TAC ATTACK

Tac attack

APRIL 1980

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APR

READINESS IS OUR PROFESSION

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VOLUME 20 NUMBER 4

Angle of Attack

DO YOU CARE ABOUT YOUR PEOPLE...

Or are you just the person in charge? There is a difference. Think back to when you were growing up and you got your first pocket knife. Your father probably spent a good deal of time teaching you how to sharpen it, keep it clean, and keep from cutting yourself. Or how about your first rifle? Whether it was a BB gun, .22 caliber, or hunting rifle, many more hours went into instruction on the care and potential danger of this weapon.

And what about your first attempts at cooking? Your parents were there to keep your fingers out of the electric beaters, blender, and off the hot parts of the stove. Whether you were a young boy or girl, the driver's license was probably one of your most important undertakings. Driver's education was mandatory. Hours of classroom instruction and practice preceeded the heart-thumping test with the state license examiner.

Why all the guidance and concern? It's simple really. Your parents cared for you. They showed you; pushed, cajoled, and forced you along the right paths.

If you as a supervisor care about your people, you will show that same concern. No, the people you work with aren't children; nor should they be treated as such. They are adults—however, they still require guidance in how to do a job safely, how to use a new piece of equipment properly, or how to fix a new aircraft component. Also, as humans, we sometimes become complacent in our jobs—or even careless. We think we know our job to the point we don't need to use tech data all the time. It is in just these areas where the effective supervisor who cares, shows his or her concern.

I'll ask the questions again. Do you really care about your people, or are you just the person in charge?

Richard K. Ely

RICHARD K. ELY, Colonel, USAF
Chief of Safety

SEE AN

By Maj Pete Abler
Editor

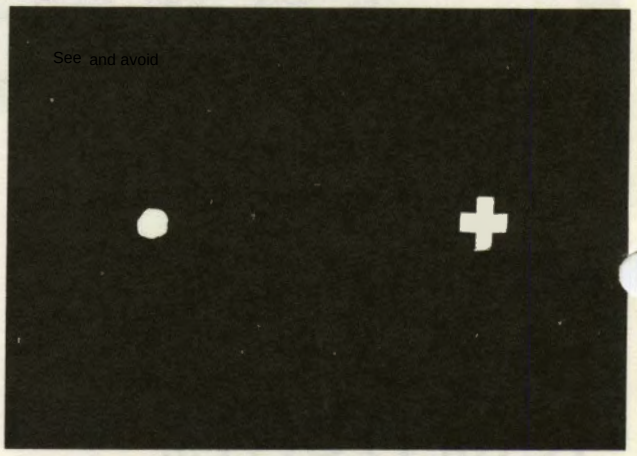
There is probably nothing more terrifying to a pilot than a near midair collision. Why? It's hard to say, but I'll bet nothing reinforces our mere mortality as much as a really close call. Whether it occurs during an ACT engagement or just when you're flying straight and level, the heart-pounding lasts many minutes even though the near-miss took only seconds. Maybe you saw the other airplane and had time to take evasive action. It's more likely that you didn't see the other guy, but the "Big Sky" theory earned one more save. That theory doesn't always work as some tragic mishaps have reinforced in our minds the last two years.

Each year we have to "prove" to the doctors that we are still physically capable of performing our aircrew duties. An important part of that physical is the vision examination. Some of us have 20/20 vision while others require corrective lenses for reading and even flying. Even if you have the "eyes of an eagle," you still have a couple of built-in defects in your eye which you must overcome. They are the blind spot and space myopia (nearsightedness).

"Sure," you say, "I know I've got a blind spot, but it's really no sweat anyway. It's just a minute dot on the back of the eye."

I'll have to agree that you're partially correct. It is only a minute dot on the back of your eye where the optic nerve is attached to carry vision messages to the brain. Here's a real simple test to prove you have a blind spot.

