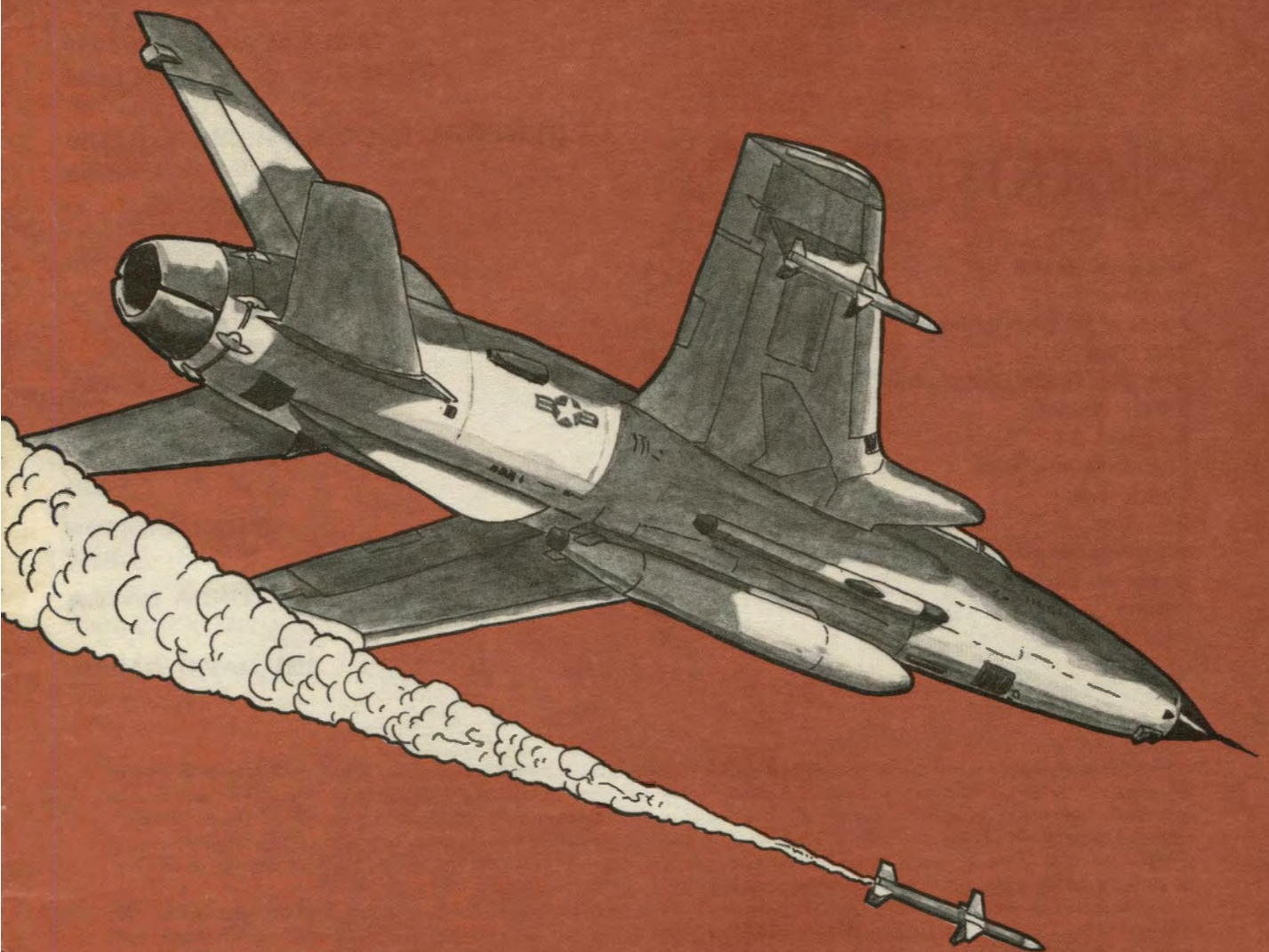


TAC Attack

# TAC ATTACK

NOVEMBER 1980





# NOW

READINESS IS OUR PROFESSION



**TACTICAL AIR COMMAND**  
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*COMMANDER*

**LT GENERAL THOMAS H. MCMULLEN**

*VICE COMMANDER*

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**VOLUME 20 NUMBER 11**





## Angle of Attack

### LOSS OF CONTROL

Historically, TAC's operations-related losses have primarily involved two types of mishaps. Not surprisingly perhaps, these two types of mishaps are collision with the ground and loss of control. This year, our mishap rate is down from past years' experience primarily due to the drop in air-to-air loss-of-control mishaps and aircraft collisions with the ground. Unfortunately, we haven't made the same improvement in other loss-of-control areas.

When we visualize loss-of-control mishaps, we tend to picture only an air-to-air engagement where the pilot is maneuvering the aircraft close to maximum performance and mistakenly slips over the edge and the aircraft departs controlled flight. This picture isn't entirely accurate.

Quite often, the loss of control occurs when the pilot overreacts to a perceived outside threat—the ground or another aircraft. In other instances pilots simply fail to recognize deteriorating airspeed and end up attempting a maneuver which exceeds the aircraft's capabilities. These types of mishaps indicate we may not fully

understand our own and/or our aircraft's capabilities.

When we train, we need to concentrate on more than just the basic academic and flying subjects. We must learn the lessons that aren't in the syllabus—the flying characteristics that aren't contained in the flight manual. No, we don't need to know how to depart an aircraft—we need to know the opposite. If we understand our aircraft's maximum performance capability throughout the flight regime, we will be less likely to over control the aircraft at a critical moment in flight. If we pass on the "lessons" we've learned from our own mistakes when we almost "lost control," we could save someone else from repeating our mistake.

As in all other aspects of safety, prevention is the real key to reducing and eliminating mishaps.

RICHARD K. ELY, Colonel, USAF  
Chief of Safety





# LESSONS

By Maj Pete Abler  
Editor

The world of aviation, like numerous other professions combining knowledge and physical skill, encompasses a strange combination of formal and informal lessons. The formal lessons are pretty obvious—academic programs, simulator missions, daily syllabus training sorties—they all have their place in the education of a flier. But it seems as though the more effective lessons are the informal ones—for lack of a better description—the ones you live through. For me more learnin' takes place in 30 seconds of sheer terror in the aircraft than hours in the aircraft simulator. (To those of you whose whole existence is tied up in simulators, my apologies. I don't hate 'em by any means. They're getting better every day; but like sex, you can't replace the real thing!) But, I digress—back to the main road.

Throughout pilot training I never did encounter any real "lessons"—any that I was smart enough to recognize anyway. The formal stuff went well for all in the class as a matter of fact. We learned to work together—to help one another out. Could be that working together and all the advantages we accrued from that approach constituted one of those informal lessons—at least it wasn't one of the terrorizing type.

The first real "lesson" of my young career took place at our graduation dining out. Our guest speaker was to be a senior officer from somewhere—it's not important—but he was forced to cancel at the the last moment. Our Wing Commander invited an old friend of his—a Major who flew F-4s out west—to be our speaker. He turned out to be the source of my first lesson. Besides the numerous anecdotes

which sprinkled his talk, he gave us three rules to live by. Unfortunately, I can only remember two—which means the 3rd one couldn't have been too important. Anyway, rule #1 was "Ya gotta have guts." He used a different word which was more descriptive than "guts" but the meaning was the same. Rule number 2 was "Don't sweat the small stuff." Now this was pretty heavy stuff to lay on a second balloon with fangs down to his knees—but fate had earlier dealt me a cruel blow—my assignment was to another UPT base to become an instructor.





I was convinced there had been some humongous mistake when I got that assignment. After all I was born to fly fighters. I had even practiced flying with my hands since I was twelve—I couldn't miss. Armed with the philosophy of our fighter pilot speaker I was convinced ATC would see my true nature and guide me to my true destiny.

So, with an abundance of guts and the determination never to let the small stuff cause one bead of perspiration on my brow I singlehandedly fought them head-on for three and one-half years. Actually, I changed to subversive activities after the first year 'cause they convinced me I couldn't win against the whole command. Anyway, it was during those years that my first "terror filled" lessons happened.

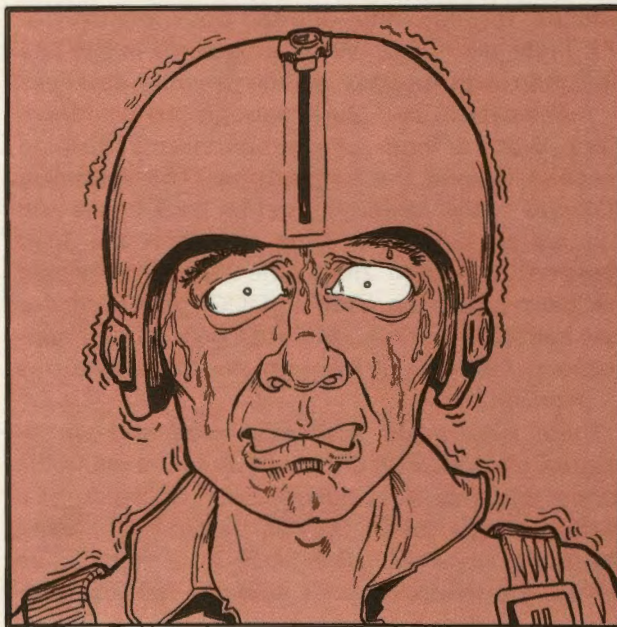
I made it through the instructor upgrade program where they tried to tell me I was something I really wasn't—an experienced pilot. They admitted that even if I wasn't experienced—I had to act like I was. I don't think I convinced myself or my first students who were assigned to me because they themselves were "experienced." If you get the picture—they didn't trust me; I didn't know how much not to trust them—and we were running around the sky together. Anyway, I soon got one of my fearless students into a real high-speed dive (a contradiction of terms in the T-37). When I told him to recover he did absolutely nothing and so did I—for awhile. As the airspeed passed 370 I got scared, pulled for all I was worth and bottomed out 200' above the trees—8 1/2 Gs later. Two lessons came from this incident.

Number one - I found out you really can't relax when somebody else has their hands on the controls. You can respect 'em, trust 'em, like 'em, hate 'em—but don't relax. Unless you have ESP and can read minds, you don't know what's going to happen in the next 5 seconds, 5 minutes, or the next hour. From that point on, I began to anticipate what young Stanley Stud might try and do and things went a whole lot smoother and have ever since.

Lesson number two was a bit more subtle. Coming back to the traffic pattern, I could feel the pressure building in my index finger to reach up and punch off the G meter. After all my IP had done it when I was a stud, why not me? Somehow I resisted the temptation, landed the bird and wrote it up. The crew chief almost fainted when I told him about it. He immediately began checking

the wingtips, empennage, etc., to see what had come loose. Meanwhile back at the ops building I reported smartly to my flight commander—who reported smartly to the ops officer—and that was the end of it. I fully expected a dawn execution, but there was none. I did take my share of gas from the rest of the IPs—but nothing else. Telling the truth wasn't so tough after all. Incidentally, I got to fly the same aircraft the next day. That was probably the ultimate retribution and I was really glad I had written up the aircraft the previous day.

Somewhat later in my still young career I was scheduled for a weather reconnaissance sortie. A Flight Surgeon and I took off at Oh-dark-thirty and began to check the local area weather. About 15 minutes later, the radio quit. It was VFR for the most part but still 30 minutes before sunrise, so I came back home visually and set up to land. A patch of fog had obscured the overrun so I planned a touchdown just beyond the fog. After checking tower for the green light I concentrated on landing the aircraft. As I passed over the beginning of the overrun I heard a very faint "Go Around" come over the VOR receiver. I noticed a red light from tower and then caught the reflection of my landing lights off the MA-1A! I cleared it by less than a foot. I landed—since it was far



too late to go around—and stopped the aircraft. The flight surgeon who was on his second flight couldn't understand why I was shaking so much. I could only picture what might have happened



# LESSONS

had the wheels caught the webbing. You're waiting for the lessons? O.K.

