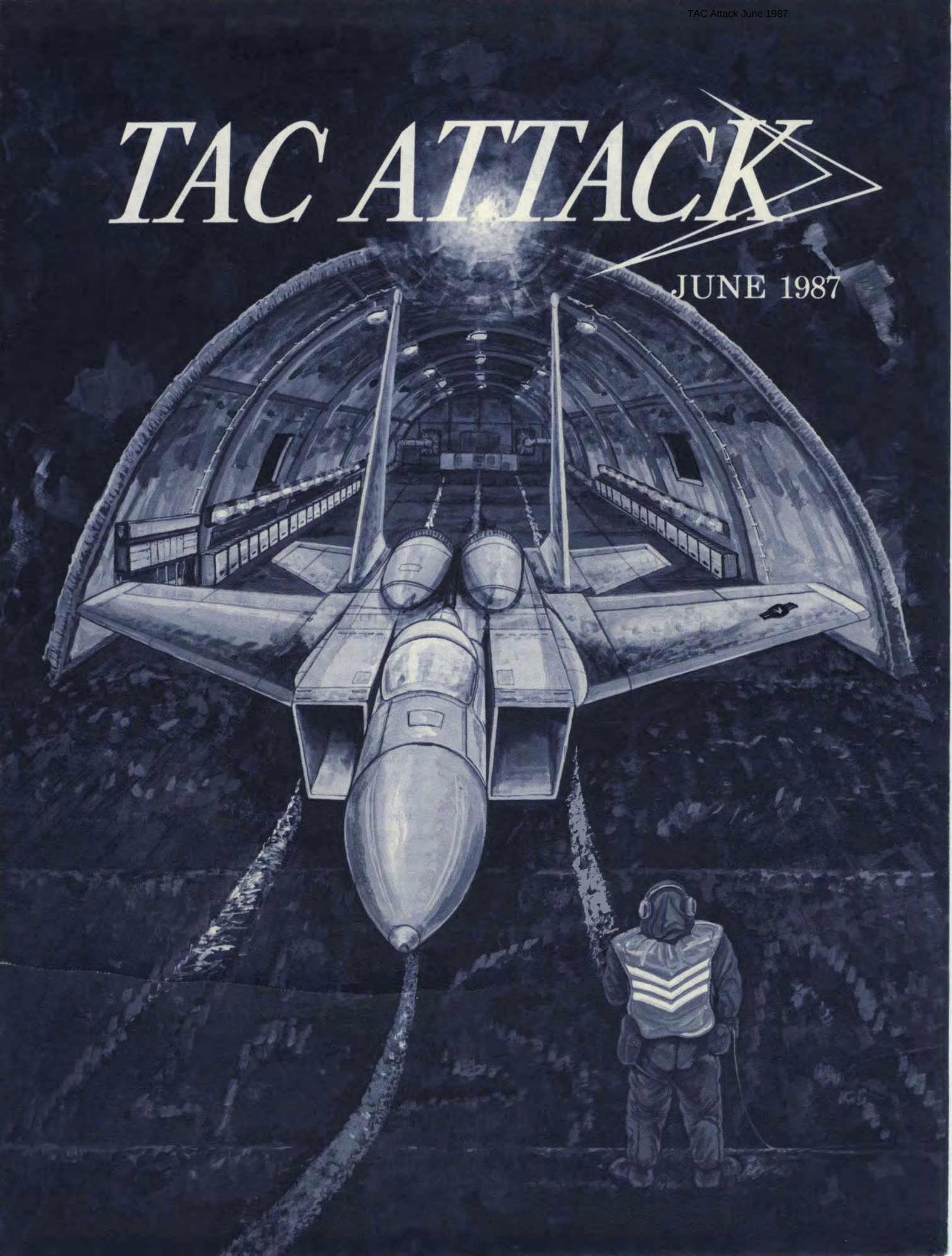
TAC ATTACK

JUNE 1987



ANGLE OF ATTACK

In this business, there never seem to be enough long periods of mishap-free flying, whether on the ground, in the weapons area or in the air. (The 22 April mishap ended one of our most successful stretches of Class A mishap-free flying periods in the command's history.) So we have begun to examine and analyze our "short bursts of success" more closely. We don't have all the cards dealt yet, but it looks as though we are identifying a strong suit. There are indicators.

For the past 10 months we have been analyzing the history, record and activity of several units to see if we can get a better understanding of the factors that influence a wing's mission rhythm. It's been a very tedious task because the major problem has been information. Oh, there are tons of data, but there just isn't a central information gathering system or a central data bank. We have a plan to funnel and store the information and changes so that it can be readily available for future analysis at all levels. That's all part of the COMPAS program that is being prepared for testing at several TAC bases. (See the January '87 TAC ATTACK for details.)

The theory is we have many indicators to tell us our mishap potential is on the rise, but we simply don't have the means to identify and analyze them as a whole. Sure, we trend and analyze (one item or area at a time) for better management—from maintenance and ops, (better in maintenance than in ops) to sick call and convictions, to minor incidents and mishaps—but are we seeing the *entire* picture in terms of risk management? We think not and are working so that we will. The real pulse of a unit in terms of managing risks is taken from all the indicators, not just a few.

Our objective is realistic. We do not expect to become fortune tellers and predict who, when and where the next mishap will take place. But we do expect to be able to identify/quantify mishap potential in terms of a vulnerability window. So, what does this mean to you in the cockpit? Well, what we're shooting for is to help give TAC's commanders, crewmembers and maintainers the heightened awareness that is now typical of what we experience *after* a mishap. In other words, a more refined (read *useful*) identification of the vulnerability window.

We're convinced that the key to our prior and future success is *awareness*—and how well we can collectively raise awareness on a daily basis. Even more important is how well we can heighten awareness when our mishap potential is up, regardless of when or how often it rises.

The tough question remaining is, "How do we know when mishap potential is up?" Besides experience and/or that funny feeling deep in your gut (always a good thing to pay attention to), what else is there? Believe me, there are indicators—plenty of them—and we're going to try and get our arms around as many as we need to. Then we will be able to give you and your commanders something more than statistics to help you reduce and manage the risks confronting you daily.

There are many angles to this job, and we believe the above approach, in conjunction with COMPAS, is going to help maximize the attack.

Edsel J. DeVille

EDSEL J. DE VILLE, Colonel, USAF
Chief of Safety

TAC ATTACK

DEPARTMENT OF THE AIR FORCE

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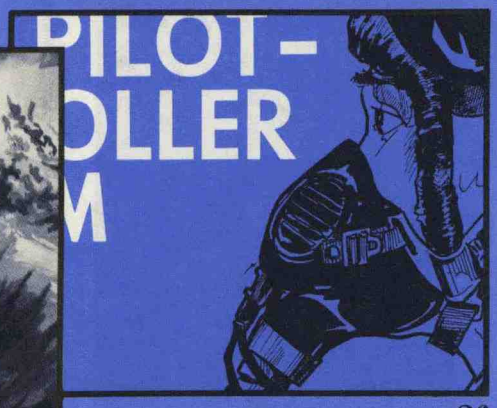

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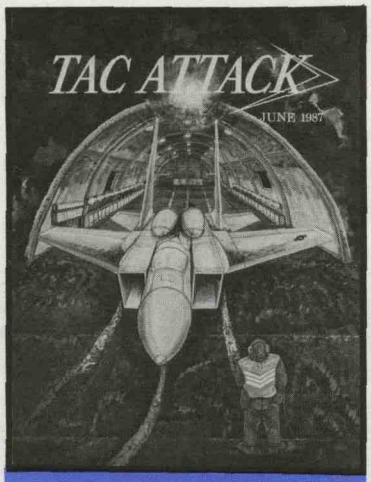

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it ain't

Brigadier General Malcolm B. Armstrong
831 AD/CC
George AFB, California

Aviation, like medicine, is one of those rare professions where mistakes have a strong potential to lead to catastrophe, including loss of lives. As aviation professionals, it is critical that each of us be prepared to deal with this reality. The only way to guarantee we have no catastrophes is to guarantee we make no mistakes. Since none of us is capable of such perfection, our next most logical choice is to find ways to reduce the risk. We can do that by either reducing the size of our mistakes or how frequently we commit them, preferably both.

Our predecessors in this profession provided us with a simple principle that both reduces the size and frequency of our inevitable mistakes: PLAN WHAT YOU INTEND TO DO, THEN DO WHAT YOU HAVE PLANNED.

To the quick thinking combat aviator, this principle seems to violate another important principle learned early in the study of military history—FLEXIBILITY IS THE KEY TO AIR POWER.

So how do we gain this powerful element of flexibility if we adhere to such a rigid rule as planning everything we intend to do and then doing only what we have planned? The answer is quite simple. We build flexibility into our plan. Not an easy thing to do, but necessary.

This is the point where we first begin to separate the professional aviators from the amateurs. And it is also the fundamental difference that separates those warrior-aviators who blend with their machines as lethal slayers of the enemy from those who simply go out and fly around in high performance aircraft.

As we think back over our experiences and recall the aviators we admired most (the ones who consistently found the target and killed it, whether in the air or on the ground) they were those who consistently exercised the most flexibility. No matter what situation arose, these aviators always seemed to recognize it and adjust to it immediately. They appeared to know instinctively what to do to keep the mission

natural

moving smoothly toward the briefed objectives, except for those few occasions where they would call "knock-it-off." But even then, things tended to go smoothly, with no pondering of the decision to take it home and try again another day. One would expect such quick decisions might frequently have turned out wrong, but they never did with these guys.

How could that select few have won so consistently when they stayed to fight and also been so consistently right when they disengaged to try another time? How did each of them become what we call a "natural"? The answer is they planned it that way! In planning and briefing with these leaders, I recall that they planned hard. They knew and briefed the parameters they expected of themselves, their flight members, friendly ground troops and other support. They knew and briefed what they expected of

When flying low level, the first priority is "Don't hit the ground."

IT AIN'T NATURAL

the FAC, the tanker, the enemy aircraft, enemy radar, enemy SAMs, enemy gunners and other ground troops. They knew what to expect of the weather and terrain. And as they covered their expectations, they thought and talked their way through all the possible variations that might occur instead. They then planned ahead of time their own wisest options to these variations. That's why their adjustments always appeared instinctive. The basic decisions had already been made in the comfort of the planning room, based on the priorities of the day. All that remained was to recognize a situation and respond—to include when to KNOCK IT OFF.

These leaders knew about big priorities and little priorities. They knew, for instance, when flying low level, the first priority is "Don't hit the ground." Under today's radar threat, we spend a lot of time close to the ground at high speed to avoid or delay detection by the enemy. This kind of flying demands precise navigation to get us to a point where we can acquire the target and successfully attack it on the first pass. It also places us within five to ten seconds of collision with the ground. We must be certain that we never go more than half that amount of time without checking all the available perceptors which could help warn us of that impending collision: vision out the front, peripheral vision, barometric altimeter, radar altimeter, terrain following or avoidance radar scope, other aircrew members, etc. The need for precise navigation will tend to focus our attention, so we must develop an unshakable personal discipline to maintain our cross check of terrain clearance.

Even if I'm under attack, I'd rather take a hit from the enemy than collide with the ground.

