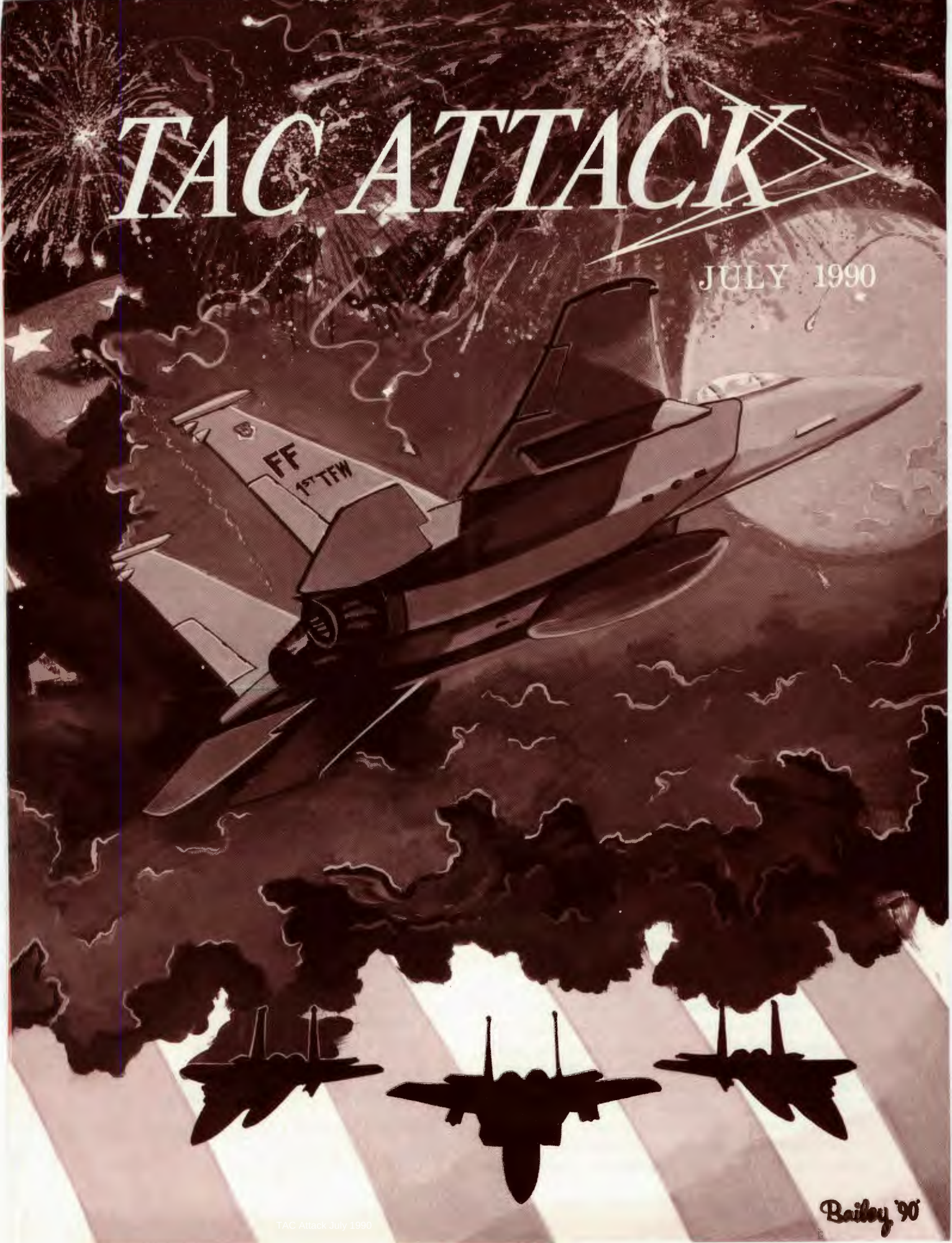
TAC ATTACK
JULY 1990
FF
1ST TFW
Bailey '90

ANGLE OF ATTACK

Angle of Attack Jack Gawelko, Colonel USAF Chief of Safety

School's out and we now have a lot more folks roaming the area looking for employment. Both high school students and those home from college for the summer are finding temporary jobs at our bases. They bring with them enthusiasm and bright minds eager to learn. But for supervisors and coworkers, they bring a new challenge—how to safely integrate these new talents into the work force. In TAC we are accustomed to working with employees who already know how the work should be done—safely, IAW the regs, T.O.s, local procedures, and the training they received both at tech school and while on the job. But most of the summer hires won't know that "IAW" stands for "In Accordance With," nor will they be familiar with which regulations or local procedures routinely apply to their work. For example, a sign saying "No POVs Allowed" won't necessarily stop one of them from taking what appears to be a good short-cut across that unopened expressway (you know it as a runway) to get to the building you told them to meet you at. Because they lack the background experience, we must ensure we give them the extra details, information, and guidance which we have learned over the past years. That, coupled with close supervision for the first month or so, should ensure their learning experience will remain positive for both you and for them.

This is similar to the challenge we face when an aircrew member arrives at his first operational TAC flying squadron. Although they have already completed basic flight training and completed a check-out in the aircraft, their experience in this aircraft and the way we do it in TAC is very limited. So once again we must be extremely careful how we give advice to these fresh slates of knowledge. Remember, from the viewpoint of a Second Lieutenant, the words of an instructor Captain appear to be etched in stone. They have been in the past and they will be in the future. Therefore, be sure the words you are etching are appropriate, accurate, and thorough.

But what about the experienced folks? Do they pose any special challenges to supervisors or to each other? You bet we do! We have talked about it before, but it is still showing up as a major contributor in too many mishap reports. I refer to it as "Excessive Professional Courtesy." It is when you assume that the individual who is senior in experience to you and is flying on your wing, flying in your airplane, or working with you on the ground is obviously as capable as they come. So if they are a little bit out of formation or not doing it quite by the numbers, it's no sweat—they know what is supposed to be done and will eventually do it right. Well, not so folks! If you are the flight lead or you are the primary crew chief working on your airplane, it is your **responsibility** to correct any individual who is not doing what they are supposed to do. If you don't correct them, no matter who they are, then you are not in charge and they might as well give you some other job to do. A lot of our problems in this area occur when experienced aircrews are flying together in a flight or in the same airplane. Mishap boards have heard such comments as: "I thought they could hack it," "They knew the correct position and I thought they would get there," or "I thought they must know what they're doing; they've got 'a thousand hours'." So the next time you are placed in charge and feel the pressure to extend some "Excessive Professional Courtesy," remember the Air Force is paying you to lead—so earn that pay!

Have a happy 4th of July, Pardner.

Jack Gawelko

JACK GAWELKO, Colonel, USAF
Chief of Safety

TAC ATTACK

DEPARTMENT OF THE AIR FORCE

FEATURES

DEPARTMENTS

TAC SP 127-1

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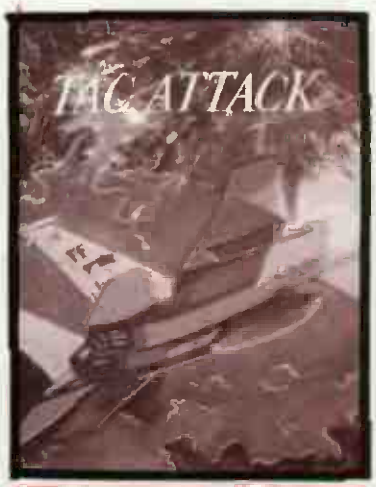

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GEN ROBERT D. RUSS
COMMANDER

