD damage to the right engine was discovered. Evidence indicated a hard object, so the investigation centered on the portion of the aircraft directly forward of the engine. A screw was found missing from the right wind fence. Two other screws, although flush with the surface, could be turned by finger pressure only. In fact, one of the screws could be lifted out by hand. The three nut plates were found stripped.

If you know that fasteners have stripped, don't go away thinking no one will find out. An engine is a pretty high price to pay for the lack of a few minutes of extra effort.



LET'S PLAY CATCH

During the preflight of the Phantom, the pilot asked the crew chief to remove the drop tank pins once electrical power was on the aircraft and give the pins to the backseater. When the pilot couldn't get any indications of electrical power, he elected to make a battery start. After the number two engine was started and the right generator turned on, the crew chief pulled the pins and threw them to the backseater despite the pilot's frantic waving.

The pins sailed over the backseater's head and entered the right engine. Although the pilot immediately shut the engine down, the pins still caused extensive damage to the compressor section. This is a classic example of what a lack of communication and carelessness can cause. Leave the toss-and-catch to the guys with the funny uniforms and long stockings. They get paid for it.

SHEARED FINGER

Three airmen were cutting strips of metal into small pieces for turn-in to salvage. Twice during their work, they were interrupted by another airman who needed to use the metal shear machine.

On the third occasion, without alerting the shear operator, the airman approached the shear machine from the side and inserted a piece of metal from the front with his right hand. He was adjusting it with his left hand when the shear came down and cut his left index finger off.

To help prevent this type of accident from recurring, the shop has posted a sign warning that only one person is to operate the machine at any one time. A steel wire mesh safety guard has also been installed to prevent access to the machine from the side.

Both of these corrective actions are good, but a little late. No matter who you are, if you see a hazard, let someone know -- submit an AF Form 457 (Hazard Report), or an AFTO Form 22. Have a tough time remembering form numbers? Call or visit your unit safety officer ... he'll get the ball rolling. Don't tolerate unsafe conditions -- they result in intolerable losses.





How's your Hatchback?

Owners of "hatchback" vehicles are warned by the US Department of Transportation to avoid driving with children riding in the luggage compartment and to keep the hatchback closed whenever the engine is running.

Joan Claybrook, NHTSA administrator, says that during the warm summer months the agency received reports of motorists driving with the hatchback in the up position, often with young children riding in the rear of the vehicle. This is exceedingly dangerous and creates a risk of serious injury even in relatively minor accidents. The NHTSA accident data files contain reports of at least 12 accidents in which passengers were ejected through the rear hatchback, resulting in 5 fatalities and 13 injuries. Also, operating the vehicle with the hatchback open may expose all occupants to concentrations of exhaust fumes containing deadly carbon monoxide.

For maximum safety, all vehicle occupants should ride in vehicle seats and safety belts should be used. If child passengers are too small to use safety belts, adequate child restraint systems should be used.

Parents who want more information on child restraint systems can obtain a copy of NHTSA's new booklet, "Child Restraint Systems for Your

Automobile," by writing to the General Services Division/Distribution, National Highway Traffic Safety Administration, 400 Seventh St SW, Washington DC 20590.

Snowmobiling

Snowmobiling has been a steadily growing winter sport for the last 10 years. The phenomenal rise in participation in the snowy areas of our country has also contributed to increasing mishaps and injuries. The following suggestions are offered to allow you to enjoy this sport.

Know your machine -- study the owner's manual. When you're thoroughly familiar with the information it contains, then try your machine out on some flat, easy terrain. Don't try to be the Evil Kneivel of the sno-cat set the first day out.

When snowmobiling, wear sensible winter clothing. A helmet is good protection in case you take a spill. Shatterproof goggles or sunglasses are a good addition to protect your eyes from wind, objects, and glare.

Join a snowmobile club. Clubs have many advantages including organized activities and training programs for the novice rider. They can be an excellent source of information on good and bad locations for riding.