The Pk of the ground is approximately one, easily our most lethal adversary. If I hit the ground, in peace or in war, I won't be killing any more of the enemy, and I will have cost my country a valuable aircraft and aircrew for the remainder of the conflict. Even if I'm under attack, I'd rather take a hit from the enemy than collide with the ground. The survival rates just don't compare at all.

If we're flying formation at low altitude, a frequent happening, there are two other necessities which try to pull our focus away from that first priority: precise navigation and maintaining a mutual support position. But the first priority still remains, "Don't hit the ground." Formation flying also

Know how far you are in seconds from collision and never go more than half that amount of time without checking all available perceptors. Bottom line:
CROSSCHECK,
CROSSCHECK,
CROSSCHECK.

injects another big priority into the game, "Don't hit your leader, or wingman." The same principle applies. Know how far you are in seconds from collision and never go more than half that amount of time without checking all available perceptors. Bottom line: CROSSCHECK, CROSSCHECK, CROSSCHECK.

Need more examples? How about air-to-ground gunnery? First priority is the same as always: "Don't hit the ground." Close behind: "Don't hit your leader/wingman." On a mission requiring aerial refueling, you're guaranteed to fail if you have a midair collision with the tanker. An added big priority: don't bomb or shoot something you don't intend to. Missing your intended target is one thing, but hitting the wrong one is grossly unprofessional, and in combat it's counterproductive. Killing someone other than the enemy is not conducive to winning wars. We need our friends to remain friends and the neutrals to remain neutral. That's why, in peacetime, the range safety officer and everyone above him tend to get highly upset when we don't do it right.

Why do we need to focus so heavily on big priorities versus little priorities? Because we have proven over and over with dumb accidents how very susceptible we are to overfocusing on small priorities at the expense of big ones. Obviously, we don't allow this to happen because we can't comprehend the differences in priorities; rather, we are so susceptible because we teach ourselves to be.

I do not mean that susceptibility to overfocus or channelization of attention are our objectives, but they do tend to be by-products of the way we train. Over time, we have developed effective teaching/learning methods by focusing on small increments of large, complex tasks, and combining these increments in increasing numbers and complexity until we have conquered the entire process. We can't stop teaching that way or we would never be able to meet any but the simplest challenges. However, our task now becomes one of *recognizing* that susceptibility to overfocus on one part of a task at the expense of another part. We must recognize that, no matter how skillful or experienced we are.

We must know what the big priorities are in our business and never allow little priorities to override them, even if it means knocking it off and coming back through all those defenses again tomorrow for another try. It takes lots of planning and lots of discipline to do it, but those are the ingredients necessary for each of the rest of us to become a "natural." →

TAC tips

INTERESTING ITEMS,
MISHAPS WITH MORALS,
FOR THE TAC AIRCREWMAN

Knowledge is Power

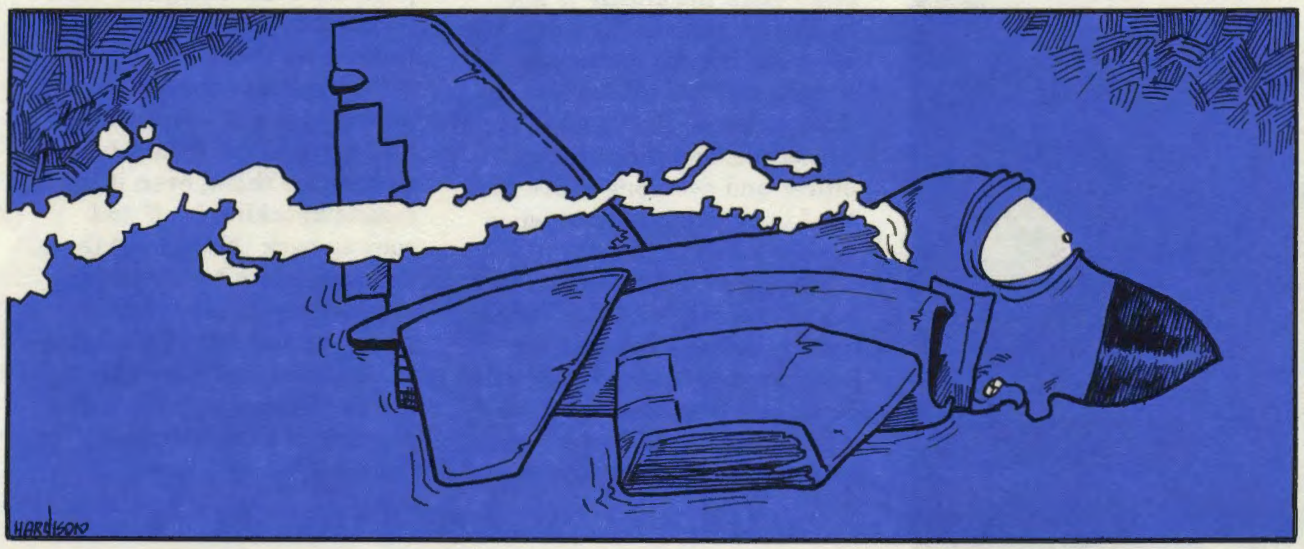
If you've survived an ejection, you probably have more useful things to say about the experience than a life support officer who hasn't. Firsthand experience makes you the new expert. Experience is by far the best teacher. But we can't all experience everything.

The next best thing to actual experience is learning the lesson from someone who has just lived through an experience. If you're armed with some practical knowledge that someone else learned the hard way, the situation you find yourself in the middle of is less an unknown quantity. You may not feel like you've been there before, but you'll probably have a better idea of what to expect next.

Sometimes a little firsthand information can make a big difference. Some time ago, an F-4 crew experienced an electrical fire. Flames and smoke were coming from a circuit breaker panel in the rear cockpit. The crew selected 100-percent oxygen; then, because of the fire's intensity, they zoomed the aircraft and ejected. Because of what we learned from this mishap, other aircrews in the F-4 community learned what to expect with such an emergency.

Some months later, when an electrical fire started on the circuit breaker panel in the rear cockpit of another F-4, the aircrew reacted differently. The pilot shut off the aircraft generators, and the WSO smothered the flames with his flight gloves. The fire went out and remained out when the generators were turned back on later. This aircrew landed safely. The difference was knowledge.

Having a solid grasp of the flight manual's discussion of aircraft systems helps prepare us for eventual emergencies. But that may not be enough. Supplementing that knowledge with hangar flying sessions, trips to FTD, picking the brains of pilots with several stars on their sleeves and reading "there I was" stories contributes to a healthy personal repertoire of practical, firsthand information. Knowledge that's available when "you are there."



AIRCREW OF DISTINCTION

Captain William V. Cagle, instructor pilot (IP), and Captain Patrick D. Mullen, upgrading IP, had just entered a low level route at 500 feet AGL when a large bird struck the right forward windscreen of their F-111D aircraft. The bird strike at 510 knots left an 8 by 15-inch hole in the windscreen and scattered bird remains, plexiglass and metal fragments throughout the cockpit. Both men were dazed, suffering from numerous cuts and bruises. Captain Mullen, flying in the right seat, avoided serious injury by ducking just prior to the impact as the bird and shattered plexiglass demolished the top of his seat. Captain Cagle was severely bruised on the right arm.

Fighting disorientation from the wind blast, Captain Cagle maintained aircraft control, called "knock-it-off," and initiated a climb. Seeing his wingman's difficulty, the flight leader joined on the disabled aircraft and began leading it toward the nearest suitable airfield which was 100 miles away.

The severity of the wind blast through the hole in the windscreen was so deafening that neither Captain Cagle nor Captain Mullen could talk to each other or their leader. Because Captain Cagle could not receive or transmit on the radio, the flight leader coordinated with all controlling agencies en route to the recovery base.

While accomplishing the necessary emergency checklists, the crew discovered that the bird had destroyed the center circuit breaker panel. This prevented dumping fuel and necessitated an alternate gear extension. At the landing base, they successfully completed a heavyweight, approach-end barrier engagement.

The superior airmanship and crew coordination demonstrated by Captains Cagle and Mullen saved a valuable combat aircraft.

Capt William V. Cagle **Capt Patrick D. Mullen**

524 TFTS, 27 TFW
Cannon AFB, NM

Break the Chain

Editor's Note: Major Clary is a USAF officer on exchange with the Navy. He has accrued about 900 hours in the A-7E Corsair II with the USN and flew operationally in the A-10 and as a T-37 IP before this assignment. This article was written during his recent Pacific cruise with VA-27.

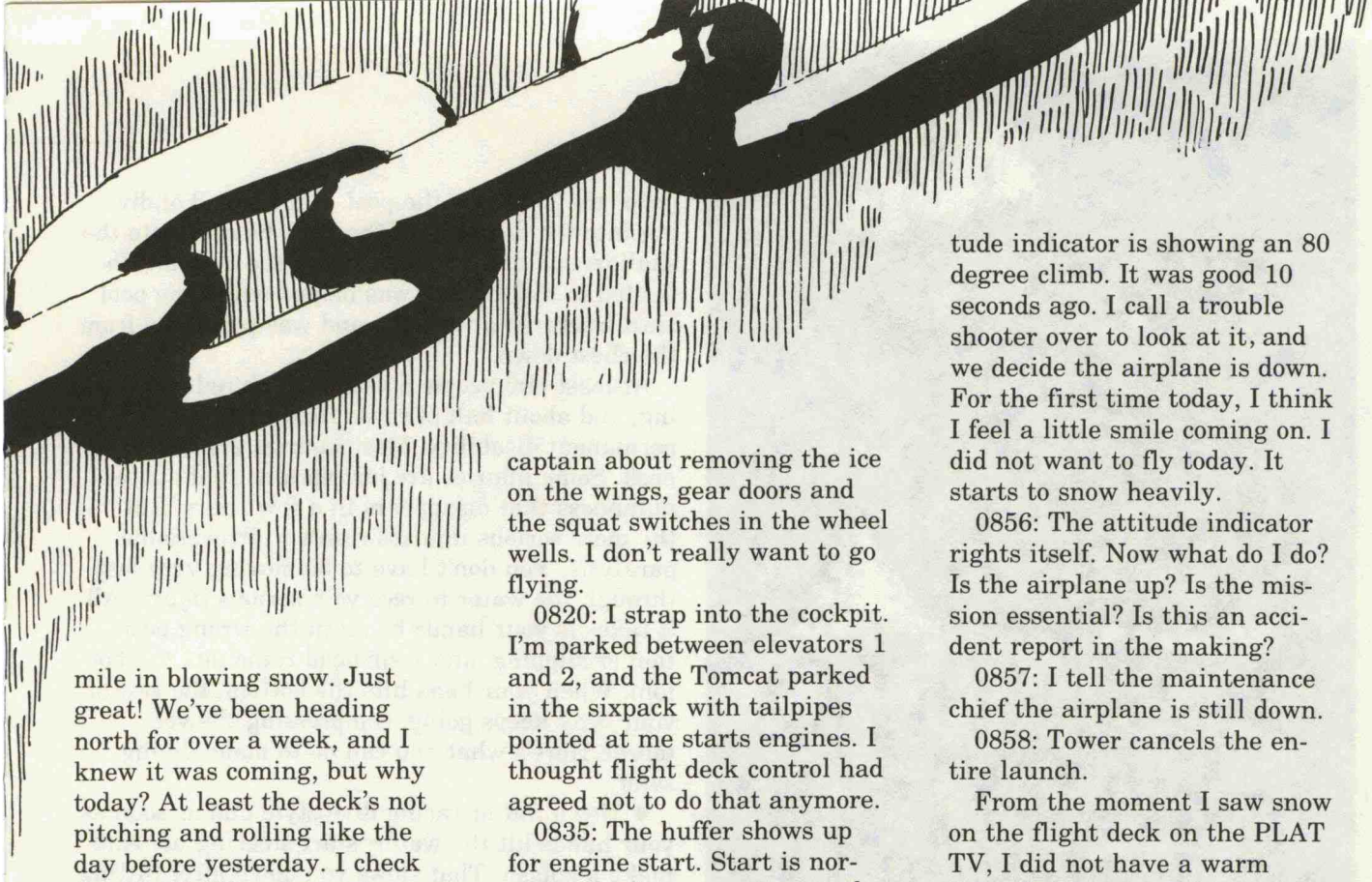
Major Dave Clary
VA-27
NAS Lemoore, CA

0730: The alarm clock goes off. It was set for 0630.