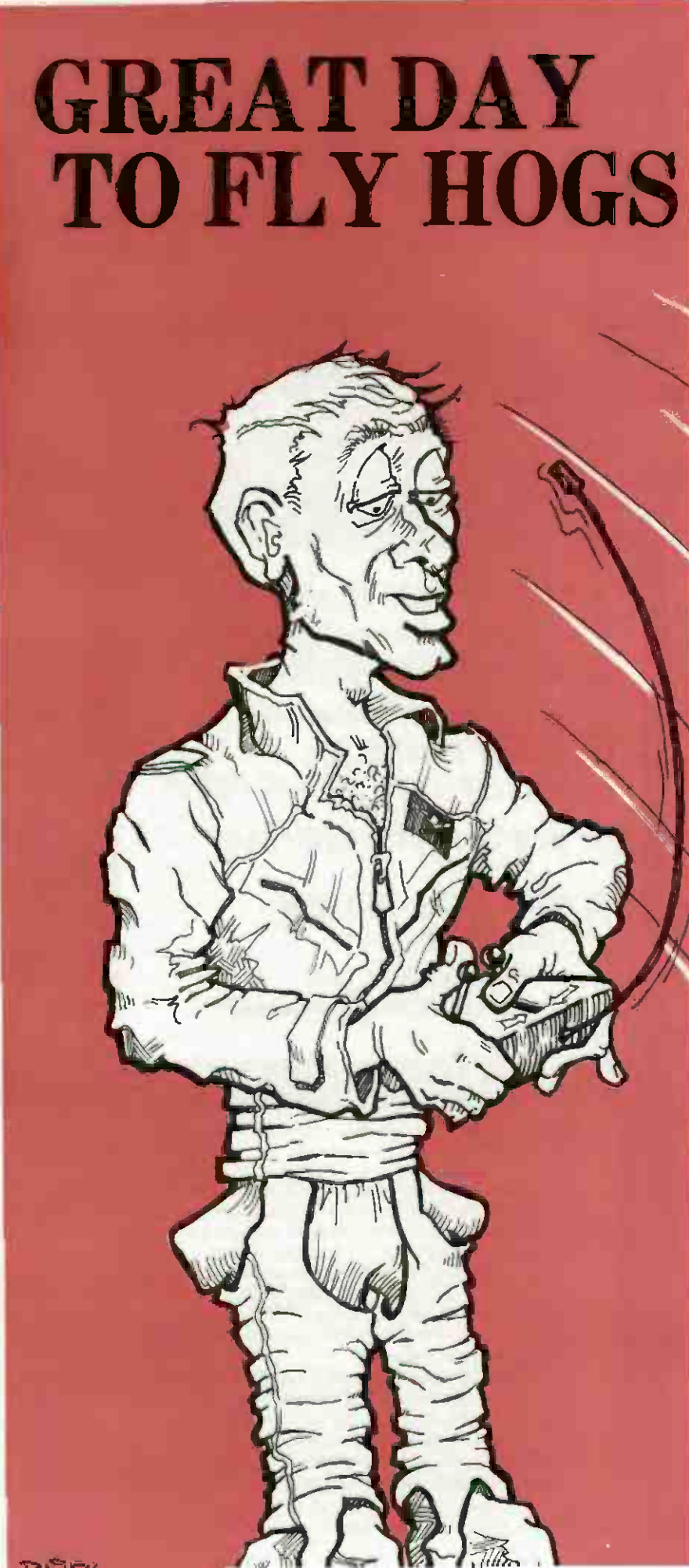
COL JACK GAWELKO
CHIEF OF SAFETY

LT COL "HAP" TUCKER
EDITOR

JANET GAINES
EDITORAL ASSISTANT

SRA MARK BAILEY
ART DIRECTOR
STAFF ARTIST

GREAT DAY TO FLY HOGS



Major Mick Dove
354 TFW
Myrtle Beach AFB SC

THERE I WAS, a great day to fly Hogs—the middle of winter—great vis underneath an overcast that went from 2000′ up to around 10,000′. The Hog likes the cold weather today and flies less slow than usual. At 360 knots on the deck, not much, but at least it's a good looking airplane. I was still just a wingy then. I was doing well and must have been viewed as dependable because all of the "Old Heads" had stopped hammering on me. I was on the wing of an Old Head whom I'd flown with a lot before. We flew well together. Brief, ground ops, and departure were uneventful. We broke out of the wintry overcast at medium altitude and were en route to the MOA for a little 2 v 2 against some electric jets.

The next thing I knew, we're blasting (so to speak) down the center radial, heads on a swivel . . . Fox II kill, man on the left. Fox II kill, man on the right. "Two, you see 'em?" "Nope." "Well, let's break or something." This went on for several engagements. We'd see them after we were morted. Finally, lead said on fox mike, "Come on you dirt bags, fight like men." Next engagement, guns, guns, guns, kill, hog on the left. Oh, I hate it when that happens. Disregard previous. Then lead calls "bingo." But, I've still got plenty of gas. On fox mike, lead says, "Come on two, let's get out of here and go fly where real men live. Two go wedge. Let's look for a hole." Not long after that, we found a hole, sort of. Looks awful murky. Lead's in a tight circle thinking it over and I'm hawking him from above waiting to see which direction he is going to commit to. He asks if I'm ready and I reply, "Two," and think to myself "at least I think so." I've got my nose real high, just hanging there until he commits. He calls dive, dive, dive, and down we go.

Lead buries his nose and pulls it around hard. I roll on my back to keep him in sight and say to myself, "Is this really a good idea?" I don't answer myself and start to pull down hard to stay in. Plenty of altitude, not much airspeed. And yes, the flying speedbrake will accelerate if you point it straight down. About then, lead does a hard turn reversal and now I'm pointing the wrong way. Not a lot of turning room in here. No big deal, I check my altitude, yep, I've got plenty. I unload and pirouette around the axis (lead taught me this a couple of rides earlier), and I roll out back in position. Still real nose down. All of a sudden, I see lead swap ends and say, "Ah, this ain't going to work." Woosh, he passes me going up and I'm going down. Down, like you read about.

GREAT DAY TO FLY HOGS

Now the alarm goes off. Recover. Right then Poof, smack into the wintry overcast. Still no big deal. UPT flash back - RCR (recognize, confirm, recover). I come into the cockpit expecting to see a real nose low unusual attitude, Yep, that's pretty ugly, but doesn't look quite right. Oh yeah, one more thing. No INS today, HARS only. You know the attitude platform that can precess during maneuers like BFMing F-16s. So I cross reference the standby ADI. Not even close. Not quite a big deal yet. I quickly check my altitude. You guessed it. I'm 500 feet below a mountain top that's got to be right about here. Big deal. No time now. Roll the main ADI straight, that is the one that costs more, and pull like mad. I'm really pulling on the pole and think to myself, "I didn't know the old Hog could pull this many G's. Shut up and keep pulling." About now I get the chopped tone, stall warning. Great, here comes terra firma and I've got to release back pressure. Somewhere prior, I instinctively went idle and boards, UPT's great. Not a lot of vision left. Lots of tunnel vision. I can't see much more than just the HUD now. Apparently around here, after reconstructing it in the debrief, lead is asking me where I am. I'm so "G'ed" up my ears don't work.

Then all of a sudden there it was. Out of the murky gooo, **trees. OH BOY, IS THIS GOING TO HURT!** Every part of my body froze solid. I don't see the trees now, I don't think I'm dead, but there's a lot I'm not sure about right about now. The G's are relaxing. Let's try to find myself. I had frozen my body position waiting to smack the ground. Now it looks like I'm on my next unusual attitude recovery. I did not have a good sense of which way was up when this all started—now I don't have a clue. Power up, boards in. Roll the main ADI back to level. Man I can't believe I got the nose up this high. Can't be right. Got the main ADI level, let's check the needle and ball. Where are they? After another couple of unusual attitude recoveries, or just one real big one later, I was going up hill under control. At last I break out of the overcast into a beautiful day, after a fight which lasted forever and took everything I had. Man it was a pretty day on top of the clouds. I wondered what all of my friends on Wall Street were doing right about now. Now all at once, I start getting scared, guess there hadn't been time earlier and my body felt there was something it should do. When I found lead, I don't know who was happier to see whom. No, I was. I never told him what happened.

