

TAC ATTACK

JUNE 1990



An Interview
with
Erich Hartmann
The Ace of Aces

Pg. 4

Bailey 90

ANGLE OF ATTACK

As the weather is getting warmer, it's time to get more involved with outside sports and recreation activities. However, we need to remind ourselves that injuries and strange events can come at us from many different directions. For example, golf is a non-contact sport, right? — wrong! The other day I was on the golf course and my opponent, not to be named to save embarrassment, was in the sand trap just off the eighteenth green, trying to recover from his previous losses. The rest of us were standing to the side watching as he completed his big swing. CRACK! He shanked the ball and it ricocheted off the back of the player next to me. Fortunately, except for pride, there were no serious injuries.

With this in mind, we need to remember that summer is the time of year when we have **most** of our off duty injuries and fatalities. The time of the year itself is not dangerous, but it presents a new environment which can be very unforgiving of mistakes. For example, if you drink too much while you are watching the winter sports on TV, you may fall asleep and miss how the game ends. But if you drink too much at the beach, you may get a very uneven sunburn or worse yet, discover the hard way that you aren't the world's greatest swimmer.

Summer also is our traditional time to get out of the house and go somewhere. Strapping into your car is a law in most states. For active duty members, it is **required** anytime we ride or drive in a government or private vehicle **both on and off base**. Even if it weren't required, it would still be the smart thing to do. Aircrews would never consider taking off in a jet without first making sure their seat belts and shoulder harnesses were fastened. Which raises another point, to just wear them because you must and not wearing them properly still defeats the life saving potential they could provide. If you wear them too loose and an accident occurs, they won't keep you in the seat. Even with most of the new automatic shoulder harness systems, you still must buckle your lap belt. If you don't and you are in an accident where the door is forced open, your automatic shoulder



restraint is now gone. There have even been cases when the door didn't open and the single shoulder strap failed to keep the occupant inside the car. Most of the deaths and serious injuries are not caused by the car being crushed into someone, but rather the person being thrown around, either in the car or being thrown out of the car and having their own car or another car roll over them.

Summer is also the time of year for the big ones — thunderstorms — with their associated rain, hail, initial gusts, wind shear on final approaches, wet runways with gusty crosswinds, and lots of lightning to brighten up your day or night flying. Take a couple of minutes and read what is available at your base about thunderstorms and the local weather. Even more importantly, talk to some jocks who have been flying there for a while and who have experienced the summer flying firsthand. Are there any recurring trends? Like the "1630 set your watch" afternoon thunderstorms which form daily at the Crestview VORTAC — one of the initial approach fixes for Eglin AFB. Do the divert bases usually go down at the same time the home drone goes below minimums? What tips can you learn from how they survived the weather of past summers?

Happy Father's day, pardner!

Jack Gawelko
JACK GAWELKO, Colonel, USAF
Chief of Safety

TAC ATTACK

DEPARTMENT OF THE AIR FORCE



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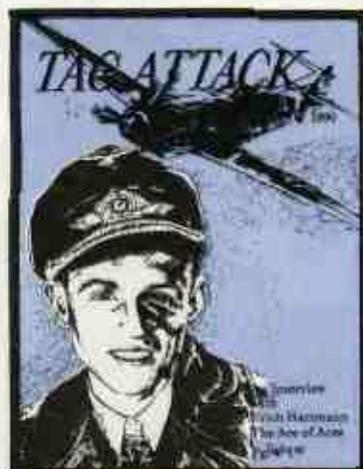
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An Interview with Erich Hartmann, the Ace of Aces

AIR SCOOP
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Ed note: Recent command and control mishaps indicate history does indeed repeat itself. Today's fighter pilots face many of the same circumstances as the P-51, F-86, or F-105 pilots who flew before us. Rather than focusing on their common mistakes, the following AIR SCOOP interview highlights how one fighter pilot did it right. Col Erich Hartmann a flight leader who never lost a wingman while scoring 352 confirmed kills during WW-II shares some timeless thoughts on leadership and smart mission accomplishment.

Col Erich A. Hartmann, German Air Force (Retired), was born on April 19, 1922, in Weissach/Wuerttemberg, Germany. His early education was aimed at a career in medicine, but was interrupted by the outbreak of World War II. In October 1940, he reported for flight training at Berlin Gata LKS 2, Neukuhren, East Prussia. He was commissioned a second lieutenant on March 1, 1941, and began training at Fighter School 2, Zerbst-Anhalt, Germany. He reported to Fighter Group 52 on October 10, 1942, and began flying combat missions. He scored his first kill some three weeks later. He became an ace (10 victories according to the German criterion at the time) when he scored his 10th and 11th victories on April 20, 1943. He ran his score to an amazing 352 victories by the war's end in 1945. After the war he spent 10 years in Russian prisons. After his repatriation, he reentered the German Air Force and flew F-86s and F-104s. He retired at the rank of colonel.

AIR SCOOP: What's the most important thing to remember

when you're engaged in combat? I'm referring to making decisions in the cockpit, not while planning the mission.

COL HARTMANN: What we always told our pilots was that you had to control the highest altitude possible, because in no air combat situation you can find, will you win air superiority from the bottom up. You have to get it from the top down. This was true in World War I and in the Second World War. You had it in Korea and Vietnam. It will always be the same. Whoever controls the high altitude will win air superiority.

AIR SCOOP: How did you develop your tactics of *See, Decide, Attack, Reverse, or Coffee Break?*

COL HARTMANN: I developed my tactics by watching my leader. My first leader, MSgt Eduard Rossman, was always cautious. He said he didn't like to pull a lot of Gs because of a bad shrapnel wound in his arm. He would look over each fight and decide if he would enter. When he did enter, it was always straight through — no turns — and he usually came home with a kill. My next leader, Sgt Hans Dammers, liked to turn and fly in the circus. The next man, Lt Josef Swernemann was somewhere in between the two. He would be patient for a while, but then would get into a turning fight when he got frustrated. This is when I realized you must fight with your head, not your muscle. Your hope for each mission is to come home with one kill. That is enough. Sometimes you do better, and that is nice, but if you always get one kill, that is good. (Ed note: Col Hartmann was shot down seven times — always from ground fire, never by another aircraft.)

AIR SCOOP: Let's talk about the

relationship between leadership and safety. You were a squadron commander, then the commander of the Luftwaffe's first all-jet wing, flying F-86s. How do you make the pilots in the squadron know that if they always do the right thing, in some cases, it's not going to be what the young pilot perceives as what fighter pilots are supposed to do?

COL HARTMANN: Fighter pilots are individualists. They will decide for themselves. The commander needs to have flying experience; much more than the pilots, I think. Then the pilots listen. Up in Ahlhorn I had one case where this proved itself. After the last afternoon of the week, all the pilots came together for half an hour at the bar. Everyone got a drink. We talked about the day and what was going on. Once a pilot was telling me how he had a low-level up on the North Sea. I just listened and listened until he had told what he had done and how tough he was. Then I told him, "If everything you're telling me is true, you will be the first dead man in our squadron."

Three weeks later he was dead. Then I had no problem with discipline among my other pilots. They were looking at me to figure out how I knew that he would go down.

I think it would be very difficult when a squadron commander has 500 flying hours and gets a squadron full of pilots with 1,000 to 2,000 hours. He can have trouble leading this squadron because the pilots are better.

AIR SCOOP: How do you combat the macho image that depicts the fighter pilot playing hard all night and then fighting all day? How did you work with that?

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COL HARTMANN: I found one of the best ways to counteract this was to ask, before the mission, who was in no shape to fly, who drank too much last night, or who didn't feel well. If someone said yes, I would stand him down for the day with no punishment or penalty. He knew he could do this. However, he would probably be induced to not do it again.

On one hand you have the awareness that every mission could be the last one — of total exposure to the hazards of battle; on the other hand you have a need to relax and compensate for the stress brought on by the situation. In my own experience, a fighter pilot is always under a tremendous amount of stress during a war. During peacetime missions, the flying is also stressful. It is a special stress for the man, and against this stress he needs an outlet. He has a drink and does a lot of singing. And that's not necessarily bad, because everyday he knows something can happen — an accident. He sees other people, for instance his wingman on a low-level, and boom! He hits a hill or something and he's dead. This stress brings a need for something to let him be free again. That's not what is dangerous for the mission.

This is my position: the day or mission is finished, and you go to the bar and have a drink for life. There is no big difference between wartime and peacetime for a fighter pilot. Business is business. On any given day you can get into an accident because you do something wrong or something happens to the aircraft.

AIR SCOOP: What you're saying

is, you have to create the environment where the pilot disciplines himself. You must rely on him to be mature enough to say, "Today I can" or "Today I can't."

COL HARTMANN: Exactly.

AIR SCOOP: You mentioned a very important thing that we're sensitive to today in the fighter pilot community (in all pilots, really): stress. How do you monitor stress to know that one day a pilot can handle the stress and on another day maybe he can't handle it?

COL HARTMANN: The important thing is to know your people well. And of course, keep watching out for small signs, such as inattention at the briefing or if a guy's attention definitely wanders. Then if you're not sure, stand him down. Don't send him on a mission. Ask him afterwards, "What's wrong?" Never ask him in front of the other guys. Every pilot will say nothing is wrong in front of others.