First, I did everything right. The barrier crew put the MA-1A up on the wrong end of the runway. Only the fog over the approach end put me high enough to clear the MA-1A. If the fog hadn't been there, I don't know if I would have seen the webbing in time. The tower's warnings came too late to help in this one. I vowed I would never be lulled into thinking the SOF, tower, or mobile would save me if I messed up. I now check the gear, flaps, runway, taxiways, etc., continuously until I'm stopped in the chocks.

I was also tempted to go throttle the folks responsible for the goof up. Nope, the Squadron Ops Officer wouldn't let me. He also stopped me from putting in an OHR. He said it wouldn't be good to make a lot of waves—somebody might get upset—we can handle it quietly. I acceded to his wishes—I shouldn't have. Mishaps will never be prevented if the near mishaps and other incidents never get reported.

Several months later came one of the dumbest things I've ever done in an airplane. It was mid-summer in the southeast US and the time in the syllabus for day/nite out-and-back missions—VFR flight plans, etc. We launched off in the late afternoon with one eye on the growing darkness in the western sky. Sure enough, by sundown there was a line of thunderstorms formed between us and the homedrome. The squadron SOF was really anxious to get us back home and told us to launch in time to reach the field between 2030 and 2100—the weather folks said the field would be VMC—1000' and 3 mi for that half hour period. He didn't give us any suggestions how to get through the thunderstorms in between.

There were eight airplanes in all and we all blasted off into what once had been the wild blue yonder but was now darker than the inside of a derby—except when it was lightning! I went below the weather, 300-500' AGL, right down the ole interstate. I wasn't going to get lost. Fortunately, and with some supernatural help, all aircraft made it back. We all had gone under or through a line of thunderstorms that was 80 miles wide. None of us knew why we did it. We all knew it was unsafe—and dumb to boot. I guess

the "pressure" of knowing the SOF wanted us back home overrode our own common sense. I had forgotten rule number one from pilot training—"Ya gotta have guts!" I didn't have the guts to do what I knew was right. I had forgotten that as the man who ultimately "owns" the airplane I had the final word in making certain everything was done the right way. I lived through the rain, the turbulence, the lightning striking the ground 300' off one wing or the other, and the tail chewing we got from the squadron commander. I've never let anyone put me in the same box again—and I wouldn't recommend you let anyone do it to you either.

Well, by some miracle, a lot of prayers, and monthly visits to MPC—I got an F-4 RTU slot. It was in RTU that I got my next lesson. TAC had a lot of little lessons for me—how to get along—how many things were done differently—and so on. I thought I knew everything there was to know about flying—I was wrong. Ground attack, BFM, ACM, Dart and all of it was now different, and sometimes difficult. But nothing is more difficult than something you're convinced you can't do.

It was during night air refueling. I had the assistant ops officer in my pit and for the last three days I had listened to the IPs tell us how tough it was going to be. It was dark—you couldn't see anything—the tanker had lousy lights—if you were in the soup it was impossible. Turns out it was. I was number four in the flight—I had to wait about 20 minutes for my turn on the boom—I shoulda said "at" the boom. I only got one "breakaway" called on me—when I tried to put the ice shield in the receptacle. Needless to say, I needed another ride the next night. I had figured out what the problem was and with about five minutes practice that night I had the problem solved. As I said, if you're convinced you can't do something, it's going to be impossible no matter how hard you try.

I could pass on a lot more lessons, but I figure we've both had enough. Matter of fact, I figure if you've been around airplanes for a few years, you've learned some of these lessons yourself—and many others too. In any case, if you keep the lesson to yourself, you're only helping one person. If you share 'em with some other folks who might make the same mistakes, you could be saving them a lot of headaches to say the least. If you have something to share, pass it on—at the bar, in a flight briefing or whenever you have the chance.



# Aircrew of Distinction

363 TRW/Shaw AFB, SC



On 11 July 1980, Lieutenant Raymond D. Hatchell and Captain John C. Smith were flying an RF-4 on a low level reconnaissance training mission. While flying at 500 feet AGL and 480 kts, their aircraft struck a large, unidentified bird. Deafening noise and severe vibrations followed the impact making communication impossible and aircraft control difficult. The force of the impact also moved the gear handle down, lowering the gear.

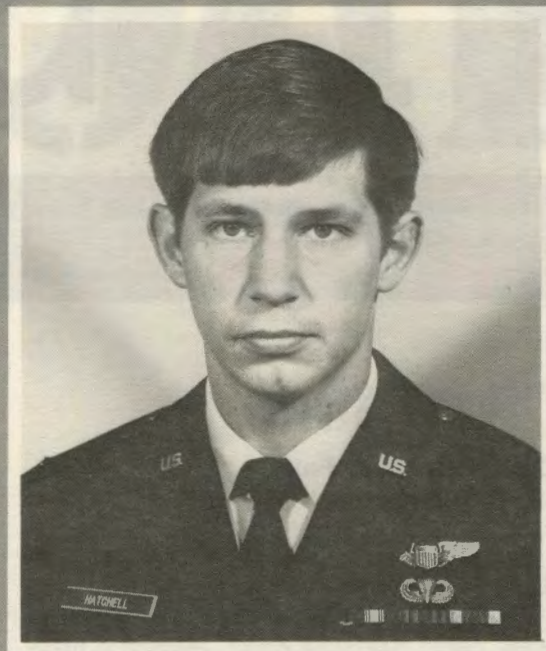
As pre-briefed, Captain Smith took control of the aircraft and started a gradual climb to reduce airspeed below 250 kts and gain altitude in case ejection became necessary. As the aircraft slowed down, Lieutenant Hatchell surveyed the cockpit.

The left quarter panel was gone, the glare shield was hanging loose, the center windscreen was shattered, but intact, and broken glass and bird remains were everywhere. Lt Hatchell requested a chase ship while he set up for recovery at Shaw AFB.

A controllability check was completed and the chase ship joined up with the aircraft to survey the damage and offer assistance. The indicated and true airspeed indicators were destroyed, so Lieutenant Hatchell used his groundspeed indicator, crosschecking with Captain Smith's instruments. During vectoring for landing, the heading and altitude systems failed forcing Lieutenant Hatchell to fly a no-gyro approach.

Lieutenant Hatchell found the runway through a crack in the windscreen and picked up the VASIs two miles out. He was then able to complete an uneventful landing.

The calm, knowledgeable way in which Lieutenant Hatchell and Captain Smith handled this serious emergency is a testimony to their preparation and crew coordination and qualifies them as the TAC Aircrew of Distinction. ➤



Lt Raymond D. Hatchell



Capt John C. Smith



# TIPS

TAC Tips

A man never feels the want of what it never occurs to him to ask for.

Schopenhauer

## A "Short" Story

By Capt Patrick J. Fox  
43 TFS/Elmendorf AFB, AK

WSO: "... Cruise Check."

AC: "Roger—fuel is seven-five over eleven tanks feeding, cabin pressure good, oxygen 6 liters ... All check OK."

"Target is in the INS, on the nose for approximately 60NM."

"Looks about right on the TACAN."

"I'm outside checking six."

Minutes Later:

WSO: "We've got a master caution light."

AC: "Yep, We've got utility failure. PCI and PC2 are OK. It's total utility."

"I'm in the checklist. Utility hydraulic failure—land ASAP."

"We've lost anti-skid, fuel transfer pumps, nose gear steering, Degraded flaps, rudder spoilers, brakes, ..."

Contact is made with center, approach control, the SOF. More checklists.

WSO: "All checklists complete. How about a briefing."

AC: "Okay. We're all set up for landing. I'm going to be busy when we touch down maintaining directional control and engaging the cable. Since the brakes are degraded, we'll have to use the emergency brakes. I'd like you to pull the emergency brake handle when I ask for it."

"No sweat. Can do easy."

"We'll egress according to the situation." The rest of the crew briefing is accomplished. All con-

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

tingencies are covered.

On Short Final:

WSO: "Gear and flaps check. I'm ready. Make sure your shoulder harness is locked."

AC: "It is."

Normal Touchdown. The crew can feel the hook dragging on the runway. Cable is in sight, engagement is made. The hook is tugging on the cable.

"Emergency brakes now!"

"I can't reach the ----- brake handle!"

"Okay, I've got it."

The aircraft stops rolling backward as the AC uses the engines and brakes to stop it. No auto-acceleration. The crash crew signals to bring the hook up and shut down the engines. The aircrew egresses normally. The DO says "SIERRA HOTEL job!"

NOT QUITE!

A not infrequent emergency experienced by F-4 crews, utility hydraulic failure can become a bigger problem quickly. All checklists and crew coordination briefings were covered and discussed. Cable engagement was made successfully. The aircraft was fixed and is flying once again. But the WSO could not reach the emergency brake handle at a time when it could have had an adverse impact on the outcome of the incident.

This incident happened to me a while back. I happen to be short physically and consequently when the shoulder harness was locked, the distance between the tips of my fingers when my left arm was fully extended and the emergency brake handle was about nine inches. I was physically unable to perform the task at hand (no PUN intended). Since then I have adjusted that particular emergency procedure to fit my capability. When the situation arises I now must unlock the shoulder harness and lean forward to reach the handle. This procedure does not cause any discomfort for me although it may give other WSOs second thoughts. That is not the point of my



story. The point is this—I did feel uncomfortable for those few seconds between my unsuccessful reach and the aircraft's stopping. I was totally unprepared for it. It was, I am sure, a freak—something that was never thought about nor addressed in the DASH-ONE.

If you happen to be my size—5'5"—or shorter and/or have short arms (not to be construed as being abnormal), and you fly in the back seat of the F-4 (this does not exclude IPs); think about what you'll do when it's your turn to pull the emergency brake handle during a cable engagement. Go sit in the rear cockpit of the simulator and check your reach before you fly again. It may save your life and/or embarrassment. It may also help to reduce the number of "short" jokes in the bar.

## A Sniff In Time

The A-10 was scheduled for an FCF after extensive maintenance. The pilot aborted the aircraft for smoke and fumes in the cockpit during the max power check. Maintenance changed the water separator sock.

The next day, the pilot was scheduled to FCF the aircraft again. During the max power check, the pilot noted fumes in the cockpit, but no smoke and decided to take off. He went to 100% oxygen and flew the FCF profile. At 15,000 feet, the pilot took off his mask to check for fumes. There were still some fumes present and the pilot tried to find the source. After about two minutes,



TAC ATTACK

the pilot began to notice light-headedness, tingling in his fingers, a nauseous feeling, and spots in his vision. He managed to get his mask back on and declared an emergency with center. With assistance from a chase aircraft, an uneventful straight-in was completed.

Two mistakes almost cost us a pilot and his airplane. Taking off with a known problem isn't smart and everyone knows a nose is not a precision instrument for detecting odors in an aircraft cockpit. Keep it in the mask where it belongs.

## Airplanes, Airspace, And Stuff Like That

From the moment the folks in the tower read, "ATC clears . . .," you have a job to do. It's very simple—or so it seems. You must adhere to the clearance—altitude, airspeed, holding fix—it doesn't really make any difference. A problem involving TAC aircraft and aircrews involves spill-outs from assigned airspace—MOA, ACTAA, and restricted areas. Departing assigned airspace without clearance or failure to comply with altitude assignments or other restrictions are serious matters.