Well, what has stayed with me over the years from this little ride, other than the sight of those trees I see from time to time in my sleep. First, an easy one. Just cause I'm in good VMC doesn't mean I'm not going to need my instruments unexpectedly. Keep up with the ADIs and anticipate when they might need to be caged or fast erected. The next two lessons are less straightforward. Secondly, I

Then all of a sudden there it was. Out of the murky gooo, TREES!

was out of control, well below the magic 10,000 feet. I can only guess as to how low I bottomed out, and I don't like to guess when it comes to my life. But not once did the thought of ejection come up. I just rode it out and hoped for the best. This one had a happy ending, but I'm sure many guys have bought the farm while hoping for the best. What about you? Out of control below 10,000' AGL, have you ever really thought through that decision other than in the sim? And finally, judgment. Was it wrong for lead to try to get underneath the weather? Was it wrong for me to follow? Nope, that's part of flying Hogs. Each jet I'm sure has some unique dilemma it must face occasionally. And if you never did anything that wasn't an absolute certainty, you wouldn't even fly heavies.

Think twice when you need to, be smart and go for smart mission accomplishment. It's a great cause.

THE KOREN KOLLIGIAN, JR. TROPHY FOR 1989

The Koren Kolligian, Jr. Trophy was established in 1957 in memory of First Lieutenant Koren Kolligian, Jr., declared missing in the line of duty off the coast of California on 14 September 1955. The Kolligian family established this memorial because of Lieutenant Kolligian's great feeling for the Air Force and love of flying. The award recognizes outstanding feats of airmanship by individual aircrew members. The trophy is awarded annually to the USAF aircrew member who most successfully coped with an in-flight emergency situation during the preceding year.

CAPTAIN BRIAN D. MACLEOD
162d Tactical Fighter Squadron
178th Tactical Fighter Group
Springfield, Ohio

Then Lieutenant Brian D. MacLeod had just descended on the wing through weather in an A-7 during recovery to home base. While in the clear below the weather, the flight leader split him off for a single-ship instrument approach, but then Lt MacLeod's aircraft radio began an increasing static hissing noise. This was immediately followed by a blinding flash and a loud bang. A lightning bolt had entered through the canopy, passed through Lt MacLeod's helmet, head, body, and exited out the metal survival seat kit attachments. All aircraft antennas were damaged and the ALR-46 RWR amplifiers were destroyed.

Lt MacLeod's muscles involuntarily contracted, leaving him stunned and temporarily blinded. Through extreme mental effort, he was able to level the aircraft and establish an orbit about a tower until his flight leader rejoined with him. Exhausted and disoriented, he then flew on the wing for a formation approach to final and a single-ship landing. During the landing roll, he was initially unable to raise his legs to put his feet on the brakes. Again through intense mental effort, he was able to move his feet to the top of the rudder pedals and safely stop the aircraft. Lt MacLeod turned off the runway and shut down the aircraft, but was unable to exit the aircraft without assistance.

The outstanding determination and airmanship demonstrated by Lt MacLeod averted a potentially disastrous situation and saved a valuable TAC combat aircraft.

The Air Force Inspection and Safety Center has announced the TAC recipients of the 1989 USAF Safety plaques for flight, missile, explosives, motorcycle and nuclear surety.

FLIGHT safety plaques are sent to Air Force organizations below air division level for meritorious achievement in mishap prevention. The TAC recipients are:

4 TFW Seymour Johnson AFB NC
57 FWW Nellis AFB NV
58 TTW Luke AFB AZ
552 AWACW Tinker AFB OK
507 TAIRCW Shaw AFB SC
318 FIS McChord AFB WA (Deactivated)
366 TFW Mountain Home AFB ID
57 FIS Keflavik IC
1 TFW Langley AFB VA
347 TFW Moody AFB GA

MISSILE safety plaques are awarded to organizations below MAJCOM level for outstanding achievement and contribution to missile safety. The TAC recipients are:

33 TFW Eglin AFB FL
USAF ADWC Tyndall AFB FL

EXPLOSIVES safety plaques are sent each year to organizations below MAJCOM level for outstanding achievement in, or contribution to, explosives safety. The TAC recipients are:

23 TFW England AFB LA
USAF TFWC Nellis AFB NV
4 TFW Seymour Johnson AFB NC
831 AD George AFB CA

MOTORCYCLE safety awards are presented to organizations below MAJCOM level for outstanding achievement in, or contribution to, mishap reduction and safety education in motorcycling. The TAC recipient is:

836 AD Davis-Monthan AFB AZ

NUCLEAR SURETY plaques are awarded each year to organizations below MAJCOM level for outstanding achievement in, or contribution to, nuclear surety. The TAC recipient for 1989 is:

347 TFW Moody AFB GA

THIS IS A SIGNIFICANT ACCOMPLISHMENT FOR EVERYONE WHO CONTRIBUTED TO TAKE GREAT PRIDE IN—WELL DONE!

1989 USAF SAFETY AWARDS

MISHAP PREVENTION

It's Time to Take a Hard Look

Capt John T. Calvin
HQ TAC/LGMF-16
Langley AFB VA

The newspapers are filled with pictures of airliners crashing, major oil spills, or trains derailing. Sometimes it seems as if tragic accidents are just a part of the price we pay for living in our high tech and fast paced twentieth century. Major accidents happen — or do they?

As a nation, scientific and rational, we were not inclined to accept a "c'est la vie" answer, "that's life." We were spring loaded to the "let's do something" position. We were convinced that we could and should prevent future mishaps. Lower the rate — save lives.

As a young maintenance officer, my first exposure to an aircraft mishap grabbed my attention like nothing before in my Air Force career. It caused me to realize that each time I supervise an aircraft maintenance activity, or sign an exceptional release, or certify training, I become part of a chain of events. A chain with the potential to result in either mission success or disaster. It wasn't a new idea. But I felt it with a new force. It helped me realize the importance of working carefully in the business end of the Air Force where we prove our ability to do the mission and where the margin for error is often very small.

A couple of years later, I served on my first mishap investigation board. I saw firsthand how the details of the mishap were scrutinized. If you have ever been on a board or have been in a unit after an aircraft goes down, you know the feeling.

"I did a good preflight." "Didn't I?"

"I did a thorough Red X inspection." "Didn't I?"

"I had the right people on the line." "Didn't I?"

"There can't be any FOD, an untorqued bolt, misrigged flap, a repeat engine write-up." "Can there be?"

I'm writing this article after yet another Class A mishap. At first, the details seemed very important. On reflection, I know that the next mishap will probably be caused by a different chain of events. But that chain can be broken. You or I could be the ones to do it. We've seen it too many times before — **if only** the engineer had stood his ground — **if only** the supervisor had slowed the pace — **if only . . .**

My point is simple. Ask yourself those tough questions now. Then do something!!! There are specific actions we can all take right now, both supervisors and technicians.

Supervisors. If you know of a

I become part of a chain of events, a chain with the potential to result in either mission success or disaster.

bad procedure, then work to fix it. Are there training deficiencies? Provide the needed instruction. Is the pressure on the troops too high? Filter it. Provide the proper emphasis and perspective — the proper balance between mission accomplishment and acceptable risks.

Technicians. If you are unsure of your technical ability, seek training. Have you lost the sense of urgency and importance of your job? Remember that your work, each job you complete, each Red X you sign, is your personal guarantee of the airworthiness of the aircraft — and the safe return of its crew.

Do you know of any detail that could contribute to a mishap? If so, highlight it now so it can be corrected or procedures can be modified until it can be corrected. Then there shouldn't be a need for a mishap board to be formed at all. They won't need to ask those tough questions or to look for what should have been corrected — because we will have already raised those questions and dealt with them.

Smart mission accomplishment — solving the problems before they impact the mission. Do it right. Do it now. Work safe - fly safe.

