

TAC ATTACK

APRIL 1990



ANGLE OF ATTACK



The first flyers were naturals — born to fly. They pioneered the wonderment of flight and, even today, still stir our imaginations. They continue to provide us melodious songs that we can enjoy and contemplate. They even provide good healthy food. But one of the things they don't do naturally is practice good see-and-avoid techniques — at least not in successfully avoiding our jets. This month those feathered aviators will be completing their redeployment exercise back to their U.S. home bases. So keep your visor down and do your best to avoid any unscheduled DACT with Fleagle and his friends.

This is also the time of year when the days are getting longer and warmer. Our attitudes seem to improve right along with the weather or, more specifically, with the increase in bright sunshine. Ask anyone who has been stationed up north how they felt when springtime finally arrived. It definitely brings a feeling of recharged vitality and enthusiasm to many of us, and that's great. But the point I am trying to make here is that let's not start experimenting with new things just because it's spring. Let's keep practicing and building on our fundamentals, the same ones that got us through those hard winter months. Those are the foundations we want to keep and build on, so we won't have to go back to the basics — because we never left them.

Speaking of basics, have you ever sat in your jet and thought about what could happen to this airplane that would make me eject? Do you know anyone who has actually ejected? If you do, try to find out if they delayed their ejection and if so why? I

think for many of them the answer will be, "Yes, it took me longer to make my decision than in an academic situation like a sim ride." To help you wrestle with some of those gray nonacademic feelings before you face them in the air, I want to share some thoughts on why we might **unintentionally** delay our ejection. **First**, a warm and fuzzy feeling — things are going bad with the airplane, but I am still comfortable in here. This is the setting where I feel I'm a part of the airplane. **Second**, ejection is an unknown environment to me. We don't eject frequently and the percentage of those flying fighters who have ejected is extremely small. Although we have read about it, we have not actually experienced it. **Finally** and I believe most importantly, because we are high achievement oriented individuals, fighter aircrews feel they should be able to handle any situation. Some, when faced with the inevitable, may still **feel** that ejection is somehow a failure on their part to save the airplane. A feeling of did they do enough? It's a false feeling — but nevertheless very real. If you ever need to get out, how do you plan to keep those feelings from delaying your ejection decision? Give it some thought and let me hear from you. See you next month, pardner.

Jack Gawelko
JACK GAWELKO, Colonel, USAF
Chief of Safety

TAC ATTACK

DEPARTMENT OF THE AIR FORCE



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Distribution FXX is controlled by TAC/SEP through the PDO, based on a ratio of 1 copy per 10 persons assigned. DOD units other than USAF have no fixed ratio; requests will be considered individually.

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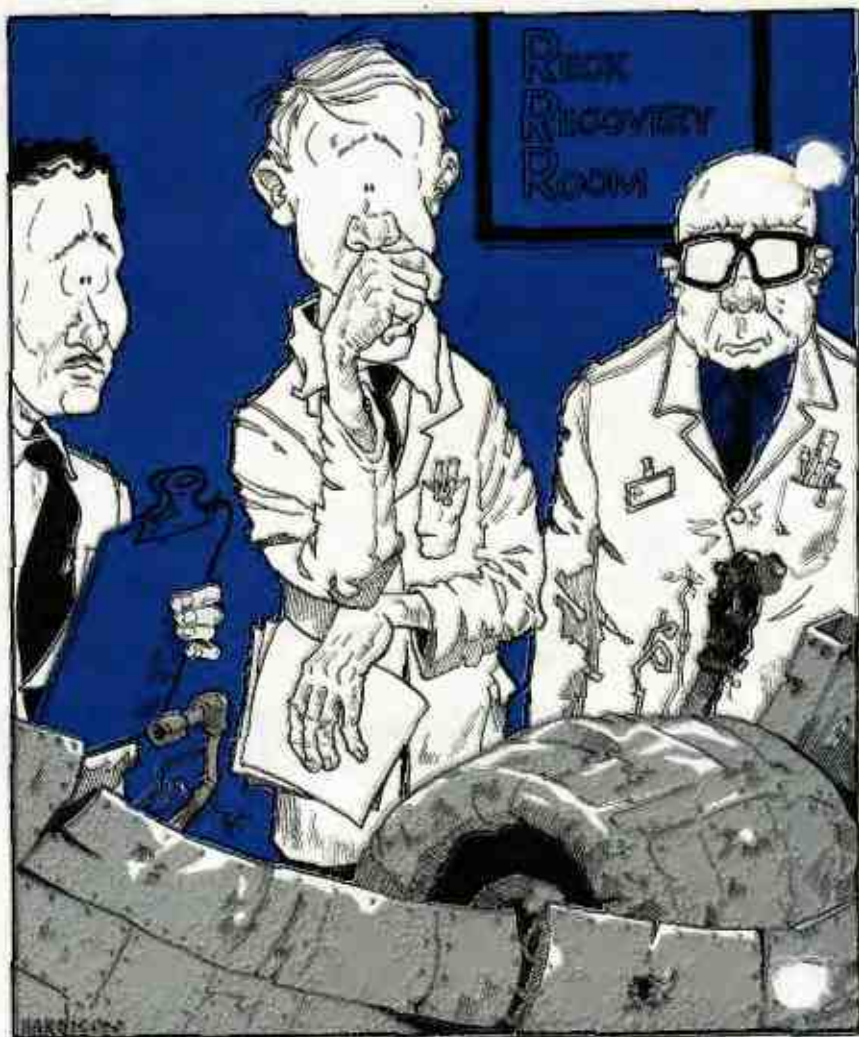
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TAC Attack (ISSN 0494-3880) is published monthly by HQ TAC/SEP, Langley AFB, VA. POSTMASTER: Send address changes to TAC Attack, TAC/SEP, Langley AFB, VA 23065-5563. Second-class postage paid at Hampton, Virginia, and additional mailing offices.

PAN

pan-e-'se-a: A remedy for
all ills or difficulties:
CURE ALL



ACEA

Maj Rich Kirkpatrick
HQ TAC/SEF

Mishaps are studied under a microscope to determine the "why" behind the accident. Once the "why" is discovered, we can keep it from happening again, right? Isn't that why we have developed ground collision warning systems (GCAS) and quadruple redundant flight controls with built-in limiters to prevent loss of control or over Gs? Isn't that also the reason that the engineers are currently discussing items like auto-recovery systems that sense a lack of pilot input and recover the aircraft, or active GCAS systems that institute a pullout regardless of pilot input?

The logistically caused mishap is disappearing. The engineers have done a good job. Using the F-15 as an example, over the last ten years the logistically caused mishap has shown a steady decline. Logistic factors are easy to deal with — all it takes is money (a lot of money) and time (a lot of time) — and the engineers can fix the problem. This has not been true about the operations factor mishap. There has basically been no change in the types of mishaps caused by unit operators and maintenance personnel.

There is good news, however. The panacea for the operations factor mishap has been found; we just make mishaps against regulation. Simple. Just to make sure, the engineers are working on an auto-flight system that ignores

pilot inputs and accomplishes the mission on its own. Future development efforts include elimination of the pilot altogether. Aircraft will be developed to be maintenance-free, thus eliminating that problem area also. You might think that is pretty farfetched; but in dealing with human factor mishaps, that exact approach is often tried. In a "tunnel vision" look at a mishap, we often attempt to regulate-out or engineer-out a human failing. Take for instance TACR 55-4, paragraph 3-20, which states that during a route abort a pilot must maintain "safe separation from the terrain." I'll bet we didn't really need to regulate that, yet there it is. The same is true of engineering efforts to eliminate human factor mishaps. Lack of a GCAS system has never caused a mishap. Human factor mishaps occur quite simply because aircraft are flown and maintained by people.

So, do we wash our hands, shrug our shoulders, and say, "It's up to fate?" We simply can't afford to do that. Last year in TAC, human error (blue suit maintainers or pilots) accounted for the loss of eleven aircraft and three pilots. So, if you can't regulate it, can't engineer it, and can't ignore it, what do you do about it? You attack it with knowledge, training, honesty, and professionalism.