When assigned to operate within an MOA or restricted area, the assigned airspace becomes the clearance limit. Failure to remain within the airspace can compromise separation from non-participating aircraft and create a hazard to flying safety. The fact that the weather is VMC does not relieve the ATC facility of the responsibility of applying some form of standard separation between the military users and other IFR traffic.

Another subject which pops up now and then is sonic booms. Although our operating areas are usually over water or sparsely populated places, sonic booms can create many problems, not the least of which are headaches we cause the folks on the ground. If that happens in an area where supersonic flight isn't allowed, someone's probably gonna complain.

Now I'm not going to pretend for one minute that we have all the airspace—where we need it, as big as we need, and where operations are unrestricted. We don't have it and we won't have it. Not only that, if we don't use what we have wisely—we may end up with less airspace and more restrictions. And we don't want that. Let's fly smart!



# TAC TIPS

## Watch Where You're Going

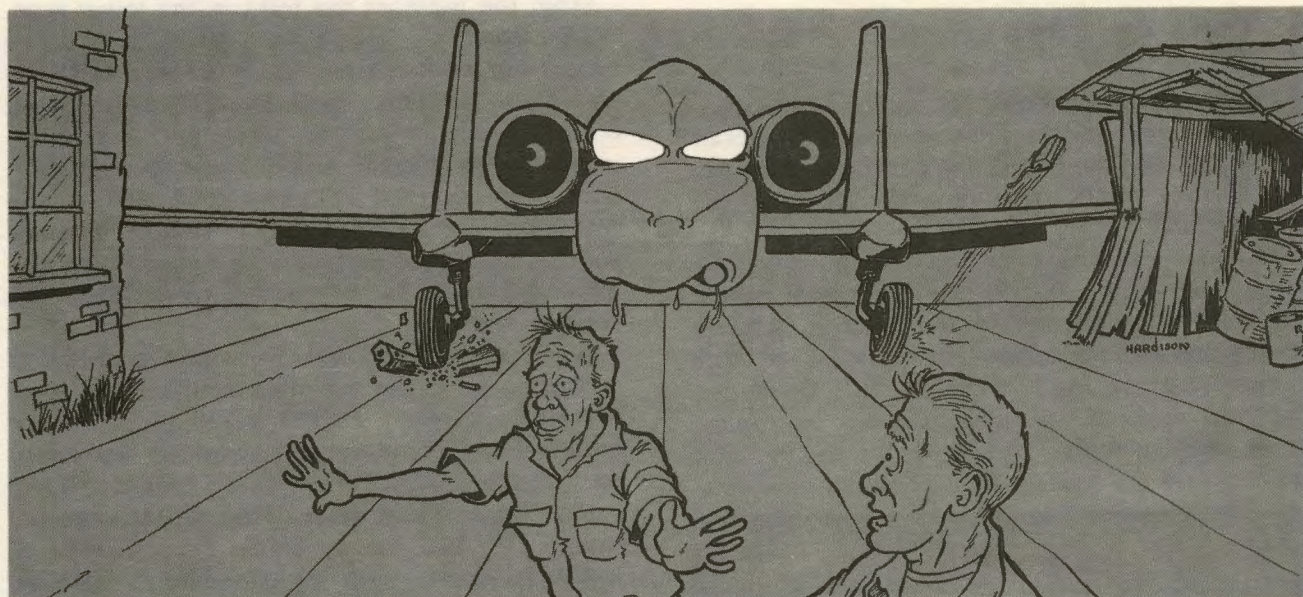
An A-10 was returning to the parking area following a normal training mission. The pilot turned into the ramp and suddenly discovered he was in the wrong row. Instead of following the taxi lines to the proper parking space, the pilot decided to cut across another parking row which was clear—almost.

The pilot apparently didn't see a set of aircraft chocks and ran over them. The first chock was hit in the middle and broke into splinters. The

second chock was caught on the end and pinched between the tire and the ramp. Suddenly, the chock shot from under the tire, barely missing two crew chiefs who were running towards the aircraft to see what the pilot was doing. The chock flew about 40 feet, luckily missing the other people and equipment on the ramp.

There wasn't any damage to the aircraft, other than a cut tire. But the shortcut that saved the pilot a few minutes almost cost some other folks a lot more. Remember, whenever you happen to taxi the airplane, it's your job to keep from running over things.

**Contributed by SrA Gerald Potter  
355 AGS Davis-Monthan AFB AZ**



## HELP WANTED

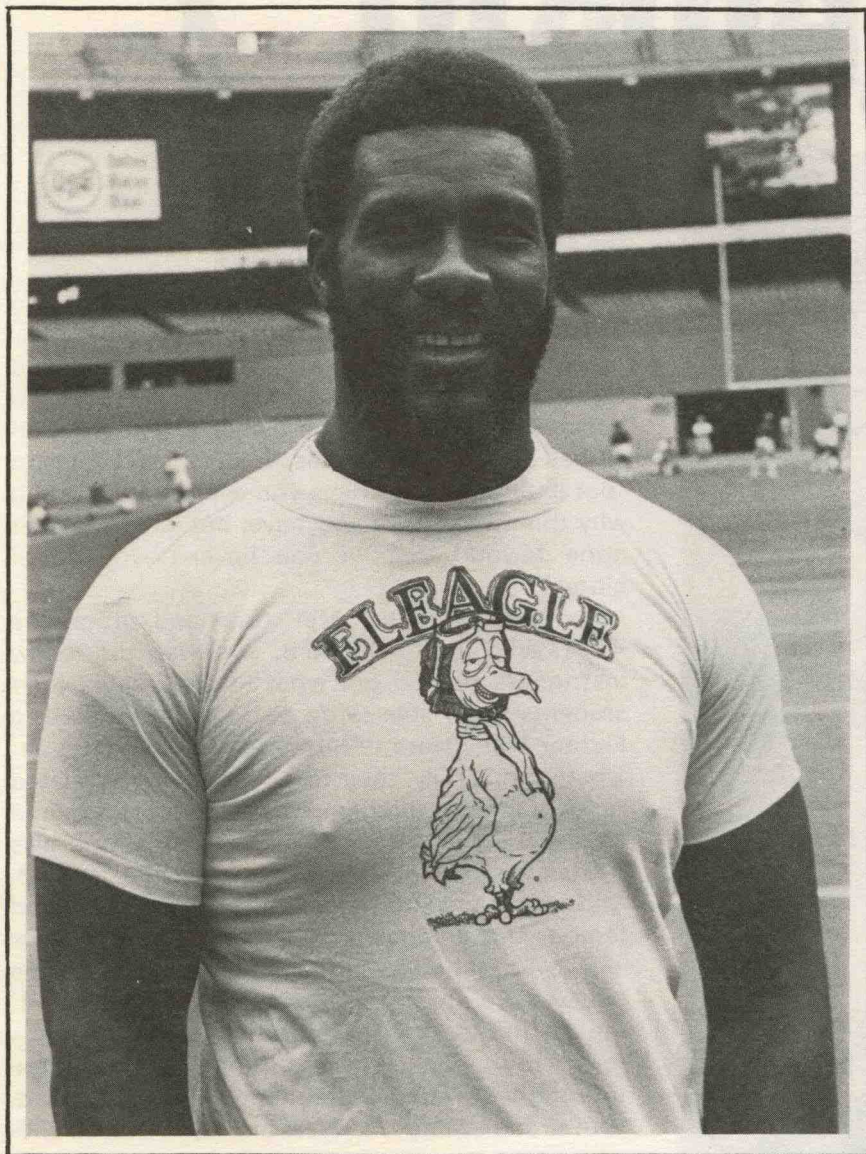
The military staff artist position (AFSC 231X1) with TAC ATTACK magazine will become vacant in the summer of 1981. We're presently looking for volunteers to fill this spot on the number one

magazine in the Air Force. The person in this position is required to have a high degree of artistic ability coupled with a professional working knowledge of offset printing, color separation and photography. The staff artist prepares renderings of all types of aircraft, figure drawing, hand lettering and cartoons. If you would like to be considered and feel you are qualified, send samples of what you consider to be your best work to TAC ATTACK magazine, attention of the Art Editor. All samples will be returned. Our address is:

**TAC/SEPP  
Langley AFB VA 23665**



# FANTASTIC T-SHIRT GIVE AWAY !



**My friends at TAC ATTACK  
are waiting to hear from you.  
Good Luck**

Hello,

My name is Joe Greene and if I could have your attention for a moment I would like to tell you how you can own a Fleagle T-Shirt exactly like the one I'm wearing. It won't cost you a penny, just a little time. Here's all you have to do. Write an original article, story or poem for TAC ATTACK magazine on any aspect of aviation-maintenance, operations, life support training, survival, weapons delivery, or even your very own, completely unique war story. Send it to TAC ATTACK and if it's published and selected as the best story of the month, you're an instant winner and will join the exclusive club of T-Shirt winners. Just one caution, your story should have some lessons or otherwise contribute to the overall safety theme of the magazine. So, don't wait until tomorrow because your friends are already working on their stories. Send your stories to:

Editor, TAC ATTACK  
HQ TAC/SEPP  
Langley AFB, VA 23665  
Or call Attn 432-2937/3373.

Joe Greene of the Pittsburgh Steelers, is one of the greatest defensive linemen in pro football history. Mr. Greene is a native of Temple, Texas, and this year marks his 13th year in the NFL. Among his many accomplishments both in college and the NFL, he has been named to the AFC Pro Bowl squad for a team record 10th time.

We extend our thanks to Mr. Greene and the Pittsburgh Steelers for his appearance in TAC ATTACK.



# CAN WE TEACH judgement?

By Mr C. B. Stoddard  
HQ TAC/DOOS

**G**ood judgement comes from experience. Experience comes from bad judgement."

Are you an IP, academic instructor, or do you teach some other kind of skill? If you're in the business of teaching, a certain level of frustration comes about from trainees who just can't seem to "put it all together." Have you ever thought about why this is so? Sure you have, but have you ever gone beyond that? If you haven't—you're not alone.

In 1979, Captain Mel Copeland, from the 479TTW at Holloman AFB, surveyed his fellow instructors to find out what they expected their students to be able to do at the end of the Basic Fighter Maneuvers (BFM) phase of training. Somewhat surprisingly, their responses were all related to mental tasks: Judgement, problem solving, and situation awareness. Not one comment was related strictly to tactics or maneuvers in BFM. Captain Copeland concluded that we should temper the emphasis on teaching tactical skills with a formal effort at teaching mental tasks. He believes we are not properly teaching or evaluating mental tasks. "There are pilots who can perform the maneuvers as long as they are thoroughly briefed beforehand," says Copeland, "but if something changes, or they are faced with new situations, they freeze and cannot apply what they already know to the new situation."

We obviously can't compress 20 years of flying experience into a four month CCT/RTU course. Nor can we present the myriad of possible situations one might encounter in a career, but we can do a lot better in preparing our aircrews to cope with the unexpected. Instruction in judgement, decision making, problem solving and situation awareness can be developed in the same manner as other "academic" subjects and presented in a





classroom atmosphere. When we ignore teaching mental skills beforehand, then whatever mental skills are learned are acquired through experience alone. Experience may ultimately be the best teacher, but by itself is terribly costly in terms of time and mishaps. Remember, the school colors of the University of Experience are black and blue!

The best place to start instruction in mental skills is on the ground where the stress level is low, there is time to identify the situation, determine options, and decide the best course of action. Someone has described the classroom in the sky as a crowded place where the student finds it noisy, fatiguing, demanding, more than he can handle, and his attention is impaired by so much to do in such a limited time. But how do we approach teaching mental skills on the ground? Well, here are a few ideas.