TAC AIRCREW OF DISTINCTION AWARD

Lt (USN) Derek P. Rydholm
308 TFS, 31 TFW
Homestead AFB FL

Lieutenant Derek P. Rydholm, a Navy Exchange Officer, was number three of a four-ship F-16 surface-attack tactics mission. During let down into the low level structure at 3,000 feet, 500 KTAS, and 10 degrees nose low, the right inboard half of the leading edge flap (LEF) departed the aircraft. This left the outboard half in a 90 degrees up configuration. His F-16 snap-rolled right to 130 degrees of bank accompanied by heavy vibrations. Lt Rydholm reacted immediately and applied left roll inputs. The aircraft began a slow left roll to wings level, but maintained an excessive right rolling tendency requiring an excessive left stick pressure. Lt Rydholm recovered the aircraft, started a climb to 15,000 feet, and turned south toward Homestead AFB, which was 75 miles away. A visual inspection by his wingman confirmed LEF damage and damage to the right slab. After accomplishing emergency checklist procedures, which include maintaining 10 degrees AOA or less, he slowed the aircraft to 290 knots to attempt to alleviate some of the fatiguing right roll. En route to Homestead, it was decided the right fuel tank should be jettisoned to increase aircraft stability. He made several attempts to jettison the tank, but the tank remained with the aircraft.

Lt Rydholm battled the constant right roll for 50 minutes while he burned down fuel to landing weight. Fuel burn-down was very time consuming because any acceleration caused aircraft buffet and any deceleration caused AOA to increase above 10 degrees. A controllability check was accomplished, and it was determined that his approach and landing speed would be 210 knots minimum. Even with a 15 knot crosswind and increasing right arm fatigue, Lt Rydholm executed a flawless straight-in approach and uneventful landing.

Lt Rydholm's quick reactions, expert airmanship, systems knowledge, and stamina prevented the loss of a valuable TAC resource and earned him the TAC Aircrew of Distinction Award.

TAC AIRCREW OF DISTINCTION AWARD

2Lt Leonard W. Isabelle
162 TFG (ANG)
Tucson AZ

Second Lieutenant Leonard W. Isabelle, an F-16B course pilot, was number four on a day air refueling/intercept sortie. After the third intercept, Lt Isabelle noticed the throttle was binding. He set 80 percent power and headed for home. With input from his IP and the SOF, Lt Isabelle planned to fly a simulated flameout approach (SFO). Approaching high key, Lt Isabelle was unable to pull the throttle to idle. The throttle was stuck at 80 percent. Realizing that 80 percent RPM was too much power for a safe approach, Lt Isabelle orbited at high key while discussing the emergency with his IP and the SOF. A decision was made to accomplish the "thrust too high for landing" checklist. At high key, Lt Isabelle shut off the fuel master switch. Approaching low key, Lt Isabelle realized the engine was still producing thrust due to residual fuel and had to adjust his pattern for the higher air speed and altitude at low key. Through superior skill, Lt Isabelle maneuvered his now flamed out aircraft to a safe landing.

Lt Isabelle displayed excellent airmanship under a highly stressful situation with only 35 hours in the F-16 and, thus, earned himself the TAC Aircrew of Distinction Award.

What Makes a Great Safety Magazine

Maj Don Rightmyer
Former Editor TAC Attack
16 AF
Torrejon AB SP

I was sitting at my desk in TAC Safety one day, busily working on editing an article for one of the upcoming issues. The phone rang and I answered it in my usual cheerful voice,

"*TAC Attack,* Major Rightmyer speaking."

The person on the other end, a major in an A-10 unit, asked if he could speak to the editor of *TAC Attack,* and I informed him that was me. He then proceeded to inform me in no uncertain terms how he thought I could make the magazine better for him and his fellow pilots to read. His main point was that we didn't print enough "There I Was . . ." accounts, what he referred to as "war stories."

I immediately agreed with him that personal accounts of experiences that TAC aircrews had lived through were not only the most interesting articles for our readers, but they were also absolutely the best way to put into practical application many of the things we had all read about and been lectured on during wing flying safety meetings, safety days, upgrade training, etc. I explained to him that the reason we didn't print more of those types of articles was that we simply didn't get that many submitted. In fact, I don't ever remember rejecting a first-person story that I was sent. None.

Well, my friend on the other end of the line didn't want to be "confused with the facts." He either didn't hear me clearly, or he hadn't finished the agenda he had called me with. He continued to tell me how much he and his "buds" like reading those "blood and guts" type of stories and I ought to put more of them in *TAC Attack.* I continued to agree with him. Then he stepped over the fine line of discretion.

"I'll just tell you the truth," he said, "We all think . . . (deleted—the name of a sister service's magazine which shall remain nameless) is better than your magazine. They have a lot more "war stories" and I think you ought to put as many as you can into yours."

Having had two separate tours working in the IG complaint business, I though I'd always done pretty well with controlling my inside thoughts and feelings. But this day, I let him have it.

"Wait just a minute. You can like best whichever magazine you prefer. But I've been listening to you tell me for the past 15 minutes how I should put more There I Was —type articles in *TAC Attack.* I'd be glad to, but I don't get that many. **HOW MANY ARTICLES HAVE YOU WRITTEN FOR THE MAGAZINE?** You haven't done any since I've been here."

There was sudden silence on the other end of the line. The facts had finally seemed to sink through. All I heard was a little sputtering on the other end of the phone, so I continued. "Now, we both agree about the kinds of articles that you, your fellow aircrew members, and most of our readers like the best. The only way I can print those kinds of articles is for guys like you, out there in the field, flying your A-10, F-16, F-15, -135 or whatever on a daily basis and racking up those personal experiences that you've survived to tell us your story. Without those kinds of personal accounts being submitted, I can't print them."

"Now, when can I expect an article from you?" I asked. "Yeah, I guess I've had a few things happen which I could write up for

you. It'll take a while, but I guess I could do it."

That was early in 1986 and I'm still waiting for that fellow to write an article for *TAC Attack*. The present editor, Lt Col Hap Tucker, is waiting as well. There's no doubt that your experiences, those near-misses that you've had are the most interesting kind of safety-oriented stuff to read. We had some great ones during my stint as editor from 1985 to 1989.

— F-111A crew that had a near-miss with a B-52 on a night low level in Nevada—through no fault of either crew.

— A young F-16 pilot who made the correct decision to jump out of his Falcon only milliseconds before it completely disintegrated around him.

— An F-4 pilot who experienced the disorientation caused by a sloping deck of clouds which nearly led him to drive into the ground during marginal weather conditions.

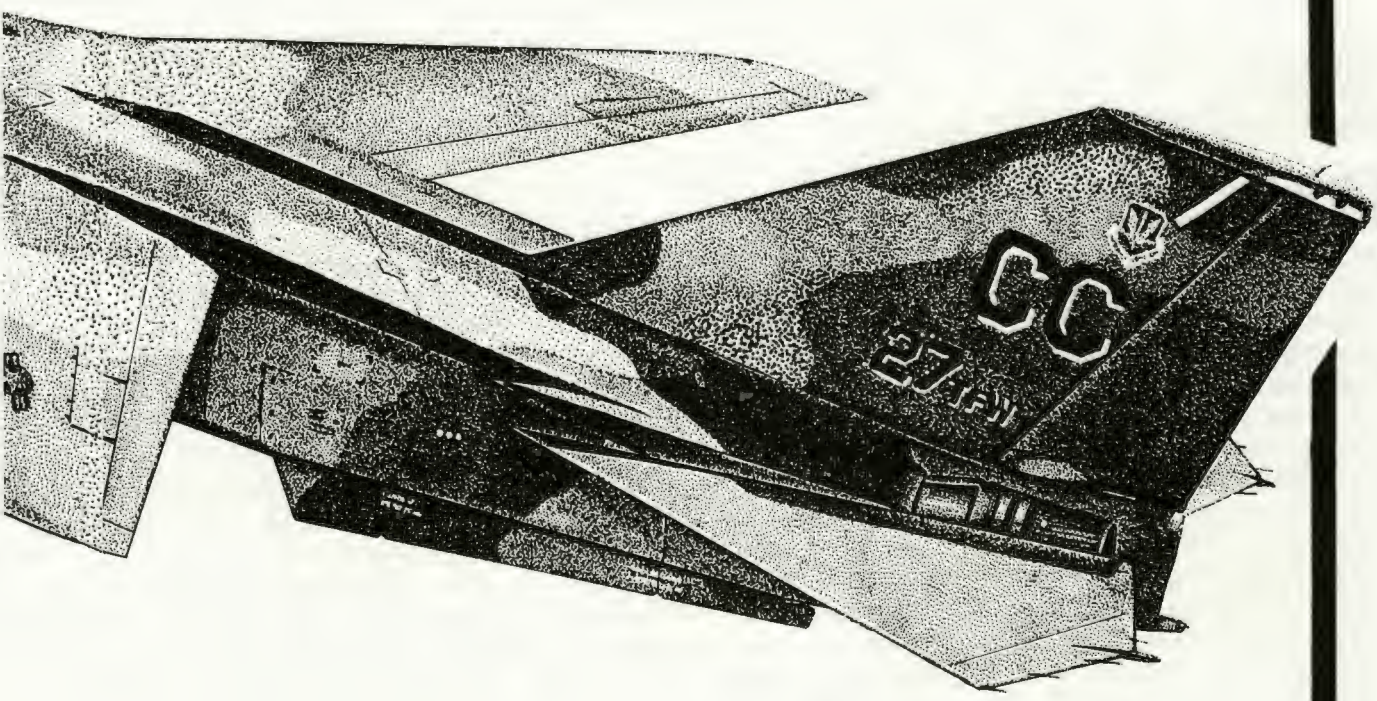
— An RF-4 crew who made the decision to land their Phantom on a small mountain top civilian runway after they experienced an in-flight aircraft fire which killed all their electrics and instruments.