AIR SCOOP: How does the individual pilot establish himself as a leader, someone that other pilots who are less experienced would look to for guidance? In your early experiences in World War II, you flew on someone's wing until you gained experience, then others flew on your wing. How do you make that transition? What experience do you go through to make the transition from wingman to leader?

COL HARTMANN: No "special" experiences at all. Just experience. You come to the squadron commander, your wing commander, the senior officers. But in the air you can have different

leaders. For instance, as in the war, a sergeant. You heard from other pilots how this sergeant was a tough man up there. He had been at the front more than a year, he had been decorated, and he already had 40 to 50 kills. Then you got him as a leader. I had no problems as a lieutenant flying as a wingman with the sergeant in the lead. I had a feeling of security because he was so experienced.

AIR SCOOP: How does an experienced pilot train a new guy?

COL HARTMANN: If you are a leader for a new wingman, then you have to take care. The first time you go out into combat, the young wingman doesn't see it. With an inexperienced pilot, you have to assume that he's going to make mistakes and that he'll blindly rely on you to do the right thing to provide an example that he can follow. If you set the proper example, the training will come by itself until a point comes where you can tell the guy, "Now don't worry about a thing. Don't worry about what to do. Just follow my example and don't lose me." That's all they have to do. When you fly two or three times, he gets the experience too.

AIR SCOOP: Let's talk about young pilots. You had many young pilots come into your squadron towards the end of the war with no experience. What was the most important thing you told the pilot?

COL HARTMANN: Watch me. If I saw he was very young and was straining with flying because he had a bad time in training (but this was only in 1945), in combat I often told him to stay high and

watch me while I went for myself.

AIR SCOOP: You never lost a wingman?

COL HARTMANN: No.

AIR SCOOP: What's the hardest thing for a young pilot to learn in combat or peacetime?

COL HARTMANN: It's the same for both: to control the airplane.

AIR SCOOP: So the important thing for a pilot is to always learn his aircraft better?

COL HARTMANN: Yes. Fly, fly, fly.

AIR SCOOP: When an instructor or flight leader is flying with a new, young wingman, what must he think about, be alert to? How does he read the new pilot so he can help him?

COL HARTMANN: I found out that if you have to fly with youngsters, you should never show any kind of nervousness yourself. You should talk to him quietly, and don't expect him to be an expert. You have to, in your own mind, tell him he's not ready. As a kid, he gets nervous and he makes mistakes. And instructors must always be very quiet.

AIR SCOOP: You don't espouse the theory of instruction by fear and sarcasm?

COL HARTMANN: Sarcasm is good only in the case if a young pilot needs cutting down to size. You can find out, especially around the bar, what people really are.

AIR SCOOP: That brings up an instructional technique we talked about: you have to know the young pilot's personality.

COL HARTMANN: You must have personal contact with every pilot. You deal with each individual pilot one-on-one.

Back to the other part of an earlier question [about what an in-

structor can do to help the new, young wingman]: the only thing he can really offer is general advice and to always expect the youngster to do something wrong. Then, if he does, don't upset him by jumping on him. On the other hand, a lot will depend on your reputation as an instructor. If your reputation is high, then the chances that this youngster is going to become overly aggressive or do things on his own is very slim. If your reputation isn't so hot, then that would increase the guy's tendencies to go off on his

own.

AIR SCOOP: Today we have pilots who are coming to fighters for the first time, but who have 1,000 or 2,000 hours flying time. They were instructors in basic training before they came to fighters. How do they get credibility and fit in?

COL HARTMANN: There is no problem. They know how to fly instruments and aerobatics. They only need to learn how to use the weapons and fly the tactics. This will come because of their previous flying experience. When I got



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out of the Russian prisons after 10½ years and came back into the Luftwaffe, I went to the States to check out. I first flew T-6s with a training instructor, a captain. On our first flight he said, "Do a barrel roll." I said, "What is that?" So he showed me. It was perfect. So I tried and it was terrible. I told myself he could teach me, and he did. You must always be ready to learn.

AIR SCOOP: Let's talk a little about the relationship between the pilot and the maintenance man. How do they build rapport so they are both going for the same end result — that the air-

craft will always be 100 percent mission capable?

COL HARTMANN: That is simply a human problem. It's just dealing with people. Everyone must conduct himself so that he gains trust. The maintenance people must trust the pilot to the point that when he says something is wrong with the airplane, they believe him. Also, the pilot has to have faith in the maintenance people so that when they say an aircraft is ready to fly, he is sure that it is.

AIR SCOOP: How does a pilot mentally prepare himself to go on a combat mission? What do you do

to avoid undue hesitation that would prevent mission accomplishment?

COL HARTMANN: You don't need any additional preparation for that. The fighter pilot doesn't hear the shooting. With the pilot, it's the same on a combat mission as on a training mission. I never found that I had any sensation before a mission. I knew what to expect. There was no fear, as such, going into that situation. You're too busy with flying the aircraft, staying out of trouble, and killing your target. And then, after 28 kills, it becomes routine.

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TAC AIRCREW OF DISTINCTION AWARD

Captain Mark A. Rosado, aircraft commander, and Major David A. Wells, weapons system officer, 336th Tactical Fighter Squadron, 4th Tactical Fighter Wing, Seymour Johnson AFB, North Carolina, were flying their F-15E on a low-level surface attack mission to Air Force Dare County Range. While flying at 500 feet AGL and 540 knots, Capt Rosado saw some birds in the distance and started a climb to 1,000 feet to avoid them. Suddenly, a 2.5 pound herring gull impacted the front windscreen, shattering it, and spraying plexiglas particles throughout the cockpit. The wind blast noise in the cockpit made communications impossible. Not knowing if Capt Rosado was uninjured, Maj Wells came on the controls and assured the aircraft was climbing away from the ground. This was a crew coordination item they had prebriefed in the event of a birdstrike. Capt Rosado ducked down behind the heads up display (HUD), slowed the aircraft to 250 knots, and then communicated to Maj Wells that he was stunned, but unhurt. Fortunately, both crew members' visors were down which prevented the flying plexiglas from causing a blinding injury.

Assessing the damage, the crew



Captain Mark A. Rosado



Major David A. Wells

**336 TFS, 4 TFW
Seymour Johnson AFB NC**

realized they had zero forward visibility due to a fractured windscreen, bird remains, and a hole approximately 18 inches by 5 inches on the right side. Knowing he would require a wing landing, Capt Rosado began a recovery for Seymour Johnson AFB and coordinated for an experienced flight lead to lead the formation landing. An emergency was declared and the canopy loss emergency procedure and a controllability check were performed en route. Capt Rosado then flew a flawless wing approach to a blind touchdown.

Maj Wells was able to monitor the approach with the ILS and through the Low Altitude Navigation Targeting Infrared for Night (LANTIRN) pod video. After touchdown, Capt Rosado transitioned to LANTIRN video to maintain runway alignment throughout the landing roll. The preparation, quick actions, and sound judgment of Capt Rosado and Maj Wells saved a valuable national asset as well as their own lives. For superior airmanship, they have won the TAC Aircrew of Distinction Award.



Combat Edge and Positive Pressure Breathing (PPB) What It Is – What It Isn't

**Maj Rodger D.
Vanderbeek, MC
F-16 Pilot/Director,
Aeromedical Services
347 Med Gp/SGP
Moody AFB GA**

BACKGROUND:

G-induced loss of consciousness (G-LOC) fatalities in recent years led our research communities to search for better pilot G protection. A system that could be developed quickly was chosen, consisting of the standard G suit, a pressure chest suit (jerkin), a modified helmet with a pressure bladder at the back of the neck, and a modified mask-regulator system capable of delivering positive pressure. This system, to be fielded operationally, has been named "Combat Edge." The 388 TFW, Hill AFB, UT, is forecast to be the first wing to receive the system starting in August 1990. All F-16 and F-15 wings should be equipped by 1993. The system has met with genuine widespread approval by pilots who have tested the system, both in flight test and in the centrifuge. Test pilot comments have included "makes 9 G feel like 5-7 G," "could have whistled Dixie at 9 G," and "G-straining workload cut in half."



HOW CURRENT G PROTECTION WORKS:

Positive G forces reduce the effective blood pressure to the brain and eyes (1 G = 22 millimeters of blood pressure; 5 G = about 110 mm). Without compensating mechanisms, the result is tunnel vision or gray out soon followed by G-LOC (unless the G onset is rapid, when G-LOC may occur first). However, after a brief lag period, cardiovascular reflexes respond and increase heart rate and blood pressure; and a few extra millimeters of blood pressure are "pumped up" over the normal resting state. This explains why the non-straining G tolerance is often slightly over 5 G's.

For high G exposures, the standard G suit offers some protection, but the pilot must add an additional compensatory mechanism to maintain consciousness and vision. This is done by performing the anti-G straining maneuver, which optimizes the body's blood volume for the head and torso, and, more importantly, **raises intrathoracic (inside chest) pressure**. This increased intrathoracic pressure is directly transmitted into added millimeters of blood pressure, thus supporting the column of blood from the heart to the brain and eyes and helps maintain sight and consciousness. This is how we currently combat high G forces. Due to the required physical effort, it is very fatiguing and results in pilot exhaustion after approximately one minute of sustained high G maneuvering. Therefore, a passive means of supporting blood pressure should reduce the G-straining workload and increase high G endurance.