Fig 1



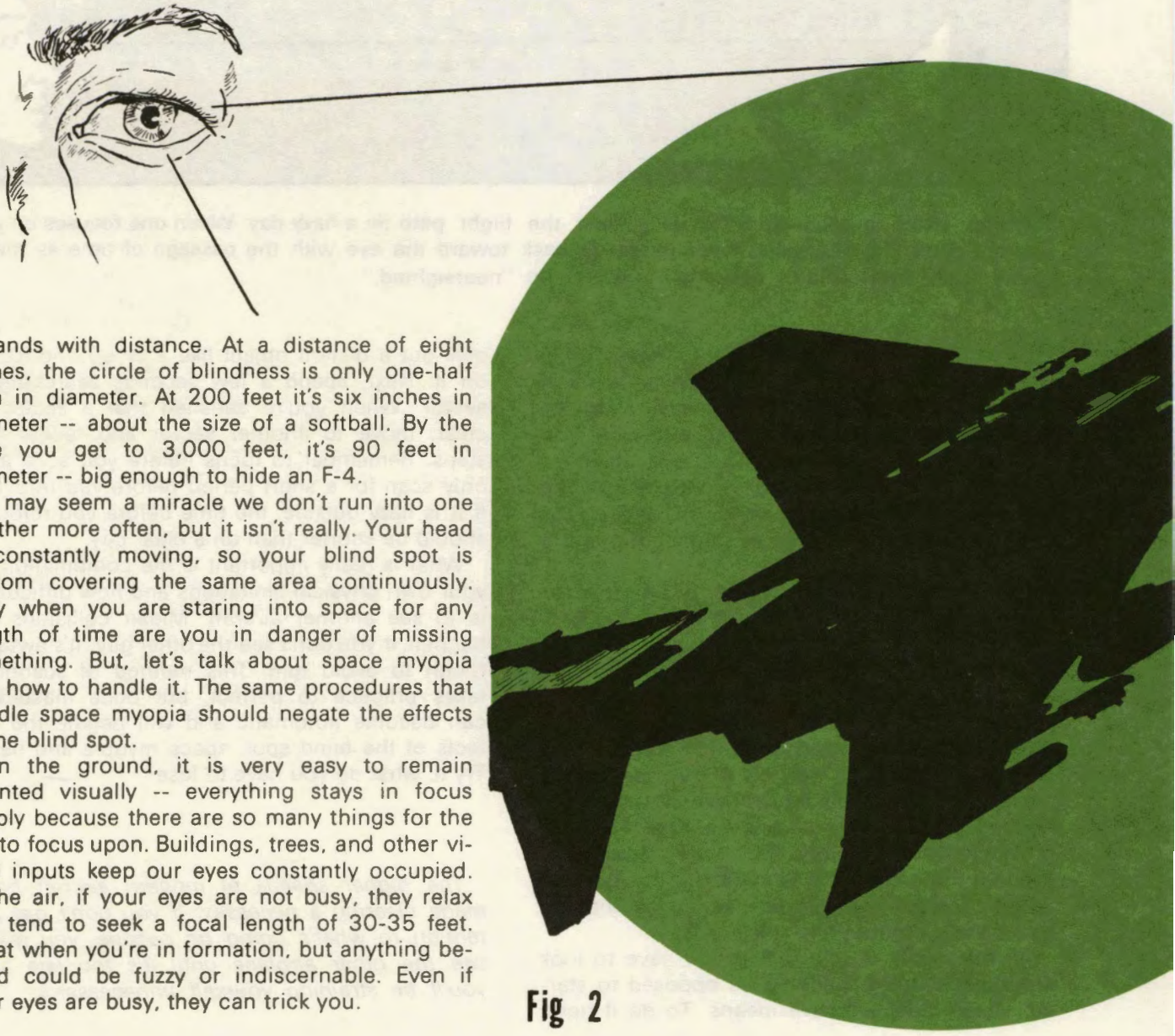
BLIND SPOT SELF-TEST

Cover your right eye and focus your left eye on the cross. Move the diagram toward you until the dot disappears. To try this on your right eye, turn the diagram upside down.

So you say "uncle," huh? What's that you said? Oh, of course you don't notice the blind spot very often. You have two eyes and the blind spots aren't coincident and your natural binocular vision compensates for the blind spot -- unless -- unless something interferes with vision in one eye, like your nose, eyeglass frames, canopy bow, even a bug smashed on the windscreen. If that happens, one eye can't "see" what the other eye is "missing."

Figure 2 also refutes the "minute spot" belief. You have to remember that your field of vision is like a cone. The diameter of your blind spot

D AVOID



expands with distance. At a distance of eight inches, the circle of blindness is only one-half inch in diameter. At 200 feet it's six inches in diameter -- about the size of a softball. By the time you get to 3,000 feet, it's 90 feet in diameter -- big enough to hide an F-4.

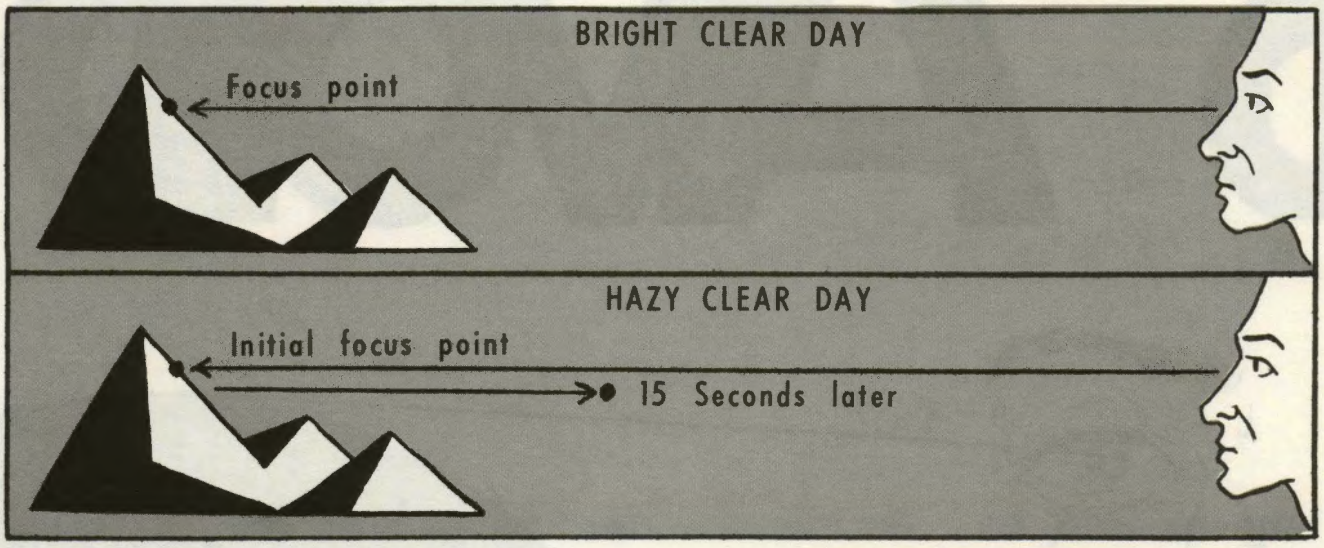
It may seem a miracle we don't run into one another more often, but it isn't really. Your head is constantly moving, so your blind spot is seldom covering the same area continuously. Only when you are staring into space for any length of time are you in danger of missing something. But, let's talk about space myopia and how to handle it. The same procedures that handle space myopia should negate the effects of the blind spot.