— An F-105 pilot who had to step over the side when his jet decided to quit flying.

Those are just a few of the stories we were able to share with the *TAC Attack* readers because guys like you and me out there in TAC were willing to share our story with others. Don't let someone else have to make the same mistakes or have the same misadventures you have in order to learn the same lessons. Take just a few minutes at the squadron or at home and jot down an experience you've lived to tell about. It will help you to better grasp what you learned and pass it on to the rest of us as well. All of us need to continue learning from each other, and there are always a lot of new folks out there who need to learn from those who have experience.

F-111 AARDVARK

27TH TAC FTR WING



Spatial Disorientation —

Standard?

Capt David J. Jones
436 TFTS/SE
Holloman AFB NM

Do you still brief spatial disorientation as standard? I used to, but not anymore!

The first of two times I experienced spatial disorientation I was a brand new, freshly checked out Mission Ready wingman in the A-10, stationed at Myrtle Beach AFB, South Carolina. The Beach was a choice assignment; and I figured there basically wasn't anything I couldn't handle. After all, I was a single-seat fighter jock and nothing could get by me. On the first eventful day, I was blue four headed for BT-9 which is an over water range off the coast of North Carolina. The squadron weapons officer was leading the flight. Brief, start, taxi and takeoff were flawless. We flew low level to the range and set up a standard box pattern for level deliveries. The weather was great en route with some low haze caused by a high pressure system capping the region. Once over the water, however, I realized I couldn't really distinguish a solid horizon. Training rules require a clearly discernible horizon, but nobody else seemed to mind, so I assumed it must be there. Heck, I figured there were at least 4,000 hours of Hog time flying over this range, 4,100 hours if you included me, so it must have been okay. Our target was a group of three boats anchored on a reef several miles offshore. As per the local regulation, we over flew the target clearing for stray fishermen and then split up into the bombing pattern. It was difficult to see everyone through the haze, but I wasn't about to complain in the company of three of the most experienced pilots in the wing. The first several passes went okay, my bombs not quite as good as I normally could do, but I shook it off and continued. About the fourth pass, I realized I was falling behind number three and decided to cut him off next time around. After dropping my fifth long bomb, I recovered aggressively and followed my plan to cut number three off. Rolling out on downwind, I had trouble initially picking him up and upon looking right, realized I was almost abeam to the inside. Being the world's greatest wingman, I now made an aggressive bid to get behind him, never taking my eyes off his aircraft. While maneuvering back into position, something just didn't seem right and the hair on the back of my neck started to stand up. Crosschecking my instruments, I saw I was in about 150 degrees of right bank, 10 degrees nose low and about 400 feet above the surf, striving to get into position behind a boat. It took about 1 second (as best as I can guess) to correlate what I was reading on the gauges to what I felt. Pulling it all together, I recovered about 100 feet above the water. It took another half pattern to calm down enough to call a

KNOCK IT OFF.

I was lucky, and I know it.

Two years and six months later, now an experienced flight lead, I had my second experience with spatial disorientation. Leading my very last night range mission in the Hog before heading off to Holloman (to pass on my vast experience to fledgling young fighter pilots), we took off into a typical South Carolina spring night — moderate low altitude haze, 12,000 feet scud deck, scattered thundershowers, and no moon. No problem for the kid and, besides, my wingman was a highly experienced British exchange officer with over 2,500 hours in the worst weather in the world flying the Hawk and Tornado. The briefing was short, mostly "standard," including spatial disorientation. Start, taxi, takeoff and cruise en route were uneventful. After contacting approach for a letdown into the range, we were directed to hold south because things were running behind. Two flights were currently in holding and another flight joined the stack shortly after us. The standard 1,000 feet separation between flights was in use; and through the haze, the blinking red lights of anti-collision beacons seemed to be everywhere. During a left turn northbound, I realized I was spending a lot of time heads down in the cockpit trying to maintain our assigned altitude of 8,000 feet. Must be the haze I reasoned. Ten miles later, in a left turn back southbound, I saw three reddish lights coming towards me from above, in a descent. I figured it must be another "heavy" out of Charleston headed for nearby Shaw AFB, but the lights weren't moving, only getting closer. I watched the lights intently and could perceive no line of sight movement. Though I could feel my aircraft accelerating, I couldn't take my eyes off those lights. Getting the "hair standing up on the back of the neck" feeling, I crosschecked the instruments finding myself definitely descending and accelerating. My mind nagged to climb back to altitude, **but the visual picture said to continue or we'll get run over**. Pressing on, we passed directly in front of a three ship (the ersatz "heavy") who had been holding below us, bottoming out of our dive at about 5,000 feet. Quickly regaining my composure, I checked my drawers and climbed back to 8,000 feet. The only radio call made was from approach stating, "Oilman, check your altitude." Where was the mutual support from number two you might ask? He saw and felt the exact same thing. This time I simply said enough is enough for tonight and RTB'd.

Lucky again? You bet. Do I still brief spatial disorientation as "standard"? **NEVER!** ➢

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.

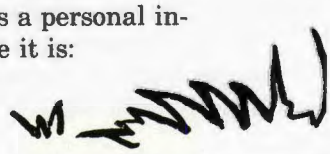
What kinds of articles are we looking for? You name it and we're looking for it. We can use your "There I Was" accounts of personal experiences where you or someone you know learned a valuable (and sometimes painful) lesson from which the rest of us can benefit. But, we're not just looking for the "bad 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 efficient 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.