In every flight briefing, we cover the "Emergency of the Day." We first set the problem and then ask for the procedures—bold face or otherwise. In the air, the aircraft doesn't neatly inform you that you have utility failure. MASTER CAUTION, CHECK HYDRAULIC GAUGES, and other lights and instruments provide clues which enable the aircrew to identify an emergency or malfunction. Sometimes, deciding an emergency exists is difficult to do. Our first step in solving any problem—building judgement—is to define the problem.

If a pilot doesn't know all aircraft systems thoroughly or is perhaps preoccupied with flying formation position or delivering ordnance—a malfunction could go unrecognized. Basic aircraft systems are usually taught at the very beginning of any formal course of training. Knowledge of the aircraft must obviously be mastered before it can be operated with an acceptable level of safety. But do we challenge that knowledge during later phases of CCT or operational training? If we don't, we're shortchanging everyone. Daily mishap reports detail system failures which don't follow the "classic" symptoms listed in the Dash I. We can use these incidents to further enhance the knowledge level of everyone—not just the new guys. Like the basic knowledge requirements, helping an individual think along logical lines on the ground can help keep him from getting "locked on" to one instrument or task during flying.

Simulators and part task trainers can provide a good place to practice these mental skills. Too often, we misuse these tools. Instead of using systematic scenarios, carrying through a plausible set of malfunction or emergency conditions to their natural conclusions, I have witnessed instructors pile problems on top of problems until all semblance of realism is lost. Our simulator scenarios should follow a building-block approach, teaching from simple to complex—from first allowing an individual the time to recognize a problem to handling the most challenging malfunctions in a timely and correct manner.

But aircraft emergencies are only one small part of our training problem. The increasing sophistication of simulators has gone far beyond teaching instrument procedures, weapons delivery, crew coordination, use of radar, and other similar tasks. Visual simulation and improved motion capabilities improve the value of the simulator and complicate the role of the IP. You will be further challenged to use the capabilities of the simulator to build the students' skill and judgement. There are also other techniques which you can use on the ground to help your students.

For instance, simulation through "imagery" is another approach requiring the simplest of tools—the mind. An aircrewmember can mentally practice the skills of an event or mission by thinking through each action, planning ahead for the right airspeed, altitude, attitude, etc. Olympic ath-





# Judgement



Mr. C. B. Stoddard  
is this month's  
Fleagle T-shirt winner

letes have practiced imagery in their preparation for different events. Skiers would imagine themselves going downhill, weaving through each gate, applying the correct pressure and movement of the skis and body. In nearly every fighter squadron in the world you can find another form of imagery. Follow the two hands of the pilot as he describes the movements of an air-to-air engagement. A two minute fight can easily take 30 minutes or more to analyze correctly.

This brings up the factor of time—one of the most critical factors in the air. We spend an extensive time on the ground talking about how to do a maneuver. So much time that we mentally lull the student into thinking at the same rate when he's going 500 knots and only has 5 seconds left before he'll lose a good heat missile shot. As an individual becomes more proficient, problems analyzed on the ground should contain a time factor to force the mental processes to speed up.



To tie up the few ideas I've offered in the past few paragraphs, let's look at our training program in this respect. Accomplishment of basic maneuvers cannot be an end in itself. Someone who can perform basic BFM maneuvers from canned set-ups is useless if he can't exercise the required level of judgement coupled WITH his flying skill in other areas such as Air Combat Tactics. We can teach logical problem solving on the ground and we can help our students to develop levels of judgement far sooner if we are only willing to try. Remember, maneuvers are not ends in themselves, and the level of judgement which could be developed 10 years ago was possible because of the number of flying hours. Judgement relied upon experience for development. We can't afford to do that any longer since our exposure to experience is so much less.

As my final shot, here's a checklist or guideline to help you in your efforts. Feel free to add, subtract, etc.

Judgement, decision making, problem solving, and situation awareness can be taught and to do it we need to:

1. Give it emphasis with other academic subjects.
2. Provide practice initially at low levels of stress.
3. Present case studies for aircrew solutions.
4. Encourage mental rehearsing.
5. Help students preplan responses; to avoid the tendency to adhere to the first option that comes to mind.
6. Emphasize objectives, controlled learning objectives and performance criteria.
7. Provide practice in simulators and part task trainers.
8. Provide continual objective feedback on performance.

Remember, trouble may be bad—but finding it is good. Judgement never guarantees an individual will never do anything wrong—it only assures you of recognizing it when you do—and correcting the error.







# TAC

## SAFETY AWARDS

### INDIVIDUAL SAFETY AWARD

Senior Airman Thomas A. Graydon, 474th Equipment Maintenance Squadron, 474th Tactical Fighter Wing, Nellis Air Force Base, Nevada, is the recipient of the Tactical Air Command Individual Safety Award for November 1980. Airman Graydon performed maintenance and his other assigned duties in the Gun Services Section with quality, precision and professionalism. His exemplary work in training other individuals has increased the safety consciousness of the entire section and qualifies him for the Individual Safety Award.



Senior Airman Thomas A. Graydon

crew chief safety award

### CREW CHIEF SAFETY AWARD

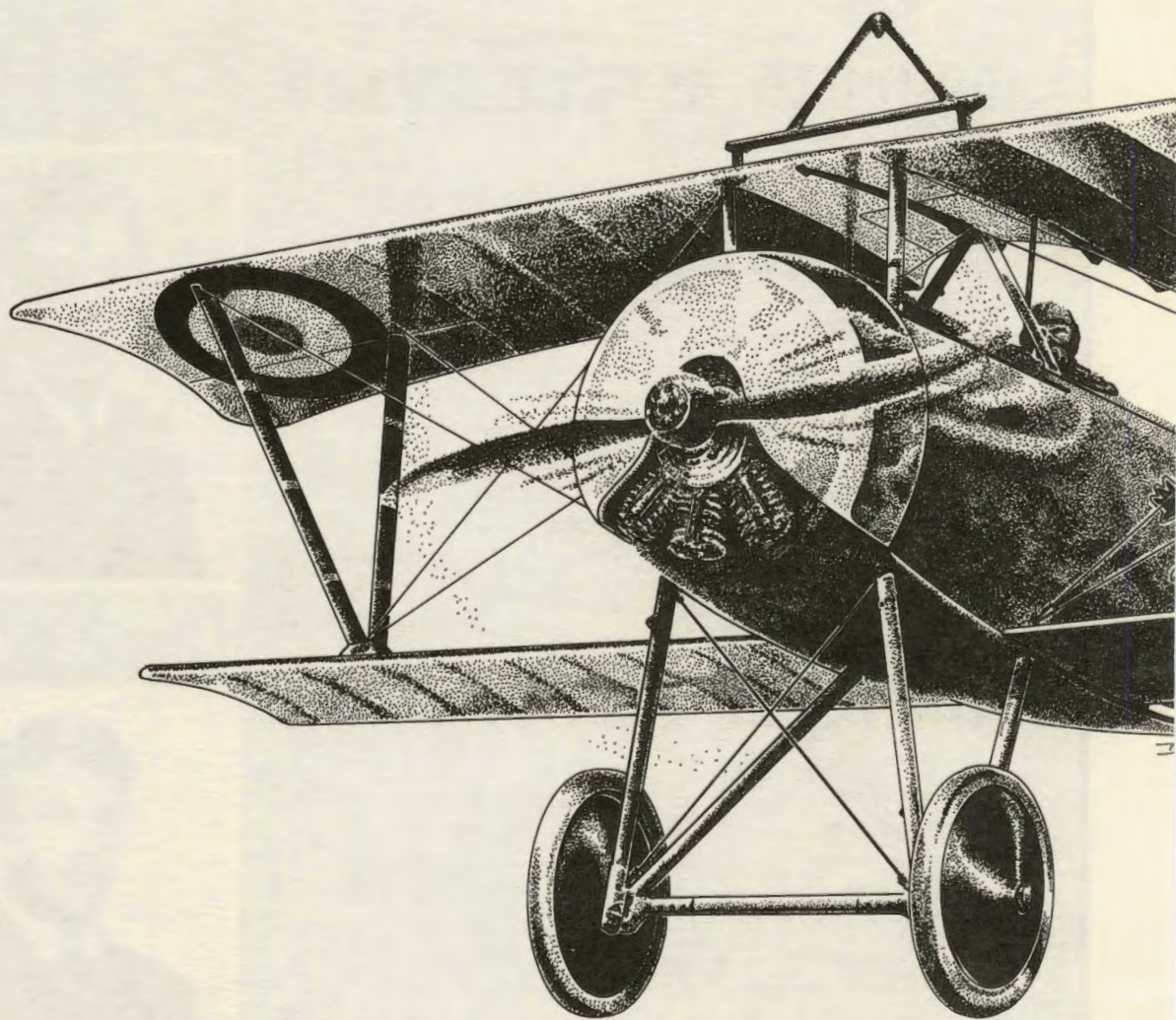
Airman First Class Samuel Currier, 363d Aircraft Generation Squadron, 363d Tactical Reconnaissance Wing, Shaw Air Force Base, South Carolina, is the recipient of the Tactical Air Command Crew Chief Safety Award for November 1980. While deployed to Nellis AFB for Red Flag, Airman Currier noted a seemingly minor fuel leak on his aircraft during the launch. Investigating further, he traced the leak near the high pressure fuel filter. Had he not discovered the source of the leak, a serious inflight fire could have resulted. His thoroughness in this and other duties qualifies him for the Crew Chief Safety Award.