KNOWLEDGE: Know the books, use the tech orders, and ask the questions. Knowledge doesn't guarantee success, but

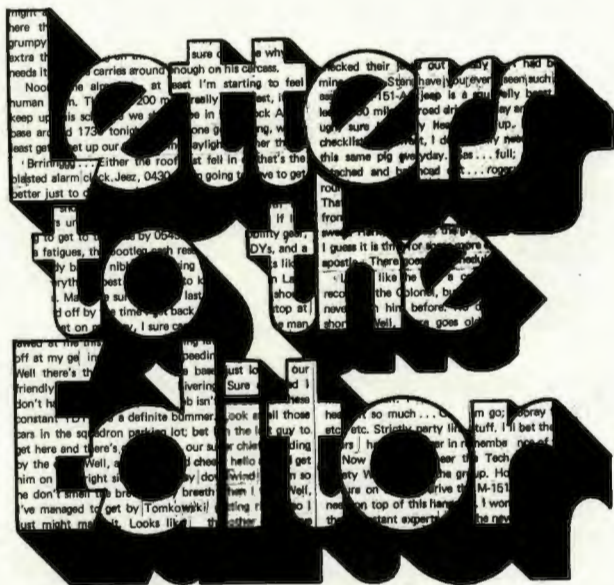
ignorance in this business will kill you.

TRAINING: Be realistic in your training. Not every raid is a mass raid, not every emergency has a boldface. Learn both tactics and emergencies from previous successes and failures, and do not let the first time you see or think about something occur in the air.

HONESTY: Be honest in your assessment of yourself and your wingman. Train to eliminate the shortcomings and enhance the strong points. Admit to those areas that need improvement or you'll never learn.

PROFESSIONALISM: This is the only real answer to the human factor mishap. This term encompasses all the previous items as well as a few more. The professional takes the time and the effort to do the job right — the first time every time.

You might wonder what is in it for you. What do those extra hours in the book do for you, and who in their right mind would volunteer for an extra EP simulator? Or maybe you're just too macho to admit to having the flu — after all, you certainly aren't planning on killing yourself. Maybe you won't — today. But if we can do these things and prevent the mishap that hasn't yet happened, then maybe the engineers won't need to design an aircraft that uses the pilot only as a backup system for the computer. ➤



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202-783-3238.

Dear Ed,

I was a 317th pilot, but did not make the Frantic Mission you wrote about in your Nov/Dec issue. The Checkertails, 325th Fighter Group, are still very active with about 200 members attending our annual reunions. Enclosed is a picture of the Air Force Museum's P-51D which is displayed with the 325th Fighter Group markings.

Cheers, Dan Penrod

Commander Checkertail Clan

69 Keswick Ave

Pittsburgh, PA 15202

Dear Ed,

I've just been exposed to your TAC Attack, Nov/Dec issue. I've torn out the excellent article on Operation Frantic and sent it to our P-51 Pilots Association. If you ever come up with articles on WWII exploits of 354th or 363d Fighter Groups when they were with 9AF, I'd be grateful to hear how I can obtain a copy. We are planning to dedicate a 9AF memorial in Normandy in 1994. If anyone would like more information, have them drop me a note.

Cordially, Ronald M.A. Hirst

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TAC AIRCREW OF DISTINCTION

On 28 November 1989, First Lieutenant John D. Noah, an F-16 student pilot, and Captain Patrick J. Moisia, an instructor pilot assigned to the 162d Tactical Fighter Group, Air National Guard, Tucson, Arizona, were flying two F-16A's on a B course solo conversion mission. Lt Noah was on his second solo mission in an F-16 with Capt Moisia as his IP. During close formation airwork, Lt Noah's airplane suddenly entered an uncommanded pitch up. Lt Noah radioed to Capt Moisia that he felt he had no pitch authority. Twenty seconds after the uncommanded pitch up began, Lt Noah was able to regain control and radioed that he again had normal pitch control authority. Capt Moisia maintained a chase position and coordinated an emergency recovery with Air Traffic Control and the Supervisor of Flying. The approach was planned without speedbrakes and with the trim/autopilot switch in the disconnected position. At about 6,000 feet above ground level on the approach, the aircraft pitched up again. Lt Noah rolled the aircraft, resulting in a barrel roll, and selected afterburner, then transitioned to a climbing spiral. About 22 seconds later, Lt Noah once again regained normal control of

the aircraft. The flight then climbed to a safe altitude to hold. The Supervisor of Flying contacted the aircraft contractor to discuss possible causes of the problem. With no definite solution, Lt Noah and Capt Moisia discussed the best recovery maneuver should the aircraft pitch up again and also discussed ejection procedures. On final approach, at approximately 200 feet AGL, the aircraft pitched up again. Lt Noah executed the recovery maneuver previously discussed and regained control after 630 degrees of climbing spiral. A decision was made not to land at the Tucson International Airport due to adjacent populated areas. The flight proceeded to a remote auxiliary field to attempt a safe recovery. As a possible solution, the MPO switch was held in the override position with a pen for the remainder of the flight. The centerline tank was jettisoned over a tactics range en route to the auxiliary field. The final approach continued to a safe landing and approach end barrier engagement, with no damage to the aircraft.

The teamwork, creative problem solving, and superior airmanship of Lt Noah and Capt Moisia saved a valuable aircraft and earned them the TAC Aircrew of Distinction Award.

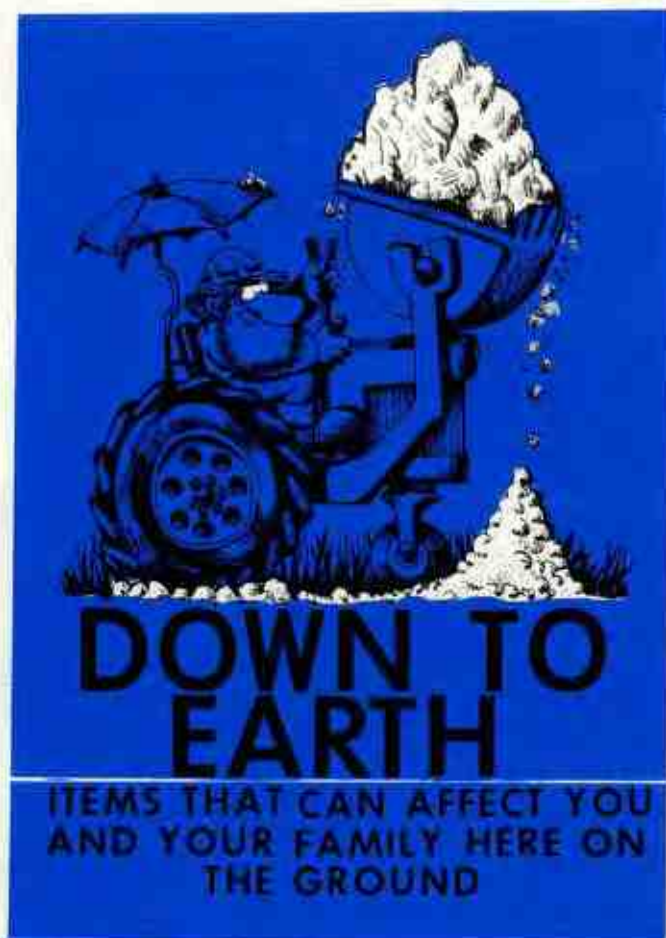


1 Lt John D. Noah



Capt Patrick J. Moisia

162 TFG (ANG)
Tucson, AZ



Of Mice and Men or The Mouse that Roared

CMSgt Billie W. Hester
HQ TAC/SEG

"Are we mice or are we men?" roared Harley David, the leader of the pack. "Are we going to let some petty law make us wear helmets on our heads?" "No," roared all the little mice.

This little scene is exaggerated just a smidgen, but not by much and is repeated far too often. Most states now have motorcycle helmet laws, but there are still lots of people who refuse to wear them. I guess by now you're probably thinking, "Well, another lecture from a non-motorcycle riding safety know-it-all." While it's true I'm a safety person, I'm also an avid motorcycle rider and fan. Even though I'm currently grounded, I've had my share of thrills and spills. In almost every instance, my helmet has prevented serious injury, dis-

ability or death. Just to relate a few, I had just bought my first bike, a Honda 305 Dream. Boy, did I think I was something. No training, no experience, three spills. The first spill was harmless, in the sand and soft grass. The second was worse, on the highway, about 40 MPH and in warm weather. Results — one torn up high school letter jacket, one torn up pair of jeans, two dislocated knees, too many bruises and abrasions and one scratched up helmet and face shield (thank goodness it wasn't my head and face). Saved by the helmet? You bet! Two months later, I found out you can't run over large dogs with a motorcycle and ride away. Once again, torn up clothes, skin and bruises/abrasions. This time the helmet actually cracked and split. Again, I was glad it wasn't my head. Lucky? Yes, I was lucky to have my helmet on, but the **ONLY** reason I had bought it was Georgia's motorcycle helmet law.