0731: The phone rings. The squadron duty officer calls to tell me that I'm an hour late for the 0700 brief. How did that happen? I know I set the clock ahead one hour last night as we passed through the second time zone in two days. I guess I forgot to reset it two nights ago.

0740: I walk into the ready room. What's going on? It's full of enlisted troops taking a Military Leadership Exam. The duty officer apologizes for not calling me earlier, but he thought I was briefing next door because of the exam in our ready room. I grab the briefing guide, kneeboard cards, my sleepy wingman who just walked into the door and we walk to our sister squadron's ready room next door to brief.

0742: We grab a seat, and check the TV for weather and other pertinent info. Weather is 500 overcast, 2 miles in light snow, winds 280/25, temp 33 degrees, water temp 40 degrees, sea state 6 feet; intermittently 300 sky obscured, ½



mile in blowing snow. Just great! We've been heading north for over a week, and I knew it was coming, but why today? At least the deck's not pitching and rolling like the day before yesterday. I check the PLAT TV and more surprises . . . the flight deck is white. It's covered with snow and ice. I begin to feel uneasy.

0755: I finish the brief. I cover all items in the briefing guide, expand on a couple of cold weather topics, but I wish I had the whole hour to brief as I normally do. I feel even more uneasy.

0810: I hate the rushing to get into my drysuit. I finish reading the book in maintenance control and head for the roof. Boy, I'm hungry. I didn't realize it till just now, but I haven't even had a cup of coffee or a drink of water, not to mention breakfast.

0811: I step out onto the flight deck. Boy, it's cold! I check the footing and it's fair, lots of snow and ice but enough of the nonskid is poking through the ice to prevent a completely slick surface. My airplane is in the process of being deiced. I talk to my plane captain about removing the ice on the wings, gear doors and the squat switches in the wheel wells. I don't really want to go flying.

0820: I strap into the cockpit. I'm parked between elevators 1 and 2, and the Tomcat parked in the sixpack with tailpipes pointed at me starts engines. I thought flight deck control had agreed not to do that anymore.

0835: The huffer shows up for engine start. Start is normal. I don't move any controls for at least five minutes till the hydraulic seals and fluid warm up a bit. When the huffer pulls away, the huffer exhaust is kicking up chunks of ice and spraying it 50 feet across the flight deck. FOD is going to be a big possibility today. Except for my plane captain and trouble shooters eating Tomcat exhaust fumes, the rest of my before takeoff checks are uneventful.

0853: Yellow shirts begin to break airplanes down for taxi. I can't believe we need to fly this badly. But I guess we do. The pressure is on. We have been intercepting Bears for four days now, why should today be any different? An S-3 taxis by and is spraying ice chunks in my direction. I almost shut the engine down as his exhaust sweeps by my intake.

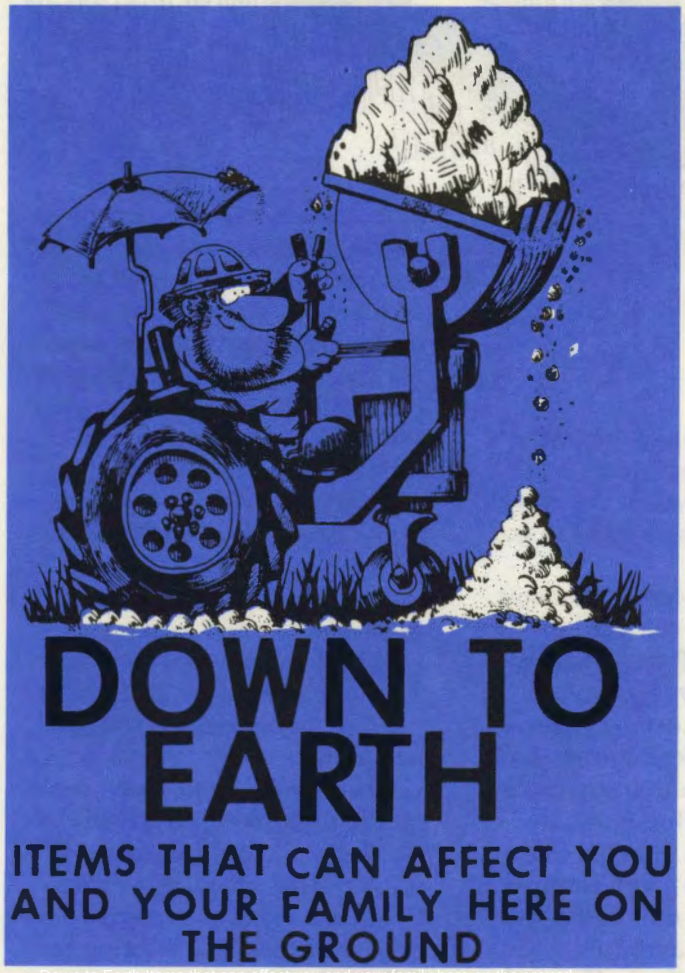
0854: It's my turn to taxi, the blue shirts start to take the chains off. But wait, my attitude indicator is showing an 80 degree climb. It was good 10 seconds ago. I call a trouble shooter over to look at it, and we decide the airplane is down. For the first time today, I think I feel a little smile coming on. I did not want to fly today. It starts to snow heavily.

0856: The attitude indicator rights itself. Now what do I do? Is the airplane up? Is the mission essential? Is this an accident report in the making?

0857: I tell the maintenance chief the airplane is still down.

0858: Tower cancels the entire launch.

From the moment I saw snow on the flight deck on the PLAT TV, I did not have a warm fuzzy feeling about this evolution. Late wake up, hurried brief, no breakfast, briefing in different suroundings, marginal weather, first time operating with snow and ice on the flight deck . . . starting to sound familiar? You always read about those accidents where 10 things had to go wrong before the accident occurred. The reports always say if just one of those things had gone right, or if someone had broken the chain of events, the accident would not have occurred. You have got to recognize when this chain is starting to build, and if necessary, you have got to break the chain. Did I break the chain? Did the tower? I don't know . . . maybe, maybe not. You won't know either unless you stand behind your own good judgment and knock it off when too many breaks in the rhythm of the mission occur; and sometimes one rhythm break is too many.



Down to Earth items that can affect you and your family here on the ground

DIVING - Don't Risk an Injury

Editor's Note: We printed this article 4 years ago because a young airman in TAC was paralyzed from the chest down—the result of a diving incident. Since then, TAC has lost 2 more people from diving incidents: both people dove into the shallow end of a swimming pool—one was on base, the other was off base. This number may not seem high, but diving accidents are the leading cause of **serious** spinal cord injury and usually result in death or, at best, paralysis. So, the story in this article remains the same and so does the advice: don't risk a diving injury.

An airman was at a party one evening where he and several others decided to go swimming in an indoor pool. After swimming for a while, he decided to dive off the side and "torpedo" the length of the pool. But instead of diving into the deep end of the pool, he dove into the shallow end and hit his head on the bottom. He floated to the top and was helped out of the pool. He'd fractured a vertebra and was paralyzed from the chest down.

At least 500 people a year are injured from diving, and about half of those injuries result in permanent disability. Most injuries are to the neck. Some injuries are just sprains that cause numbness that disappears in a few hours. But the more serious injuries result in irreversible paralysis. You don't have to be moving very fast through the water to receive a serious injury. All it takes is your hands being in the wrong position or slipping, and your head rams into the bottom. When your head hits the bottom, the rest of your body keeps going, compressing the vertebrae. Here's what you can do to make diving safer.

- Use a flat or racing dive style and as soon as your hands hit the water, start steering up. And make a splash. That slows you down after hitting the water.
- Never dive or swim alone. If you receive an injury, whether serious or not, you might not be able to get out of the water on your own. Drowning is permanent; your injury might not be.
- Don't dive into the water after drinking alcohol. You know what happens when you drink and drive; the same can be said for drinking and diving.
- Always check out any water before a dive. This means a swimming pool as well as a natural body of water. Get in the water—don't dive in—and see how deep it is and if there is anything dangerous under the water that you might hit.

• Don't count on pool depth markings. The area marked 9 feet might be a very narrow part of the pool, and most divers tend to overshoot the deep area.

• Never dive into above-ground pools. Chances of hitting the bottom are higher than they are for below-ground pools.

• Check the spring of the diving board before you use it. Too much spring could double the momentum of your dive.

• Keep the bottom of a pool free of algae. Algae is slippery and a diver's arms and hands could slip on it, exposing the head for impact.

• If you help someone with a suspected injury out of the water, don't bend the person's head back to help him float. Just support the head and neck and keep the nose and mouth clear of water.

• Never dive where there's a "No Diving" sign. It's not worth the risk finding out why it's there.

Check those hangar doors

High winds, tornadoes and, in the next few months, hurricanes (or typhoons) will be upon us. Here's a lesson learned from Kadena Air Base, Okinawa.

Typhoon Vera: The base had 8 hours advance notice to prepare for the storm. When she hit, Vera was producing 84-knot winds.

All tiedown efforts on the base were effective. Most of the damage came from what would be expected from high winds and rain—structural, roof and window damage to buildings and extensive damage to trees and grounds. But hangar doors gave Kadena some unexpected damage. Investigation revealed that a wheel on a hangar door was previously cracked and had gone unnoticed. This crack expanded and the wheel broke, allowing the door to come loose from its track and fall onto a helicopter rotor.

An aluminum roll-up hangar door, bent from the force of Vera's winds, came off its track and battered an F-15's radome and several pickup trucks.

Base personnel performed a one-time inspection of all hangar doors, placing special emphasis on door wheels. Although they didn't find any more cracked wheels, 8 doors did require mechanical repairs. They also looked for aluminum-type doors and found a few. These doors will be replaced with steel doors as soon as possible; for the short term, the doors will be reinforced.

Does your base need an inspection of hangar doors before high winds show their weaknesses?

TAC COMMANDER'S AWARD FOR FLIGHT SAFETY

The TAC Commander's Award for Flight Safety honors a numbered air force for promoting flight safety. Selection is based on the lowest command-controlled Class A and B flight mishap rate of active units in a calendar year. The 1986 award goes to Ninth Air Force.