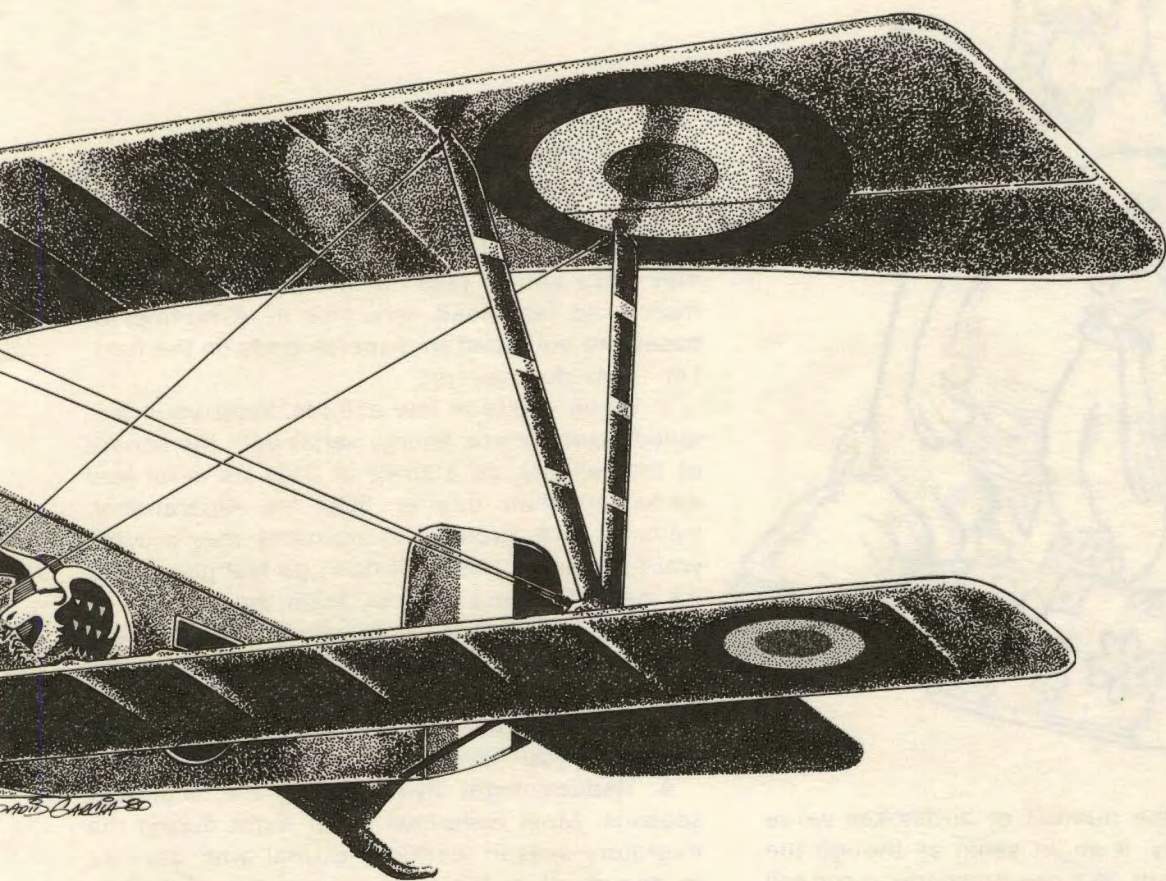
Airman First Class Samuel Currier



# Nieuport 21





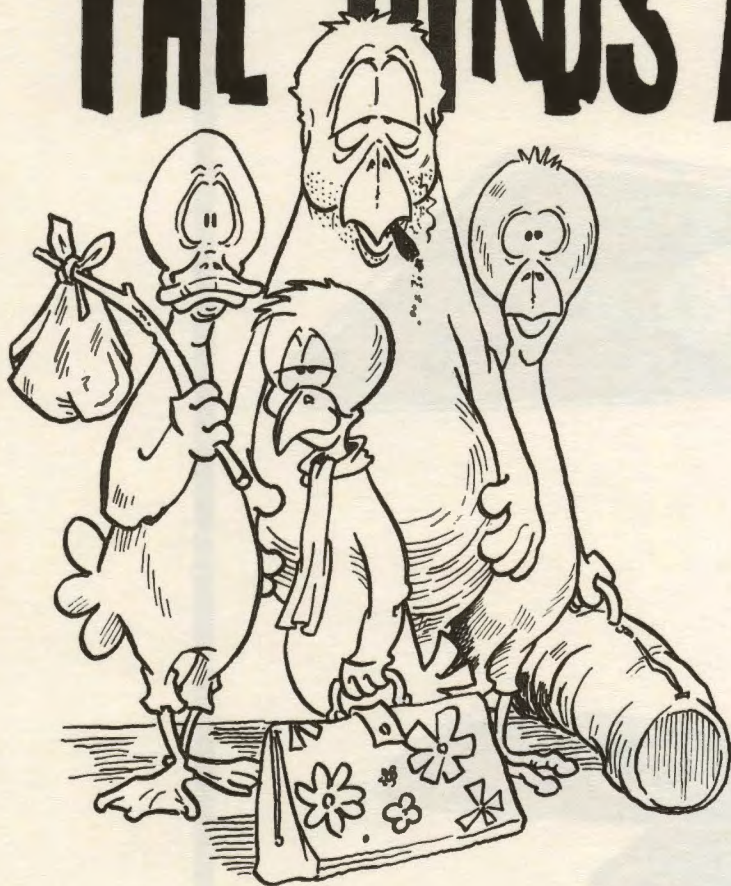


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THE BIRDS ARE BACK



# THE BIRDS ARE BACK



**A**ctually, with the number of birdstrikes we've been having lately, it might seem as though the birds had never left. We are presently in the fall migratory season—one of the periods of greatest birdstrike potential. Several aircrews have experienced severely damaging birdstrikes this year. The Aircrew of Distinction for this month is just one example. Only a few days ago, a large bird impacted the right MAU-12 pylon and TER on an F-16 causing the inadvertent release of an inert MK-82. They do pack a punch. The map accompanying this article depicts the major flyways. But don't believe for one minute that you're "protected" outside those areas. Here are a few things to keep in mind to avoid birdstrikes or things to do if you have one:

1. If there are concentrations of birds on the runway or in the approach or departure corridors, don't take off or land until they move. I realize that operational requirements or fuel considerations may force you to take off or land anyway. But if there's no real need, why risk it? A number of bases are equipped to disperse birds on the field. Let them do their job.

2. When you're at low altitude, keep your air-speed down. Kinetic energy varies with the square of the velocity, so a strike at 250 kts is far less damaging than one at 500 kts. Operational, training, and aircraft requirements may prevent you from doing this—but don't go fast just 'cause it's neat. Feathers in your teeth ain't cool!

3. Plan low level routes to avoid known concentrations of birds. Remember roosting sites as well as migratory routes when planning low levels. Roosting sites can shift yearly, so consult the experts if you have any questions.

4. Reduce night flying during the migratory seasons. Most waterfowl fly at night during the migratory season, continuing until after daylight in search of suitable stopping areas. Schedule changes can reduce the hazard.

5. Report observed bird activity to the controlling agency, SOF, RSU, tower, or ARTCC. Your report could keep other aircraft out of the same area and prevent a bash.

6. When birds are reported around the airport, fly a straight-in approach if you can. Experiments have proven that birds can see and hear well and they rely on these senses to warn of danger. Evidence also exists, however, that birds cannot predict an aircraft's flight path if it is not in a straight line. Turn early to avoid birds if you can. Last ditch maneuvers usually don't work.



$$E = \frac{1}{2} MV^2$$

**ENERGY EQUALS ONE-HALF  
THE MASS TIMES THE VELOCITY  
SQUARED.**

**IN OTHER WORDS, A COUPLE  
OF POUNDS OF FEATHERS CAN  
TEAR HELL OUT OF AN AIRPLANE**





# the birds are back



7. Attempt to identify the species involved if you have a strike. Follow the procedures listed in AFR 127-15.

8. Become knowledgeable about the habits of birds in your local area. This type of information

is essential to any control and avoidance efforts.

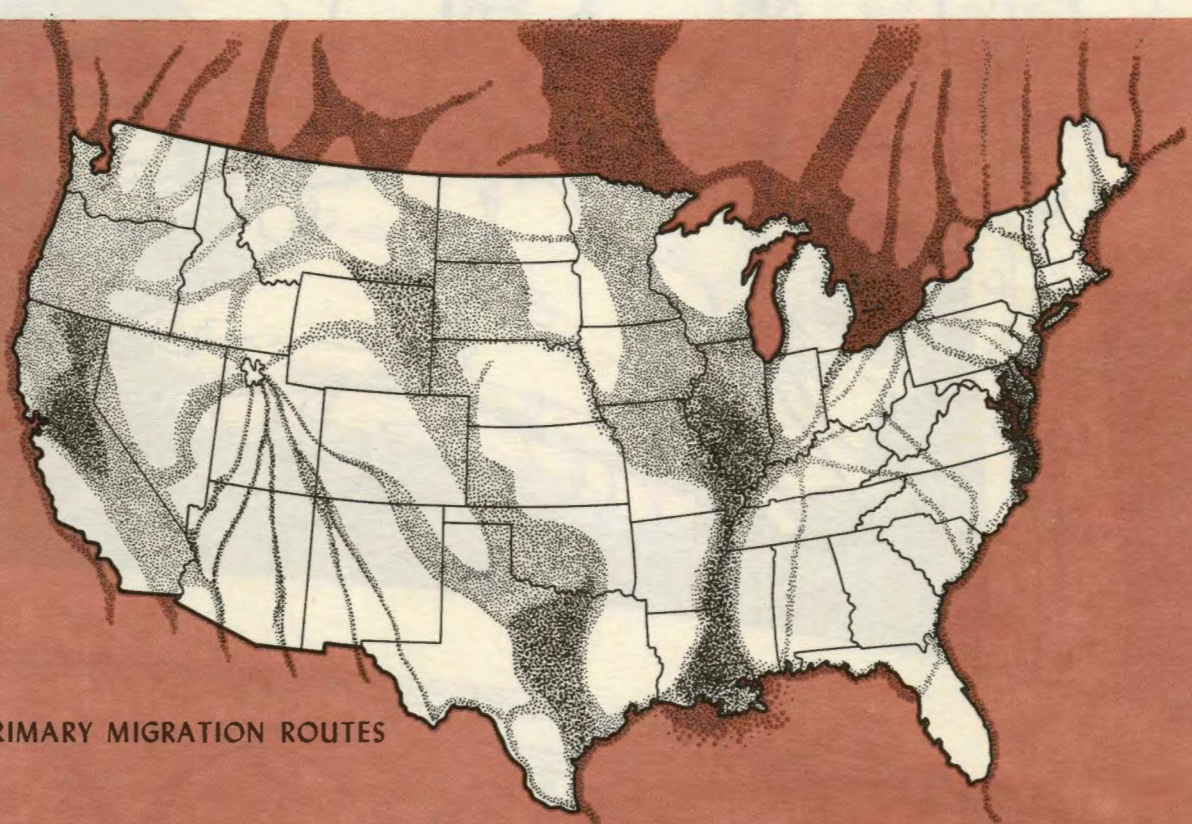
9. Always fly with your visor(s) down. The visor was designed to save your eyes. It's a proven fact that it works.

10. If you sustain a birdstrike, check instruments immediately. Bird/FOD damage to engines is a definite possibility. Land as soon as practicable—your view from the cockpit, or even your wingman's may not allow you to accurately determine the level of damage.

11. Make birdstrikes a mandatory point for crew coordination if you fly a two-seater. If you take one in the canopy, you may not be able to communicate. Clearly define who's going to do what, when, and how. This will save a lot of worry and confusion if it ever really happens.

The bottom line is—use your common sense in approaching the problem. With a little preparation and by following these considerations, you should have a pretty good chance of avoiding the birds. As long as we share the same airspace, we're going to run into them.

Preflight preparation and airborne alertness can make fowl encounters less disagreeable. ➤



PRIMARY MIGRATION ROUTES



# chock talk

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

## Dropped Objects

We continue to drop things off aircraft with alarming frequency. A few days ago, the gun access panel came off a SUU-23. Luckily, this occurred over water and as far as we know, no one was hurt. The gun had been preflighted by

the aircrew but the door wasn't locked cause they assumed the crew chief would lock it. The crew chief gave the gun pod a glance and the door looked secure. He assumed the aircrew locked it. The quick check crew ignored the gun because the pilot stated they weren't going to fire it. Twelve minutes after takeoff, the door departed damaging the MAU-12 pylon, Doors 75R and 82R, both main gear doors and puncturing the right 370 tank tail cone . . .

Meanwhile, we lost the vertical stabilizer tip from another aircraft. Two aircraft had taken off when the wingman noted the loose tip. Reduced airspeeds and gentle control inputs weren't enough to keep the tip from coming off.

Several days earlier, the tip was supposed to be removed for repainting. A crew chief removed some, but not all the screws. He had trouble with some and requested help from the sheet metal shop. The crew chief then left without making any 781 entries. Two sheet metal specialists arrived, removed the rest of the screws, and left without making a 781 entry. The tip was never removed. During five days of POMO training, no one noticed the screws missing. During a seven day calendar inspection, no one noticed the missing screws. During the crew chief and aircrew preflights, no one noticed the missing screws. Why? I don't know. The missing stabilator tip fell on a park bench. Now what if someone had been sitting on that bench?