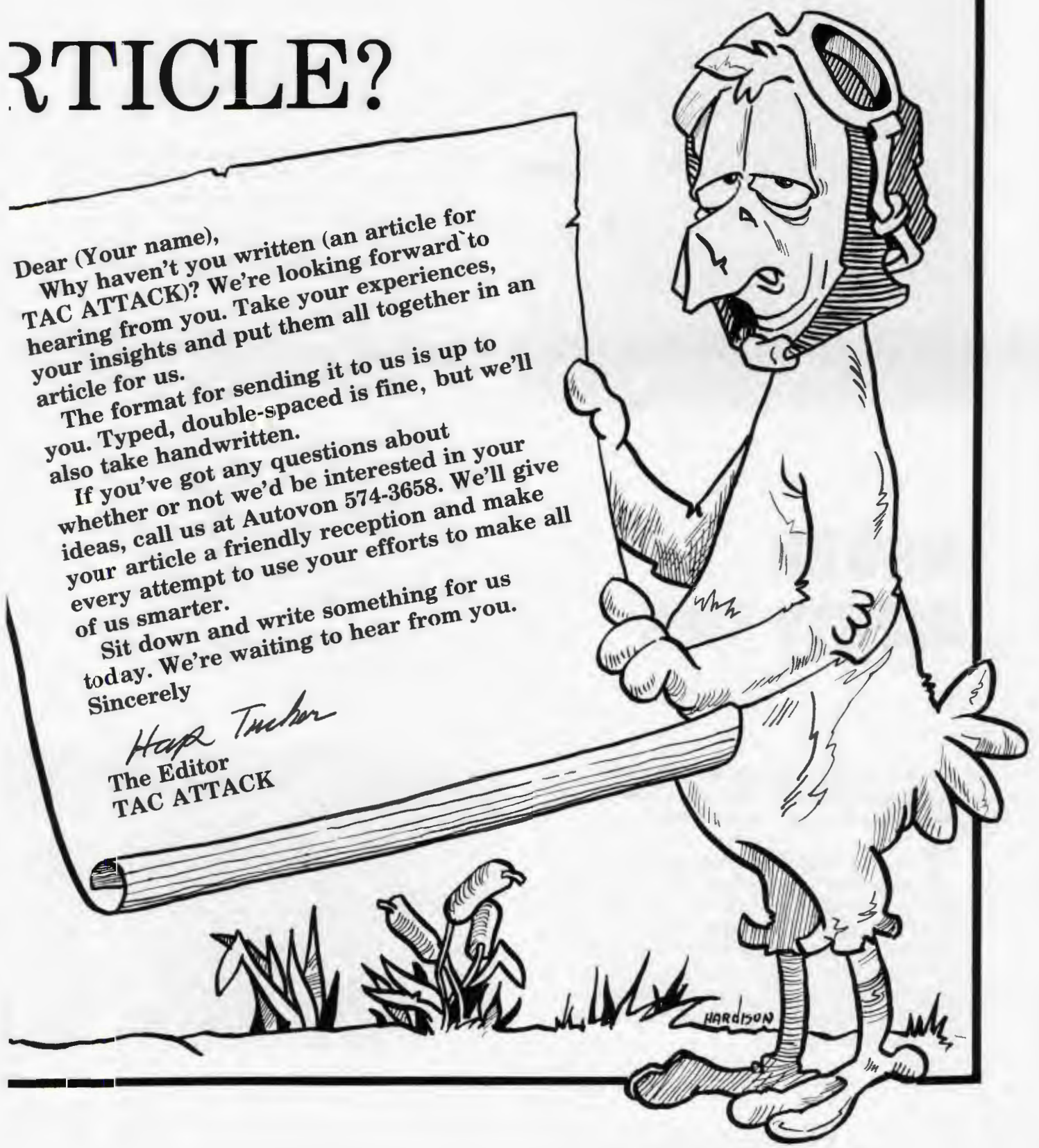
For you fighter jocks, (pilot, WSO, EWO or whatever) we need your thoughts on how and where we can fly tactically smarter (and safer as a result). Don't assume that what you're doing right is common knowledge to everyone else in the command. There are a lot of good ideas being used on a daily basis that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

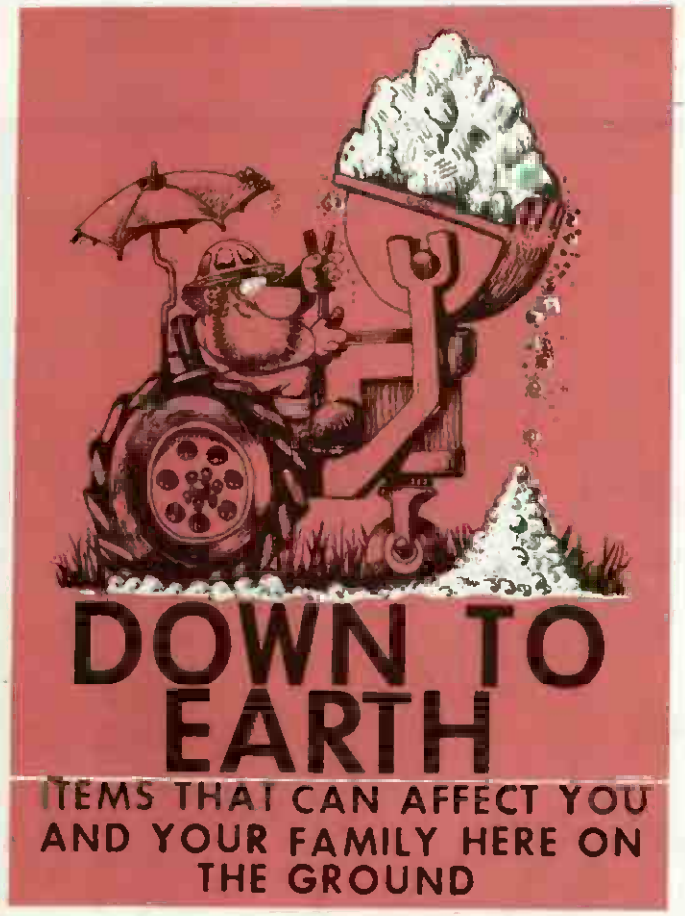
No one in TAC should feel left out from our "unofficial" staff of writers. I wouldn't even attempt to list all the career fields that are a part of the TAC team. If you haven't found an article in the magazine that hits your area of concern, it may be because you haven't written an article for us.

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
Hap Tucker
The Editor
TAC ATTACK
HARRISON



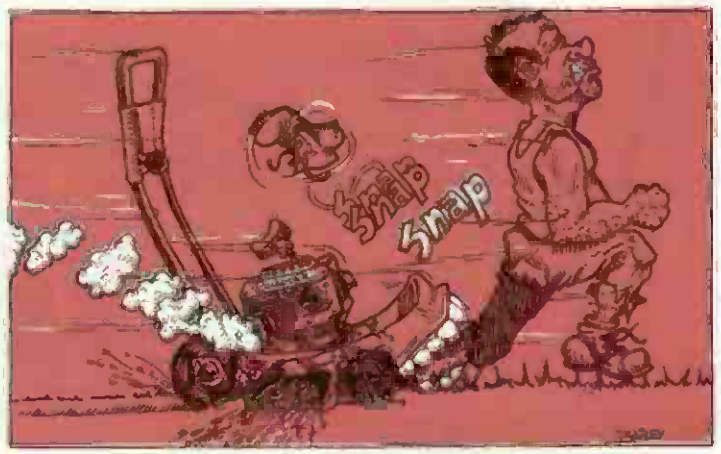
MOWER SAFETY TIPS

(There is an old saying that goes along with this particular time of the year, "He who carelessly his front yard mows, can rapidly come up short on toes.")

The point being. It's that time again—you can almost hear the grass growing, it's sprouting so fast. So, it would appear that a few safety tips on the operation of power lawn mowers are in order. No computer statistics are available to list the number of mower accidents that occur each year, but it goes without saying that folks do get hurt doing yard work. The following information, if used, can help prevent such occurrences:

- Inspect the area to be mowed before beginning. Clear the grass of stones, wire, glass and other debris which may become missile hazards.
- Keep small children, pets, your feet and hands clear of the mower's moving parts when starting.
- Wear shoes of some sort—preferably safety shoes. NEVER operate a power mower when barefooted.
- Keep in step with the mower. If you lag or let it pull you, you won't have full control over the machine.
- Always be sure of your footing on inclines. The steeper the slope, the more care is required—especially if the grass is damp. Don't pull the mower towards you down an incline, mow across the slope.
- Excessive cutting speed of the mower blade is dangerous—don't overspeed the engine by tampering with the governor.
- Never permit small children to operate a power mower. They may be smart enough, but they lack the physical strength necessary to handle the machine.
- Learn to disengage the clutch or stop the motor quickly in an emergency. Always secure the motor when finished.
- When grass is wet or it's raining, do not use an electric power mower. Also make sure an electric mower has its frame grounded through the cord.
- Disconnect the spark plug wire on the mower whenever working on it or unclogging the blades.
- Don't refuel a mower when the engine is hot. Also allow the mower to cool before storing it and ensure that it is stored in a well-ventilated area.