If you want to get away from it all, use the buddy system. Snowmobiles can quit running, stranding the rider in the toolies. When riding in unfamiliar terrain, be extra careful. Objects such as stumps, rocks, fences, holes, and other machines can be present. Remember, the snow tends to camouflage any obstacles.

Don't attempt night operations until you're completely comfortable on your machine during the daytime. Check your lights before starting out, go with a companion, and stay on known trails.

Jumps are tempting, but be careful. On the other side of that snowbank there could be a person, cliff, immovable object or another 'mobile coming your way.

When not in use, lock your machine so a curious child can't accidentally start or operate it. If your children are riders, supervise their operations closely.

Common sense and respect for the hazards of winter and snowmobiling should keep you from overextending yourself and ruining what can be an otherwise enjoyable outing.

Deceased Insect

By TSgt E. Mann
HQ TAC/SEG

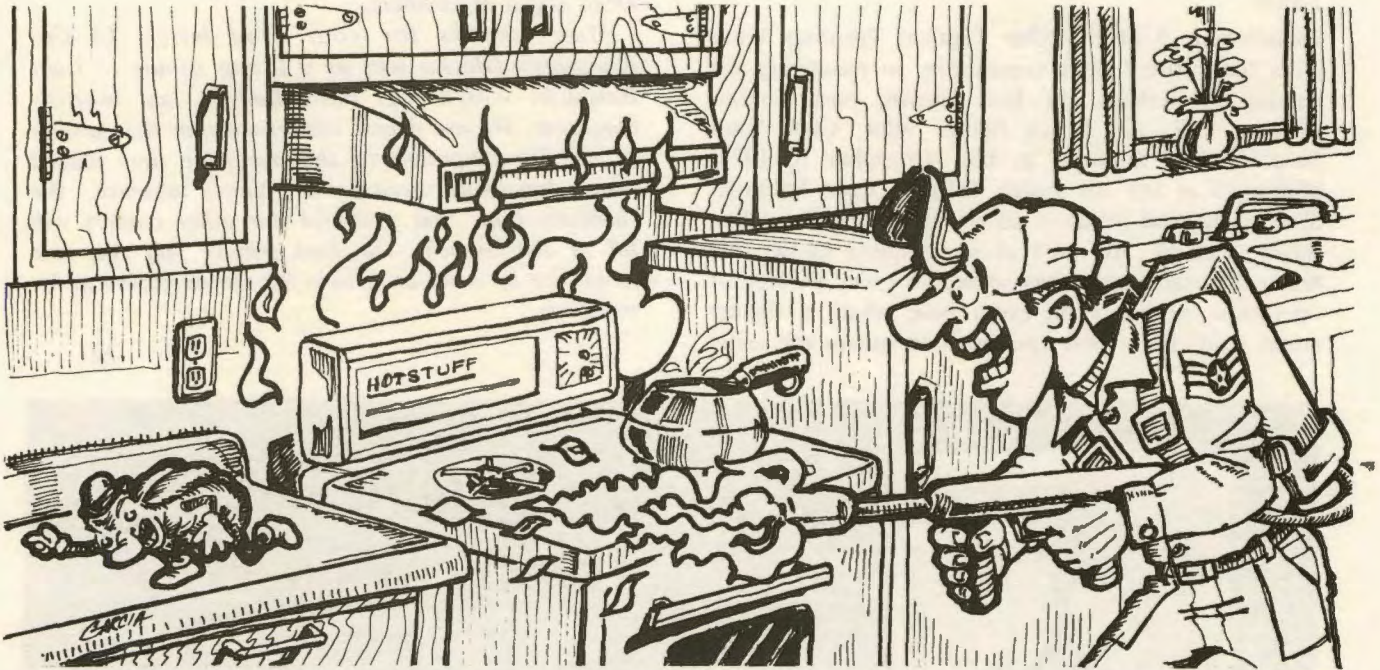
Recently, one more of our industrious NCOs observed a roach in the kitchen. Having noted the problem at hand, the SSgt trotted over to the commissary and purchased a supply of ant and roach Killer. He selected a one-half gallon can equipped with a length of hose connecting it to a hand sprayer. Much safer than those aerosol spray cans, don't you know?