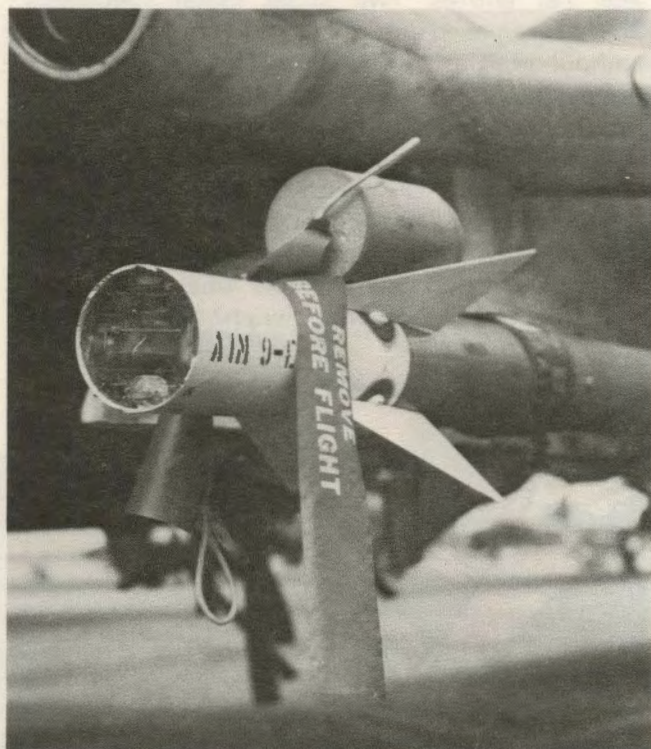




# Chock Talk

## Stand Defeats Missile In Surprise Attack

Egress personnel had to install the R/C/P ejection seat in an F-4. After they had completed the seat installation they left the B-1 stand against the aircraft. Later that day, the crew chiefs were clearing the flight line of all unnecessary AGE equipment at the end of the shift. One of the individuals clearing the line started pulling the stand away from the aircraft and released the hydraulic pressure. The stand immediately lowered and contacted an AIM-9E training missile which was loaded on the aircraft. The forward section of the missile was broken off by the impact. The stand also contacted the aircraft engine intake but didn't cause any damage there.



The end of the duty day shouldn't be any reason to ignore normal cautions. Don't let your mind start the trip home before the rest of you does . . .

## Slip Slidin' Away

The O-2 pilot was flying a local orientation training sortie. During some touch-and-go land-

ings at one of the local operating airfields, the pilot had a real surprise. As the aircraft passed through 55 knots (about 10 knots slower than takeoff speed) the pilot's seat rolled full aft. The pilot tried to maintain aircraft control but found he couldn't maintain sufficient rudder pressure to keep the aircraft on the runway. The aircraft departed the left side of the runway and the pilot continued the takeoff outside the runway markers.

Once he was safely airborne and had climbed to a safe altitude, the pilot put things back together. The vertical fins had been damaged when they contacted the ground during takeoff. It's pretty hard to control the yoke when your arms are stretched out to the limit. Following a controllability check, the pilot completed a safe landing at his home station.

Maintenance folks found the seat failure was caused by wear of the seat locking pin and adjusting rod. The extreme wearing of the nylon rollers and associated fiber washers allowed excessive play in the roller bracket assembly and eventually resulted in roller bracket widening. In simple terms, it wore out. The widened roller bracket permitted the locking pin to be pulled free of the locking hole on the left seat rail.

The airplane had received a 400 hour phase inspection only 10 hours earlier. However, the aircraft's seats weren't inspected because they were removed before the bird was turned over to phase personnel. If the seats had been available, it is likely the discrepancies would have been found. We can't inspect what we don't have.

## When It's Dark Out - Watch Out

A load crew was transporting an inert GBU-12 A/B from the munitions trailer to an F-4 for uploading. As the MJ-4 bomb lift truck was proceeding towards the aircraft, the left front tire of the truck ran over a black rubber AGE chock. The bomb fell off the jammer and the fins were damaged.

It was dark out; the ramp lighting wasn't as good as it could be—that could describe a number of our bases. But, the crew had a Lite-Ail available to help improve the poor visibility. They just didn't use it.

I wonder if it had been a live bomb if they would have been just a bit more cautious . . .



# Dr. Sam

## FROM THE LABORATORY TO THE AIRCRAFT



**D**R. Sam! Has anything that you have developed in the laboratory ever found its way to the aircraft? If so, name it.

What a loaded question! And yet questions similar to this one are frequently asked of scientists, especially those involved in basic types of research such as conducted at USAFSAM. There are of course several reasons why this perception is so common. First, from the beginning of the original concept in the laboratory until it is finally operational on the aircraft is usually a long time (several years). Also the design of the equipment

during its development, although the item uses the same principles and functions as originally conceived in the laboratory, is always changed drastically for fit into the aircraft. In fact, the final operational design would probably not be recognizable even to the scientist who originally developed the concept. In addition, scientists are well known for not advertising their activities which include successes as well as failures. But times are changing and hopefully with this column, DR. SAM's activities will become better known.

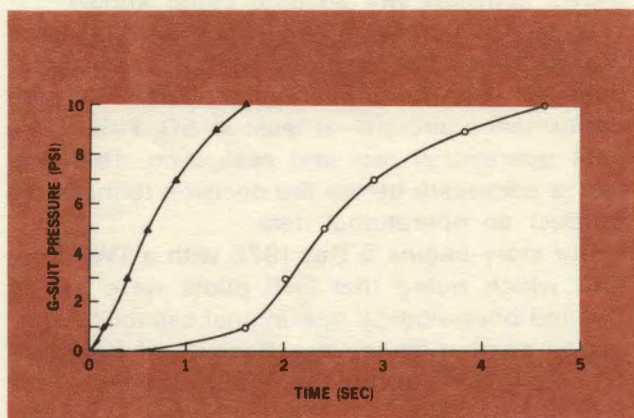
So let's cite an example of a DR. SAM research project which has been successful and its product will soon be appearing in operational high performance aircraft—at least in 50, F-15s for a final operational test and evaluation. This final test is necessary before the decision to make the product an operational item.

Our story begins 9 Dec 1976 with a TWX from TAC which noted that F-15 pilots were having "limited physiological operational capability" during air combat maneuvers. Because of slow anti-G suit inflations during the rapid G-loading of the F-15, aircrews had "... lowered grey-out threshold, necessitating excessive M-I maneuvers, and inducing aircrew fatigue ..."

Quickly, a research and development (R&D) program was begun at USAFSAM aimed specifically at the F-15 anti-G valve. It was determined that the anti-G valve in the F-15 responded very slowly to a rapid increase in G and of course the F-15 is noted for very rapid G onset maneuvers. Figure 1 illustrates the slow response of the F-15 anti-G valve in providing pressure to the aircrewmember during a rapid increase in G. Please note that almost 3 seconds is required before effective suit pressure is applied to the pilot. And as you aircrewmembers know, your high performance aircraft can attain G levels, where suit pressure is necessary, in a fraction of second.



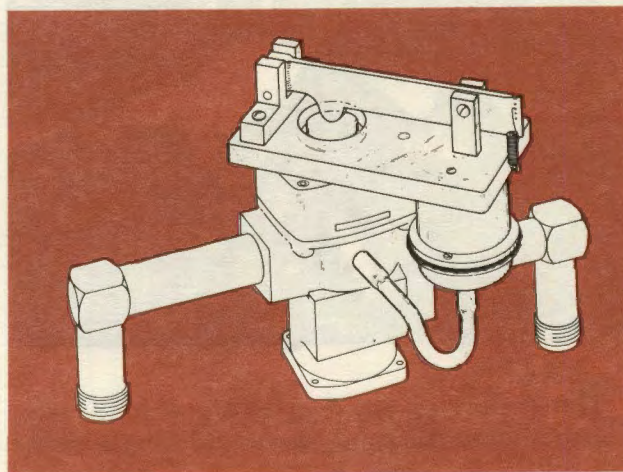
# DR. SAM



**Fig. 1:** Time required for G-suit pressure build up using either the operational F-15 anti-G valve (circles) or the HFRP anti-G valve (triangles).

In August 1977, an advanced anti-G valve was at the Brassboard stage (Figure 2) and tested by eight F-15 pilots on the US Navy centrifuge at the Naval Air Development Center, Warminster, PA. F-15 pilots were involved early in this R&D effort so that their knowledge and experience regarding the G environment in the aircraft could be used in the development of the valve. In this regard, the pilots' comments were very useful in evaluating valve function and their ideas were incorporated in the final valve design. The USN centrifuge was

used because of its rapid (6 G/sec) G-onset capability—an acceleration onset rate common for the F-15.

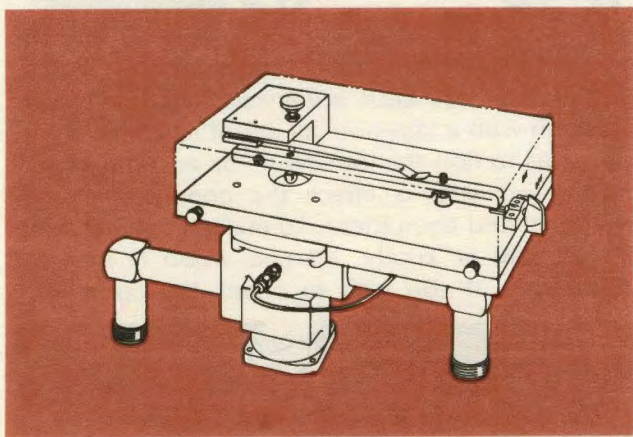


**Fig. 2:** "Brassboard" development stage HFRP anti-G valve made of plastic. This valve was used on the centrifuge tests.

Following this study, the functional aspects of the advanced F-15 valve were completed, giving birth to the Hi-Flow Ready Pressure (HFRP) anti-G valve. This mechanical advanced anti-G valve was developed from the presently operational F-15



valve, with two extensive modifications: (1) the flow capability of the operational valve is increased by 50% (hence the name Hi-Flow) and (2) the anti-G suit is partially filled with air to 0.2 PSI before the flyer pulls G (what we call Ready Pressure). By the way, RP can be turned off and on by the flyer. Interestingly, the very low 0.2 PSI fills the suit to over half of its maximum volume—requiring less air to enter the suit during G onset to produce effective G-suit pressures. The combination of HF and RP reduces the time necessary to inflate the G-suit by 75% (Figure 1). An early flightworthy model was produced at USAFSAM and “handed-off” to the Life Support SPO (ASD/AES) in Dec 1977, just one year after the valve deficiency in the F-15 was declared by TAC (Figure 3). Note the difference in structural design between the functional brassboard model (made of plastic, Figure 2), and the flightworthy model (made of aluminum, Figure 3) but still an experimental anti-G valve.

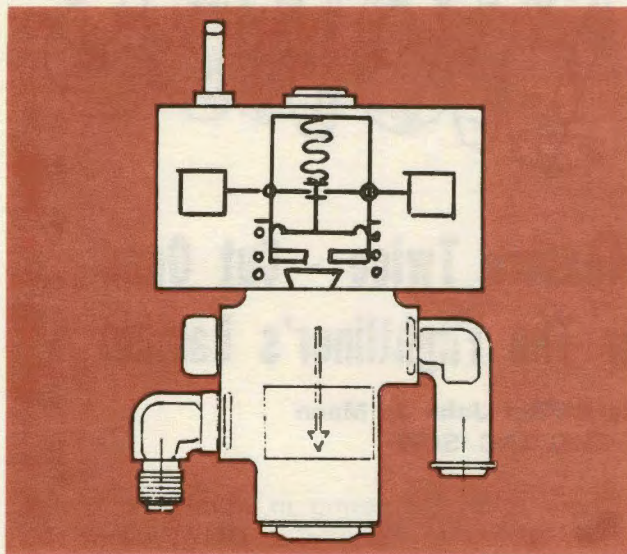


**Fig. 3: “Flight tested” HFRP anti-G valve made of aluminum. A slightly modified version of this valve was flown in F-15 aircraft.**

In July and August of 1978, four of these HFRP valves were tested for flightworthiness at the AFFTC, Edwards AFB, CA. Again, the evaluation of the valve by the F-15 test pilots at Edwards was an important consideration in continuing this program. In November, fifteen of these same HFRP valves began an Initial Operational Test and Evaluation (IOT&E) at Holloman AFB using F-15 aircraft (49th TFW). The HFRP valve has consistently met with pilot approval and frequently with enthusiasm. F-15 pilots often remark that it offers

a “1 G” advantage over the anti-G valve now operational in that aircraft.