Ten years later in Okinawa, Japan, I once again had the opportunity to thank my helmet. Anyone who's ever been to the Orient knows how the traffic is and how the taxi drivers over there bully their way into the highway. Picture this: a light rain, asphalt roadway, about 100 cars on the highway, and numerous businesses and connecting roads alongside. I'm tooling along on my 450 headed for work. You guessed it. Here comes a Kamikaze ramming in front of me. Naturally, I hit both brakes, too hard! The next thing I remember is laying in the road by my motorcycle. Not hurt, just stunned and scared. It turned out that my head had hit the rear bumper of the taxi, one busted helmet, undamaged head.

Fast forward another six years. I'm still riding and enjoying it. All my limbs and skin are intact once again. I'm out cruising about 50 (actually nearer 65) on a quiet, curved, wooded South Carolina highway. Blasting into and out of curves and loving every minute. It's dusk and getting harder to see. I round a curve and there in the highway sit five vultures over some road-kill. Of course, they all take to the air and almost all make it. The one that didn't make it

became a road-kill too. He/she struck my helmet square in the forefront, snapping my neck back and almost knocking me off the saddle. Thanks to that helmet and the training I had acquired since my first ride, I managed to keep upright and safely stop the cycle. Once again a dented helmet and no head damage.

What I'm trying to say is while helmets may be restrictive or hot, they're a lot less restrictive than a hospital bed, a wheel chair or a coffin. I don't want you to wear a helmet only because it's the law. Stop and think about how vital your head is and how fragile it is compared to concrete. Then make your own decision. It **CAN** happen to you! It **HAS** happened to me, but thanks to my helmet I have no serious injuries or disabilities. I may not be cool or better looking, but I'm alive — thanks to my helmet. I don't consider myself a mouse, but I sure wear a helmet. By the way, helmets don't create hair loss either. **NOTE:** Getting back to Harley David and his merry band of mice. Harley is really a law abiding citizen who wears his helmet all the time — it was just to get your attention.



TAC Personnel Who Have Made Noteworthy Accomplishments To Unit Effectiveness

Capt Mike France
421 TFS, 388 TFW
Hill AFB, UT

1Lt Paul E. Huffman
21 TASS, 507 TAIRCW
Shaw AFB, SC

Capt Gerald M. Paulus, Jr.
1Lt Mark J. Hagen
68 TFS, 347 TFW
Moody AFB, GA

Sgt Ray K. Haley
67 EMS, 67 TRW
Bergstrom AFB, TX

TSgt Robert M. Dorriety
823 RHCES
Hurlburt Fld, FL

A1C Terry L. Nachtman
405 CRS, 405 TTW
Luke AFB, AZ

Capt Ward P. Larsen
75 TFS, 23 TFW
England AFB, LA

Sgt Marlon A. S. Turner
Sgt Randall B. Mott
334 TFS, 4 TFW
Seymour Johnson AFB, NC

F-16 DEPARTURES AND RECOVERIES -

part I

Maj James C. Seat
6516 TESTS/DOA
Edwards AFB, CA 93523

Recent safety investigations of F-16 departure mishaps and information from interviews with operational F-16 pilots indicate there may be some misconceptions about F-16 departure and deep stall characteristics. The flight manual discussion is accurate and fairly thorough, so I won't repeat that information. The purpose of this two-part article is to expand on a few of the more important concepts and to clear up a few areas that may have been misinterpreted. In this first part, I'll answer some questions we've been asked about departures. Next month, the second part will present some situations you might want to avoid during your next BFM engagement and go over a few points on departure resistance and recovery



effectiveness that may be of interest.

QUESTIONS/ANSWERS

Q: Is it true that a big tail jet, clean or with a centerline store, is almost impossible to depart or deep stall with normal fuel balancing?

A: No. Big tail aircraft are less susceptible to departure and deep stall as compared to the small tail aircraft. The departure resistance of a clean jet is very good, but departure resistance is decreased with the addition of external stores. The addition of a centerline tank decreases the resistance more than one might think. The centerline tank decreases directional stability with increasing angle of attack (AOA) which increases the chances for a yaw departure. In addition, you can always depart the jet by running out of airspeed in a nose high attitude or by a rapid pitch input at slow airspeeds. Even a clean jet may deep stall under the right circumstances. Generally, the probability of a departure resulting in a deep stall increases as the aircraft center of gravity (CG) moves aft.

Q: When pitch rocking, aren't the pitching motions mostly vertical?

A: It depends on if it's erect or inverted and the configuration. In an inverted deep stall, the wings are fairly level regardless of the configuration; however, an erect stall can be very oscillatory in yaw, roll, and/or pitch. The most common yaw and roll motions encountered are a roll and yaw to the right when the nose pitches

up and a roll and yaw to the left when the nose pitches down. The centerline tank or heavy outboard wing stores accentuate these roll and yaw oscillations and make pitch rocking more difficult. This is because:

1. The rolling and yawing motions may mask the pitching oscillations that need to be reinforced.

2. Yawing motions cause the yaw rate limiter to kick in and use differential stabs which decreases the stab's effectiveness in the pitch axis.

Q: When I decide it's time to start pitch rocking, should I get on the MPO and immediately make an input toward the sky?

A: If you cannot detect a natural pitching motion in the deep stall, then making the first input toward the sky is a good move. But if there is a pitching motion, it is very important not to "fight" that motion on your first MPO input. For example, if you determine you're in an erect deep stall, and you notice nose down movement, applying full nose down and engaging the MPO will get you ready to reinforce the next nose up movement (if there is one, as it may self-recover). If, instead, you had applied full aft stick during that nose down movement, the downward pitch motion would have been decreased or stopped, delaying recovery.

Q: Is it difficult to keep an erect stall from transitioning to an inverted stall and vice versa during the recovery?

A: It can be, especially going from inverted to erect. A common pilot error during training for high AOA testing is transitioning from an inverted to an erect stall during recovery. As the nose approaches vertical down, it's important to stop pitch rocking (but keep the MPO engaged until the AOA is in the normal regime) and fly the aircraft to keep the nose down. In an inverted stall, the aircraft will usually "shudder" slightly as the stall is broken and a noticeable buffet will occur as the LEFs extend during transition to an erect stall. If you feel this buffet, push forward to keep the nose pointed down. In an erect stall, the aircraft will start to unload to negative G as the stall is broken. You should stop it from transitioning to an inverted stall by applying sufficient aft stick to keep the nose vertical. If a transition does occur, it's best to continue to reinforce the pitch motion as the nose swings past vertical down in the new stall.

Q: What happens if you engage the MPO and delay pitch rocking?

A: The stab will move to a streamline position. This will probably kill any chance that may have been left for a self-recovery and may make it harder to rock it out of the stall once you do start pitch rocking.

Q: If the first few MPO cycles don't recover, should you pitch rock faster or slower?

A: You need to continue to reinforce the pitching motion and not



F-16 DEPARTURES AND RECOVERIES - PART I

change the frequency of your inputs. During deep stall recovery testing at Edwards, the pilot will always verbalize the stick inputs such as "up. . . down. . . up. . . down." This serves for data collection purposes, but also provides a cadence that the pilot can use to help ensure the inputs are positive and in sync with the natural pitching motions of the aircraft. This technique may be useful to help keep your pitch rocking from becoming too fast in all the excite-

ment. Also, when recovering from an erect deep stall, the nose will usually hesitate around 45 degrees nose low before continuing down through to the vertical. Don't interpret this hesitation as a reverse in pitching direction and pull back on the stick. Always let the pitch motion reverse on its own before reinforcing that motion.

Q: What's the typical altitude loss from deep stall to recovery during high AOA training?

A: If there's no transition from erect to inverted or vice versa, then the altitude loss for a clean jet is typically 3,000-5,000 feet. With a centerline tank, an altitude loss of 7,000-8,000 feet is not uncommon. If a transition occurs, then the altitude loss can be 8,000-15,000 feet, depending on configuration. Next month, part two will review some departure avoidance methods and present information on configuration effects on departure resistance. ➤



TAC

OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

Technical Sergeants Mark A. Dillehay and Donald C. Jones averted a disastrous situation, preventing injury to personnel and F-111 aircraft. While conducting an environmental control system class on an F-111 aircraft in hangar 184, the motor driven cabin pressurization test unit being used on the aircraft caught fire. Acting instinctively, Sergeants Dillehay and Jones immediately cleared the area of personnel, disconnected the tester and rolled it to a clear area outside the hangar. After averting the immediate danger, the fire was extinguished, preventing further damage to the unit. The quick and accurate reactions of the two instructors have earned them the TAC Outstanding Achievement in Safety Award.