HOW DOES COMBAT EDGE WORK?

Low levels of positive pressure breathing (PPB) have been used for years to maintain oxygen pressure at high altitudes and to protect pilots from loss of cabin pressure. Centrifuge studies have shown that PPB results in an increase in blood pressure with a resultant beneficial effect on G tolerance time (or G endurance).

With Combat Edge, the standard G suit is worn and functions just as it does now: it optimizes the upper body blood volume as it diminishes blood pooling in the legs and abdomen. The helmet bladder at the back of the neck inflates to improve the mask seal, and positive pressure is uniformly applied through a modified regulator to the oxygen mask and chest suit (jerkin). The positive pressure at the mask/mouth is then directly transmitted (through passive inhalation) into the lungs and chest cavity, and then indirectly to the heart and large arteries. The chest suit provides external chest counterpressure to increase pilot comfort and provide more efficient G protection. Positive pressure is scheduled and starts blending in at 4-5 G's, reaching a maximum of 60 mm of pressure at 9 G's. (As a comparison, there are 22.4 mm of pressure generated at the "45,000 feet" setting on life support oxygen mask test stands.)

HOW DOES COMBAT EDGE INCREASE G PROTECTION?

The gradual application of positive pressure to the internal chest cavity and central circulation (heart and large vessels) offers the pilot a **passive** means of raising blood pressure; this helps maintain the blood supply to the brain

and eyes with much less physical effort. This passive assistance has been shown to provide the equivalent of about 2 G's of protection. The pilot then adds his usual G straining maneuver to augment this passive effect, and thus can sustain 8-9 G's for longer periods of time before becoming fatigued.

LIMITATIONS AND CONCERNS

Combat Edge is not a panacea for G protection. It only augments this protection, and pilots must still use the anti-G straining maneuver at high G levels. It will probably restrict cockpit mobility somewhat, and **IT WILL BE HOT** in the summer! Continuing improvements will, hopefully, maximize comfort and increase cockpit mobility. It takes practice to use positive pressure properly, and communication with positive mask pressure will also take some practice.

Of great importance, however, it will **NOT PROTECT** against **RAPID ONSET** of high G!! The positive pressure only gradually delivers its partially protective effects, and pilots must prepare for **RAPID** onset just as they do now — with a good straining maneuver just prior to initiating rapid onset rates to high G levels.

A final concern comes from the doctor side of my brain and centers around occupational risks. Tests are underway now to document what effects PPB has on the heart and the large arteries. These studies are needed to assess IF occupational risks might exist, and how best to counter or control any such risks.

SUMMARY AND CONCLUSIONS

Combat Edge is coming soon to the fighter community. It offers very good enhancement of pilot G protection and an increase in high G endurance (i.e., tolerance times at high G levels). **IT WILL NOT PROTECT AGAINST RAPID ONSET TO HIGH G!**

Therefore, how would I use Combat Edge and PPB?

1) Learn to use it right. Inhalation is passive, and exhaling re-

quires forced effort with positive pressure breathing — the opposite of normal breathing. So you've got to not fight it, or you'll fatigue quickly.

2) Add it to your pre-engagement G awareness/warm-up. Practice your PPB technique, and learn what it does for you at 6-7 G's.

3) **ALWAYS** lead a rapid onset rate maneuver with a good anti-G strain — if you don't, you may be a "G-LOC mort."

4) Don't get lazy; some strain-

ing maneuver will still be required, and at 9 G's it still takes a fairly good effort to keep full peripheral vision. Let PPB work for you, but it won't do it all.

For the future, expect even more G protection, with a full coverage G suit and low resistance regulators for improved air flows to the mask and the pressure suit. Expect more comfort and mobility. Researchers continue to work towards optimal equipment to give the fighter pilot a "Combat Edge." ➤

Letters to the Editor



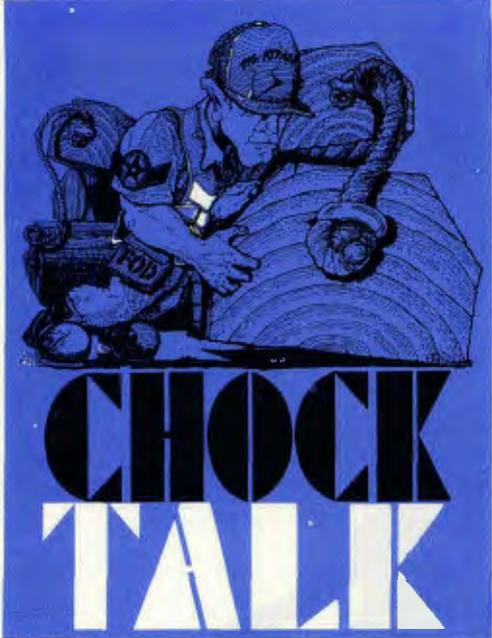
Just an odd sized envelope in my in-box resting on top of all the other letters and papers which I needed to answer. I was initially perplexed by the simple white card I found inside — "With Deepest Sympathy." Opening the card I read, "To Honor the Memory of Ken Ostrom, a contribution has been received by the American Heart Association from the Checkertail Clan."

Then I understood. In December I had published one of my father-in-law's World War II P-51 war stories about Operation Frantic. That same month he had passed away quietly in his sleep and the card in my hands was from his World War II flying unit — the 325th Fighter Group, "Checkertail Clan." Being a stoic or at least pretending to be one, I was glad no one was around as my eyes filled with moisture. Not just because I missed Dad Ostrom, but also because his old unit took the time to say a final farewell to a fellow comrade-in-arms.

For some reason, my thoughts were drawn to those bureaucrats and business managers who often say the service is only a business to be run more efficiently. Or the self-serving individual who says its only a job — a way to make a living. And at that moment in my life, it was dramatically clear to me that they were wrong. They had missed it by 10,000 light years. For the military is so much more — it is caring, sweating, long hours on alert and exercises, family separations, accomplishing the mission and, yes, even fighting when and where our country directs us to go.

Managers can always turn in their key to the building and quit if the going gets tough. They never have to worry about their office desk colliding with another desk while training for combat or during night operations in the weather. They seldom would face the possibility of having to dodge real bullets or handle a real life — their life — threatening situation.

Yet as you strap on your jet, you know your life is intricately linked to all those who worked together to get your aircraft ready for the O-dark-thirty go. Or as you duck underneath the aircraft to finish some last minute checks before giving the pilot a thumbs up to taxi, you know you are literally trusting the aircrew with your life. And we all understand we are subject to exposure to real bullets anytime our country calls upon us to employ our trade. But we have freely chosen this profession. We have freely given up the option of climbing the civilian corporate ladder in favor of a higher goal — **servicing our country**. And there is a bond formed during this service which will never be accurately captured by a Harvard Management book, but which I understood so clearly as I looked at that simple white sympathy card.



Lt Col Hap Tucker
Editor

chock talk

Experience is a hard teacher — for it gives the test first and the lessons learned afterward.

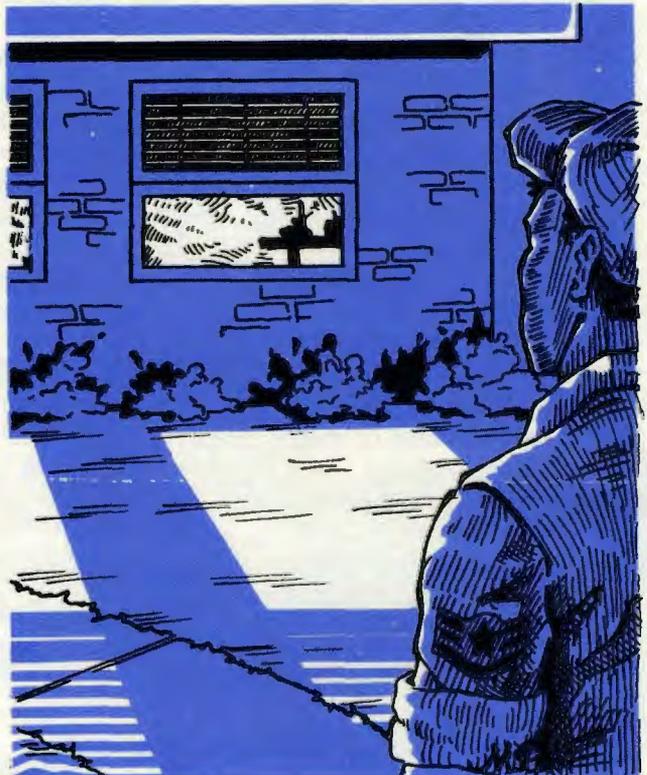
A lone light illuminated the battery shop work area, casting shadows of a bench vice and some voltage testing equipment against the wall. The glow was hardly noticed by the occasional flight line worker as they drove past that end of the ramp. Probably someone working late or perhaps they just left a light on. But no one was working late tonight. Both the battery shop and adjacent tire shop personnel had already departed for the night. The windows and doors had been locked and the area security forms had been signed off.