On the ground, it is very easy to remain oriented visually -- everything stays in focus simply because there are so many things for the eye to focus upon. Buildings, trees, and other visual inputs keep our eyes constantly occupied. In the air, if your eyes are not busy, they relax and tend to seek a focal length of 30-35 feet. Great when you're in formation, but anything beyond could be fuzzy or indiscernable. Even if your eyes are busy, they can trick you.

Fig 2

see and avoid

Fig 3



Greater effort is required to visually clear the flight path on a hazy day. When one focuses on a distant point, the focal point tends to recede back toward the eye with the passage of time as the eyes tire and relax, causing one to be "nearsighted."

On a clear day, it is simple to focus on a distant mountain or other prominent landmark. If you maintain your focus, it is relatively easy to see an aircraft between yourself and what you are focused on. Add some haze, and ability of the eye to maintain focus is weakened. The focus tends to recede back toward the viewer after a short lapse of time as depicted in figure 3.

Under such circumstances, searching for other aircraft becomes difficult and requires a special effort on the part of the crew. Otherwise small targets may escape attention, and with the extreme closing speed of high performance aircraft, the danger of midair collision increases drastically. Haze diffuses color and contrast and makes it difficult to see clear outlines. Under these conditions, the human eye has difficulty holding a focus at a distance greater than approximately one mile. The hazier the background, the greater the tendency of the focus to recede toward the viewer. Increasing altitude also plays a contributing role.

All this really means is that you have to look around. Constant scanning as opposed to staring is the most effective means. To do it right, pick out a distant object like a cloud and focus on it. Next, spend a few seconds searching a sector. When you're satisfied that a sector is clear, move to another sector and repeat the steps. Remember to focus before you scan and only scan for a short period before you refocus. If it is hazy outside, the time before you refocus should be shorter than on a clear day.

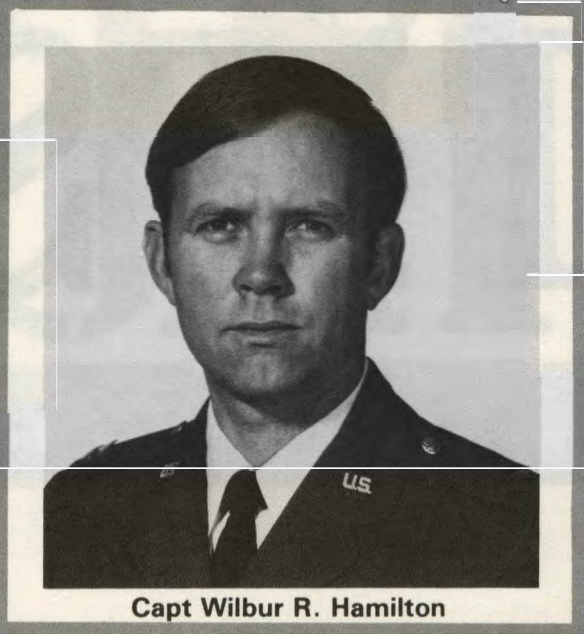
What is really important is the combination of your own physical limitations and how difficult it is to see another aircraft. Midair collisions do happen. If you don't see the other guy, it's awfully tough to avoid him. This method of scanning takes practice to perfect; but once mastered, can become automatic and will negate the effects of the blind spot, space myopia and haze. Try it, what do you have to lose?

The higher speeds of modern aircraft have made clearing a necessity. If you don't pay attention to what's going on outside, you won't see the other airplane until it's too late and you'll be straining yourself unnecessarily.