TSgt Mark A. Dillehay



TSgt Donald C. Jones

FTD 526

Cannon AFB, NM





Funny Fotos

I DON'T REALLY MISS
TH' LITTLE WOMAN TIL
WASH DAY ROLLS
AROUND.



OK MILDRED, THIS IS YOUR
FLIGHT... GRAB THE BAR AND
LET'EM HAUL YOU UP.

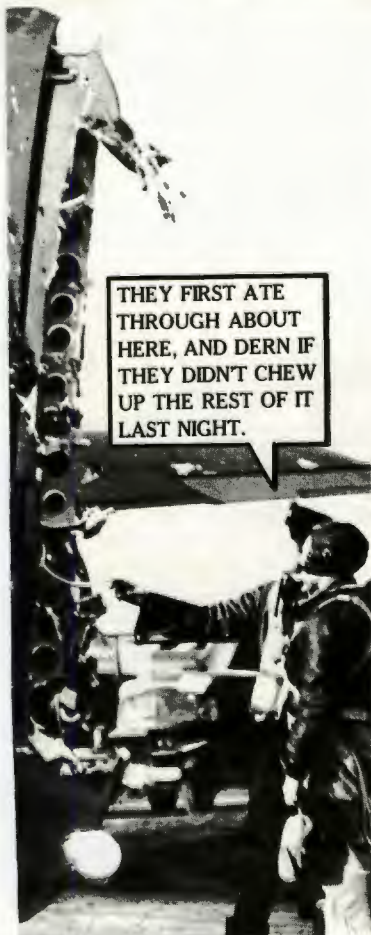




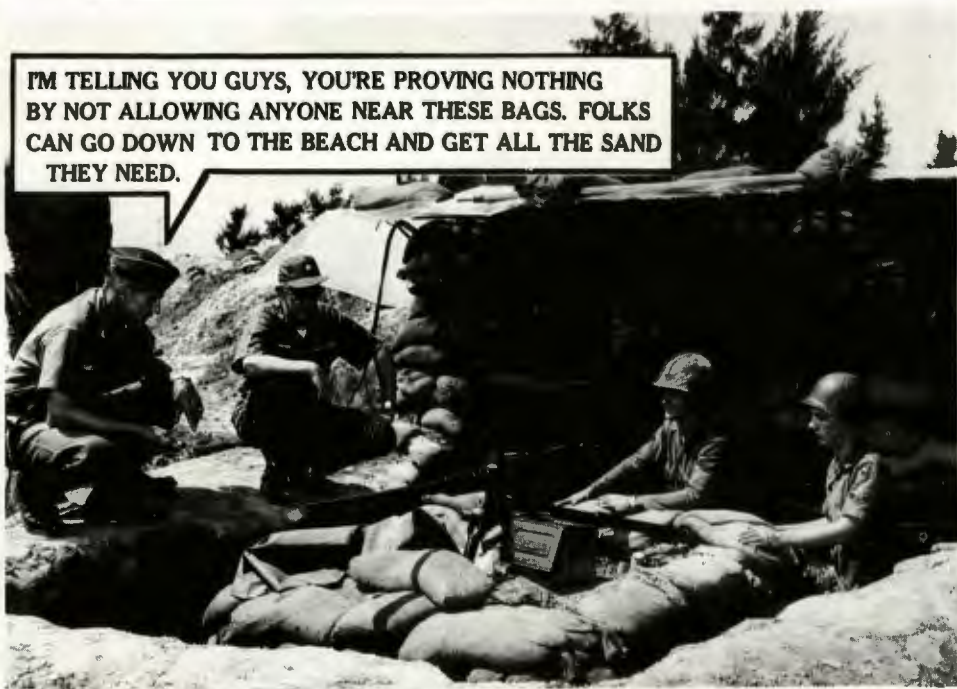
SO FAR, SIR,
IT'S JUST HOVERED
OVER THIS ONE
AIRCRAFT.



I STILL THINK LANDING
WOULD BE A HECK
OF A LOT EASIER IF THEY'D
PUT SOME WHEELS ON
THIS THING.



THEY FIRST ATE
THROUGH ABOUT
HERE, AND DERN IF
THEY DIDN'T CHEW
UP THE REST OF IT
LAST NIGHT.



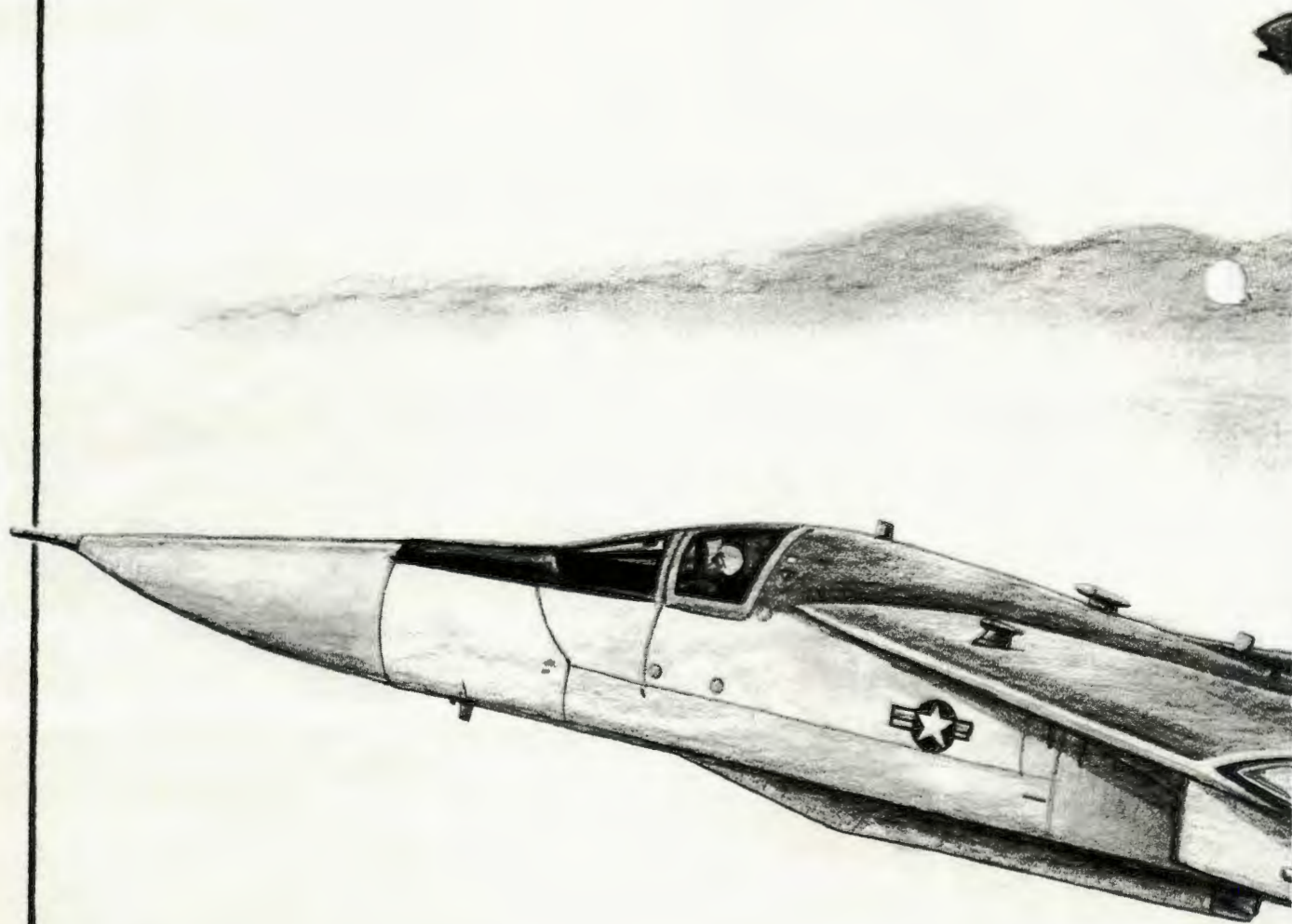
IM TELLING YOU GUYS, YOU'RE PROVING NOTHING
BY NOT ALLOWING ANYONE NEAR THESE BAGS. FOLKS
CAN GO DOWN TO THE BEACH AND GET ALL THE SAND
THEY NEED.