Inside the shop the glow was much brighter. It was coming from an aircraft landing light which was being used to fully discharge a battery. The shop routinely used this method to prevent the aircraft Nickel-Cadmium (NI-CAD) batteries from losing the ability to hold a full charge. Tomorrow the battery personnel planned to recharge the battery and place it back into service. Although it wasn't the T.O. book solution, it was routinely used to supplement the limited number of approved equalization discharging fixtures and variable resistors the shop had on hand.

The bulb hung almost motionless an eighth of an inch above the workbench. Normally the light would grow fainter as the battery voltage dropped, but tonight it was growing dimmer for a different reason. The two wires clamped to the battery and connected to the light were slowly allowing it to move downward. The wooden surface began to blacken and finally ignited after the lamp came to rest on it.

It was a mid-shift crew which first spotted the smoke and flames. By the time the fire department arrived on the scene, the initial source of the fire was no longer visible. Fortunately the damage was confined to the single shop, primarily because of the early reporting and the metal construction of the hangar. After the flames were extinguished, the final investigation discovered the "work-around" which had been the source of the fire. The battery never made it back into service; and it was over a week before another temporary battery shop was up and operational. The damage estimates were \$65,000 and one lost week of support from the shop. Had they "saved" enough time by using the "work-around" to make up for the loss?

What about your area? Do you know of any so called "better ideas" which are accepted as standard, but which aren't really approved by the T.O. either? If it really is a better idea, great — share it with the rest of us through a suggestion form or a recommended change to the T.O. But in the evaluation of some suggested "work-arounds," the experts may discover some previously unnoticed problem areas and disapprove them — because they are just too costly to implement. That's a lot easier way to discover problems than by your own personal trial and error.



BASEBALL AND FLYING SAFETY

Some Words of Wisdom from Yogi Berra

Lt Col Scott Wales
HQ TAC/SER



One of our more profound contemporary philosophers is baseball's great Yogi Berra. His immortal quotes are usually mangled observations (unintentionally so) on a variety of issues; most are generally related (sometimes rather loosely) to "America's pastime." His pronouncements also have some validity for those who are concerned about their own and others safety and well-being, especially in the world of aerial endeavors.

One of Yogi's most quoted maxims is the following pearl of wisdom: **"It ain't over 'til it's over."** As with many of his observations, it sometimes leaves people scratching their heads at first, wondering just "what did he really mean by that?" What it should mean to us as fliers is that you can never let up, never relax, and never get complacent during any phase of the mission you're flying. This is true when you're in the middle of a 4 v 4 engagement,

while you're on landing rollout, or even while you're taxiing back to the chocks. Otherwise, you may find yourself in one of the following scenarios:

An A-7 touched down on a full-stop landing and saw his wingman pass by on a low approach. During a brief moment of inattention and/or confusion, he raised the landing gear, causing considerable damage to the aircraft. A similar incident involving an F-106 occurred several years back.

Never let up, never relax, and never get complacent during any phase of the mission you're flying.

Sometimes aircraft have scarcely left the ground before complacency and inattention to details cause problems. An F-4, on what should have been a routine single-ship takeoff, raised his gear before attaining safe flying air-speed and lost control of his aircraft. Both crewmembers ejected successfully, but two ground observers were fatally injured.

Complacency or distraction can strike in the heart of the mission as well:

- An F-16 struck wires supporting a TV tower, after inadvertently descending through the pre-planned low-level route attitude. The aircraft sustained major damage, but was successfully recovered at home station. Other wire/tower strikes have involved almost every fighter and trainer we fly; they include an AT-38, an OT-37, an F-15, A-10s and another F-16.

- Sometimes the lessons we learn are forgotten in a very short span of time. Yogi apparently saw

Watching out for trees and other ground obstacles could have saved the Air Force a lot of money.

some of these same problems in his coaching career. Another of his philosophical gems is this pithy observation, probably made during one of the Yankee's losing seasons — “This looks like ‘deja vu’ all over again.” From a headquarters perspective, we often see the same accidents happening all over again, only to different people. Here's a sampling from our all too thick files:

- An F-4 on a low level route struck unobserved wires. The incident aircraft was the second aircraft from the same unit to experience a wire strike — on the same low level route. Both aircraft were able to recover successfully.

- The mishap pilot was lead of an A-10 four-ship on a conventional range mission. The aircraft struck the ground after recovery from the final strafe pass. The pilot was fatally injured.

- A little over a year earlier, another A-10, this time part of a multi-flight scenario, crashed during a conventional range mission. The pilot collided with the ground during recovery from a low angle bomb attack; there was no attempt to eject. These are only two of the more recent A-10 CFTT mishaps.

Yogi's other philosophical observation was also a little befuddling,

but it too contained some excellent advice for fliers — “You can observe a lot just by watching.” Watching out for trees and other ground obstacles could have saved the Air Force a lot of money and also prevented a lot of embarrassment.

- Three separate tree strike incidents occurred within a single month; none of them were Class As, but each could have easily been had the circumstances differed only slightly. Two involved A-7s and one was an F-4. Two happened at the same deployed exercise site, and one on a low-level route. In each case, someone just wasn't watching the right thing at the right time.

So what's the message here? “We've observed a lot just by watching” here in the Safety office at TAC, too. We may have learned something too, and these lessons need to be reemphasized periodically. Sorry to say, we've got no new words of wisdom for you. Our mishap rates are still in decline, for the most part, but they continue to be dominated by operator errors, some of which involve very basic principles of airmanship and self-discipline. The last words of wisdom are not Yogi's, but they are also worth repeating — “Eternal vigilance is the price of freedom.” It may also be the price you pay to stay alive in fighter aircraft. ➤

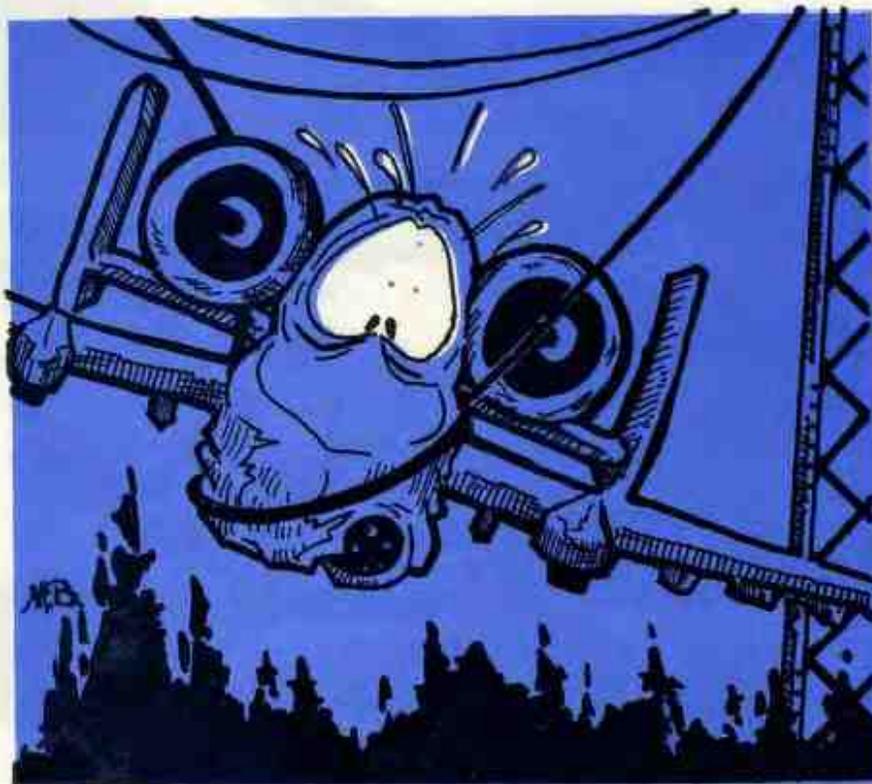


Photo F-4E

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Bailey 90

TRY HARDER AND HIS CELEBRATING EXPERIENCE



Jimmy Campbell
1 AF/SEW

Try Harder was frustrated. It was time to celebrate our nation's birthday, but there were no fireworks, at least legal ones, to be had anywhere. It was all the fault of those inexperienced know-it-alls who had blown off a finger or lost their hearing that he couldn't buy any legal fireworks.

Try, a distinguished looking man, had always liked outdoor kinds of activities. Aviation was his favorite, but fireworks would do. In fact, Try liked aviation so well he would have become an Air Force pilot if it hadn't been for that little explosives accident he had when he was a kid.

It seems that Try had been using dynamite to blow some stumps out of his father's field. No one had told him that he should make a test burn with each new roll of time fuse. He cut off the standard length of fuse like always, capped it and placed it in the dynamite under a stump. When he ignited the fuse, it started burning too fast causing it to explode while he was beside it. The resulting ringing in his ears prevented him from passing the aviation physical.

As a substitute for flying, he collected aviation related memorabilia. Other than his collection of World War I aviators caps, his favorite item was an autographed picture of himself with General Robin Olds. Now that was a fighter pilot's fighter pilot. Try had

been invited by his neighbor, Jim, to attend the local Air Force base fireworks display, but that would be like joining forces with the enemy. No way would Try support a "sanctioned" official display. After all, it was a matter of principle and Try wanted to emphasize that fireworks should be legalized everywhere.