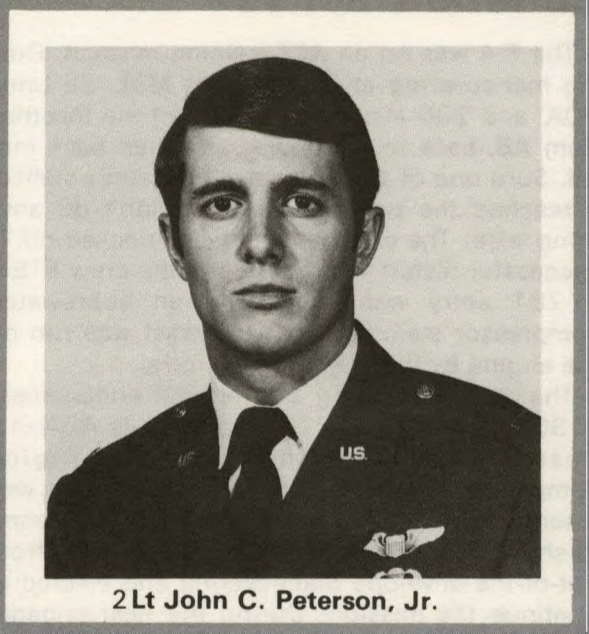
AIRCREW OF DISTINCTION

523 TFS/27 TFW
Cannon AFB, NM

On 9 October 1979, Capt Wilbur R. Hamilton was instructing 2Lt John C. Peterson, Jr., a student aircraft commander on his first flight in the F-111D. Shortly after takeoff, as the slats were retracted, the aircraft began to roll sharply to the right. Capt Hamilton immediately assumed control of the aircraft, recovered from the roll, and continued the climb to a safe ejection altitude while analyzing the control problem. The flap and slat indicators indicated that the slats had failed to retract but that the flaps were fully retracted. Given this particular flap and slat configuration, there was no explanation for the right rolling tendency. Attempts to lower the flaps and slats by normal and emergency means were unsuccessful. After determining that 270 knots was the optimum airspeed for lateral aircraft control, Capt Hamilton placed the right throttle in afterburner to help counter the right rolling moment and used the left throttle to maintain desired airspeed. The crew still was required to hold full left stick to maintain wings-level flight. The resultant high fuel consumption rate severely decreased the time available to plan a course of action.



Capt Wilbur R. Hamilton



2Lt John C. Peterson, Jr.

Cannon supervisory personnel meanwhile had coordinated with Strategic Air Command to scramble a KC-135 alert tanker from Carswell AFB, Texas, to effect an inflight refueling. Thirty-three minutes after takeoff, another F-111D joined them and reported the left flap was still partially extended while the right was fully retracted. Despite increasing fatigue from the extreme control pressure required, they continued to orbit, awaiting technical advice from General Dynamics since this particular asymmetrical flap condition is not addressed in the flight manual.

With less than 15 minutes of fuel left and the KC-135 still 30 minutes away, Capt Hamilton elected to land and engage the approach-end barrier. On final approach, the crew used full left control stick and nearly full left rudder to maintain a wings-level attitude. Incremental reductions and increases of the left rudder were used to align the aircraft with the runway centerline. Immediately prior to landing, the aircraft again started a right roll, but touchdown occurred as corrective action was being taken; and the aircraft successfully engaged the approach-end cable. Their decisive actions, superb flying skill, and cool inflight analysis, in the absence of any technical guidance or established procedure, prevented possible loss of life and saved a valuable aircraft qualifying them for the Tactical Air Command Aircrew of Distinction Award.

TIPS

Tac Tips

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

> Common sense is in spite of, not the result of, education.
>
> VICTOR HUGO

common sense

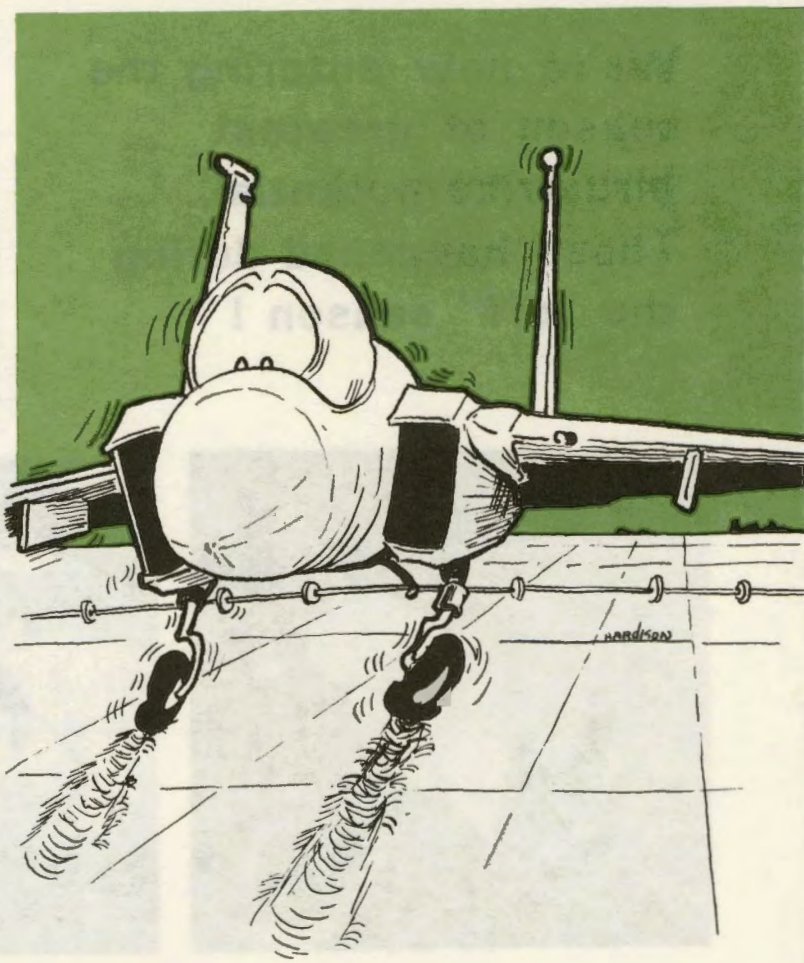
The F-4 was on an ACT training mission. During maneuvering at 27,000 feet MSL, 25 units AOA, and 200 kts, the pilot moved the throttles from AB, back to mil power and then back into AB. Sure, one of the engines compressor stalled. It reached the point where it couldn't do anything else. The engagement was knocked off, a successful restart was made and the crew RTBd. A 781 entry was made and an abbreviated compressor stall/flameout checklist was run on the engine by the maintenance folks.