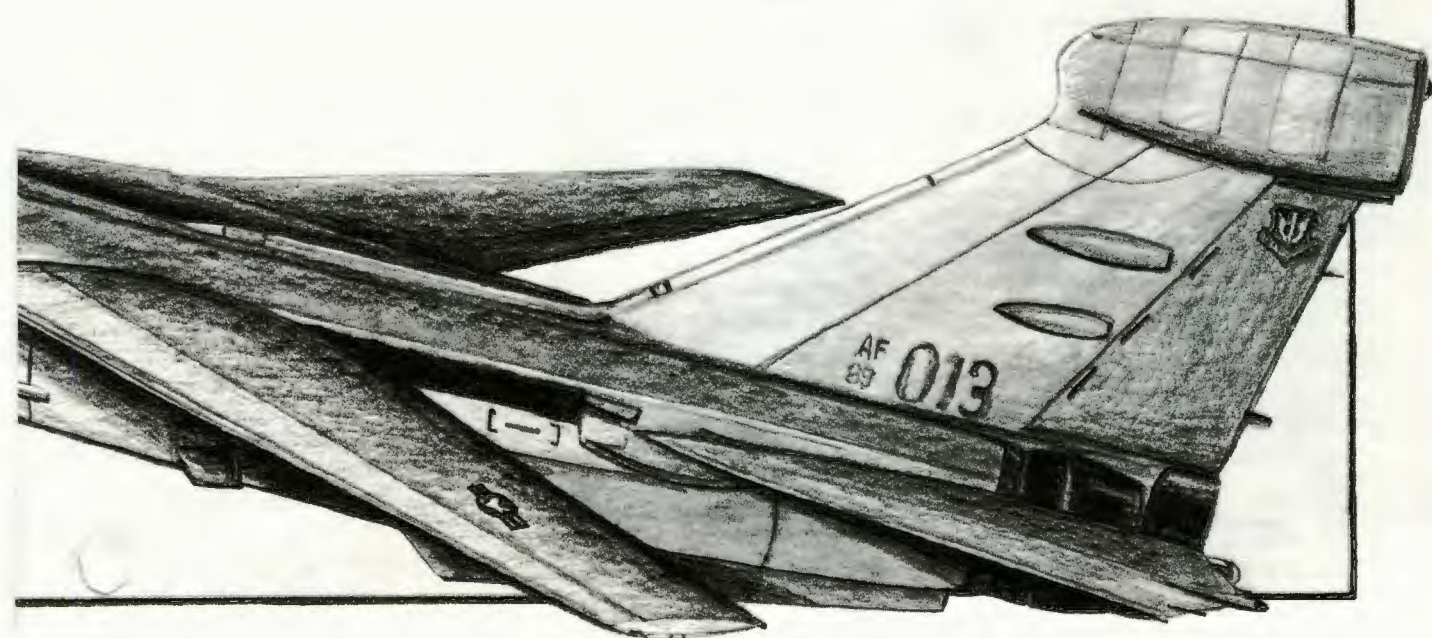


IF WE KEEP IT IN SIGHT,
AND MAINTAIN A GOOD
TAILWIND, WE OUGHT TO
LAND THERE ABOUT SPRING
OF NEXT YEAR.

BUT SIR...

EF-111 ELECTRIC FOX







a wet

Lt Col William M. Wilson
24COMPW/SE
Howard AFB PN

Why shouldn't the world's finest purveyor of Low Angle Low Drags also be the finest sailor since Magellan? I remember how crystal clear that logic was to me at the time. It was a few years back when my contract had been sold to another company, ATC, for a period of four years. There was some excitement lacking in my flying, and I couldn't ski in the summer; so it seemed only logical to buy a boat, not a stink pot motor boat, but something that required real skill.

So I tried to dredge up all the sailing knowledge my father had passed on twenty-five years before, and then I tried to remember what the real deck officer type sailors did at one of the "other trade schools" where I got my engineering degree. I found I could still tie a bowline, so I went on down to the local sailboat store and bought a neat little fifteen foot Catalina with lots of sail area. Since it wasn't a big yacht, the free lesson consisted of an hour's worth of how to rig and de-rig the boat and connect the trailer lights.

I purchased all the required safety gear for California boaters. I'm no scoff-law, and headed for

folsom friday

Lake Folsom. I did okay for the first two outings, but my wife wanted the Queen Mary and my son a speedboat. No real sailing mates there, but what the heck — I could handle it alone! Two or three balmy sailing days, then it was winter; I got the Ops Officer job and the boat was put away for better times.

Late May, we did Sierra Hotel on the MEI/DOV visit and I'm off for a solid week of well deserved fun. It was still a bit nippy and the lake was high from all the melting snow (read that as the lake water was about as cool as a properly chilled Martini)! Monday and Tuesday brought pouring rain and low clouds; Wednesday was better, but still raining. Thursday, it was worse than ever; I'd cleaned the garage, washed the dogs, and seen five videos. My glorious week of sailing was going down the tubes. But OH that Friday! The sun was up and it had warmed up to one of those great Sacramento spring days. I put on my best T-

It was still a bit nippy and the lake was high from all the melting snow (read that as the lake water was about as cool as a properly chilled Martini)!

shirt, threw a six of Bud/Diet Coke mix in the cooler, grabbed a bag of chips and went out to where my boat had been hooked to the pickup and waiting all week. This was my last day off, but it was going to be great!

As I headed down towards the ramp, I noticed one of those little red triangular flags hanging outside the ranger's office. A good breeze was flappin' it around too; I'd probably set the lake speed record today. As I put in my boat, the first few low scuddy clouds were coming over the hill from the North and I started wishing I'd worn more than my Yankee Air Pirate T-shirt. I passed two fishermen who were pulling out their Jon boats, obviously no adventure-some blood in the fisher folk.

I head out of Brown's Inlet at the speed of heat, what a run! First Tack, a bit rusty and man this thing heels over in this wind. At this point, I made my first smart move of the day, I slipped on my life jacket while holding on for dear life. The clouds are moving in and it's gettin' colder — I can see the T-37's overhead starting to line up for the ILS, sure glad I'm not up there. Maybe I should head back; let's see if I can get this thing turned back downwind; I'm about in the middle of the lake now. Wham — over it goes. God it's cold in this water. Okay be cool and remember the drill. Stand on the centerboard, lean back and get her upright.

Okay, I did it, now climb in and get going again. Wham — I tried to pull in on the sheets and suddenly I'm under cold water again. My life jacket is caught on the port shroud and I can just get my head above water. After struggling, the boat is now starting to turn turtle, the mast is going straight down. Panic, no, take one last deep breath and I slip out of my life jacket, tearing up my arm and losing my precious F-4 Air Pirate T-shirt, forget it. Oh darn, there goes my new cooler floating away, too fast to swim after it. I untangle the life jacket, put it back on, only the second smart move of the day. My fingers are getting numb, can't be, it's almost June in California.

Suddenly fifteen years of Air Force Survival Training flashed, en masse, into my brain. I realized that I was getting hypothermic and that my attempts to right the boat, mast now straight down, were futile.

Don't leave the life raft, get in, inventory your supplies, make a plan, think of how to signal. I firmly believe I would have died in Lake Folsom, in full view of my wife who had driven down to the causeway to watch, if I had not received such excellent survival training in the Air Force.

First, I realized my predicament, kept calm, and acted as I had been taught. I'd never make it to shore, no way to swim or float that far in water this cold. I



A WET FOLSOM FRIDAY

retrieved a line, painfully hauled myself up on the overturned hull, and tied myself to the center-board. My inventory showed almost nothing, but clothes, sneakers (expensive boat-type) and my bright orange life jacket. I pulled the tiller off the rudder and tied my jacket to it and waved. About half an hour later, I got very lucky, there was one other boat that put out that day, a large twenty-eight footer with two guys in wet suits who stopped and rescued me. On their boat, I sat huddled below in a blanket and felt totally ashamed. My wife had called the sheriff and his motor boat finally showed up half an hour later and towed my boat in. My mistakes were:

1. **GROSS OVERCONFIDENCE X 2**
2. **NOT GETTING A WEATHER FORECAST**
3. **IGNORING THE AVAILABLE DATA** (cute red flag)
4. **IMPROPER EQUIPMENT** - I should at least have had a wet suit and better cold weather gear.
5. **I SHOULD HAVE HAD LESSONS**
6. **I NEEDED A QUALIFIED CREW** member on board.
7. **OUT OF THE ENVELOPE** - The salesman said never use the boat in over 20 knot winds.
8. **OPERATING IN MARGINAL CONDITIONS** without a powered safety boat around.
9. **OTHER STUPID THINGS** too numerous to mention.