Try took his 1966 Mustang convertible and headed for the state line. He knew that fireworks weren't against the law down there, only money counted. If you had the dough, you could get what you wanted!

As Try returned in his Mustang with the top down and the back seat full of fireworks, he saw Jim on the porch. He could hear Jim's comments already. Jim would remind him how they were a fire hazard, they could blow off your fingers, they might blind you, they made too much noise, and who knows what else. Without a doubt, Jim would also caution him that offenders could find themselves in jail if the sheriff found out.

Try waited until Jim had gone back into the house before he decided to get on with having some fun. After all, it wasn't any of Jim's business what he did on his property.

Try decided he would start out easy with some Cherry Bombs. He shot several, but that just wasn't enough fun, so he found an old juice can to jazz it up a lit-





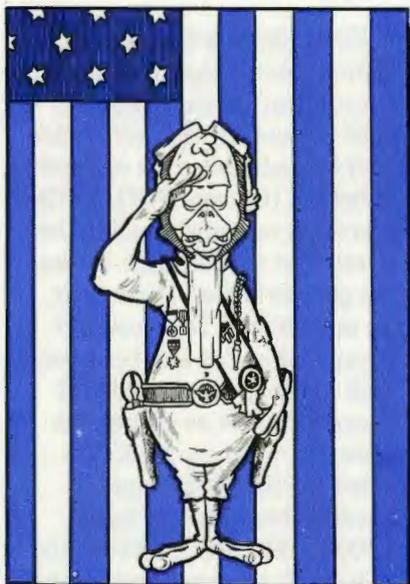
tle. He would play like he was blasting tree stumps again, only he would put the firecracker under the can. He lighted the first Cherry Bomb under the can and hid behind the tree. **BOOM!** The firecracker exploded sending the can straight up in the air. It must have gone fifty feet. **Wow**, that was more like it! Try recovered the can and placed another Cherry Bomb under it. He noticed that the can didn't sit as straight as before, but what the heck! Try lighted the firecracker and stepped behind the tree again. **BOOM! CRASH!** This time the can took off sideways and crashed into the windshield and bounced off of the Mustang's hood.

Well, enough of the Cherry Bomb and can idea. He decided to go with something a little more controllable, so he drove a finish nail into the side of the tree and slipped a spinner display over it. **SSWWISHH!** The spinner ignited and started spraying sparks all around. **BEAUTIFUL!** Then the spinner came flying off the nail, sailed through the air and landed on the fireworks in the back seat of the Mustang.

BANG-SWISH-BOOM-CRACK! The back seat of the Mustang erupted with hundreds of firecrackers, spinners, sparklers, roman-candles, cones and smokes.

Jim came running when he heard the noise and saw the smoke. He used his portable fire extinguisher to help control the fire until the fire department arrived. The fire was put out before the Mustang was a total cinder.

Try was wishing, as the sheriff lead him away in handcuffs, that he had paid more attention to Jim and the safety folks who really did have a better idea. ➤



FLEAGLE

TAC'S OUTSTANDING AIRMEN

Since his 15 Nov 86 arrival at Nellis AFB, **Master Sergeant Joe L. Manning, Jr.**, has been assigned to the 820th Civil Engineering Red Horse Squadron, Cantonment Flight Power Production Shop, Nellis AFB, Nevada. Sgt Manning has aggressively supervised his assigned personnel in achieving an outstanding ZERO on-duty and one Class D, off-duty (miscellaneous), mishap record. Sgt Manning's continuing support of the USAF and the 820 RHCES Mishap Prevention Program, as well as the TAC "We Care" mishap reduction initiative, has been equally impressive. Sgt Manning is an active street legal motorcycle operator and has served as an additional duty motorcycle safety representative for the HORSE since 11 Sep 87. Sgt Manning assumed the active role of primary motorcycle safety representative 1 Sep 89. His previous supporting efforts as alternate in this area resulted in no fatalities, no permanent total disability, nor permanent partial disability injuries, only one Class C motorcycle (one lost duty day to quarters for

a bruised back) and two Class D motorcycle mishaps in FY 89. Sgt Manning's involvement to date through the first quarter of FY 90 has resulted in ZERO Class A, B and C motorcycle mishaps with only one Class D mishap. Sgt Manning's outstanding performance has earned him a **Fleagle Salute**.

Captain Patrick J. Hartman, instructor pilot with the 122d Tactical Fighter Squadron, Louisiana Air National Guard, 159th Tactical Fighter Group, New Orleans, Louisiana, was flying an F-15 on a unit Composite Force Training mission when he heard a muffled explosion and felt the aircraft shudder. The right engine compressor had failed resulting in an uncontrollable engine fire. The right engine fire light illuminated and Capt Hartman immediately shut down the affected engine, discharged the fire extinguisher, and started a turn toward the recovery base. He looked back and

saw fire coming from the top of the aft fuselage. A chase aircraft observed fire and smoke coming from burn-through holes on the top and bottom of the aft fuselage. The fire continued for about one minute then extinguished. Capt Hartman noted that the control augmentation system (CAS) had dropped offline and would not reset. He performed a controllability check and discovered that the right flap would not extend due to fire damage. He analyzed the situation and skillfully performed a single-engine, no-flap, CAS-off approach to an uneventful landing.

Capt Hartman's expert flying and flawless execution of emergency procedures during a complex emergency situation prevented a potential loss of life, saved a valuable combat aircraft, and earned him a **Fleagle Salute**.

Sergeant Gary W. Watts, 31st Aircraft Generation Squadron, 31st Tactical Fighter Wing, Home-

SALUTES



stead AFB, Florida, was performing a routine preflight intake and exhaust inspection on an F-16A. Close inspection of the augmentor flame-holder revealed the wrong type of nuts installed on the flame-holder support rod retaining bolts. Sgt Watts immediately documented the discrepancy, procured the correct parts and had the aircraft ready for its scheduled mission within less than two hours. Had this discrepancy gone undetected, there could have been catastrophic results. If the flame-holder cocked sideways due to a hardware failure, an augmentor burn-through would surely have resulted. Sgt Watts integrity and technical knowledge are second to none. Because of this, he has been waived to the 7-skill level since July 1988. His action resulted in averting the potential loss of a multi-million dollar aircraft and, most importantly, a human life, and earned him a **Fleagle Salute**.



Lt Colonel John D. Lear from the 314th Tactical Fighter Training Squadron, 58th Tactical Train-

ing Wing, was scheduled as the instructor/flight lead of Hawk flight, a flight of two F-16s on a syllabus surface-attack training mission at Luke AFB, Arizona. **First Lieutenant Howard P. Purcell, Jr.**, a B-Course student, was flying the number two aircraft during the mission. The mission proceeded normally until the low level portion of the sortie. Approximately five minutes into the low level, Lt Purcell felt and heard a loud "thump" from the aircraft. Lt Purcell immediately started a climb as he called for a "knock-it-off." At this point, Col Lear directed Lt Purcell to a heading for the closest emergency divert field as Lt Purcell continued his climb. During his climb, Lt Purcell checked all his engine instruments and found them to be reading normally. En route to the divert field, Col Lear quickly joined on Lt Purcell's aircraft to check for damage. It was at that point that Lt Purcell noted his oil pressure was zero. Following checklist procedures and assisted by Col Lear, Lt Purcell set the throttle at 80% RPM to maximize the operating time of the engine with no oil. At 80% RPM, Lt Purcell was only able to

maintain about 4,000 feet AGL during the 10-minute flight to the divert base. Realizing that Lt Purcell would not be able to fly a normal 360 degree flameout approach (SFO), Col Lear assisted Lt Purcell in making a modified SFO into the divert base. With restricted power, Lt Purcell was still able to fly a flawless SFO and land without incident. It was during shutdown that the engine finally seized as a result of total oil loss. It was later found that the oil loss was caused by a failure of the fourth stage low pressure turbine. During the whole mishap, both Col Lear and Lt Purcell demonstrated calm and professional aviation skills under extremely challenging conditions. The extraordinary performance of these two pilots saved a valuable combat asset and prevented any loss of life and earned them a **Fleagle Salute**.



PHYZ-BIZ PHYZ-BIZ PHYZ-BIZ



WHICH WAY IS UP?