The next day, during another ACT engagement at 30,000 feet MSL, 200 kts, 25 units AOA in a nose-high right turn, the same engine compressor stalled again. The engagement was discontinued and a quick restart was accomplished. The pilot assumed the stall was from out-of-the-envelope maneuvering and elected to continue the mission! During the next engagement, under almost identical circumstances, the engine compressor stalled once more, only this time it didn't flame out, but stagnated at idle--the throttle had been pulled to idle during the fight. The pilot monitored the engine and noted 600 degrees EGT with the throttle at idle. Since the engine showed no further signs of recovery, the pilot shut it down, declared an emergency and RTBd. Prior to landing the pilot restarted the engine.

Maintenance ran a complete compressor stall/flameout check on the engine and the engine checked good. All three stalls were probably precipitated by maneuvering out of the envelope. That I'll buy. But, let's admit that compressor stalls or flameouts are not normal operation. When an aircraft doesn't operate normally, your only job is to bring it home--whether you were responsible for the abnormal operation or not. The stresses on any engine going from 100 percent RPM to "full stop" in seconds are fantastic! I certainly wouldn't care to continue flying an aircraft that had shown signs of engine trouble.

When you're flying the slatted E, remember it's like a rhino with ballet slippers--you may be able to point your nose anywhere you want to at 200 knots, but you can't keep it there for long. Besides, when the balloon goes up do you think the bad guys will let you call "knock it off?"

cables can hurt !



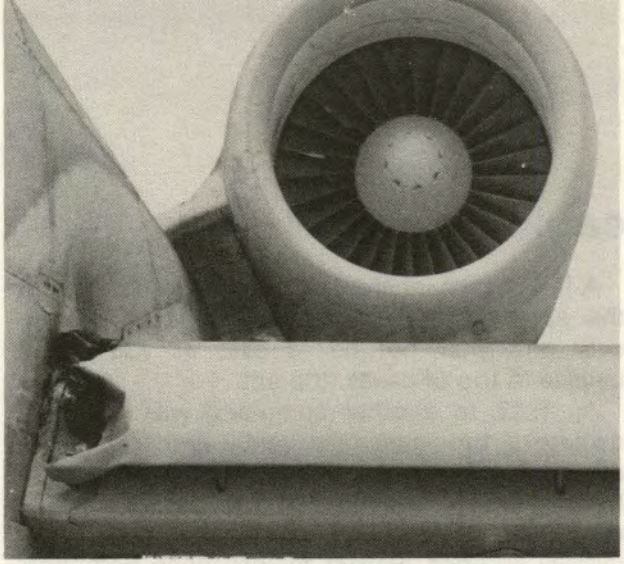
A few recent incidents have shown that taking the approach-end cable, or even just landing over one, may not be as easy as you would believe. A trio of cases in point . . .