Having armed himself with the proper equipment, he was ready to assault the roach problem. He sprayed along the base board, dishwasher, and finally he reached the good old gas cook stove. That's correct, the gas stove. You know, the type of stove with a pilot light. When the spray seeped into the stove, he reached the astonishing realization that insecticide sprays and fire have a strange reaction to each other. His first real clue to this fact was that flames were shooting up the wall behind the stove.

His quick wit and fast reaction prevented injury or major damage. He simply took the sprayer off the can of insecticide and used the sprayer to spray water from the sink onto the stove; putting out the fire. Sure am glad there weren't any electrical wires in there !!!!!

Having completed his assault on the roaches and the fire, he decided to read the instructions on the insecticide can. Sure enough, on the bottom of the can there was a warning stating that the contents were flammable. What's that old saying, "a day late and a gas stove short"?

We should be able to extract one valuable lesson from this mishap. That is, treat all insecticides as flammable regardless of the method of application.



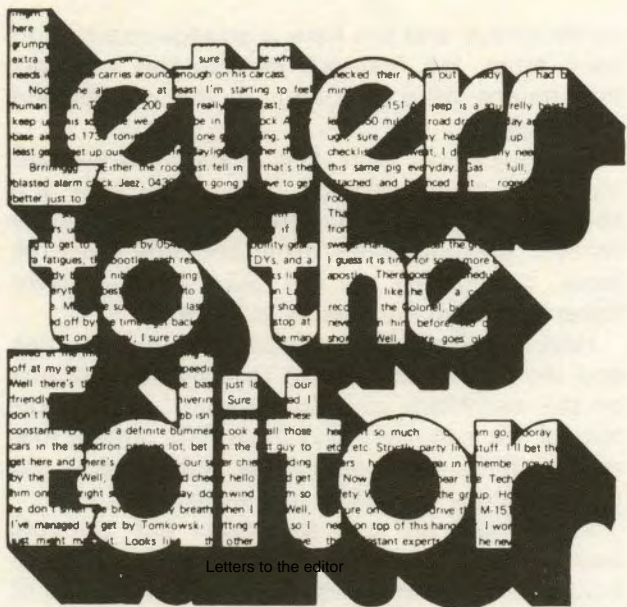
A Safe Haven

Yes, a safe haven is what we all need. But did you know that every Air Force base is a "safe haven" for Department of Energy (DOE) couriers and the material/components which they are escorting? If you didn't, pick up AFR 355-3, "Temporary Storage of Atomic Energy Commission Shipments at Air Force Installations," and feast your eyes on how you host DOE guests.

A "no vacancy" sign is not the answer. Base Disaster Preparedness folks had best be prepared to take care of or coordinate the following:

- Parking of courier vehicles
- Proper security measures
- Appropriate services
- Reporting

If you know your responsibilities, good on ya'. If the base isn't ready to perform this support -- you could end up in an embarrassing situation.



Letters to the editor

Editor

Detachment 3 of the 57th Tactical Training Wing joins the entire fighter community in mourning the passing of perhaps the best known, post Korean Conflict U.S. Air Force fighter pilot, Capt Nino Baldachi. As reported in the November 6, 1978, obituaries of the Air Force TIMES, Capt Baldachi died (as he had lived) in an elevator accident in Keflavik, Iceland. As most of our readers know, this much decorated pilot has served in every theater of operation, probably on every base where a fighter could land. He is best known as an outspoken critic

of the bureaucracy, a contributor to the suggestion program, and a definitive spokesman for Junior Officer Councils world-wide. The TAC ATTACK, we are sure, will particularly miss his prolific articles always printed under pseudonyms. His passing, after having survived so many fatal accidents and changes of command, is particularly tragic. In addition to his immediate family, he leaves behind a family of every Air Force fighter squadron. That's if you don't believe in reincarnation.