These guidelines will insure you of two things; a nicer looking lawn; and, the right number of fingers and toes. Give 'em a thought.




Fleagle
IT'S TH' 4th OF JULY.
WHY ALL TH' FIREWORKS, MACAW?
THAT'S RIGHT. I FERGOT ALL ABOUT IT.
WOULDN'T SEEM RIGHT NOT TO MAKE A LITTLE FUSS.
MACAW'S LOUNGE
HARRISON
CAN I HELP? HUH, CAN I?
I DON'T KNOW, FLEAGLE. REMEMBER LAST YEAR?
C'MON, I'VE LEARNED A LOT IN TH' LAST YEAR.
OKAY, I GUESS IT'LL BE ALRIGHT. HELP ME PUT THIS STUFF IN TH' STORE ROOM.
DARK IN HERE. I'LL STRIKE A MATCH SO WE CAN SEE.
NO!! NO MATCH! NO MAT...
BARROOM!
OOPS.

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

Howard Air Traffic Control Complex
1978th Communications Group
Howard AFB PN

During the early morning hours of 20 December 1989, Howard's Air Traffic Control Complex (control tower and radar final control facility) was faced with the ultimate military challenge in the form of Operation Just Cause. The Air Traffic Control Complex met the challenge head on, resulting in the safe, orderly and expeditious handling of over 18,000 aircraft operations from the control tower during the last days of December. This compared to a previous monthly average of 4,500 operations. For the first hours of the operation, aircraft were taking off or landing every 15 seconds. The radar final control facility expanded its operation to assume Air Traffic Control Center responsibilities for en route, approach, and departure control for the entire Republic of Panama. It handled over 2,000 aircraft in the last days of December compared to a normal monthly average of 325. Routinely, radar final control facilities only control aircraft established on final for the runway. Providing approach, departure, and en route services for all aircraft operations in Pan-

ama was many times more complex. Local and transient aircrews were extremely impressed with Howard's radar expanded role as documented in a report filed by a C-141 crew. The report recommended that during high volume traffic periods into and out of Panama, consideration should be given to climb and descend aircraft while under the positive control of Howard Center vice CENAMER Control. The radar controllers also worked as a team to train and certify 12 controllers who were assigned 5 days after the invasion to augment the 10 assigned radar controllers. The augmentees completed certification in minimum time. All controllers in both facilities worked at least 12-hour shifts throughout the hostile period. They handled a multitude of emergencies to include the aerial transport of wounded soldiers. From the tower, the opposite direction takeoff and landing operation was extremely complex during night operations. This was due to the unlit airfield and the mixture of aircraft employing night vision goggle procedures with aircraft not capable of this type operation. Two hot refueling and rearming points were set up on the airfield, as well as a casualty collection area and medical aid station. Parking space was at a premium; consequently, helicopter operations were being conducted from several off ramp areas including baseball diamonds and school yards. The mission was further complicated by the influx of ground handlers who were unfamiliar with airfield operations. Runway intrusions were rampant. Increased vigilance was required to ensure no vehicle/aircraft mishaps occurred. The impressive accomplishments and achievements of the Air Traffic Control Complex were made possible due to the quality training and cohesiveness of the people in each facility. Over fifty percent of the Howard controller force was dual rated and proficient in both facilities. Their preparation, training, safety consciousness, and professionalism paid off. The outstanding team effort resulted in providing superior air traffic services that ensured mission accomplishment during actual combat operations.

This superb effort continued during the period immediately following, when the entire air traffic system in Panama had to be reinstated. Howard controllers restored normal air traffic operations at Panama's international airport. They not only controlled aircraft, but assisted in reestablishing communications, power, and navigational aids at the airport. They also went to the Panamanian Center/Approach Control to help the Panamanian controllers transition to peacetime operations. They worked as liaisons between the military pilots and controllers at Howard and the Panamanian controllers. They also successfully negotiated for increased airspace and practice approach allowances. This resulted in military aircrews in Panama receiving safer, more expeditious air traffic services after the operation than they did prior to the beginning of hostilities. Their actions during and immediately following Operation Just Cause have earned the Howard Air Traffic Control Complex the TAC Outstanding Achievement in Safety Award.

TAC Personnel Who Have Made Noteworthy Accomplishments To Unit Effectiveness

MSgt Leo D. Beaucage
MSgt Thomas J. Omler
SSgt Steven L. Vandagriff
Sgt Ross D. Weidenhammer
A1C Terry J. Burke
37 TFW (Nighthawks)
Nellis AFB NV

Sgt Timothy F. Rutherford
SrA Michael T. Larsen
Amn Jonathan P. Mott
4 AGS, 4 TFW
Seymour Johnson AFB NC

Capt Joseph W. Blunt
333 TFTS, 355 TTW
Davis-Monthan AFB AZ

SrA Jonathan M. Johnson
4 AGS, 4 TFW
Seymour Johnson AFB NC

TSgt Douglas B. O'Dell
FTD 423, 3752 FTS
Bergstrom AFB TX

Capt Brian Vankouwenberg
8 TFS, 49 TFW
Holloman AFB NM

Maj Raymond R. Terry
1Lt Keith A. Schell
155 TRG (ANG)
Lincoln, NE

SrA William Goldsmith
9 TIS, 507 TAIRCW
Shaw AFB SC

Maj Sheldon C. Otto
2d Lt Jeffrey M. Kloster
155 TRG (ANG)
Lincoln NE

Major Dan Runyan
HQ TAC/SEF

We hear a lot these days about human factors and their involvement in aircraft mishaps. Overall, our mishap rates are trending downward, primarily due to improvements in hardware. As our aircraft are better designed, built, and maintained, the logistics causes of mishaps drop. But our pilot/crew factor mishap rates, the operations slice of the mishap pie, are not dropping. In fact, with the decrease in logistics factor causes, the proportion of ops factor caused mishaps is actually increasing. Some estimates place ops factor mishap involvement as high as 80 percent. The study of "human factors" tries to zero in on these mishaps, find out why they happened and, hopefully, come up with ways to avoid repeating those mistakes.

As a fighter pilot, I sometimes have a great deal of difficulty relating to this thing the experts

FULL IS R CLUE BAG

call "human factors." This subject seems more appropriate to a college psychology course than a fighter cockpit. But it has recently occurred to me that human factors is closely related to what fighter pilots have always called a "clue bag." The rest of this article will talk about clue bags, and how awareness and understanding of them can make us smarter and, therefore, safer and more tactically proficient aircrews.

Clue bags are something we in the fighter aviation business have always talked about. Some flyers have overflowing clue bags, others are only half full, and a few unfortunates don't even have a clue bag. But what are we really talking about? Clue bags can be known by many names - airmanship, the big SA (situational awareness), or just plain having your "act" together.

Nobody is born with a clue bag. They are issued to new fliers after completion of basic flight training. And everybody knows they are issued empty — all new flyers are clueless. Clue bags start to be filled during the fighter FTU's, get a little fuller after a few months in an ops squadron, and fill up rapidly with flight lead and instructor qualifications. And by the time a flyer completes fighter weapons school, he may have a couple of full clue bags. If that was all there was to understanding clue bags, they would be very easy to understand. But it's not that simple. You see, clue bags are very fluid. Clues can evaporate, leak out, and are easy to spill. So clue bags can lose their contents very quickly. The problem is, you can never really trust the full state of your clue bag, or your wingman's, or anybody's for that matter.

So how do clue bags get filled and stay filled? It's very simple — experience and training. A famous aviator once said, . . ."The best pilots are those who fly the most. . . ." There is nothing like time in the cockpit and sorties in the old logbook to fill a clue bag and keep it filled. But there are other ways that help: simulators, good ground training programs, and plain old self study of the dash one, dash 34, and MCM 3-1.