I'm older now, 43 versus 38, and much wiser. I see now that those mistakes that **ALMOST** made me a statistic have gotten some of my friends in jets, motorcycles, cars, and on skis. If you look at the capitalized part of the list, it's pretty generic. When you start any new endeavor, it's wise to make sure you've gotten the proper training, have the right equipment for conditions, and know the safety rules. Good training will teach you the limits and take an edge off the overconfidence. You could all see what was coming as soon as you started reading the article. That's easy. The key is to see it coming before it happens to you. Know when to **KNOCK-IT-OFF**. ➤



TAC Personnel Who Have Made Noteworthy Accomplishments To Unit Effectiveness

MSgt Frank C. Brandt
MSgt Ivan L. Aken
TSgt Curt D. Caulley
SSgt Patric M. Ritchie
Sgt Ivan L. Kauaphi
SrA Jacqueline Craddock
4507 CAMS, 507 TAIRCW
Shaw AFB SC

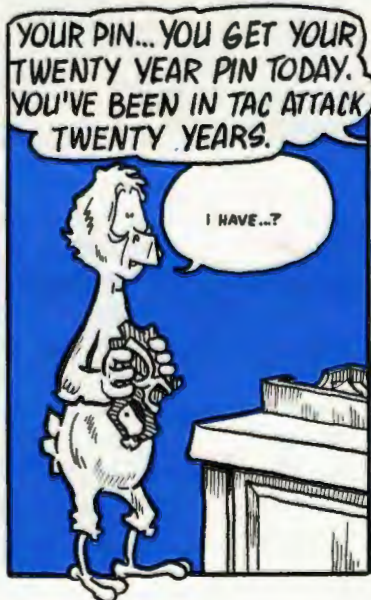
Capt Alphonso Oliver
Capt Thomas R. Rawls
Capt Michael D. Wilson
SSgt Patrick D'Augustino
6 ACCS, 1 TFW
Langley AFB VA

Capt Monty L. Brock
17 TFS, 363 TFW
Shaw AFB SC

SrA Mitchell L. Logsdon
33 EMS, 33 TFW
Eglin AFB FL

SSgt Michael W. Pina
Sgt Ronald McEntee
4 AGS, 4 TFW
Seymour Johnson AFB NC

Fleagle



Jimmy Campbell
1 AF/SEW
Langley AFB VA

TRY HARDER

and his sawdust experience

Try Harder was very excited. His wife had just given him one of those five-in-one woodworking tools for his birthday. He could hardly wait to get to the garage and start his first project. Yesterday, he had unpacked the tool and put it together. He had gone to the hardware store for some lumber and he had selected a plan to build a small table. He knew the plan would be just right, because he would use most of the tools in the machine. There was the saw and drill to build the top and the lathe to turn the legs.

He wouldn't need to spend all that time studying the instructions in the operations handbook.

Besides, he had watched the demonstration in the mall twice, so he knew he could operate the tool with total proficiency.

Try had studied aviation for a career. He had always wanted to be an Air Force pilot, but an accident with explosives when he was young had damaged his hearing. He was sure with his understanding of aviation physics, he would have no problems understanding the physics of woodworking. He wouldn't need to spend all that time studying the instructions in



the operations handbook. Besides, he had watched the demonstration in the mall twice, so he knew he could operate the tool with total proficiency.

With pencil and ruler in hand, he was ready to try out his new saw. First, he would rip a board down the center into two pieces. He set the fence on the saw, adjusted the saw blade and turned

on the power. He remembered from the mall demonstration that he should stand to the side when ripping boards. He didn't remember why, just that the man said to do it. He also remembered to have his push stick handy so his fingers wouldn't get too close to the whirling blade.

This time Try knew he wasn't going to do any dumb things that

would cause his neighbor, Jimmy, to come over and give his normal after accident safety advice.

Try picked up the board and

from liability suits. But, there were some small jagged fingers in the guard that would have prevented the board from kicking



The next thing Try knew, he was holding on to empty space.

started pushing it through the whirling blade. He felt some binding and grabbing against the board, but nothing he couldn't hold on to. **FLLIINNNGGGG, BANG, CRASH!** The next thing Try knew, he was holding on to empty space. The board had flown through the open garage door and was protruding from the headlight of his 1966 Mustang convertible. He sure hoped that Jimmy didn't hear the noise and come running.

Maybe there was a good use for the blade guard after all. He always thought it was just some more junk the manufacturer had sent along to protect themselves

back if he had used it.

Enough sawing, he would drill some holes in the small steel plates used to hold the legs on. He laid out the location for the holes and selected the proper size drill bit. As he tightened the drill bit in the chuck, he thought how smart it was that the manufacturer had spring loaded the chuck key so it wouldn't stay in the chuck. If a fellow started to drill with the key still in the chuck, it could be thrown out with enough force to hurt someone.

Try started to drill through a steel plate. Every thing was going fine until the bit caught as it broke through the underside. The bit grabbed the plate, spun it around and skinned the knuckles of his left hand. He thought how lucky he was that a sharp corner of the steel hadn't sliced through the palm of his hand. Maybe he should have used some pliers to hold the steel.

Turning the table legs might be an easier project to start with.

Try set up the machine to operate as a lathe. He understood this stuff. All he had to do was put the board between the centers of the lathe, adjust the tool rest to the proper height and hold the chisel against the turning board. The man in the mall had made it look so easy.

The bit grabbed the plate, spun it around and skinned the knuckles of his left hand.

He thought how lucky he was that a sharp corner of the steel hadn't sliced through the palm of his hand.

As he was about to turn the lathe on, Jim walked in. He told Try that he was there to see his new woodworking machine in action so he should continue to work.

Try turned on the lathe, leaned over and held the chisel to the wood. Chips started flying. He sure was glad that he remembered to put on his safety glasses. Jimmy wasn't going to have anything to preach to him about this time.

Whirl, FLAP!!! UFFFFF! Try found his neck wrapped tight against the work in the lathe. Jim reached over and turned the lathe motor off. As he took out his pocket knife and cut Try loose from the lathe he said, "Try, next time you work around power tools, first take off your World War I aviator's silk scarf." ➤

WHERE IS YOUR AI

Take a second and look at our masthead on page 4 where our magazine's staff is listed every month. You'll notice that there are no staff writers assigned to us here at *TAC ATTACK*. That's because most of our writers are located out there in the field—those of you who read the magazine. We rely on you to help us put the magazine together on a monthly basis. We need your inputs to make *TAC ATTACK* relevant, timely and interesting for you, your daily needs and your co-workers throughout the TAC workplace; whether it's the flight line, the cockpit, the avionics shop or the office.

I know a lot of you have thought about writing an article for us, but just never seemed to get around to it. Let me encourage **you** to take the time **now** to put your thoughts and experiences down on paper so we can share them with everyone else in TAC. You'll be glad you did and we certainly will as well.

What kinds of articles are we looking for? You name it and

we're looking for it. We can use your "There I Was" accounts of personal experiences where you or someone you know learned a valuable (and sometimes painful) lesson from which the rest of us can benefit. But, we're not just looking for the "bad news" type of experiences. Have you ever found yourself in a situation that was rapidly going downhill and you were able to prevent a potential mishap by breaking the chain of events? Tell us about it. Your personal experiences put real flesh and bone details around the principles of working and flying safely that we talk about each month.

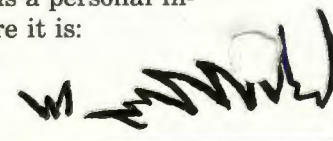
For example, we need to hear from you maintenance types about how you operate in and around the flight line on a daily basis in all kinds of readiness conditions and weather. What standards of excellence do you operate by that prevent you from having some of the kinds of mishaps we write about in "Chock Talk"? How do you relate to all the other activities around the ramp that get the mission done in a safe and ef-

ficient manner? Tell us how you go about maintaining aircraft, launching sorties, loading ordnance, repairing avionics and all the other factors vital to accomplishing our mission.

For you fighter jocks, (pilot, WSO, EWO or whatever) we need your thoughts on how and where we can fly tactically smarter (and safer as a result). Don't assume that what you're doing right is common knowledge to everyone else in the command. There are a lot of good ideas being used on a daily basis that will serve as a good reminder for some of us and as new insights for others.