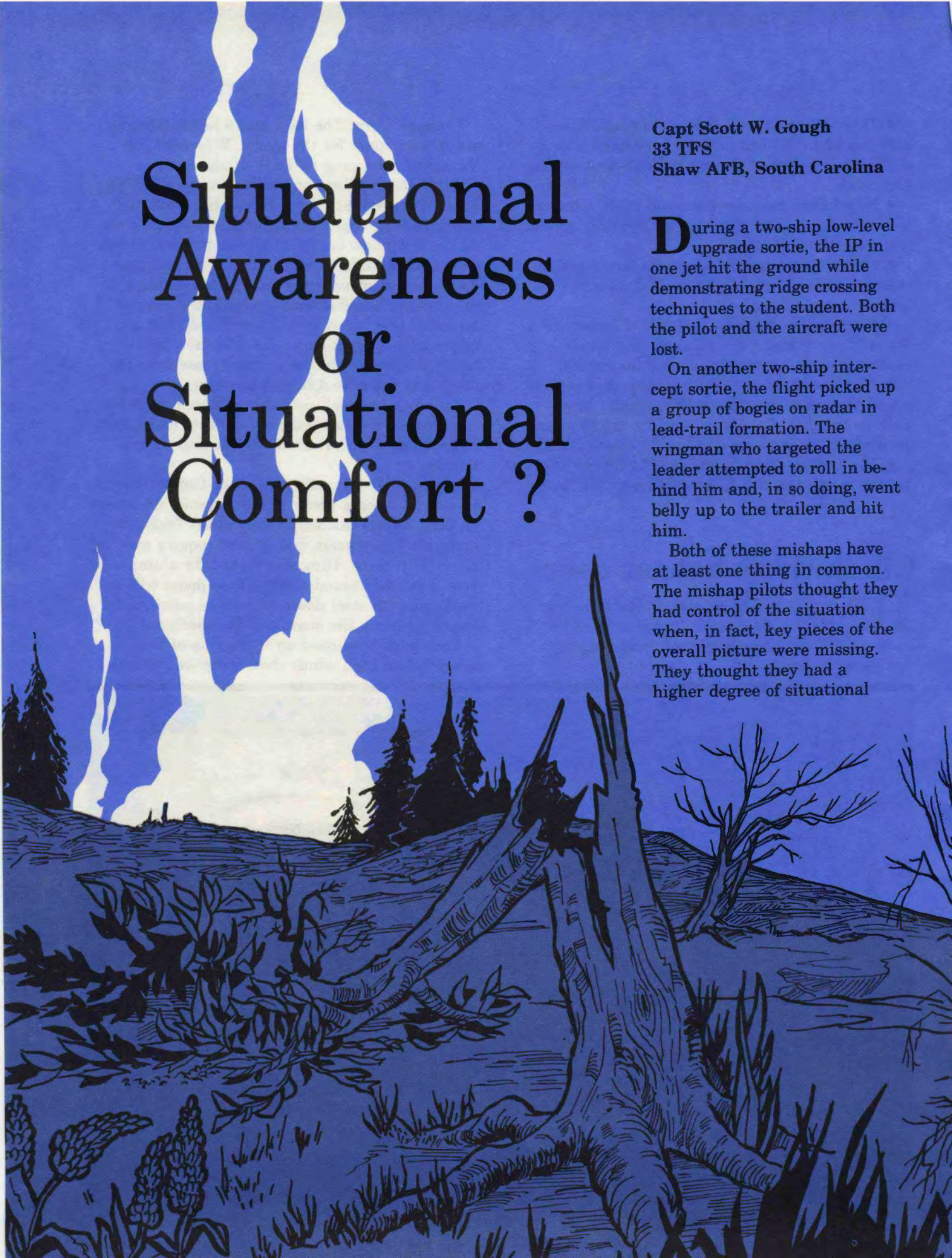
Situational Awareness or Situational Comfort ?

Capt Scott W. Gough
33 TFS
Shaw AFB, South Carolina

During a two-ship low-level upgrade sortie, the IP in one jet hit the ground while demonstrating ridge crossing techniques to the student. Both the pilot and the aircraft were lost.

On another two-ship intercept sortie, the flight picked up a group of bogies on radar in lead-trail formation. The wingman who targeted the leader attempted to roll in behind him and, in so doing, went belly up to the trailer and hit him.

Both of these mishaps have at least one thing in common. The mishap pilots thought they had control of the situation when, in fact, key pieces of the overall picture were missing. They thought they had a higher degree of situational



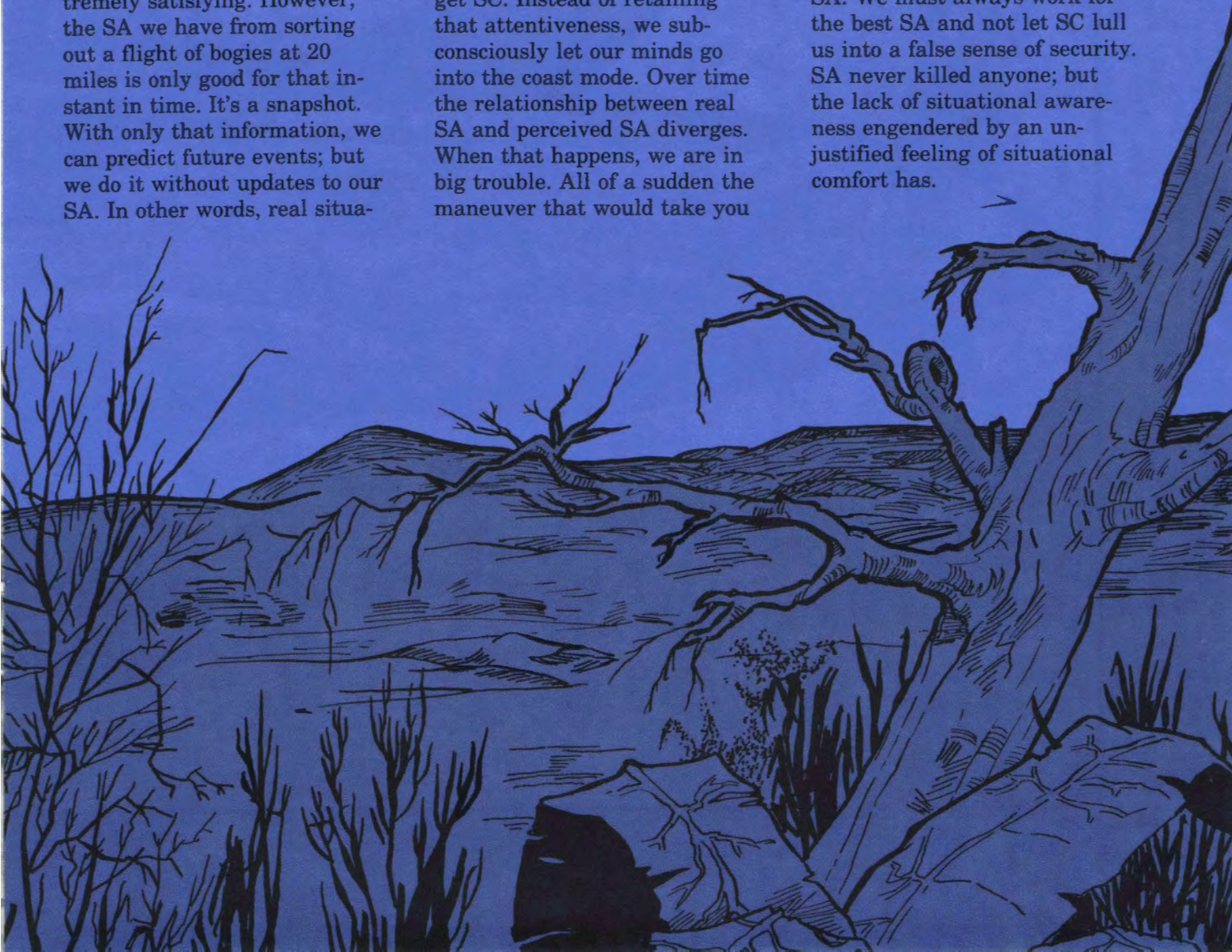
awareness (SA) than subsequent events proved. They certainly had more situational comfort (SC) with what they were doing than they should have.

You ask, "What is situational comfort?" That's a description of how comfortable you feel with your knowledge and control of the situation at any particular moment in flight. Situational comfort is directly proportional to situational awareness. As your SA goes up or down, so does your SC. For example, sorting out a fourship by 20 miles or popping and immediately acquiring a first look target are both extremely satisfying. However, the SA we have from sorting out a flight of bogies at 20 miles is only good for that instant in time. It's a snapshot. With only that information, we can predict future events; but we do it without updates to our SA. In other words, real situational awareness is dynamic and results from constantly updating our knowledge of the world around us.

The insidious aspect of high degrees of SA is in the SC it gives us. As I said, SC is directly proportional to SA; however, SA is not directly proportional to SC. In fact, often the opposite is true. Once we think we have a grip on the world around us, we tend to lower our attentiveness. We breathe a sigh of relief that finally we know what's going on. The sensitivity to information sources (eyeballs, radar, GCI, wingmen, UHF, etc.) that got us there unfortunately slackens once we get SC. Instead of retaining that attentiveness, we subconsciously let our minds go into the coast mode. Over time the relationship between real SA and perceived SA diverges. When that happens, we are in big trouble. All of a sudden the maneuver that would take you over the ridge becomes the one that drives you into the ground or into the trailing jet that you thought was still some distance behind you.

I'm not suggesting that we all fly around like worried neurotics. What I am suggesting is that we recognize two things. First, the world around us in the air is continually changing. Our situational awareness decreases rapidly if it isn't frequently updated. Therefore, we must constantly strive to update our awareness of what's going on.

The second, and most important point, is to recognize that SC should not be confused with SA. We must always work for the best SA and not let SC lull us into a false sense of security. SA never killed anyone; but the lack of situational awareness engendered by an unjustified feeling of situational comfort has.