Maj Dan Runyan
TAC/SEF

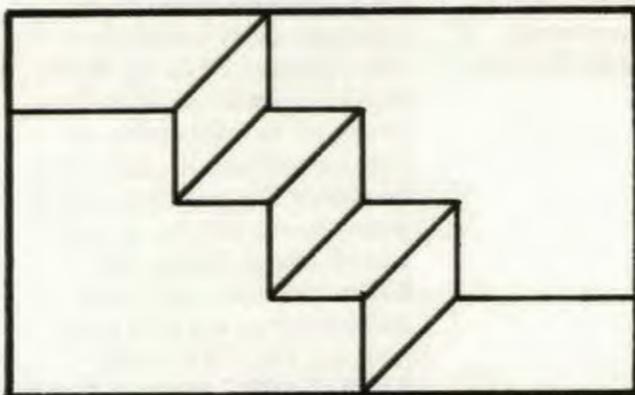
A flight of two launched off for a routine Air-to-Air Refueling (AAR) and Basic Fighter Maneuver (BFM) recurrency mission. The weather was predominantly VMC above 7,500 feet MSL, with high cirrus and a ragged hazy cloud layer below 7,500 feet. The flight completed the AAR without incident and proceeded to the working area. During the last BFM engagement, the flight lead was the target and the wingman began his attack from six o'clock. Lead had accomplished several 5 G defensive turns when the wingman called JOKER fuel. Lead responded with a KNOCK-IT-OFF call. He was at 10,500 feet MSL, and based on outside references, he perceived his attitude was 10 degrees nose low and 15 degrees left bank. He then checked his wingman's position for safe separation and maneuvered to what he felt was a level flight

attitude to rejoin the flight. Shortly thereafter, he was alerted by his aircraft's altitude warning system (MSL line-in-sky alert). The system had been set for 8,000 feet MSL to ensure 5,000 feet AGL clearance. A quick scan of the attitude instruments showed both with dark (ground) backgrounds, with altitude decreasing rapidly through 7,000 feet. The pilot did an unusual attitude recovery on the instruments and began a max-G pullout. The wingman had also perceived his leader's difficulty and directed a recovery over the radio at about the same time the leader initiated his recovery. Lead recovered by 3,000 feet AGL. He rejoined the flight and RTB'd with no further problems.

This incident was a Class A mishap that didn't happen. Our safety files are full of similar incidents that didn't have such an acceptable outcome. This

flight lead had plenty to discuss during his flight debrief, and his lessons learned apply to all of us.

First, this was a highly experienced flight lead, in VMC conditions, with a ragged, but usable horizon, performing a simple flight rejoin after the last engagement. Yet it happened to him — **SPATIAL DIS-ORIENTATION!** His trusty M-1 eyeballs had been tricked by a visual illusion. Most pilots have also been tricked by visual illusions, but the scary part is we normally don't realize it unless it causes some noticeable problem. The experts quickly agree that the problem is in how the brain puts together all the inputs — visual, inner ear, past experience, expected response, fatigue, etc., and then comes up with a judgment call. Their theories on exactly why or how we are tricked are conflicting, but they all emphatically state — **everyone can be fooled!** If you aren't convinced you're a part of that everyone, please look at the drawing of the stairs while you turn the page upside down.



Have the steps changed for you yet?

The pilot's defensive maneuvering and looking back for the wingman increased the probability of the illusion. For example, if he had just been flying straight and level through the area on a cross-country trip, he probably couldn't have seen the illusion if he tried; just like you won't see the steps in the illustration shift unless you change your viewing perspective. A quick check of the cockpit gauges will help you confirm which way you should view the page you see out the windscreen.

Second, the aircraft's altitude warning system gets an assist in this save. There is not a fighter aircraft in our inventory that has a truly predictive ground collision avoidance system. The engineers are working on future systems, but those are down the road a ways. Until they show up in our cockpits, pilots

must use available systems. In this case it was a simple MSL warning when descending through a pilot selectable altitude. Some of these systems are very limited and at times can be a nuisance. But if it's all you have, use it! This example clearly shows they can help alert you so you can save your life.

Third, the wingman also deserves some credit for the successful outcome of this incident. He kept situational awareness of his and his leader's attitude and provided a warning over the radio coincident with the leader's altitude warning. He was fulfilling an unwritten rule of wingman responsibilities by monitoring his leader's actions.

Lastly, the flight lead did a successful classic unusual attitude recovery on the gauges. When was the last time your average fighter pilot practiced one of these for real, or even thought about it happening to them outside of a sim?

The bottom line of this mishap has lessons for every fighter pilot. Visual illusions happen to everyone. Spatial disorientation and unusual attitudes don't just occur in IMC or the simulator. The altitude warning systems in our aircraft are there for a reason and should be used whenever possible, regardless of their limitations. And, the "buddy" system works - watch out for each other in the air.





TAC GROUND SAFETY AWARD OF THE QUARTER

Technical Sergeant Vincent D. Walker is assigned to the 820th RED HORSE Civil Engineering Squadron Vehicle Maintenance Section and is responsible for the maintenance Diagnostic and Quality Assurance shop. Sgt Walker's duties include troubleshooting all incoming vehicle discrepancies and, after repair, ensuring the maintenance quality meets or exceeds TAC's standards. The squadron maintains 170 Air Force motor vehicles comprised of general purpose and heavy construction equipment. Sgt Walker's efforts in this area were recognized during the Dec 89 HQ TAC

TSgt Vincent Walker
820 RHCES
Nellis AFB NV



IG visit. The Vehicle Maintenance Section received an **EXCELLENT** rating. Sgt Walker was appointed to the Vehicle Maintenance Section additional duty safety representative position on 15 Sep 87. He has aggressively promoted job safety awareness through his daily shop safety spot inspections of the maintenance operations and his thorough technical inspections of the 820 RHCES vehicles and special purpose equipment. Sgt Walker ensures all eligible vehicle maintenance personnel receive their supervisor safety training in a timely manner. When Sgt Walker observes a worker committing an unsafe act, he immediately corrects the problem. He explains to the worker that violating a safety procedure can lead to a preventable job related mishap. Sgt Walker conducts weekly shop safety briefings and fully supports the TAC **"WE CARE ABOUT YOU"** initiative. Varied mobility preparations for a major overseas squadron deployment have increased the Vehicle Maintenance Section workload and the potential for causing military disabling injuries; however, due to Sgt Walker's active support and stressing **"SAFETY AWARENESS;"** there have been no on or off duty lost workday mishaps throughout the nomination period. A previously noted rise in on duty first aid injuries has been checked by Sgt Walker's sustained effort to promote job safety and the **"WE CARE ABOUT YOU"** initiative. Sgt Walker's actions have earned him the TAC Ground Safety Award of the Quarter.

TAC FLIGHT SAFETY AWARD OF THE QUARTER



While acting as both flying safety officer and additional duty flying safety officer of the 4th Tactical Fighter Squadron, 388th Tactical Fighter Wing, Hill AFB, Utah, First Lieutenant Lee T. Wight and his 4th TFS Flying Safety Program were recognized as the "Best Seen-to-Date" by the 12 AF Staff Assistance Visit and rated "Outstanding" by the 388 TFW Safety Inspection. The 4 TFS program was listed by both as a "... model for the other squadrons in the wing. . . ." In addition, Lt Wight has implemented numerous programs to assist in mishap reduction. A major program is the "Emergency Procedures (EP) of the Day" books for each squadron briefing room which tied each daily EP to an actual mishap report. This book was used as a model for the wing and has been submitted to 12 AF for further distribution. He has written and distributed to the wing two night flying survival pamphlets, as well as numerous safety articles and briefings. The two night flying articles have been submitted to **TAC Attack** and **Flying Safety** magazines for publication. He created the A/C Maintenance Tracking Board which visually displays a five-day flying history and weapons delivery status for all squadron aircraft. He implemented the squadron "There I Was" program which provides valuable lessons learned for all squadron pilots. Lt Wight implemented the "4 TFS/4 AMU Outstanding Performer of the Quarter Award" which recognized the outstanding maintenance enlisted

person of the quarter with a plaque, certificate, and \$25.00 gift certificate at the NCO club. He developed and implemented the "Latest Class A Mishap" book and bulletin board which provides up-to-date information on the latest five TAF Class A mishaps. He designed the "Safety Status Board" which details the status of spot inspections, projects, and FSO calendar. Lt Wight also implemented the "Maintenance Track File" whereby each pilot is debriefed on the maintenance cor-

rective actions for each IFE and instituted squadron "ataboys" for pilots who correctly handled IFE's that were not serious enough for higher headquarters recognition. Additionally, through his squadron egress instruction, he identified, submitted, and changed the F-16 Critical Action Procedures and T.O. 1F-16A-1 to reflect the new "side-loading G-suit disconnection prevention" modification. His diligent mishap investigation procedures identified the F-16A/B canopy pressure regulator valve as posing a potential hypoxia problem. Through his aggressive investigation, a filter in the valve was made a time change item and implemented fleet-wide to prevent future hypoxia occurrences related to the valve and filter. Finally, through his observation, a hazard was identified at a local divert field which had several antelope freely and frequently crossing the active runway. After investigation, the antelope feeders installed at the base were moved away from the base thereby reducing the likelihood of antelope/aircraft incident.

Based on the above contributions and sustained safety involvement with the 4 TFS and 388 TFW, Lt Wight has earned the TAC Flight Safety Award of the Quarter.

1Lt Lee T. Wight
4 TFS, 388 TFW
Hill AFB UT



TAC WEAPONS SAFETY AWARD OF THE QUARTER

In April and May 1989 Staff Sergeant Scott A. Woods responded with his explosive detector dog to the city of Mountain Home, Idaho, to assist the local police department with five separate bomb threats. On 10 Apr 89, he was asked to assist with a

SSgt Scott A. Woods
366 CSG, 366 TFW
Mountain Home AFB Idaho



sixth bomb threat over 70 miles from Mt Home AFB in Caldwell, Idaho. His timely response to these threatening situations saved the neighboring police agencies countless hours of physical search time. Sgt Woods' high degree of integrity and knowledge of the explosive dog program made him the obvious choice to assist the US State Department with explosive dog support during the US-Soviet Arms Summit in Jackson Hole, Wyoming, in Sep 89. He and his explosive dog team were praised by the Secret Service for their tireless support.