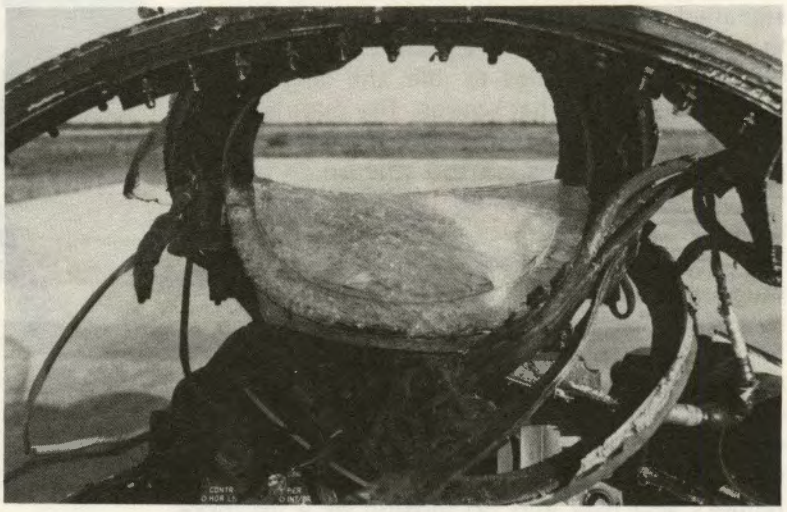
An F-15 in another command was asked to declare a simulated emergency and to execute an approach-end arrestment in support of a local exercise. The landing and cable engagement were normal to the point where the aircraft initially stopped. Barrier maintenance personnel signalled the pilot to move the aircraft forward to pull the cable taut. The pilot did so, but when he pulled the throttles to idle, the cable began pulling the aircraft backwards. The pilot then applied the brakes to stop the aircraft. At that point, the aircraft began to settle on its tail and rotated 35-40 degrees to the right. The cable contacted the bottom of the number 2 engine. The aircraft settled back to a more normal attitude a few seconds later. Damage was limited to the convergent nozzle segment liner and to four augmentor divergent nozzle segments. When you start to go backwards after a cable engagement, watch your speed. Use a combination of brakes and thrust. If you are going backwards too fast and you stomp on the binders, you may end up looking at a lot more sky than you saw a few seconds earlier.

A bit closer to home, an F-16 driver was returning from a mission and during a normal pattern and landing, managed to touch down on the approach-end BAK-12 cable--1200 feet down the runway. The cable bounded back into the air and contacted the right ventral fin, lower speed brakes, and lower engine nozzle leaves. The speed brake lost about 10 inches from its trailing edge. The $3,500 is a heck of a cost for a long landing. Stay away from the cable unless you need it . . .

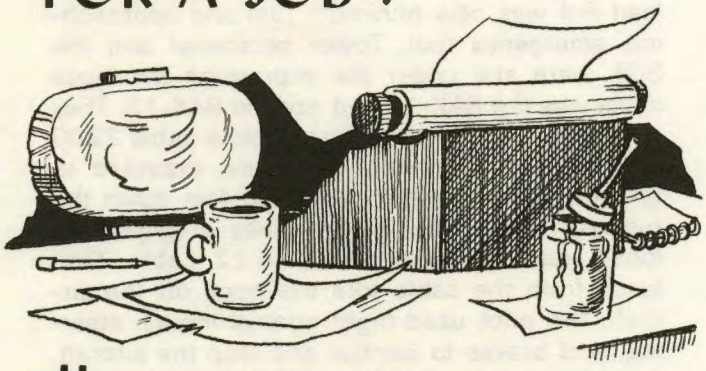
In the next case, the aircrew was set up for the incident by a lot of other people. A flight of two F-4s in another command were returning to base where all aircraft were recovering via cable engagements due to the icy runway. The flight split up and Number Two recovered first. Following his cable engagement, the barrier maintenance crew declared the BAK-13 unserviceable and began to connect the approach-end BAK-12. Tower was not informed about the crew connecting the BAK-12 and shortly ordered the barrier crew off the runway due to inbound traffic. The barrier crew stated they could not leave the loose cable on the runway, so tower sent the inbound aircraft around. The lead F-4 was now minimum fuel and approaching emergency fuel. Tower personnel and the SOF were still under the impression the loose cable was the BAK-13 and not the BAK-12. They informed the crew there was a loose cable 2200 feet down the runway. The crew expected to take the BAK-12 which was 950 feet down the runway. When they landed, they engaged the loose, partially connected BAK-12 cable. Side loads from the cable tore the hook off the aircraft. The pilot used flight control inputs, steering, and brakes to control and stop the aircraft. A combination of poor coordination on the ground and pressing a bit too much with an emergency recovery contributed to this incident. Sometimes you just can't wait to sort things out, and this is one of those cases where it bit someone.

We're now entering the season of greatest birdstrike potential. These happened during the "off" season !





ARE YOU LOOKING FOR A JOB ?



How about a staff tour? Don't say "no" without checking into it. If you're looking for an interesting, challenging job. I have just the one for you—Editor of TAC ATTACK. As the editor, you're the boss. You control production of the magazine from start to finish. You'll be assigned to TAC Safety, and you'll be filling your "staff square" in an important position.

What are we looking for? The position is a pilot AFSC, but don't let that scare you WSOs/EWOs away. We want the best man for the position; and if you're the best, you'll get the job. Ideally, you should be eligible to PCS this summer/fall and not be staring a remote tour in the face. The more experience you have in fighters/interceptors (both is ideal), the better you'll look. We're looking for a captain with at least 3-5 years experience—who wants to write. If you have the desire to write, the actual doing is easy. Experience in journalism might be helpful, but isn't required. If you think you might be interested, give me a call, AUTOVON 432-2937/3373, or drop a line to HQ TAC/SEPP, Langley AFB VA 23665. I'll fill you in on what the job is, the good points, the bad points, and answer your questions. You won't know if you don't call, so let me hear from you.