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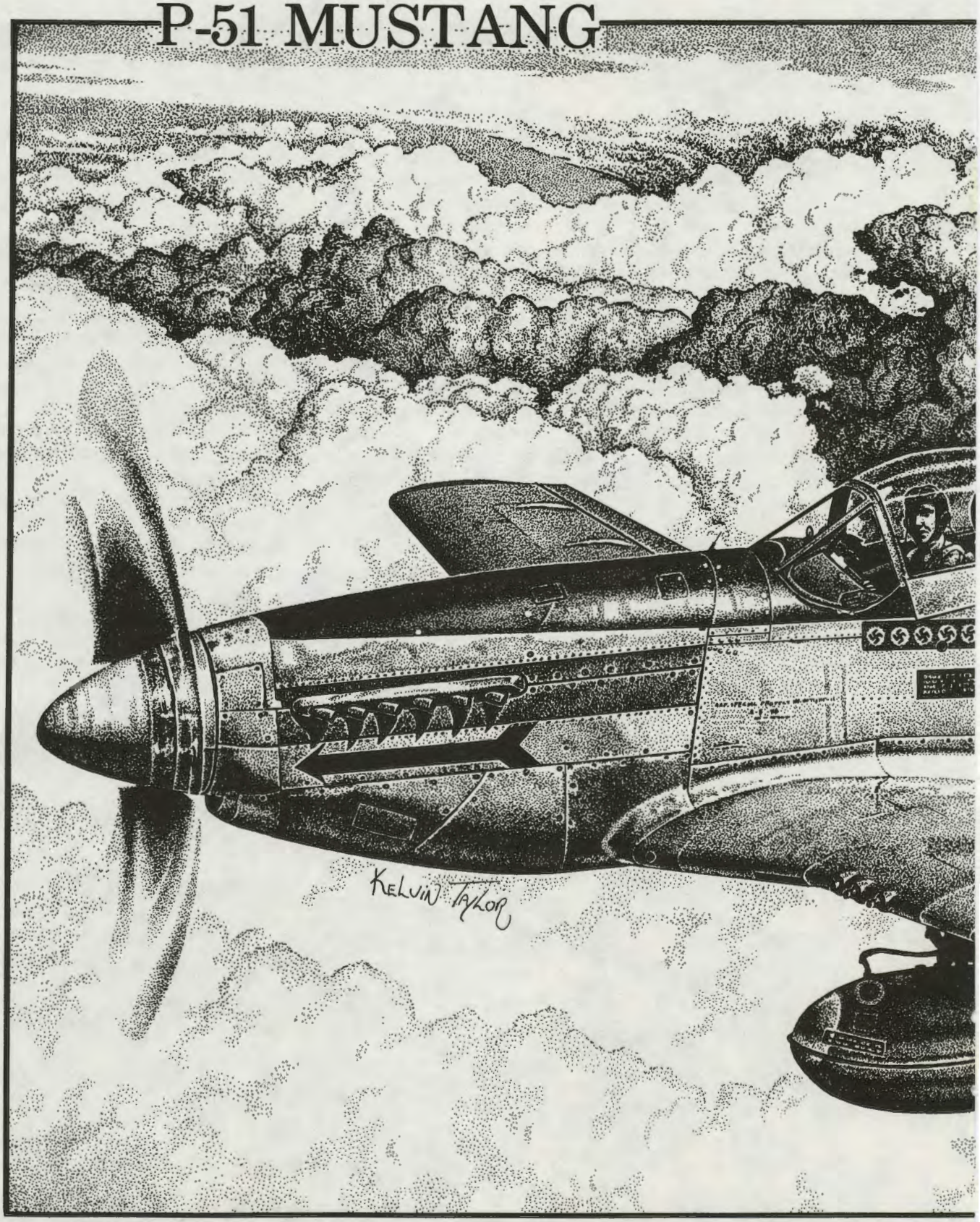


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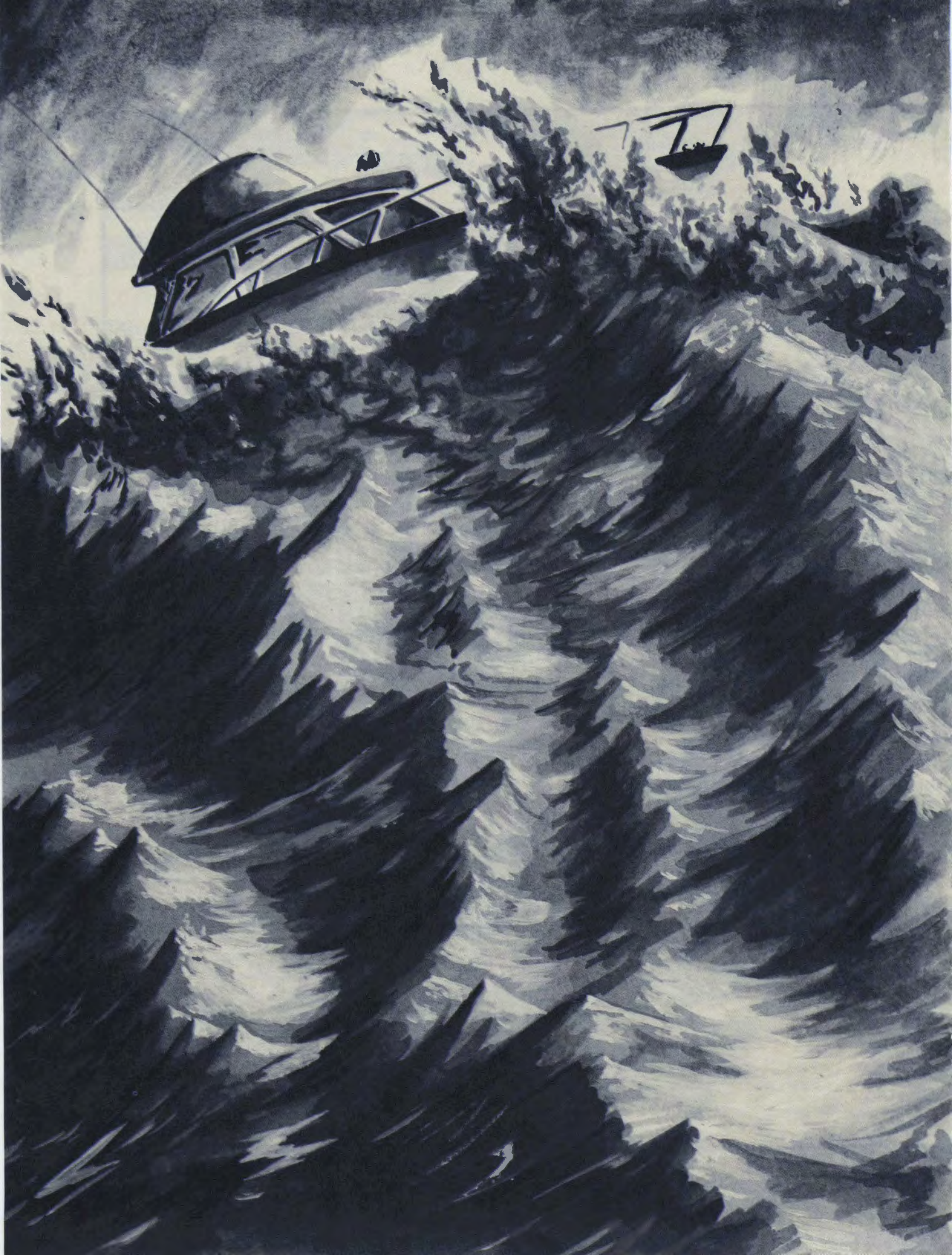


A REAL FISH TALE

Major Philip W. Burke
33 TFW
Eglin AFB, FL

What was intended to be a fun-filled day fishing in the Gulf of Mexico, in fact, turned out to be ten of the worst hours I ever spent in my life and almost ended in tragedy.

Five of us, all stationed at Eglin AFB, Florida, thought we had picked a fairly good day to go into the Gulf. We departed the marina at 0630, just after sunrise. The water in the bay was smooth and the last remnants of early morning fog were dissipating. We were at the first place we wanted to try a little after 0730. The seas were not bad, just a little choppy. The marine forecast called for rain and thunderstorms later in the afternoon when a front was due in, but so far everything looked good. After an hour of trying, without luck, to locate fish, we decided to go out to fourteen miles offshore, where the Gulf floor drops to form a shelf and the bottom fishing is usually pretty good.

We were at the shelf by 1000 hours. The seas had picked up a little, but still they weren't too bad. I didn't think much of it since we were not the only boat in the area. The VHF radio was tuned to the frequency used by charter boats and the only conversations we heard were complaints about the poor fishing conditions and choppy seas.

About 1115 the other boat had left and we were alone in the area. The sea was becoming more unstable so we decided to make one more pass and then head back towards shore. About a half hour after that our motor died and would not restart. The voltage regulator had failed to engage the alternator and we did not have enough battery power to start the engine. We waited thirty minutes before trying to start the engine again; but when that failed, we called the Coast Guard for assistance and **put on our lifejackets.**

The first Coast Guard unit contacted referred us to the Pensacola station since our Loran coordinates placed us closer to it. After about an hour, the Pensacola station informed us that their vessel had radar problems and it would be at least one to two hours before they were underway. Sea conditions had grown a little worse, but still weren't bad enough to place us in anything but a routine recovery condition. However, I was getting very seasick and thought our situation anything but routine.

At 1430 the Coast Guard called and informed us that a ship was on its way and we should expect them in a couple of hours. At that time, things were starting to get serious with seas running six to seven feet and thunderstorms building.

Sure enough, two hours later the rescue vessel established radio contact with us. Seas were in the eight foot range, there was thunder and lightning all around us and we were being bounced around quite a bit. We gave the vessel an updated Loran position and they told us it would be thirty more minutes before they reached us. With darkness approaching and the rain increasing, visibility was decreasing rapidly. At 1700 they reached our last position but they couldn't see us. We sighted their spotlight about a half mile northeast of our position and they requested that we light a flare so that they could find us.

It took five minutes to find a flare. One of my companions took the flare, but after a couple of minutes of reading the directions and not being able to find the other half of the striker, he handed it to me. Having retained some knowledge of flares from my aircrew survival training courses, I was able to locate the appropriate parts. We got the flare going and fifteen minutes later the Coast Guard had us under tow. Sea conditions had grown even worse, and they informed us it would take a little over two hours to reach the docks at Pensacola, twenty-four miles away. We were all relieved and figured the worst of our experience was over. Were we in for a surprise!

A REAL FISH TALE

We tried stuffing pieces of cloth in the holes to keep the water out.

As we limped along, we suddenly realized we were going to be broadsided by a huge wave.

The first hour and a half was really not too bad, other than being bounced around and my becoming seasick again. Then trouble started when the tow rope pulled loose, taking the bow eyehook with it, and leaving three one-half to one inch holes in the bow. We tried stuffing pieces of cloth in the holes to keep the water out. When this didn't work, we rummaged around until we found some cork bobbers that fit and kept the water down to a level that the bilge pump could manage. We resecured the tow rope to the bow cleat and continued on our way. By then it was very dark and the seas so rough that the Coast Guard decided to take a straight course to the docks.

As we limped along, we suddenly realized we were going to be broadsided by a huge wave. I was bounced from one end of the cabin to the other. One of my shipmates was washed overboard and another was saved from the same fate only because he was hanging on to the cabin ladder for dear life. The other two were crumpled into the same corner of the cabin as me. I was amazed that we were still afloat.

I heard Dwayne yell that Bob was overboard. I grabbed the radio microphone and started yelling "Mayday, Mayday, man overboard." The Coast Guard vessel's reaction was outstanding. They cut the tow rope with an axe, swung around and lit the ocean with flares. Bob was on board their vessel within ten minutes. Our boat had taken on quite a bit of water and, like rats, we were ready to desert a sinking ship. The seas were so rough that the Coast Guard had to throw a line from their ship. We tied the line around our waist and jumped into the water to be hauled aboard their vessel. At 2130 that night we finally tied up to the docks.

What did I learn? Whether it's your first trip like mine or your fiftieth like Mike's, you never know when disaster will strike. Realizing that, you've got to make sure you have all the proper safety equipment, and know where it's located and how to use it. Put your personal flotation devices, life jackets (or whatever you choose to call them) on before you ever leave the dock. If you experience boat difficulties in adverse conditions like we did, contact the Coast Guard immediately. Don't wait until things really start to look bad.