No one in TAC should feel left out from our "unofficial" staff of writers. I wouldn't even attempt to list all the career fields that are a part of the TAC team. If you haven't found an article in the magazine that hits your area of concern, it may be because you haven't written an article for us.

Finally, if what you've been waiting for is a personal invitation, here it is:



RTICLE?

Dear (Your name),
Why haven't you written (an article for TAC ATTACK)? We're looking forward to hearing from you. Take your experiences, your insights and put them all together in an article for us.

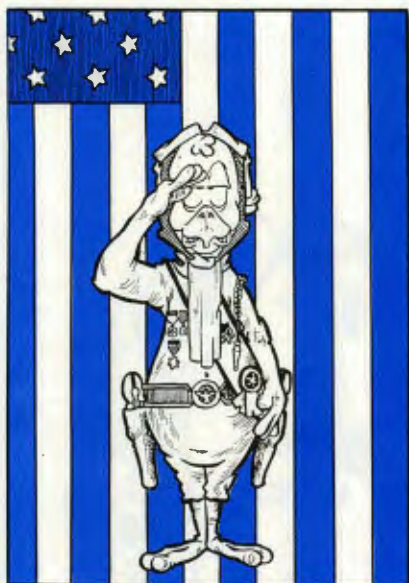
The format for sending it to us is up to you. Typed, double-spaced is fine, but we'll also take handwritten.

If you've got any questions about whether or not we'd be interested in your ideas, call us at Autovon 574-3658. We'll give your article a friendly reception and make every attempt to use your efforts to make all of us smarter.

Sit down and write something for us today. We're waiting to hear from you.
Sincerely

Heaps Tucker
The Editor
TAC ATTACK





FLEAGLE SALUTES

TAC'S OUTSTANDING AIRMEN

During a recent Operation Readiness Exercise, **Master Sergeant Michael E. Hall** and **Staff Sergeant Ricky Gale**, from the Wing Safety Division, 4th Tactical Fighter Wing, Seymour Johnson AFB, NC, were on a flight line inspection tour. While performing a barrier inspection, they discovered numerous large rocks on the runway. They alerted the tower of the hazard and picked up the rocks before any aircraft could takeoff or land. During a subsequent runway inspection, they discovered even more rocks, some as large as softballs. They immediately called Base Operations for a sweeper to clean the runway. A hole was discovered two feet by five inches by five inches, 30 feet left of centerline, approach end, runway 26. Ten aircraft were airborne at the time. Maintaining radio contact with the tower, Sgt Hall and Sgt Gale were able to stay on the runway to pick up rocks and direct the sweeper. Once the debris was cleared, the aircraft were allowed to land, right of centerline. The amazing thing about this incident was that it was night and most

likely the rocks would have gone undiscovered until the next day. The quick, responsive actions of these two individuals prevented a catastrophic engine failure, blown tire, or, more importantly, loss of an aircraft and aircrew. Sgt Hall and Sgt Gale's attention to detail was directly responsible for preventing personnel injury or damage to valuable Air Force assets. Their commitment to safety awareness has earned them a **Fleagle Salute**.

Staff Sergeant Timmy D. Thomas, 37th Tactical Fighter Wing, Nellis AFB, Nevada, worked to combine the Engine Maintenance Training Plan and the Environmental Control System Maintenance Training Plan for the F-117A Stealth Fighter. During a systems check of the emergency procedures for an internal engine fire, he determined that the procedures were not effective for extinguishing a ground fire and that

they posed a safety hazard to both the aircraft and pilot. The then current emergency procedures for a ground engine fire required the fuel switch light to be depressed, which would stop all engine rotation. Without engine rotation, the introduction of fire extinguishing agents into the aircraft intake would not be effective in suppressing the fire and would allow the fire to progress through aircraft. By deleting this fuel switch light step in the emergency procedures, fire extinguishing agents applied through the intake would be dispersed internally into the engine and extinguish the fire without further damage. Sgt Thomas submitted a technical order system (AFTO Form 22) publication improvement report to correct this potentially dangerous situation. Sgt Thomas' attention to detail and dedication to mission success eliminated a potential safety oversight that could have resulted in the destruction of a valuable asset or loss of human life. The professionalism displayed by Sgt Thomas has earned him **Fleagle Salute**.

The 6th Airborne Command and Control Squadron, EC-135, crew of **Captain Bill E. Betka, Aircraft Commander; Major Joseph H. Ferry, Jr., Mission Pilot; Captain Joseph F. Perotti, Navigator; and Technical Sergeant Patrick J. Ryan, Boom Operator**, leveled off at FL 260 after an uneventful takeoff. A level off check by Capt Betka showed left system hydraulic fluid quantity dropping down through the one gallon mark — the limit of the gauge. Capt Betka noted good pressure still on the left system and quickly depressurized it to prevent loss of any remaining fluid. TSgt Ryan visually inspected the wings, but noted no leakage. A navigation leg was accomplished to burn fuel, and Capt Perotti directed the aircraft to the designated area to adjust gross weight. Maj Ferry computed landing data in anticipation of partial speed brakes, no antiskid protection and only reserve brakes. Capt Perotti coordinated with the 6 ACCS Supervisor of Flying, relaying information and instructions. The left system was repressurized and the landing gear lowered and the system depressurized again. At the final approach fix, Capt Betka repressurized the left system and pulled the anti-skid circuit breakers. Capt Betka, using optimum pilot technique, accomplished a perfect landing with maximum use of reverse thrust while Maj Ferry, anticipating brake failure, was ready to apply the copilot's brakes. Because left pressure stayed in the normal range, Capt Betka was

able to clear the runway before shutting down, so the runway could be left open. Capt Betka, Maj Ferry, Capt Perotti and Sgt Ryan showed great skill and crew coordination, responding smoothly and efficiently to a potentially catastrophic situation. The teamwork and professionalism demonstrated by this team have earned them a **Fleagle Salute**.

As an Aerospace Ground Equipment pickup and delivery driver, **Sergeant Billy D. Bell**, 27th Equipment Maintenance Squadron, 27th Tactical Fighter Wing, Cannon AFB, New Mexico, has repeatedly used quick thinking and a watchful eye for safety to avert potentially dangerous situations such as work area hazards, for example, an A/M32A-60A leaking fuel (which he quickly removed from the flight line) and improper connections of an MK-3A Electric Hydraulic Test Stand. After delivering the MK-3A to an aircraft maintenance dock, Sgt Bell observed the hydraulics specialist having trouble plugging the MK-3A power input cable into the dock power receptacle. When asked by Sgt Bell if assistance was required, the mechanic responded that at first the plug would not go into the receptacle, but did go eventually. To ensure that all was okay, Sgt Bell removed the plug from the wall outlet and discovered that it had been forcibly inserted backwards.

He immediately called the mechanic aside and explained that trying to operate the unit with the reversed power potential would not only have damaged the equipment, but severely shocked the user. He then instructed the mechanic on the proper way to insert the MK-3A plug. Sgt Bell's quick and continued alertness prevented possible serious injury and equipment damage and earned him a **Fleagle Salute**.

Technical Sergeant Alan W. Holcomb, 4th Aircraft Generation Squadron, 4th Tactical Fighter Wing, Seymour Johnson Air Force Base, North Carolina, was performing a thru-flight inspection on an F-4E aircraft. During the course of his inspection, a small amount of fuel was discovered seeping out of door 22. Although the wipe of a rag would have made the seep undetectable, Sgt Holcomb took it upon himself to lower door 22 and perform an inspection of that area to see if he could locate the source of the seepage. He discovered the drain line coming from the fuel manifold above the fuel shutoff valve had worked loose. Had this gone undetected, the "B" nut would have continued to loosen causing door 22 to fill up with fuel in a matter of seconds. This could have resulted in the loss of an aircraft and the possible loss of aircrew lives. This kind of dedication and attention to detail has earned Sgt Holcomb a **Fleagle Salute**.



NOW PLAYING!! How to ALMOST Stage a Disaster!!

SMSgt Dwight A. Morehead
155 TRG/NEANG

The setting: The early 1970's, somewhere in Southeast Asia at a munitions preload/assembly area, on a hot, humid, night. The actors: Munitions 461X0's and Weapons 462X0's, local nationals and supervisors. Scene 1:

The troops were all hurrying to get their quota of the munitions frag built for the next day's fighter sorties. They justified their need for speed with the rationale of the waiting card game, catching a few winks, or writing to the little lady at home. Besides, there was a WAR going on, somewhere! Right?