Sgt Woods is extremely safety conscious. He recently spotted a faulty nitro-dynamite stick, oozing nitroglycerin, during a military working dog (MWD) exercise. He immediately terminated the exercise, cleared nonessential personnel from the area, and contacted the explosive ordnance disposal (EOD) unit to take control of the hazardous training aid. Because of his quick reaction and responsible nature, this life threatening situation was defused promptly. Additionally, he conducted six explosive detector dog demonstrations for the combat support group commander and always informed personnel in the area of all safety procedures.

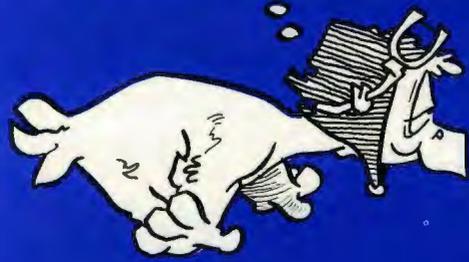
Sgt Woods recently arranged an explosive detector dog training session with EOD personnel utilizing mass quantities of explosives. From this session, he identified to HQ TAC, through his kennel master, a possible training

deficiency with explosive detector dogs. Because mass explosive quantities cause over saturation indoors, he discovered our detector dogs could not determine the odor of explosives in this atmosphere. The deficiency is being reviewed Air Force-wide due solely to Sgt Woods. He completely rebuilt a box used to transport explosive training aids, making them easier to handle and much safer. Sgt Woods also ensures all personnel authorized to handle explosive training aids are thoroughly indoctrinated about the hazards and capabilities of each type of explosive utilized by his MWD section.

Sgt Woods' outstanding professional abilities, initiative, leadership, and devotion to duty were recognized by the Twelfth Air Force Explosive Safety Staff Assistant Team when he was named as an outstanding performer. Sgt Woods' explosive safety program was said to be the "best seen to date" by the inspector. His high standards of excellence reflect significantly on the 366th Security Police Squadron as well as the 366th Tactical Fighter Wing. Sgt Woods continually exhibits the highest standards of professional military conduct. His ability to articulate the technical knowledge he retains to persons unaware of explosives dangers, always with an emphasis on safety, makes him an asset to any operation involving explosives and has earned him the TAC Weapons Safety Award of the Quarter.

Fleagle

I JUS' LOVE THESE LAZY DAYS OF SUMMER.



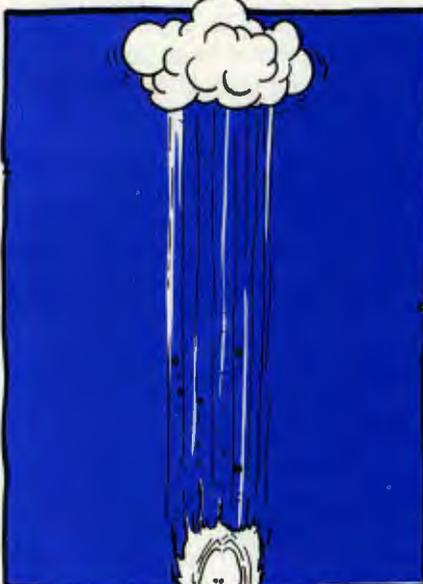
A BODY COULD JUS' MOSEY 'ROUND UP HERE ALL DAY FERGETTIN' ALL TH' HUSTLE AND BUSTLE ON TH' GROUND BELOW.



NOT EVEN THAT PESKY LITTLE RUMBLE IN TH' CLOUDS 'ROUND HERE CAN MAR TH' PLEASURE OF THIS FLIGHT.



AIN'T FLEAGLE LEARNT BY NOW THAT TH' LAZY DAYS OF SUMMER BRINGS ON TH' SEASON OF LIGHTIN' AND THUNDER?



HARDISON

WHO ME WRITE AN ARTICLE???



There I was . . . hired as the editor for the best safety magazine available to the Tactical Air Forces (TAF) — *TAC Attack*. Seventeen thousand copies distributed monthly to over 23 countries, with many of the articles picked up and reprinted in other safety journals. As I first looked around at all the articles which came in and, more importantly, the ones the editor was expected to write, I wondered — have I gotten in over my head? At that point I had written only one safety article during my entire life! I remembered with horror my last English course in college — Technical Writing 301. As an engineering student I worked hard in that class and I was very grateful to receive my “C,” so I wouldn’t have to take it over again.

One year and many articles later, I’ve had the opportunity to learn a few rules of thumb for writing for *TAC Attack*. I’d like to share a few of them and, hopefully, dispel any fears or rumors which may be holding you back from sending in that story you’ve been so proudly telling to others.

First, you **don’t** have to be an English major. If you are, it won’t be held against you. For the rest of us, the staff here (not the Editor) does an outstanding job at making sure the sentences meet the minimum grammar requirements. The entire staff stands ready to help you polish up your article, so it clearly communicates your message.

Second, you **don't** have to be an experienced writer. It does get easier with experience, but we fully guarantee that your first article will be the best you have written to date.

Third, believe in what you want to share. I love flying, sailing, scuba diving, hiking, and a host of other activities. Those are the ones I write about, because those are the ones that are a part of me — and that comes across to the reader. For your first article, try sharing from your gut one story that's been significant to you.

Fourth, if you are comfortable making an outline, it is an excellent way to help organize your thoughts. Then you can add supporting sentences and throw out everything else which doesn't support your main purpose. Another method is to jot down the ideas as they come to you and then go back and put them in a logical sequence.

Fifth, if at all possible, use a "There I was . . ." type of format. Try writing in the first person (I saw . . .) rather than third person (The observer saw . . .). When you talk about what happened to you, what you thought, and how you

felt, it almost always comes across as a good story.

Sixth, if you are having trouble writing your thoughts down, don't write them — instead talk them! The English class "book answer" is you should always develop an outline first and then write your story. However, many of us can't seem to tell a good story unless we move our hands and you can't move'em while you are writing with a stubby pencil or typing on a computer keyboard. But you can sit down with a friend and put a tape recorder nearby while you tell them the story. I've never seen anyone at the bar on Friday night pull out their outline before they began the world's greatest adventure — and most of those stories would be great for the magazine!

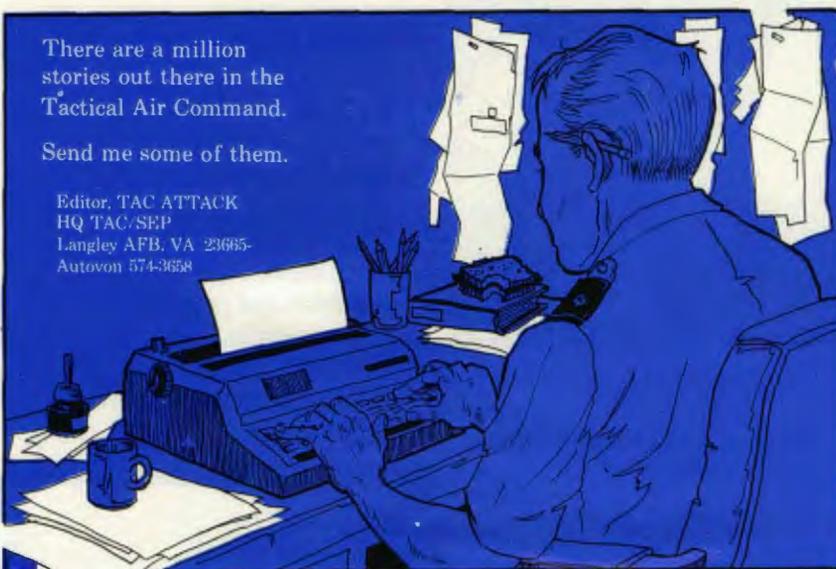
Seventh, remember who you are writing for — us! — aircrews, maintainers, and support personnel. Any article with a way to accomplish the mission smarter, safer, and more effectively will usually fit in great. We are looking for stories the readers can use to do their job better and safer or which can reduce mishaps on or

off duty.

Eighth, don't plagiarize — it can get you in legal trouble. If you want to quote someone, fine — but be sure to give them appropriate credit for the words. For factual statements (72% of Americans . . .), please let us know where you got the facts (daily newspaper, magazine, etc.) if you can. If you are guessing, let us know and we will try to get the real numbers or edit in "I've heard it said. . . ."

Ninth, unless you want it to be anonymous, be sure to include your name, unit, and autovon telephone number. That way we can let you know we received it (yes Virginia, things do get lost in the mail) and we can clarify any questions we may have.