Thorough trip planning is just as important as flight planning. Don't push your luck when bad weather and thunderstorms are forecast. There will always be another day for the big fishing trip if the weather's not right the first time you plan to go out. Do everything you can to ensure that you'll be around to enjoy it.

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

During the scheduled phase inspection of an F-15B, SSgt Ward discovered structural damage in the left main wheel well. Further investigation revealed the need for depot assistance to repair this damage. Later, while assisting during another F-15 phase inspection, he checked the same area and again found structural cracks. All unit F-15s were then checked for damage in the main gear wells and several more were discovered with similar structural cracks.

During the phase inspection of another F-15, SSgt Ward discovered a badly cracked rib in the left wing which required depot assistance.

SSgt Ward discovered these damage areas because he went beyond the published inspection guidelines. The area in the wheel well where the cracks were discovered is not an inspection work carded item. The panel covering the wing area where the cracked rib was discovered had been removed to facilitate specialist work for a separate unrelated problem. SSgt Ward's willingness to go a step further than required has resulted in better and safer aircraft and earned him the TAC Outstanding Achievement in Safety Award.

SSgt Richard B. Ward
116 CAMS, 116 TFW
Dobbins AFB, GA

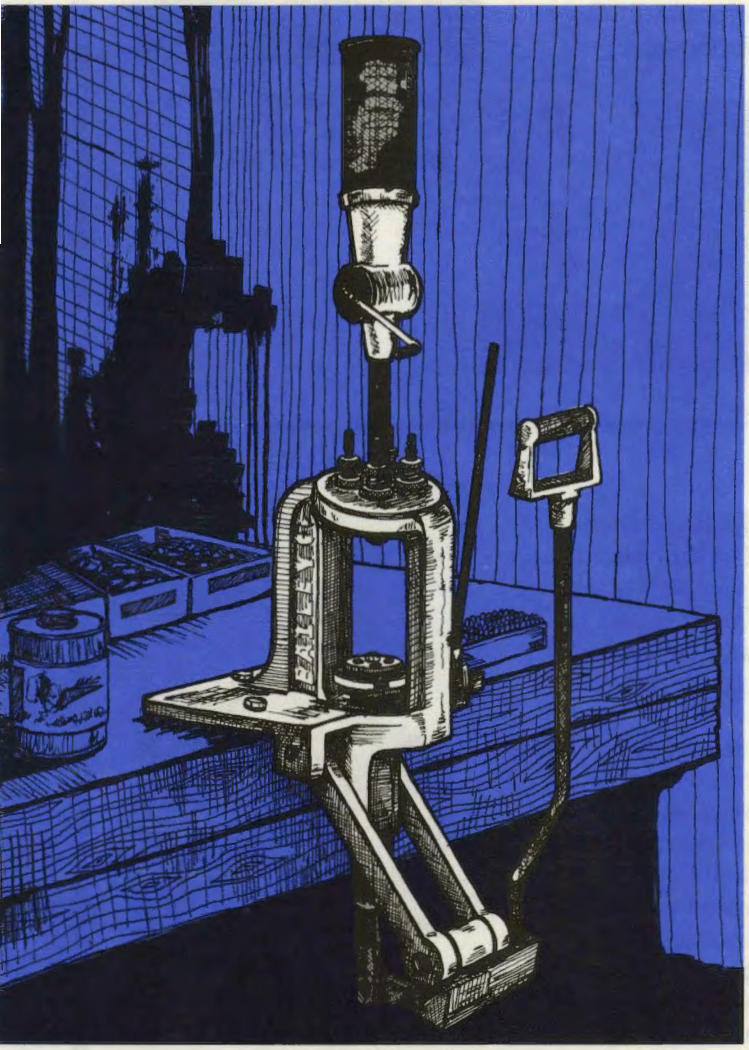
While performing a phase inspection on an F-16 engine, Sgt Steckowski, a recent cross-trainee and three-level apprentice, discovered the augmentor signal pressure fuel line chafing against the forward fan duct. The fuel line had a flat spot from wear and had worn into the fan duct enough to render the duct unserviceable. Upon discovery of this condition, a one-time inspection of all F-100-PW-200 engines at Homestead AFB was accomplished. One other engine located at the engine shop was found to have the same line chafing.

The Pratt and Whitney Company was notified of this condition, and a safety crosstell to other units utilizing affected engines was initiated recommending a one-time inspection of their engines.

The aircraft on which Sgt Steckowski discovered this discrepancy was scheduled to deploy to Europe one month after the phase inspection. Sgt Steckowski's attention to detail prevented a serious emergency that might have occurred during that deployment if the problem had gone undetected.

Sgt Stephan O. Steckowski
31 EMS, 31 TFW
Homestead AFB, FL

RELOADING



TSgt Barry G. Kendrick
1 SPS/SPC (CATM)
Langley AFB, VA

Inflation has a tendency to infect a good many things: gas prices, groceries, cars and college tuition as well as the things that are near and dear to our hearts. It doesn't discriminate between anyone or anything. Well, one of the items high on my list of things near and dear is the price of rifle and handgun ammunition.

The price of ammo has had no problem "keeping up with the Joneses." If you go to your local sporting goods store, your friendly neighborhood hardware store or even good ol' K-Mart looking for a box of .357 magnum rounds, you better have some deep pockets! We're talking a twenty dollar bill and change here. However, one way to shoot down the high prices of ammunition is to load your own. It's fun, cheap and educational. By reloading, you can cut that twenty spot by 60–75% and quality doesn't suffer in the least. If you're planning on doing some serious shooting or you already do and are tired of putting out the bucks, consider reloading your own ammunition.

Reloading is an easy process, but it does have some potential hazards. Safety is absolutely necessary. Handling gunpowder (a propellant) and primers (an explosive) is not for those who don't have a "full burn down the barrel." Careful attention to detail is a must. Here are a few hints to help keep your digits and limbs in the attached mode.

1. Don't mix powders. A little of this, a little of that and a pinch of something else for good measure is fine for the kitchen, but not the reloading bench. Use one powder and one powder only at any given time. In fact, keep only one powder on the bench at a time. Don't experiment.

2. "If a little bit's good, more must be better." Wrong! Stick with what the reloading manuals say—period. When you're working at the pressures that rifle and magnum handguns operate, it doesn't take a lot of powder to increase a couple thousand pounds of pressure. Results here could be disastrous.

3. Be sure you're using the right data. Looking at one cartridge in the books and having something else on the bench doesn't quite cut it. Keep

RULE 3 MISSAPPLIED

apples with apples and oranges with oranges. It's a lot less embarrassing and dangerous later on.

4. Smoking around substances that can remove eye lashes, eyebrows and any other facial hair is not too bright. Gunpowder is a propellant, not a depilatory. While handling powder and primers, don't smoke. If you must have a cigarette, go to the living room or outside, but don't do it at the bench.

5. Keep all powders and primers in their original manufacturer's containers. Putting powder in some other container or primers in baby food jars is not good. Factory containers are designed to release pressure slowly should the stuff ignite. Powder burning in a one-or four-pound can roars like an afterburner, but primers have the capability of mass explosion under certain circumstances. We're reloading ammunition here, not building hand grenades or explosive devices.

Reloading is a safe and fun hobby that can save you groups of money. Do your homework and read books and magazines on the subject. Ask questions of the experts before stuffing that first case. Buddy up with someone who knows the ropes and learn from him. As your knowledge and experience increase, so will your respect for the hobby. Keep in mind that it only takes one moron to screw things up for everyone; don't let that moron be you.

Editor's Note: Several TAC bases offer reloading courses. The courses can provide invaluable information to the novice as well as to those who are more experienced . Contact your local MWR or safety office for more information.

To prevent the urge to put an extra squirt of charcoal lighter fluid on the coals in case you don't get a good start, here's 2 ways to light the coals every time:
First is the chimney method. Cut the ends out of a 3-pound coffee can and punch a few air holes on the sides. Put the can in the middle of the grill. Put a few coals in the can and some starter fluid followed by the rest of the coals. Light the bottom layer of coals and your coals will be ready in about 5 minutes. Use gloves when you remove the can to spread out the coals. Next is the pyramid method. Build a pyramid of charcoal and put the starter fluid on the bottom layer. Light the bottom and spread out the coals when they are ready. Only use name brand starter fluid because they are specially formulated for safe starts. **Never use gasoline.**

If you start your tan using an artificial **tanning sunlamp,** the American Academy of Dermatology warns, "It should be kept in mind that tanning is the response of the body as a result of injury to pigment-producing cells caused by radiation."
—Reconsider using a sunlamp if you burn easily in the real sun.
—Avoid sunlamps if you get cold sores easily; ultraviolet light stimulates production of cold sores.
—Don't use a tanning device—and avoid exposure to the real sun—if you are taking photosensitizing medications: many antibiotics and antihistamines (including over-the-counter), some birth control pills, and medications to treat acne, epilepsy, depression, diabetes, high blood pressure and some glandular disorders. Check with your doctor or pharmacist.
—Start gradually; don't overdo exposure.
—Don't modify timing devices.
—Wear blue-gray, plastic-lense goggles. Closing your eyes or putting cotton balls over your eyes doesn't block the harmful rays.
—Protect your lips.

When you make your next purchase of a **pesticide,** such as a *herbicide* (controls weeds), an *insecticide* (controls insects, spiders, mites), a *fungicide* (controls fungal, bacterial or viral diseases of plants), or a *vertebrate poison* (controls rodents, animals or birds), make sure this information is on the label.
Chemical and common name: the poison control center will need this information in the event of accidental poisoning. You don't have to drink the pesticide to be poisoned. Chemicals can enter the body 3 different ways: inhalation (breathing in the chemical—mist, spray, fog, etc.), ingestion (swallowing) and absorption (absorbing the chemical through the skin—hands, arms, feet, face).
Level of toxicity or danger and warning signals: The most toxic or dangerous products are marked DANGER, DANGER—POISON, or DANGER—FLAMMABLE. They are often marked with a skull and crossbones or flame. Moderately dangerous chemicals will have WARNING on the label. CAUTION is the third level of danger or toxicity. Specific warnings follow the level of toxicity, for example, "Keep children and pets away from treated areas" or "Use only in well ventilated area."
First aid instructions: Instructions in case of accidental poisoning (inhalation, ingestion and absorption).
Directions for use: Use the chemical for a specific need. For example, it's best to use a weed killer only on the weed itself instead of spraying the whole lawn to prevent weed takeover. Are mixing and application instructions easy to understand?
Classification statement: Only purchase a pesticide marked "general use." "Restricted use" pesticides require special equipment and a more experienced person to apply them.
EPA registration number: The EPA has judged this pesticide to be safe and effective if used as stated on the label.
Storage and disposal instructions: Follow exactly.
For more information concerning pesticides, call the National Pesticide Telecommunications Network. Their toll free number is 1-800-858-7378.

TAC GROUND SAFETY AWARD OF THE QUARTER

MSgt Thomas G. Naas' safety accomplishments reflect his concern for safety and its impact on unit readiness. He took over a safety program already identified as the best on base and has continued to improve it. For two years in a row, his annual safety inspection received excellent ratings and his most recent one has excellent or outstanding ratings in 8 of 10 areas. His annual safety inspection inbrief has become a mandatory requirement for all 833d Air Division units.