SAFETY AWARDS

SSgt Larry A. Foster

individual safety award

Staff Sergeant Larry A. Foster, 474th Component Repair Squadron, 474th Tactical Fighter Wing, Nellis Air Force Base, Nevada, is the recipient of the Tactical Air Command Individual Safety Award for April 1980. Sergeant Foster performed his duties as day shift supervisor in a superb manner. His thoroughness and technical knowledge are particularly evident by his detection of a major safety hazard involving the yaw rate gyro used in all F/RF-4 aircraft. This resulted in an Air Force-wide inspection and recall of the defective gyro. His strict adherence to safety practices and dedication contributed significantly to the Tactical Air Command Mishap Prevention Program.

SSgt James R. Terry

crew chief safety award

Staff Sergeant James R. Terry, 49th Aircraft Generation Squadron, 49th Tactical Fighter Wing, Holloman Air Force Base, New Mexico, is the recipient of the Tactical Air Command Crew Chief Safety Award for April 1980. Sergeant Terry's outstanding job performance and rigid adherence to safety practices have made his aircraft one of the most reliable and airworthy in the squadron. In addition, his initiative and safety consciousness were clearly demonstrated when he stopped a taxiing aircraft after noticing fluid dripping from the rear of the aircraft. His decisive actions prevented a possible inflight emergency.

chock talk

...incidents and incidentals with a maintenance slant.

TIGHT CORNERS

An airman was dispatched to the missile storage area to pick up three AIM-9s and return them to the flight line for loading. When he arrived at the storage area, he secured the assistance of one of the missile maintenance personnel. After parking the MHU-12 trailer in front of the storage cubicle, they began.

The airman and the sergeant loaded two missiles successfully, but while attempting to load the third missile, the airman lost his grip. The missile fell and had to be returned to depot for repair.

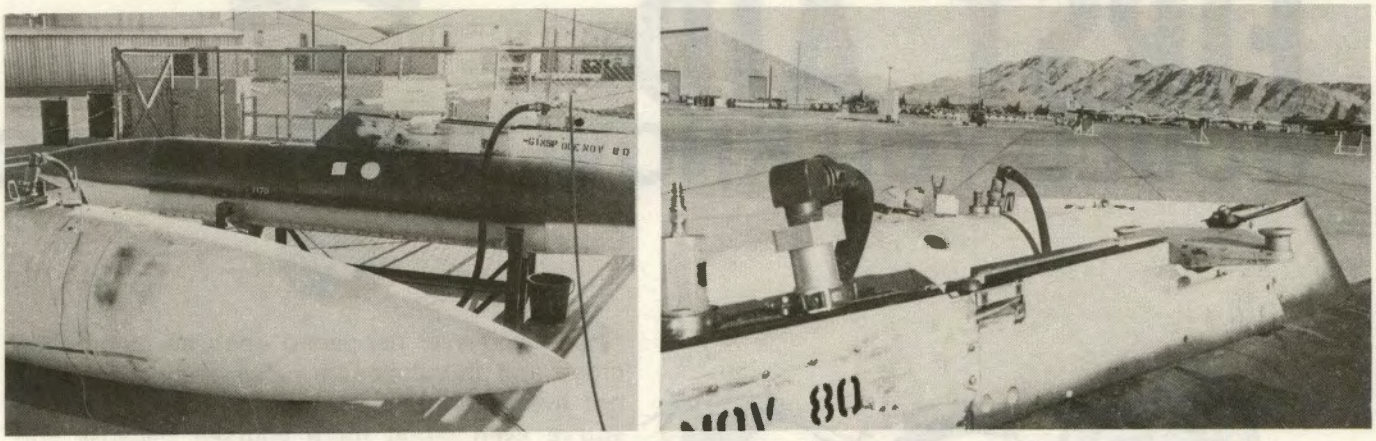
It turns out the trailer was parked too close to the storage cubicle which didn't give the personnel enough room to maneuver. The lack of room to do the job and the fact that the airman was wearing leather gloves which may have reduced his grip made the job a lot more difficult than it would normally have been. Moving the trailer would certainly have been a better alternative to busting a missile.

SAFETY WIRE

There's safety wire and then there's safety wire. Here's what I mean... After landing on a wet, 8,000 foot runway, the F-101 pilot encountered hydroplaning and attempted to lower the tail hook to engage the departure-end BAK-12 cable. The pilot was unable to break the safety wire installed on the tail hook switch and ended up engaging the MA-1A webbing at a slow speed. No aircraft damage was incurred.

The investigation revealed two strands of safety wire were used on the tail hook switch. Normally, only one strand of .020 soft copper wire is used--per the tech order. An investigation of all F-101 aircraft at this unit revealed all the aircraft were improperly safetied.

The purpose of the soft copper wire is to prevent inadvertent actuation of a particular switch. In this case, it prevented actuation of the switch entirely. Next time you have to safety a switch in the cockpit, remember to use the proper wire.



TANKS SET UP FOR TRANSFER.

HOW'S YOUR MOTHER TANK ?

By Capt Warren W. Chutka
474 EMS/MAEB

We in the tactical fighter business are all familiar with the care and feeding of external fuel tanks. So, when a better method of determining the condition presents itself, it is sure worth looking at. Here at the 474th, we believe we have found a better method.