But like we said before, the problem with clue bags is that you


CLUE BAG INSPECTION, WEIGHT AREA
HUMAN FACTORS ARE WHAT FIGHTER PILOTS HAVE ALWAYS CALLED A "CLUE BAG"
CLUE BAG

HOW FULL IS YOUR CLUE BAG???

can't trust them. They are very prone to leaks and, before you know it, the clues may be spilling faster than they are being refilled. How do these leaks develop? There are lots of things that cause holes in clue bags. Long layoffs from flying, fatigue, illness, stress, problems at home, parties the night before, additional duties, PME/master courses, etc. All have the potential to rapidly deplete an otherwise full and secure clue bag.

Now that we know how clue bags are filled and emptied, what do we do about it? It's quite simple. We check it and weigh it continuously, keeping in mind that clue bag size is constantly changing. It must be weighted against mission requirements. When a flying schedule is put together, during a briefing and during all phases of flight, the clue bag must be constantly measured to insure it can handle what the mission requires. Obviously the key here is that the clue bag must always meet what the mission demands. One note here — if the clue bag greatly exceeds mission requirements, then complacency may set in which has been shown to lead to ops factor mishaps. But of greater importance is when mission demands exceed the clue bag because then task saturation sets in. This is usually the first step in a mishap sequence. Once we determine the clue bag is low, the mission requirements must be reduced until the clue bag gets filled back up. This process has several names — "back-to-basics," "building block approach," etc. The key point is that clues and requirements are matched up.

Supervisors also carry a burden, probably the greater burden, of watching and weighing clue bags. Not only do they have to monitor their own clue bag, but they have to carefully watch the clue bags of those for whom they are responsible. This is particularly important because one of the problems with clue bags is that it's very difficult to weigh your own (it's always full and overflowing, right?). Too much ego gets in the way. Your perception of your own size may be distorted. Complacency also sets in when you think you have a full, leak proof clue bag. So somebody else has to help you watch it. That means flight leaders, flight commanders, ops officers, commanders, etc. And the buddy system would work very well here. Watch out for each others clue bags!!!

If you are asking yourself, "So what's the point of all this talk about clue bags?" the answer is very simple. As pointed out, a clue bag can be called many things — situational awareness, airmanship, human factors, etc. It directly relates to a flyer's ability to perform any given mission at any given point in time. And this is a highly fluid situation. Clue bags fill and drain. When they drain to the point where they cannot meet mission requirements, that's when operator factor mishaps occur. We all have war stories of these and, unfortunately, all too often they end up in formal mishap reports.

Preventing ops factor mishaps is one of the biggest challenges we face in flight safety — and there are no easy solutions. We must train hard, push ourselves to excel, but at the same time successfully balance training against acceptable risk. So be aware, know the size of your clue bag . . . and your wingman's . . . flight leader . . . or anyone involved in your mission. Use the buddy system to watch out for each other. Supervisors need to watch everybody's. And when a clue bag cannot balance mission requirements, do something to either fill up the clue bag before the mission, or cut back on what the mission demands to include (if needed) canceling and rescheduling the sortie or crew.

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

The 56th Supply Squadron sets the standard for an outstanding ground safety program. The dedication and commitment to safety awareness resulted in the squadron achieving an "Outstanding" rating and laudatory comments on the recent ground safety annual inspection performed by the wing safety office. Even though the squadron received "Excellent" ratings on the previous two annual inspections, the commander and unit safety personnel were determined to be outstanding. Taking safety for granted is never acceptable and a **commitment to safety** requires an everyday, building-block approach and self-discipline. These were the basic tenets in obtaining the "Outstanding" rating. The increased safety consciousness has produced meaningful results in the squadron's highly diversified, industrial environment. The squadron's multifaceted responsibilities span from processing over 10,000 supply computer transactions monthly to receiving over 5,000 pieces of property, delivering over 1,000 pieces of property to customers, and issuing more than 2.7 million gallons of fuels and cryogenics products monthly. The majority of squadron personnel performing these activities are exposed to the ever present potential for serious injury and/or property threatening mishaps. Believing safety of their personnel is a fundamental obligation and responsibility of leadership, unit mishaps decreased 50 percent due to the dedication and efforts of management. This was achieved by supervisor/worker involvement in truly making the "We Care About You" program a viable one.

The safety statistics for FY 1989 have been phenomenal considering the type and amount of work performed by the 275 professionals in the squadron. Only two minor reportable government motor vehicle mishaps occurred during 290,000 miles of on-base driving (including congested flight line areas). This notable achievement is the result of an aggressive, effective, and comprehensive safety program within the squadron which has been essential to the health and safety of personnel and effective mission accomplishment. All branches have outstanding ground safety management books and very detailed AFOSH briefing guidelines. These guidelines are used as models throughout the wing. According to the inspection report, "Safety briefings are being conducted by all safety monitors on a weekly, quarterly, and seasonal basis . . . LGS also uses mishap prevention material from national publications and magazines to further educate personnel." One branch within Supply, the Fuels Management Branch, is recognized as the only base unit to receive "Outstanding" ratings in ground safety for eight consecutive years. Their supervisors are quick to make suggestions on ways of making their operations safer. One implemented suggestion involves the use of an "electronic bulletin board" to display mishap prevention material, safety tips, weather warnings, and other relevant information in enhancing safety publicity. The Combat Operations Support Branch was recently recognized for their outstanding contributions to safety and accident prevention. They were presented with the 56 TTW Outstanding Achievement in Safety Award for January 1990. They were commended for completing four major rewarehousing projects and extensive self-help projects in a mishap-free manner.

56th Supply Squadron
56 TTW
MacDill AFB FL

The personnel of the 56th Supply Squadron have greatly enhanced the effectiveness of both the unit and wing safety programs. Their sustained superior daily performance, sincere interest, and efforts have made "safety" an integral part of the "Supply" mission. "Outstanding" is synonymous with the distinctive accomplishments of the squadron as evidenced by being selected as the 1989 Air Force Daedalian Supply Effectiveness Award winner. The superb contributions to mishap prevention and effective mission accomplishment have earned the 56th Supply Squadron the TAC Outstanding Achievement in Safety Award.

TAC TALLY

	Total			TAC			ANG			AFR		
	MAY	THRU MAY		MAY	THRU MAY		MAY	THRU MAY		MAY	THRU MAY	
		FY 90	FY 89		FY 90	FY 89		FY 90	FY 89		FY 90	FY 89
CLASS A MISHAPS	4	19	18	2	12	13	2	4	5	0	3	0
AIRCREW FATALITIES	1	8	6	1	4	4	0	2	2	0	2	0
• IN THE ENVELOPE EJECTIONS	6/0	15/0	12/4	1/0	7/0	7/2	5/0	6/0	5/2	0/0	2/0	0/0
• OUT OF ENVELOPE EJECTIONS	0/0	1/1	1/1	0/0	1/1	1/1	0/0	0/0	0/0	0/0	0/0	0/0

• (SUCCESSFUL/UNSUCCESSFUL)

CLASS A MISHAP COMPARISON RATE

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

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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
	FY 90	1.8	2.8	2.7	3.0	2.4	2.7	2.8	3.0				
ANG	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
	FY 90	0.0	0.0	1.6	1.2	0.9	0.8	1.3	2.2				
AFR	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	5.9	4.7	7.7	6.4	5.6				
Total	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	2.6	2.1	2.4	2.6	2.9				

TAC'S TOP 5 thru APR 1990

1st AF		9th AF		12th AF	
"COMMAND CONTROLLED CLASS A MISHAP FREE MONTHS"					
127	48 FIS	60	507 TAIRCW	141	58 TTW
52	57 FIS	35	1 TFW	48	388 TFW
12	325 TTW	31	4 TFW	37	479 TTW
		18	354 TFW	29	355 TTW
		16	363 TFW	28	366 TFW

ANG		AFRES		DRUs	
"COMMAND CONTROLLED CLASS A MISHAP FREE MONTHS"					
448	119 FIG	146	301 TFW	164	552 AWACW
424	147 FIG	109	482 TFW	55	28 AD
228	110 TASG	106	924 TFG	34	USAFTAWC
208	177 FIG	84	906 TFG	26	USAFTFWC
208	138 TFG	69	507 TFG		


FRIENDS JUST DON'T LET
FRIENDS DRIVE DRUNK
OLD
CLAW
HARDISON