MSgt Naas is strongly committed to the reduction of mishaps in his unit. This dedication paid off in FY 86 with a 40 percent reduction in reportable mishaps from 10 to 6. His unit also had the lowest non-reportable mishap rate on base in the maintenance squadron category.

MSgt Naas is a Motorcycle Safety Foundation (MSF) instructor for Holloman AFB. His outstanding instruction, assistance with the MSF Chief Instructor Workshop and work at the MSF Safety booth at the Holloman Open House helped the base win the MSF Military Base Achievement Award. Holloman was also recognized with an Air Force award for its meritorious achievement in motorcycle safety. MSgt Naas' involvement in motorcycle safety continued as he conducted classes for motorcycle instructor candidates at both Holloman and in Colorado. The latter program promoted goodwill between the Air Force and the civilian community.

The high ratings received during periodic inspections, continual reduction in mishaps and noted achievements in motorcycle safety are direct results of the strong emphasis MSgt Naas puts on all safety areas.

MSgt Thomas G. Naas
4449 MOBSS, 833 AD
Holloman AFB, NM

USAF SAFETY PLAQUES

The Air Force Inspection and Safety Center has announced the recipients of the 1986 USAF safety plaques for flight, missile, explosives and motorcycle safety.

Flight Safety Plaques

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

1st Tactical Fighter Wing
23d Tactical Fighter Wing
24th Composite Wing
33d Tactical Fighter Wing
58th Tactical Training Wing
318th Fighter Interceptor Squadron
325th Tactical Training Wing
355th Tactical Training Wing
366th Tactical Fighter Wing
507th Tactical Air Control Wing
USAF Tactical Air Warfare Center

Missile Safety Plaques

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

4th Tactical Fighter Wing
831st Air Division

Explosives Safety Plaques

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:

23d Tactical Fighter Wing
836th Air Division

Air Force Motorcycle Safety Award

The Air Force Motorcycle Safety Award is presented to organizations below MAJCOM level for outstanding achievement in, or contribution to, mishap reduction and safety education in motorcycling.The TAC recipient is:

Holloman Air Force Base

Major George Varn
TAC/SCFT
Major Bill Sanders
TAC/DOVF

"Wind 210 at eight, cleared for takeoff." "Check wheels down, wind 220 at six, cleared to land." Air traffic controllers at TAC bases gave these instructions to more than two million aircraft this past year. This multitude of operations took place safely and efficiently only through the daily teamwork of professional performers—TAC pilots and air traffic controllers.

This teamwork doesn't just happen. It evolves from many years of pilot-controller interaction and learning about each other's business and being aware of each other's problems and job intricacies. The common ground between the pilot and the controller are the rules —Air Force, TAC, AFCC and federal air regulations. These rules are the common denominators that provide the guidance for the bottom line objective—safe and efficient flight. Unlike many regulations, failure to adhere to flight and air traffic regulations could be more serious than an IG write-up—it could be catastrophic.

It is part of the controllers' responsibility to learn all they can about a pilot's environment and his aircraft's characteristics. Knowing when to give guidance and when to be quiet is critical. Knowing what the pilot is doing at any given moment can help avoid task saturation brought about by controller's instructions. Being aware of different aircraft characteristics is also important. For example, F-16s at night during periods of poor weather require utmost pilot attention to his cockpit. Single-seat fighters should not be given numerous frequency and squawk changes, and certain fighters have great variations in final approach speed which are not conducive to sequencing with other traffic.

Conversely, pilots should realize how they fit into the larger air traffic system. Their aircraft is usually one of many being controlled by one controller in a single congested piece of airspace. By knowing the subtleties of airspace sectorization, and the ATC facility positions, pilots can better understand how they will be handled. They can assist controllers by informing them as far in advance as possible of their intentions and any special handling they require. Pilots should be cognizant of other aircraft in their vicinity under the control of the same controller and understand why the vectors given may not always be the most direct. The use and understanding of standard phraseology are paramount, as they aid both the pilot and controller to communicate clearly and effectively. Deviations from this standard will only clog the airways, confuse the other party and result in less than satisfactory performance.

Pilot/controller teamwork is important. It is built on mutual understanding and trust. It is essential in the completion of TAC's mission. Today's crowded airspace and sophisticated airplanes demand a professional pilot-controller team.

TAC FLIGHT SAFETY AWARD OF THE QUARTER

Captain Gary W. Erkes
63 TFTS, 56 TTW
MacDill, AFB, FL

Captain Gary W. Erkes' innovative and professional approach as a flight safety officer and F-16 instructor pilot has significantly improved safety throughout the 56th Tactical Training Wing. The success of his leadership and thought-provoking programs is reflected in his squadron's record of no Class A or B mishaps during calendar year 1986.

In the 63 TFTS, Capt Erkes worked effectively with the additional duty flight safety officer to produce an outstanding unit flight safety program. His close working relationship with all levels of supervision resulted in strong supervisory involvement in the squadron safety program. Formal evaluations and staff assistance visits consistently rated his programs excellent.

Many of Capt Erkes' squadron programs have become models for the wing. His comprehensive continuity folder, using detailed outlines and thorough explanations, has facilitated the smooth transition of flying safety personnel. His safety in-brief for all new squadron pilots covers basic squadron/wing safety programs, local hazards and high interest items. In-depth briefings during transition, air-to-air and surface attack phases inform new F-16 pilots of hazards unique to each area of operation. Frequent interface with the squadron commander and development of the Commander's Information Packet have kept the commander well informed on F-16 safety issues.

Capt Erkes' mishap investigations are superior. His work as investigating officer during an F-16 Class A mishap was invaluable and highlighted safety issues pertinent to F-16 pilots worldwide. His investigations of unit reportable mishaps have been detailed and informative. His comprehensive investigation of a gear retraction on the ground revealed a previously unknown landing gear selector handle anomaly.

At the wing level, Capt Erkes has proven himself to be invaluable. He regularly assumes the role of Chief, Flight Safety during the chief's absence. Capt Erkes personally manages the development of safety inspection checklists, mishap investigator kits and mishap investigation board training programs. His assistance and keen insights during spot inspections have resulted in improved operations throughout the wing.

SICOFAA FLIGHT

The System of Cooperation Among the Air Forces of the Americas (SICOFAA) Flight Safety Award was established in May 1976 by the Conference of the Chiefs of the American Air Forces to recognize aircraft mishap prevention achievements. Each Air Force determines its own criteria and annually grants this award to one of its units. The recipient of the 1986 award is the 552d Airborne Warning and Control Wing, Tinker AFB, Oklahoma.

Equipped with the E-3 Sentry, the 552 AWACW flew over 25,506 hours during 1986 without a Class A or B mishap and, since its activation over ten years ago, has never experienced a Class A mishap. Fifty percent of their flying was done off-station. The 552d includes not only the 3 operations squadrons and 1 training squadron located at Tinker AFB, but also the 552 AWACW Deployed (ELF-1, Saudi Arabia) and the 960 AWACS at Keflavik NAS, Iceland. These last 2 units possess no aircraft and are totally supported year-round by crews and aircraft TDY from the 552 AWACW at Tinker AFB.

The wing participated in over 100 deployments and exercises that included AMALGAM CHIEF; FENCING BRAVE; SENTRY INDEPENDENCE; QUICK THRUST; CANADA BRAVE EAST; SEABAT; various "Flag" exercises, Alaskan Air Command's ORI; GALLANT EAGLE and numerous classified exercises. The wing planned and hosted CORONET SENTRY 86–1, a composite force of fighters (F-15, F-16, F-18), 4 E-3s, B-52s and C-130s. This was a first-ever exercise at Tinker.

The 552d continuously conducts operations worldwide. Some operations included nearly 900 sorties and 10,670 hours over the Persian Gulf as well as 330 sorties over the North Atlantic. An aircraft is constantly on alert at Tinker in support of 1st AF and NORAD,

SAFETY AWARD

and an aircraft is airborne 24 hours a day in Saudi Arabia to provide air defense for that country.

As a vital part of President Reagan's war on drugs, the wing's E-3s have been instrumental in 14 arrests and have helped establish a deterrent to drug smuggling operations.

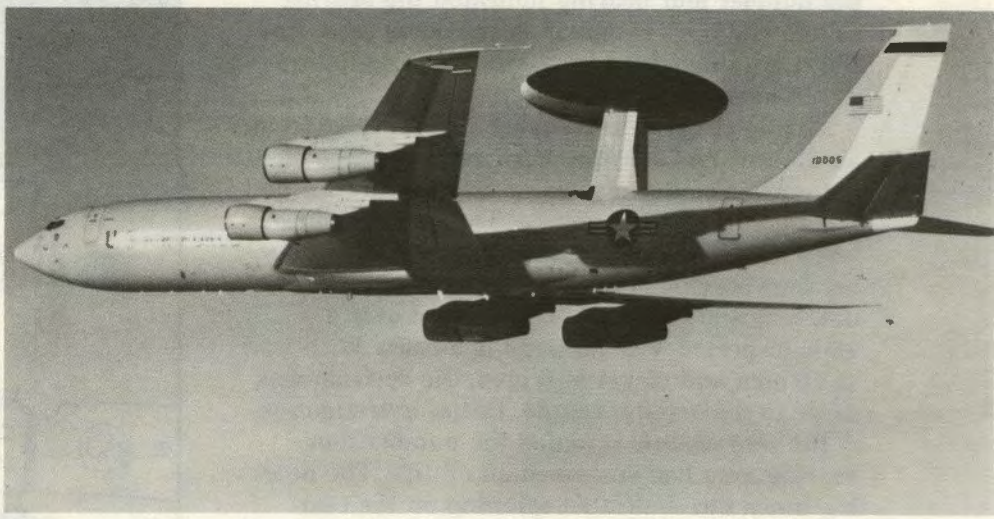
Aircraft scheduling effectiveness for the unit was at 95.1 percent; maintenance scheduling effectiveness was 99.5 percent. Both exceed the TAC standard. The wing's mission capable rate was 88.8 percent, 8.8 percent above the TAC standard; and a FOD rate of zero. All this was accomplished while maintaining an average sortie duration of 8.4 hours and starting a new Airborne Warning and Control Squadron at Elmendorf AFB, Alaska, in July.

The wing implemented the Combat AGE Team (CAT) concept, aligning specific CATs with each aircraft maintenance unit. Combat Oriented Repair Enhancement (CORE) was increased, resulting in repair of aircraft strobe lights and engine fire warning loops where no such repair capability previously existed. Hydraulic repair capabilities were increased, with 92 of 98 possible items now locally repairable—up from 5 items last year.

The wing submitted 238 MDR/QDRs, 246 approved tech order changes and 145 changes to flight manuals to correct design deficiencies and procedures. Two major fleetwide (including NATO and Saudi Arabia) E-3 design deficiencies were discovered and the fix identified by unit personnel.