The Tenth and most important tip — get started. Look back over your experiences or keep a close eye out for an interesting situation. Then jot down your ideas using crayon, pen, or pencil — as long as we can read it. Typed doubled spaced drafts are nice and a 5 1/4 inch computer disk with a Wordstar, WordPerfect, or ASCII file is a great help (yes, we'll return your disk). But it's the story we want, not just a pretty looking page. Just look at this issue and you will see that anywhere from one paragraph to eight pages double spaced (5 pages in the magazine) are published. If you have any questions about the suitability of a subject, just give me a call at AV 574-3658. We'll gladly answer any questions you have about getting your "There I was . . ." out to the troops.



There are a million stories out there in the Tactical Air Command.

Send me some of them.

Editor, TAC ATTACK
HQ TAC/SEP
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Autovon 574-3658

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

During a locally generated exercise, Sgt White was assigned to perform a quick-turn inspection of an F-15 aircraft for an integrated combat turnaround (ICT). The quick-turn inspection requires a walk around, aircraft battle damage check, and a servicing check; it is not as in-depth as a normal thru-flight inspection. Sgt White, however, is one of the 33 TFW's most thorough and dedicated crew chiefs. As the aircraft was being loaded, he acquired a maintenance stand and inspected the top half of the engine augmentors which are not visible from the ground. During his inspection, Sgt White found a broken bellcrank linkage rod and immediately grounded the aircraft and initiated an investigation. The failure was traced to a broken sync ring, an assembly designed to keep the augmentor functioning properly. Sgt White was instrumental in preventing an aircraft mishap. If the aircraft had flown, an augmentor burn-through would have occurred when afterburner was selected.

Sgt White's extra effort, awareness, and attention to detail prevented the loss of a valuable asset. He is a dedicated and reliable NCO who played a major role in mishap prevention and mission accomplishment. This exceptional NCO displays a keen attention to detail in all of his daily duties. Sgt White, in recognition of his leadership in mishap prevention, has



Sergeant Larry S. White
33 AGS, 33 TFW
Eglin AFB FL



Captain Richard L. Frazier
27 CSG, 27 TFW
Cannon AFB NM

earned the TAC Outstanding Achievement in Safety Award.

Captain Richard L. Frazier of the 27th Combat Support Group, 27th Tactical Fighter Wing, Cannon AFB, New Mexico, was the first to arrive at the scene of a major two-car accident involving four teen-aged females. Arriving just seconds after the accident, Capt Frazier calmed a hysterical driver whose passenger had been projected through the rear window of the vehicle. He made a sweep of the area, located the victim and determined she was still alive. When well meaning onlookers wanted to move the injured teen-ager, he convinced them that moving her would complicate her injuries or could even result in death. He then went back to check on the other three victims, one of whom was trapped inside a badly damaged vehicle. He moved onlookers to a safe distance and calmed the victim. Seeing that rush-hour traffic had snarled to several dozen vehicles deep, Capt Frazier began to direct traffic to clear the intersection for the arrival of emergency vehicles. He continued directing traffic until relieved by Clovis Police. Capt Frazier's actions probably saved a life, prevented additional accidents and provided critical information to medical and police personnel, and have earned him the TAC Outstanding Achievement in Safety Award.



SOMETHING NEW: The TAC's TOP 5 listing is now based on Command-Control Class A Mishap free months. Command-Control mishaps are those which could have been avoided through actions/performance by someone wearing a TAC patch.

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

Total		
APR	THRU	APR
	FY 90	FY 89
3	15	14
1	7	4
2/0	9/0	11/3
0/0	1/1	0/0

TAC		
APR	THRU	APR
	FY 90	FY 89
2	10	9
1	3	2
1/0	6/0	6/1
0/0	1/1	0/0

ANG		
APR	THRU	APR
	FY 90	FY 89
1	2	5
0	2	2
1/0	1/0	5/2
0/0	0/0	0/0

AFR		
APR	THRU	APR
	FY 90	FY 89
0	3	0
0	2	0
0/0	2/0	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

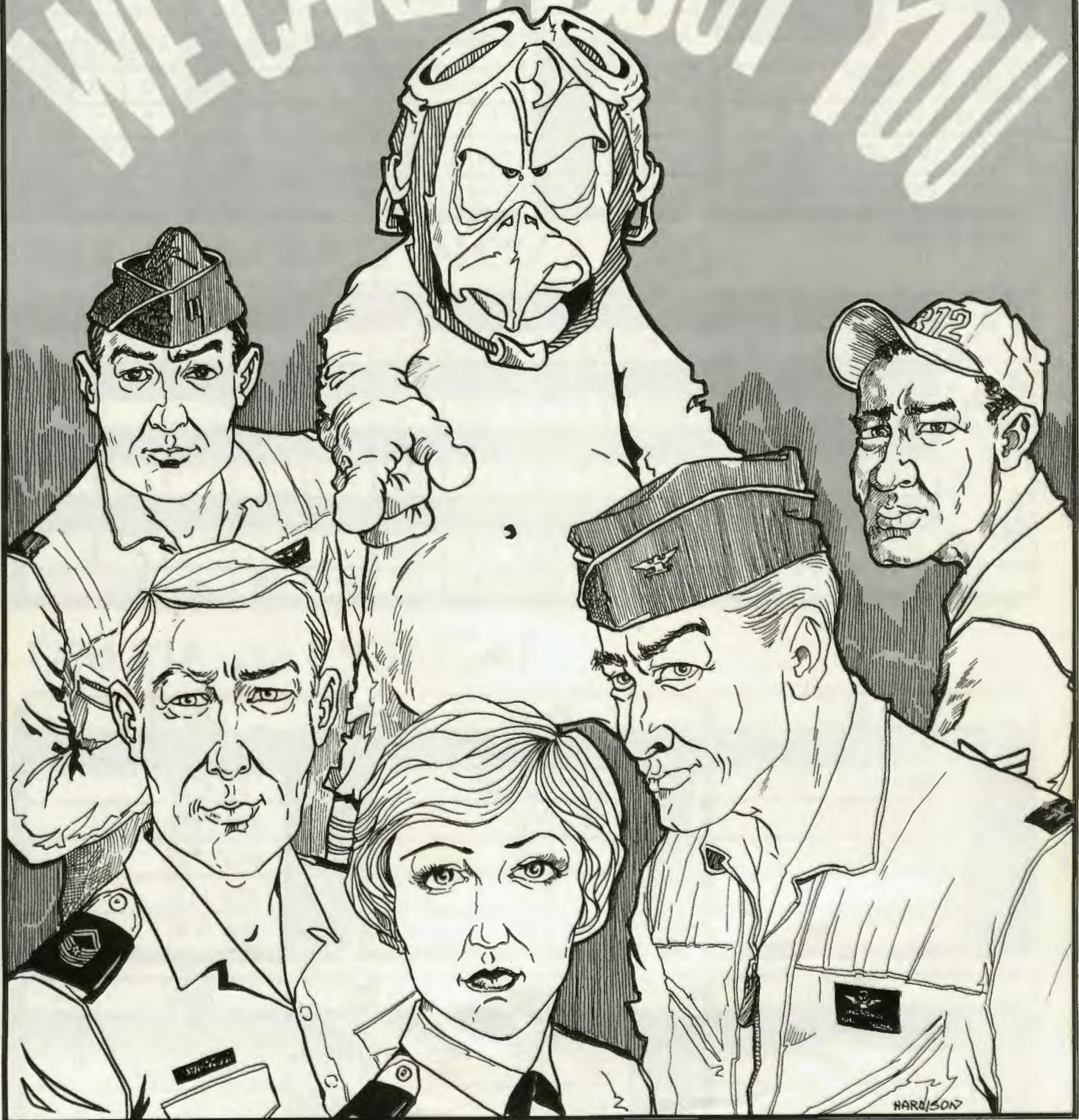
	FY 89	MONTH											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TAC	FY 89	1.7	2.7	3.0	3.2	2.6	2.4	2.3	2.9	2.6	2.5	2.6	2.4
	FY 90	1.8	2.8	2.7	3.0	2.4	2.7	2.9					
ANG	FY 89	0.0	0.0	1.5	2.3	2.8	3.1	3.2	2.8	3.0	3.6	3.2	3.3
	FY 90	0.0	0.0	1.6	1.3	1.1	0.9	1.5					
AFR	FY 89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	FY 90	20.4	11.2	8.2	5.9	4.8	7.9	6.8					
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	2.7	2.2	2.5	2.8					

TAC'S TOP 5 thru APR 1990

1st AF		9th AF		12th AF	
COMMAND-CONTROLLED CLASS A MISHAP FREE MONTHS*					
126	48 FIS	59	507 TAIRCW	140	58 TTW
51	57 FIS	51	347 TFW	47	388 TFW
11	325 TTW	34	1 TFW	36	479 TTW
		30	4 TFW	28	355 TTW
		17	354 TFW	27	366 TFW

ANG		AFRES		DRUs	
COMMAND-CONTROLLED CLASS A MISHAP FREE MONTHS*					
147	119 FIG	145	301 TFW	163	552 AWACW
423	147 FIG	108	482 TFW	54	28 AD
227	110 TASG	105	924 TFG	33	USAFTAWC
207	177 FIG	93	906 TFG	25	USAFTFWC
207	138 TFG	68	507 TFG		

WE CARE ABOUT YOU



DO YOU?

we care about you do you?