As of now, fifty of these preproduction valves are on contract. Once again, the structural design of the valve has been changed—this time the change was made by the contractor (Figure 4). The design change was necessary for fit into the consoles of both the F-15 and F-16 aircraft. Remember, however, that the basic functions of this valve are exactly the same as the previous two experimental models. The design HFRP valves will be used in a Final Operational Test and Evaluation on F-15 TAC aircraft prior to being made operational for the F-15 and possibly the F-16 and A-10.



**Fig. 4: Preproduction model of HFRP anti-G valve. This model will be final tested on TAC F-15 aircraft.**

The HFRP anti-G valve R&D program is of course only an example of several USAFSAM success stories. The valve was used as an example because it is typical of design changes that occur during the development of equipment. Also typical is the time requirement which is necessary for an R&D program to develop equipment with its final inclusion in an aircraft as an operational item.

DR. SAM eagerly solicits questions, ideas, and comments (both friendly and unfriendly) from aircrewmembers. All letters will be considered confidential and will be used as the basis for future articles.

**Mailing Address:** DR. SAM  
USAFSAM/CE  
Brooks AFB, TX 78235



# WEAPONS WORDS

## Measure Twice - Cut Once Or The Flightliner's Lament

By SMSgt John E. Mann  
HQ TAC/SEW

There is an old saying in woodworking that goes: "Measure Twice—Cut Once." Now you don't have to be smart to figure out that before you turn on the saw you ought to be sure of why, where, and what you are going to cut. You measure, make your mark, check your plans, and measure again before cutting. If there is any doubt about your measuring and marking, you can save a lot of time and material if you measure again. The results can mean a professional product with very little waste, or something less—a scrap pile so high that two projects could have been made with the price of one.

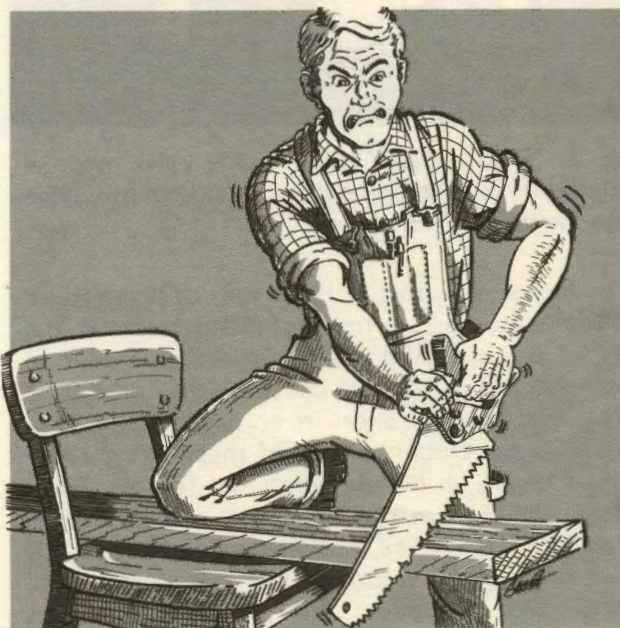
The MEASURE TWICE—CUT ONCE rule can be applied to any job, including the simple task of performing a functional or a jettison check of an aircraft weapons release system. Suppose our task has been assigned and we have our plans—the technical order. We have our tools—CTK and multimeter.

The first step in any project is to check the plans thoroughly. Seek additional information about the task to be performed, especially if



unsure. It may be the tech data is not clear. If this is the case, ask your supervisor but don't ever press on with a task until all doubt has been eliminated as to how the job should be accomplished.

The next step is check the condition of the materials and equipment. To make a cabinet with a dull saw or knotty, warped wood is next to impossible. If you wait to check the condition,





you may be tempted to press on with what's available. Proper planning and acquisition of the correct tools and materials will surely aid in creating a quality finished product.

Likewise, to perform quality maintenance on a weapons release system, we must be sure of the condition of the aircraft and our tools. There should be a systematic approach to this measuring technique. First find out what other people say about the condition of the aircraft. That is, check the armament placard and aircraft forms (781). These are the first indicators that the aircraft is safe. Notice I said indicators because they are not foolproof and you should not let them mislead you. Physically check the wing tanks for cartridges and safety pins; check the centerline for the same. If the gun is loaded, make sure the safing devices are installed and that all rounds are in the clear cycle. If missiles are loaded, then the cartridges should be removed and safing pins installed.

Over the years, we have devised several home-made methods to speed up these checks such as paper seals on the outside panels, lead seals safety wired through the cartridge retainers, and reversed cartridge retainers. The only positive insurance is to remove the cartridge retainers and check the breeches yourself.

When it comes to taking someone else's word an aircraft is safe, it could be a permanent decision for you. Imagine that you go to an aircraft to perform a functional check of its centerline tank. You check the forms for aircraft condition. The forms indicate the aircraft has been dearmed. You check the centerline tank and it's pinned and has no cartridges installed--so you proceed to connect power and enter the cockpit. (Did you check the egress system for safing devices, the canopy strut installed?) When the man taking the voltage readings at the centerline asks you to depress the jettison switch—you do—the emergency jettison switch and then the left wing tank comes off and ruptures. You only measured once. Failure to check and double-check could be fatal in this situation.

If you have the chance to regret not checking the wing tanks, then you may be a safer mechanic in the future. However, if the tank was full of fuel and was ignited by a spark, you may not have a chance to regret. You can't trust your life to someone else to indicate the system is safe.

We have had a dramatic increase in tanks being jettisoned through this and other similar actions

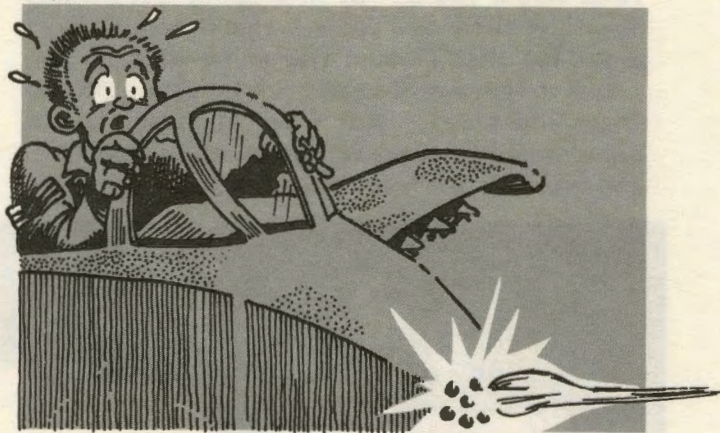
involving trust. Most of our people have had a second chance to regret not measuring twice and cutting once. Will you be that lucky? Or, will you remove all doubt before turning on power and depressing the button that could remove your last chance for regret?

## I Didn't Know It Was Loaded

D.M.

During engine start for a morning sortie, the A-10's gun unsafe light illuminated. The weapons expeditor unsuccessfully tried to clear the light and the pilot decided to fly the mission with the gun safed. On return from the mission, the gun control unit was removed and sent to the shop for clearing.

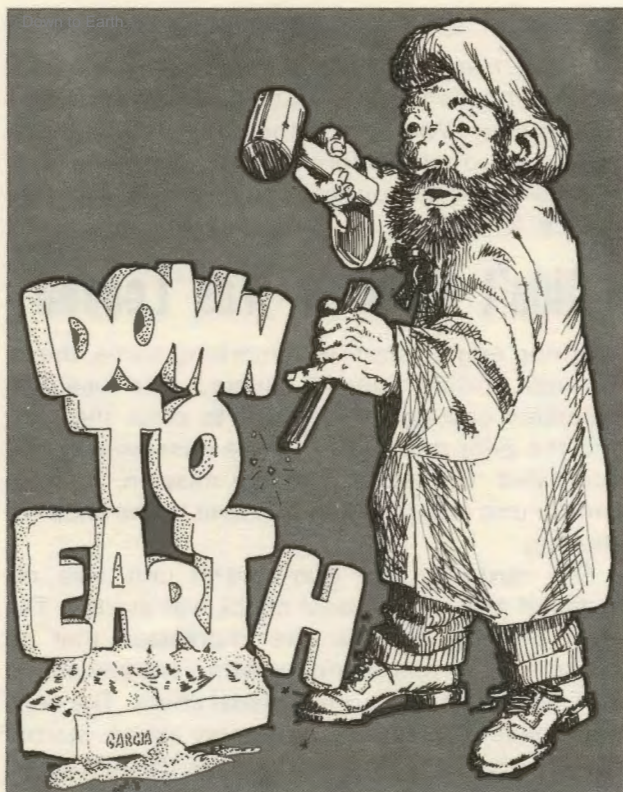
The next day, the gun control unit was re-installed and a functional check was started. The crew chief was under the impression that no ammo was on board and he didn't see any ammo in the gun system during a visual check. The crew then loaded 36 rounds of dummy ammo, started the APU and positioned what was thought to be dummy ammo to the gun. Cockpit switches were set up and when the ready light illuminated the trigger was pulled, firing four 30mm TP rounds. The projectiles hit the ramp about 150 feet in front of the aircraft and were never found after that.



This is another incident where we were extremely fortunate. The aircraft was parked at the front of the row, pointing towards a completely clear area. Any number of people, aircraft, or other vehicles could have crossed in front of the gun at the wrong time—but didn't. The next time shouldn't even happen—but if it does, some folks might not be as lucky.

Aircraft guns are just like other guns, you have to assume they're always loaded . . .





## FIRE!

Let's say you're driving down the flightline and you notice a fire in a piece of ground equipment. What would you do? Or how about just walking down the street and you see smoke coming from a storage shed. Would you know what to do?

Last month we observed Fire Prevention Week. That's the time of year we're supposed to re-examine our work areas, homes, recreation sites, and attitudes for fire hazards. If you didn't do it

then, you probably won't do it now. But, I still hope a few of you will take my advice and take a look around.

Do you know where the nearest fire extinguisher is at work?; at home? Do you even have an extinguisher at home? A fire detector? Do your children know what to do to get out of the house safely during a fire? What's the quickest way to get the fire department? Where's the nearest phone?

One of the reasons we lose so much property and so many people to fire and its effects is a lack of knowledge. Is your car worth enough to justify buying a \$15 extinguisher? It only takes about 30 minutes to explain to your children how to save themselves in a burning house. Children are a lot smarter than adults when they're told about fire hazards. Fire scares them--it scares them enough to listen. They aren't old enough to think it won't happen to them. If your car isn't worth the money, your kids ought to be at least worth the time.

There's a lot more I could talk about but we don't have the room. The point I'm trying to make is that the hazards of fire are real. With the winter and the heating season in full swing we're going to lose many people to those hazards. To lose even one when it's preventable is senseless and tragic.

## ARE YOU A BIKER?

If you are, you have plenty of company. The number of motorcycles of all sizes keeps increasing. I don't have to tell you that riding a bike exposes you to more hazards than normal. With the fall weather season in full swing, protective equipment isn't just smart, it's downright necessary. A good helmet, jacket, gloves, boots, and other heavy duty clothing are necessary to make your riding comfortable and safe.