Flight safety has on-going projects with the FAA at the Mike Monroney Aeronautical Center to train crews in emergency egress from an aircraft under realistic conditions. Flight safety is pioneering use of this tool and evaluating its use for AFLC and other MAJCOMs. For the second year, wing flight safety has been the OPR for a statewide Mid-Air Collision Avoidance "fly-in" involving the FAA and all military flying units in the state. This program went to 6 civil airfields last year and contacted over 300 civil pilots. The 552d flying safety office is the driving force in procuring floor proximity emergency egress path markings for the E-3 and eventually all multiplace USAF aircraft.

The air discipline and professionalism of the aircrews, the excellence of aircraft maintenance, the constant deployments, exercises and real-world flying operations and outstanding mishap prevention of the 552 AWACW fully met the high standards established for the SICOFAA Flight Safety Award.



CHOCK TALK

INCIDENTS AND INCIDENTALS WITH A MAINTENANCE SLANT

Attention to detail pays

SMSgt James L. Miller
TAC/LGM

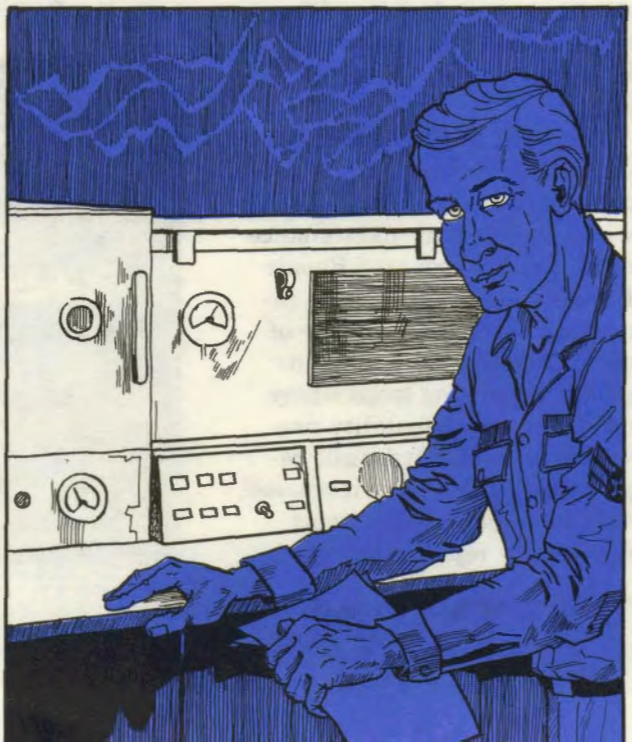
Two recent F100 engine incidents highlight the importance of a strong, effective oil analysis program. The obvious lesson for all of us is that attention to detail pays big dividends.

An F100 engine core module was received from the air logistics center (ALC) and installed on an F-16 aircraft's engine. OAP (oil analysis program) readings before and after installation and after the first two flights were normal. The OAP reading following the third flight showed an increase from 1 ppm (parts per million) iron to 11 ppm iron, and the engine was removed as a result. Investigation of the core module revealed that several of the number four bearing tolerances were out of limits. Further inspection of the number four bearing indicated the bearing rollers had been skipping on the outer race. Had the engine remained in service, bearing failure would have been inevitable.

Another F-16's F100 engine was removed from an aircraft for high iron OAP readings. The engine core module was overhauled at the ALC and installed in an F100 engine. The core accumulated 694 cycles prior to the failure of the number four bearing. The bearing failure was gradual; iron and nickel trended upward over a 16-hour period with no large increases. With iron at 16 ppm and nickel at 6 ppm, the decision was made to remove the engine. Initial investigation of the core module revealed the number four bearing area had sustained an oil fire. The bearing inner race indicated spinning on the rear compressor drive shaft. Bearing rollers were scorched and badly scored. The rear compressor drive shaft also sustained deep scratches and grooves caused by the bearing's rotation. Had this condition gone undetected, serious damage would have been certain.

In both of the above incidents a strong oil analysis program did its job and detected impending bearing failure. The high iron readings alerted the user and most likely prevented a mishap. At least one recent F-16 Class A mishap could have been prevented had a strong oil analysis program existed.

Missed oil samples and improper wearmetal analysis can contribute to accidents and mishaps. The program offers one of the best opportunities, and sometimes the last, to save equipment and lives by careful monitoring of engine component condition. Bottom line—the oil analysis program works—when you work the program.



TAC TALLY

Tac Tally

	TAC		ANG		AFR	
	APR Thru Apr		APR Thru Apr		APR Thru Apr	
	1987	1986	1987	1986	1987	1986
CLASS A MISHAPS	1 5	11	0 3	2	0 1	0
AIRCREW FATALITIES	2 6	5	0 3	0	0 1	0
TOTAL EJECTIONS	1 4	10	0 2	4	0 0	0
SUCCESSFUL EJECTIONS	1 4	10	0 2	4	0 0	0

TAC'S TOP 5 thru APR 1987

1st AF	
class A mishap-free months	
80	318 FIS
26	325 TTW
15	57 FIS
15	5 FIS
6	48 FIS

9th AF	
class A mishap-free months	
50	33 TFW
23	507 TAIRCW
20	1 TFW
14	31 TFW
9	354 TFW

12th AF	
class A mishap-free months	
72	USAFSO
48	366 TFW
32	355 TTW
30	27 TFW
26	58 TTW

ANG	
class A mishap-free months	
213	182 TASG
197	110 TASG
172	138 TFG
154	177 FIG
149	114 TFG

AFR	
class A mishap-free months	
80	482 TFW
79	301 TFW
70	924 TFG
58	906 TFG
54	442 TFW

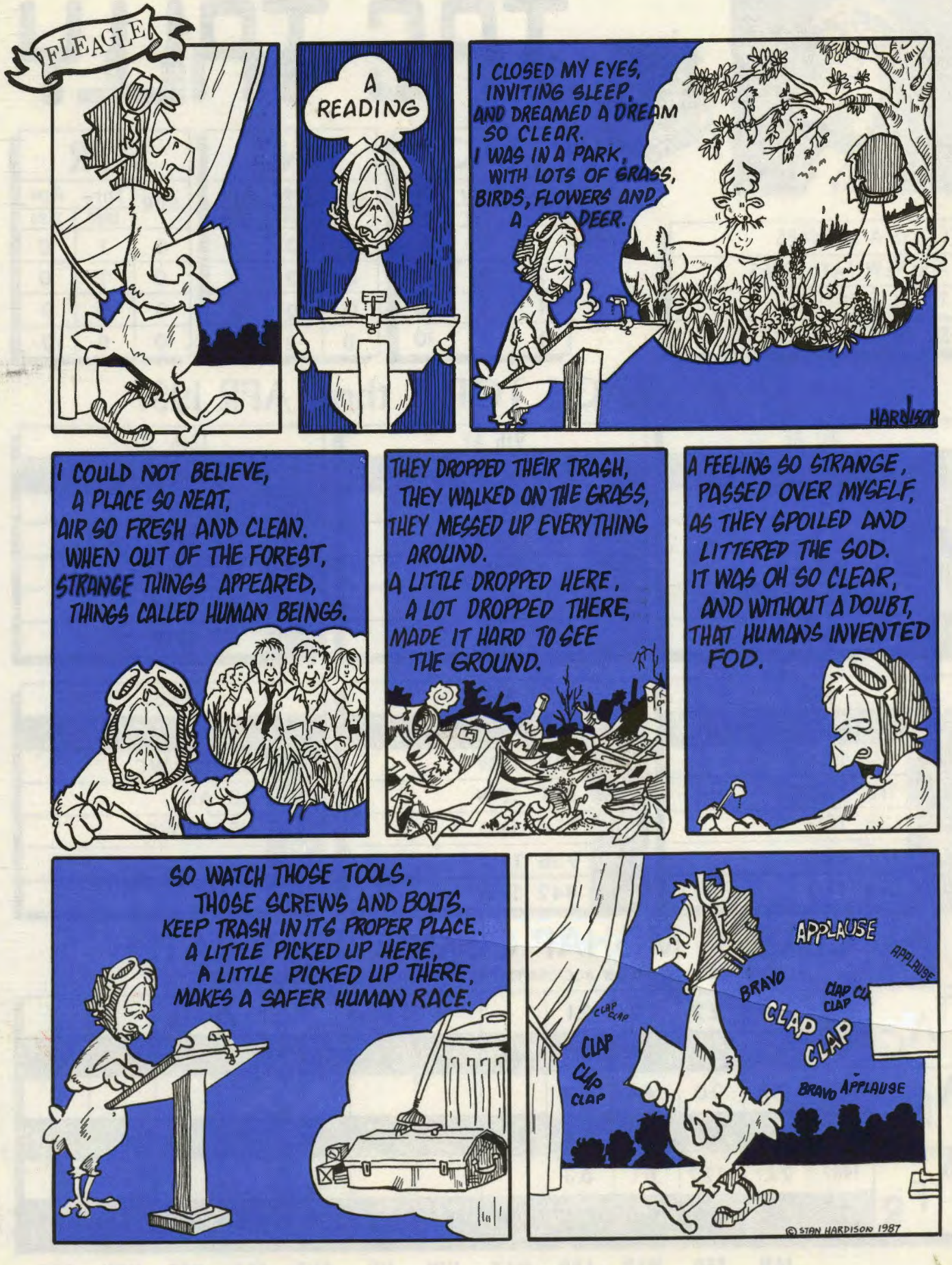
DRU's	
class A mishap-free months	
193	USAFTAWC
127	28 AD
6	USAFTFWC

CLASS A MISHAP COMPARISON RATE

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

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TAC	1987	3.5	2.7	2.2	2.1								
	1986	4.8	6.8	5.4	4.4	4.1	3.7	3.6	3.2	3.4	3.9	3.9	3.8
ANG	1987	0.0	0.0	4.4	3.4								
	1986	4.3	2.4	3.1	2.3	2.7	3.0	2.5	2.2	2.4	2.6	3.2	3.0
AFR	1987	23.1	12.7	8.1	6.3								
	1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	4.6	4.2	3.9

U.S. Government Printing Office: 1986—1987 625—031/07


FLEAGLE
A READING
I CLOSED MY EYES, INVITING SLEEP, AND DREAMED A DREAM SO CLEAR. I WAS IN A PARK, WITH LOTS OF GRASS, BIRDS, FLOWERS AND A DEER.
HARDISON
I COULD NOT BELIEVE, A PLACE SO NEAT, AIR SO FRESH AND CLEAN. WHEN OUT OF THE FOREST, STRANGE THINGS APPEARED, THINGS CALLED HUMAN BEINGS.
THEY DROPPED THEIR TRASH, THEY WALKED ON THE GRASS, THEY MESSED UP EVERYTHING AROUND. A LITTLE DROPPED HERE, A LOT DROPPED THERE, MADE IT HARD TO SEE THE GROUND.
A FEELING SO STRANGE, PASSED OVER MYSELF, AS THEY SPOILED AND LITTERED THE SOD. IT WAS OH SO CLEAR, AND WITHOUT A DOUBT, THAT HUMANS INVENTED FOD.
SO WATCH THOSE TOOLS, THOSE SCREWS AND BOLTS. KEEP TRASH IN ITS PROPER PLACE. A LITTLE PICKED UP HERE, A LITTLE PICKED UP THERE, MAKES A SAFER HUMAN RACE.
APPLAUSE
APPLAUSE
BRAVO
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BRAVO APPLAUSE
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