In their rush to get the bombs loaded for the night they tended to take a few short cuts that looked justifiable in their minds because of the WAR going on! One of these deviations from the norm was a procedure that involved the hoisting of multiple ejector racks loaded with fused, 500 lb bombs to a height of about 11 feet into the air while we waited for a tractor to pull a munitions trailer under the raised bombs. We had accomplished this procedure many times in the past and our predecessors did it before us. It was the norm and, besides, there was a WAR going on somewhere, right!?

As the airmen were waiting for the "shagger," trac-

tor driver, to pull the trailer around, a sharp snap cracked through the heavy night air. The forward cable on the overhead hoist had just broken! Down onto the concrete floor, three armed 500 lb bombs crashed down only seconds before the tractor was to pull through and less than three feet from two very scared airmen! The fuses had literally sheared off leaving exposed explosives laying on the concrete. Luckily, an explosion did **NOT** occur; and after the young airmen and supervisors collected their wits and said a few prayers, they picked up the pieces and proceeded to complete the nightly frag because there was a WAR going on! Right?

End of Scene 1. The WAR's over, the airmen have either gone on to jobs in the civilian sector or are completing their careers in the Air Force. But this is one incident I will never forget and even though it happened over 17 years ago, it seems as though it was



just yesterday. I was one of the young airmen operating the hoist that broke. And being young, I was not affected by the incident until years after the WAR had ended. It still sits in the back of my mind and will haunt me for the rest of my life. I keep relating to the "shouldn't haves" of this incident whenever I am fighting the smaller day-to-day wars of my present job, ORIs and UEIs.

WE "SHOULDN'T HAVE" —

1. Neglected safety for the sake of comfort.
2. Neglected our equipment for the sake of the WAR.
3. Most importantly, used the WAR as an excuse to take unnecessary risks!

DON'T take unnecessary risks for the sake of the WAR you fight every day because you may be your own worst enemy!!!!

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

During FY 89, Staff Sergeant Debra McKinnon, OL-D, 1839 EIG, 1928 CG, 56 TTW, MacDill AFB, Florida, singlehandedly reestablished and maintained an outstanding MacDill Motorcycle Safety Program. Upon learning there was no focal point for the program, she immediately assumed the duty of motorcycle safety instructor. Sgt McKinnon initiated actions to become the sole instructor certified to teach the Motorcycle Safety Foundation Course. When funding was not available to accomplish this, she obtained permissive TDY orders and attended the course at her own expense. Her desire to expand the program in order to accommodate all MacDill motorcycle riders resulted in five new certified instructors, five instructor candidates, and two levels of course instruction. She updated classroom materials, ordered new film packages, set up a filing system,

and coordinated class rosters and schedules, thereby laying the ground work for a comprehensive motorcycle safety course. Her experience and teaching skills have resulted in zero reportable accidents by the 140 students who completed her class.

Her knowledge of motorcycles has proven invaluable during investigations of two-wheeled mishaps, saving numerous hours normally expended on determining cause factors. Her dedication to the program ensured the base was prepared to implement Air Force directives 10 months ahead of compliance dates. All these duties were accomplished while Sgt McKinnon still performed her primary duties as a telecommunications equipment systems maintenance specialist. Sgt McKinnon's expertise coupled with her determination has earned her the TAC Outstanding Achievement in Safety Award.



**SSgt Debra McKinnon
OL-D, 1839 EIG
1928 CG, 56 TTW
MacDill AFB FL**



TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

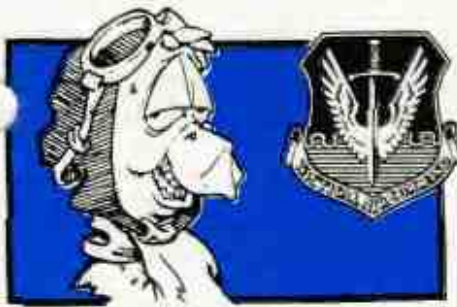
On 1 April 1989, the 430th Tactical Fighter Squadron was deactivated; and the aircraft, aircrew, and maintenance personnel were reactivated as the 64th Aggressor Squadron and 64th Aircraft Maintenance Unit. They immediately began transitioning from the F-16A to the F-16C aircraft, completing the conversion on 31 December 1989. During this transition period, the unit had NO Class A and B mishaps and experienced only one Class C mishap, which was attributed to material failure. At no time during this period did serious damage or injury to any aircraft or person occur. In achieving this record, the squadron and aircraft maintenance unit flew 3,402 sorties for 4,058 hours. The record is especially remarkable because it was accomplished in both the F-16A/B and C/D model aircraft equipped with a mixture of Pratt and Whitney F100-PW-200 and -220 engines and flown either by former F-5 Aggressors with very limited F-16 experience or by upgrading pilots competing in the demanding Adversary Tactics Instructor Course. As F-16C aircraft were acquired, 36 F-16A qualified pilots were converted locally to the F-16C. Added to the risk factor present during this period was the fact the Aircraft Maintenance Unit was

equally inexperienced in the F-16C. This outstanding safety record was achieved while not only conducting the high risk conversion, but also while the squadron and aircraft maintenance unit continued the Aggressor mission of providing credible enemy threat replication to the tactical fighter force both at Nellis and on the road. The F-16 Aggressors safely flew 970 sorties during two Red Flags, one Green Flag, and one Maple Flag as well as 340 deployed sorties in support of Dissimilar Air Combat Training at TAC F-15 units throughout the CONUS. Support was provided to the

USAF Fighter Weapons School, 422d Test and Evaluation Squadron, and F-15 units deployed to Nellis AFB for Red Flag. The mishap-free conversion of the Aggressors, two total fleet swap-outs in two consecutive years while continuing to fulfill the demands of the Aggressor mission, is testament to the safety conscious professionals of the 64th Aggressor Squadron and 64th Aircraft Maintenance Unit. This accomplishment has earned the 64th Aggressor Squadron and the 64th Aircraft Maintenance Unit the TAC Outstanding Achievement in Safety Award.



**64th Aggressor Squadron
64th Aircraft
Maintenance Unit
Nellis AFB, Nevada**



TAC TALLY

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

• (SUCCESSFUL/UNSUCCESSFUL)

Total			TAC			ANG			AFR		
FEB	THRU	FEB	FEB	THRU	FEB	FEB	THRU	FEB	FEB	THRU	FEB
	FY 90	FY 89		FY 90	FY 89		FY 90	FY 89		FY 90	FY 89
0	8	10	0	6	7	0	1	3	0	1	0
0	6	3	0	2	1	0	2	2	0	2	0
0/0	4/0	6/2	0/0	4/0	3/0	0/0	0/0	3/2	0/0	0/0	0/0
0/0	1/1	0/0	0/0	1/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0

TAC'S TOP 5 thru JAN 1990

1st AF	
CLASS A MISHAP-FREE MONTHS	
49	57 FIS
28	48 FIS
9	325 TTW

9th AF	
CLASS A MISHAP-FREE MONTHS	
57	507 TAIRCW
37	1 TFW
28	4 TFW
24	347 TFW
15	354 TFW

12th AF	
CLASS A MISHAP-FREE MONTHS	
29	24 COMPW
26	355 TTW
25	366 TFW
23	405 TTW
17	388 TFW

ANG	
CLASS A MISHAP-FREE MONTHS	
231	110 TASG
206	138 TFG
188	177 FIG
164	114 TFG
147	155 TRG

AFR	
CLASS A MISHAP-FREE MONTHS	
114	482 TFW
104	924 TFG
92	906 TFG
66	507 TFG
53	917 TFW

DRUs	
CLASS A MISHAP-FREE MONTHS	
161	552 AWACW
31	USAFTAWC
17	28 AD
3	USAFTFWC

CLASS A MISHAP COMPARISON RATE

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

TAC	FY 89	1.7	2.7	3.0	3.2	2.6	2.4	2.3	2.9	2.6	2.5	2.6	2.4
ANG	FY 90	1.8	2.8	2.7	3.0	2.4							
AFR	FY 89	0.0	0.0	1.5	2.3	2.8	3.1	3.2	2.8	3.0	3.6	3.2	3.3
Total	FY 90	0.0	0.0	1.6	1.2	1.0							
	FY 89	0.0	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	6.1	5.0							
	FY 89	1.2	1.8	2.5	2.8	2.5	2.5	2.4	2.7	2.5	2.6	2.6	2.5
	FY 90	2.4	2.5	2.7	2.7	2.2							
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