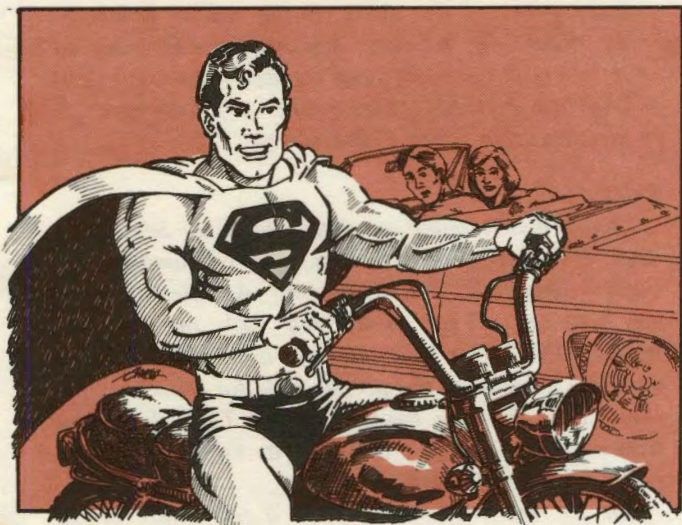
Your clothing has to protect you from the elements. Even with a full fairing and windscreen, the wind can be cold and rain will just add to the misery. Your gloves need to be warm—even in the blast of 40-50 mph driving at freezing temperatures. They also have to be flexible and not so bulky that you can't operate the controls. No, your discount store, \$1.98 variety aren't going to hack it.

That goes for your helmet too. If your head is only worth \$25.00 to you—then put it in a \$25.00 helmet. A good helmet is an absolute necessity. It will keep your head dry, reasonably warm, and protect you from most reasonable





hazards. Rocks, bugs, and the pavement are some things the helmet will save you from. Other cars, trees, telephone poles, and other immovable objects are things the best helmet won't dent. Don't pretend you're Superman, Wonder Woman or anyone else while you're riding.



Riding in the rain should be a last resort. The reduced visibility—for you and other drivers results in a really high hazard level. You stand out even less in a gray, murky downpour and you don't have the same maneuverability when the road's wet. A good rain suit is a must. If you get wet, the evaporation of the water as you ride will cause you to lose body heat much faster than normal. If your body temperature drops because of this cooling effect, your body automatically restricts blood flow to your extremities—your hands and feet will get numb and you won't be able to function as well. About the only good reason for riding when it's wet is to drive a short distance to get out of the rain.

## GUNS

Firearms are dumb, inanimate objects. The people who use them are intelligent human beings. Therefore, it would seem that an individual should never accidentally shoot himself or anyone else. We know that isn't the case . . .

An airman was "showing off" a shotgun he owned. The gun was in very poor condition and the airman fixed it so it had a hair trigger. For an unknown reason, the airman laid down on a couch, cradling the gun. Maybe he forgot it was loaded—maybe he hit the trigger. It really doesn't make any difference 'cause he isn't around today to tell us what really happened . . .

## TAC ATTACK

A sergeant and his son went target practicing. They were using a .22 caliber lever action carbine and when they reached their destination they proceeded to load the weapon. When the rifle magazine was full, the sergeant replaced the magazine charging rod into the loaded magazine. At this time, the NCO's right index finger was over the end of the barrel. His son's left hand was also over the end of the barrel for support. The sergeant then shut the lever action of the rifle. This chambered a bullet as designed. As the breech slammed forward, the hammer fell forward instead of locking in the firing position. The gun discharged, blowing the tip of the sergeant's finger off. The bullet also passed through his son's hand. These two were luckier than the airman above.

We're now well into the hunting season and many more people will be injured, maimed, or killed because of careless use of firearms. Make sure you and your friends aren't one of them.



## WHAT ARE FRIENDS FOR?

An airman and two friends had driven to an isolated spot in a wooded area. A small pond was nearby and some drinking and other horseplay took place. When two of the people wanted to leave, the airman refused—he wanted to stay so his "friends" left without him. The airman apparently entered or fell into the pond and drowned.

Now, would you leave your "friends" in the same situation?



# LETTERS



Dear Editor,

Looks like you guys blew your own aircraft recognition quiz on page 28 of your September 1980 issue. Number five is not the ancient U-21 used by the Army, but the relatively new advanced multi-engine trainer designated T-44A for the obvious service. The aircraft pictured happens to be the fourth produced by Beech Aircraft Corporation in a production run of sixty-three that we here at DCASMA Wichita accepted for the Navy.

H. Ford  
LCDR, USN  
Chief, Flight Operations

Dear Editor,

Reference page 28, Aircraft Recognition, and page 30, Answers—the following errors were noted:

a. Aircraft #1 is a T-34A, the USAF version. The T-34B was the USN version, and is distinguished by the absence of a fairing at the base of the rudder which gave a vee cut-out or notched appearance. USAF aircraft had this fairing as the pictured aircraft does, giving a continuous line from rudder edge to tail cone.

b. Pictured USN aircraft is a T-44A, a conglomerate of the C and E models of the King Air 90. The U.S. Army does operate some versions of the King Air under the designation of U-21, but they differ in configuration and markings from the depicted aircraft.

I hope this is not a reflection of the current state of the art in recognition skills within TAC. Old fighter pilots still remember how!

James P. Scott  
Lt Col, Delaware ANG  
116 TAG/DO

Dear Commander Ford and Lt Col Scott,

I'd really like to say we purposely put those mistakes in there to see if anyone out there was reading our magazine. I'd really like to say that—but I can't. I can't say that this represents the state of the art in recognition skills within TAC—it's a fairly good representation of the skills of the Editor however.

My thanks for writing. Anytime you all want to write letters about something we happened to do right . . . please feel free. Meanwhile, you can read on about the other stuff I did wrong.

Ed

Readers,

I happened to make another goof in the September issue, Weapons Words section. Under "Close But No Cigar—Thankfully," I mistakenly identified the lock pin hole on a TER as the rear hole on the rack. WROOONG! The lock pin hole is the forward hole on the TER and is the proper hole for the safety pin when BDU-33s are loaded on the TER. I imagine with my track record, I'll end up as Editor for all aircraft - 34 publications.

Oh by the way, there were a few flubs in the October issue too. I inadvertently left off the credit line for part two of Flight Lead Responsibilities. Maj Mike Ridenour, HQ TAC/DOOTD. We owe a double apology to Maj Ridenour. Through a clerical error, the wrong byline was also put on the article "Instrument Related Accidents." That one belongs to Maj Ridenour too—he's been pretty busy lately I guess.

So, the real Fleagle T-Shirt winner for October is Major Ridenour. I hope that sets the record straight. I also hope I don't make too many more mistakes—I may end my tour as editor, "not with a bang, but a whimper."





# TAC TALLY



|                      |   |
|----------------------|---|
| CLASS A MISHAPS      | ▶ |
| AIRCREW FATALITIES   | ▶ |
| TOTAL EJECTIONS      | ▶ |
| SUCCESSFUL EJECTIONS | ▶ |

| TAC |      |      |
|-----|------|------|
| SEP | THRU | SEP  |
|     | 1980 | 1979 |
| 1   | 22   | 32   |
| 2   | 16   | 25   |
| 1   | 24   | 32   |
| 0   | 17   | 21   |

| ANG |      |      |
|-----|------|------|
| SEP | THRU | SEP  |
|     | 1980 | 1979 |
| 1   | 10   | 6    |
| 0   | 8    | 5    |
| 1   | 8    | 4    |
| 1   | 5    | 2    |

| AFR |      |      |
|-----|------|------|
| SEP | THRU | SEP  |
|     | 1980 | 1979 |
| 1   | 3    | 3    |
| 0   | 1    | 2    |
| 1   | 2    | 3    |
| 1   | 2    | 1    |

## TAC'S TOP 5 thru SEPTEMBER '80



| TAC FTR/RECCE              |        |
|----------------------------|--------|
| class A mishap free months |        |
| 31                         | 33 TFW |
| 24                         | 1 TFW  |
| 23                         | 31 TFW |
| 16                         | 67 TRW |
| 14                         | 58 TTW |

| TAC AIR DEFENSE            |        |
|----------------------------|--------|
| class A mishap free months |        |
| 106                        | 84 FIS |
| 92                         | 57 FIS |
| 45                         | 5 FIS  |
| 42                         | 48 FIS |
| 23                         | 49 FIS |

| TAC GAINED FTR/RECCE       |                  |       |
|----------------------------|------------------|-------|
| class A mishap free months |                  |       |
| 139                        | 152 TRG          | (ANG) |
| 101                        | 188 TFG          | (ANG) |
| 93                         | 138 TFG          | (ANG) |
| 92                         | 917 TFG          | (AFR) |
| 89                         | 116 TFW(128 TFS) | (ANG) |

| TAC GAINED AIR DEFENSE     |         |       |
|----------------------------|---------|-------|
| class A mishap free months |         |       |
| 98                         | 191 FIG | (ANG) |
| 79                         | 102 FIW | (ANG) |
| 75                         | 177 FIG | (ANG) |
| 41                         | 125 FIG | (ANG) |
| 24                         | 119 FIG | (ANG) |

| TAC/GAINED Other Units     |          |       |
|----------------------------|----------|-------|
| class A mishap free months |          |       |
| 134                        | 182 TASG | (ANG) |
| 127                        | 193 TEWG | (ANG) |
| 119                        | 110 TASG | (ANG) |
| 114                        | USAFTAWC | (TAC) |
| 110                        | 919 SOG  | (AFR) |

## CLASS A MISHAP COMPARISON RATE 79/80

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

| TAC | 1979 | 6.9 | 7.0  | 5.9  | 6.6  | 7.4  | 6.2  | 7.2  | 7.1 | 7.8 |  |  |  |
|-----|------|-----|------|------|------|------|------|------|-----|-----|--|--|--|
|     | 1980 | 2.0 | 4.0  | 5.2  | 4.4  | 4.7  | 5.2  | 5.3  | 5.2 | 4.9 |  |  |  |
| ANG | 1979 | 0.0 | 11.4 | 9.0  | 9.7  | 7.6  | 6.2  | 5.4  | 4.6 | 4.1 |  |  |  |
|     | 1980 | 5.0 | 7.6  | 6.6  | 7.1  | 6.5  | 6.2  | 5.8  | 5.1 | 5.0 |  |  |  |
| AFR | 1979 | 0.0 | 0.0  | 19.9 | 23.1 | 17.0 | 13.4 | 11.6 | 9.9 | 8.7 |  |  |  |
|     | 1980 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 4.5  | 3.7  | 6.5 | 8.7 |  |  |  |

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

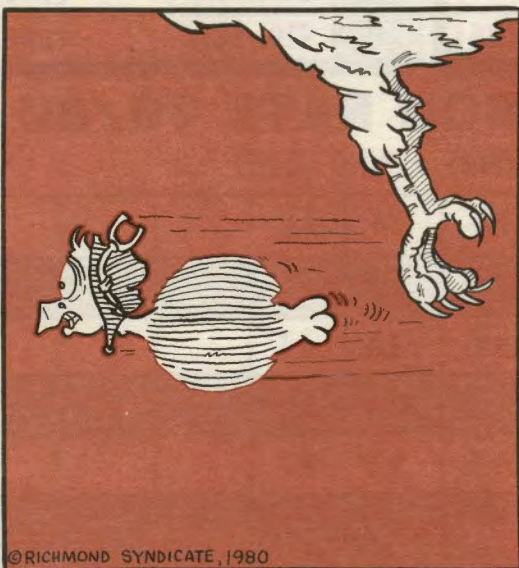
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FLEAGLE



HARRISON



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SCRAPE!



I WANNA REPORT  
A BIRD SCRAPE.

SAFETY  
OFFICE