FREDERICK F. WITTENBERG, Major, USAF
Det 3, 57 TTW

Dear Major Wittenberg,

Many thanks for your kind letter. Lt Col Humphrey Glocko sent us a fitting tribute to Capt Baldachi which was published in last month's magazine. We are deeply concerned that the number of articles submitted to the magazine may indeed drop drastically because of Nino's absence. We earnestly hope that you and our other readers will fill in the breach. The best tribute you can give would be to write an article for the magazine in his memory.

ED



TAC Flight Safety Trophy Winners

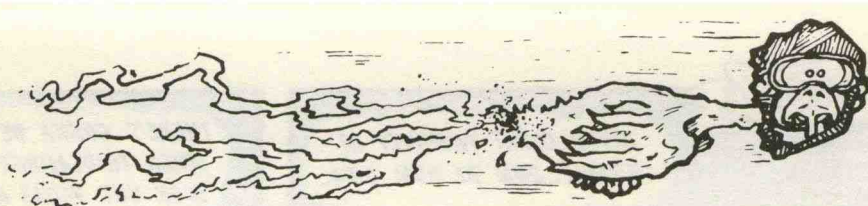
347 TFW
MOODY AFB, GA
7 Dec 77 - 6 Dec 78

116 TFW (ANG)
DOBBINS AFB, GA
10 Dec 77 - 9 Dec 78

366 TFW
MOUNTAIN HOME AFB, ID
1 Dec 77 - 31 Nov 78

105 TASW (ANG)
WESTCHESTER CO ARPT, NY
12 Nov 77 - 11 Nov 78

TAC TALLY



	TAC			ANG			AFR		
	NOV	thru NOV		NOV	thru NOV		NOV	thru NOV	
		1978	1977		1978	1977		1978	1977
CLASS A MISHAPS ➡	1	28	25	1	13	12	1	3	1
AIRCREW FATALITIES ➡	0	17	28	0	9	6	1	1	0
TOTAL EJECTIONS ➡	1	31	21	2	9	11	0	2	1
SUCCESSFUL EJECTIONS ➡	1	25	16	2	8	7	0	2	1

TAC'S TOP "5" thru NOVEMBER

TAC FTR/RECCE		TAC GAINED FTR/RECCE		TAC/GAINED Other Units	
class A mishap free months		class A mishap free months		class A mishap free months	
23	347 TFW	46	156 TFG (ANG)	136	182 TASG (ANG)
20	49 TFW	27	184 TFTG (AFR)	105	193 TEWG (ANG)
18	363 TRW	26	123 TRW (ANG)	97	110 TASG (ANG)
12	366 TFW	11	116 TFW (ANG)	92	USAFTAWC (TAC)
10	479 TTW	11	121 TFW (ANG)	88	919 SOG (AFR)

CLASS A MISHAP COMPARISON RATE 77/78 (BASED ON ACCIDENTS PER 100,000 HOURS FLYING TIME)

TAC	77	0.0	5.3	5.8	5.4	5.1	5.0	5.6	5.1	5.9	5.6	5.3	
	78	16.0	12.4	8.3	7.5	5.8	6.3	6.1	6.7	6.5	6.3	5.9	
ANG	77	0.0	3.1	1.9	5.7	4.4	5.4	5.4	5.4	5.3	4.8	5.9	
	78	0.0	3.4	4.0	5.8	8.1	7.4	7.9	6.9	6.7	6.6	6.5	
AFR	77	0.0	0.0	10.1	7.4	5.8	4.7	4.0	3.5	3.0	2.7	2.5	
	78	0.0	0.0	10.9	7.8	6.0	4.8	8.1	7.1	6.3	5.7	7.8	

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

FLEAGLE



NEVER COUNT YA'MONEY AT TH'TABLE...DUM DE DUM DUM...



THERE'S GONNA BE TIME ENUFF FER COUNTIN' WHEN TH'DEALINGS DONE...DUM DUM DE DE LOOK OUT VEGAS HERE I COME !



SAKES ALIVE !!

SPLOOT!



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YA'KNOW TH'OLD SAYING, GRIFF ?

YEP, A MIDAIR IS A GUARANTEED CRAP OUT.

HARDISON