In T.O. 6J14-2-18-3 (T.O. for F-4 370 gallon tank repair), there is a method for fuel tank checkout through use of a "mother" tank, as opposed to the primary method which uses compressed air. To make the "mother" tank, a 600 gallon centerline tank is filled with PD-680. PD-680 is a fluid used to wash aircraft and doesn't leave a harmful residue in the fuel system. Compressed air is then used to transfer the PD-680 from the 600 gallon tank to the 370 gallon tank. This procedure checks the fill cycle on the 370. The fittings are changed, compressed air applied, and the fluid is transferred back to the 600 gallon tank. This checks the transfer cycle on the 370.

Many advantages of a liquid system are obvious. You gain visual evidence of fuel leaks and transfer or refueling problems can be readily identified. Other advantages may not be as obvious. Problem tanks can be examined off the aircraft and troubleshooting can be more thorough. Leak checks can also be performed on 600 gallon tanks.

We can attest to the success of the mother tank. Since starting this program, 600 gallon tank leaks have been reduced to less than one percent and the backlog of 370 gallon tanks awaiting maintenance is zero. In short, the mother tank has reduced the hours required to repair and ops check tanks and it has given the flight line a better product. Try it, you may like it!

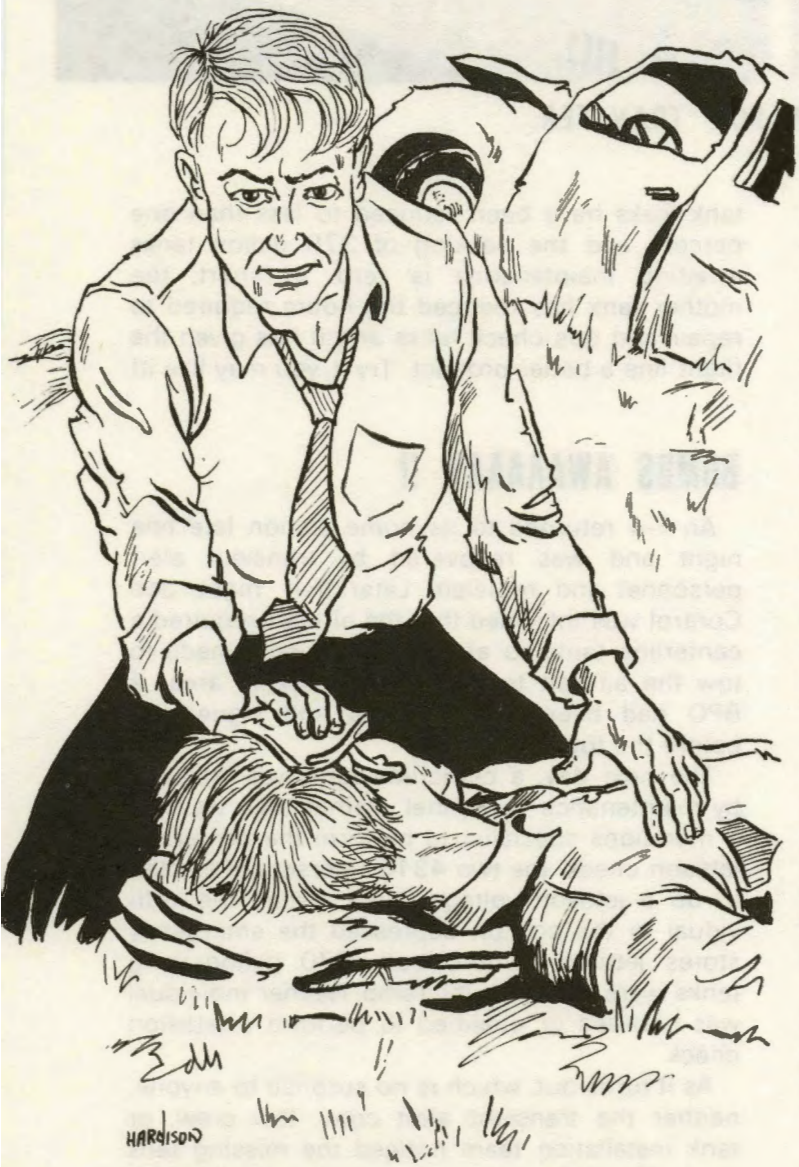
BOMBS AWAAAAAY !!

An F-4 returned to its home station late one night and was recovered by transient alert personnel and refueled. Later that night, Job Control was informed that the aircraft required a centerline tank, so arrangements were made to tow the aircraft to the normal parking area. A BPO had been accomplished and signed off before the tow operation.

The next day, a centerline tank was installed by maintenance personnel. Rather than wait for a munitions specialist to perform the centerline jettison check, the two 43151 personnel elected to do a jettison voltage check. When the individual in the cockpit depressed the emergency stores jettison button, both 370 gallon wing tanks were blown to the ramp. Neither individual was certified or qualified to perform a jettision check.

As it turns out, which is no surprise to anyone, neither the transient alert crew, tow crew, or tank installation team noticed the missing tank pins. Another case where a very simple step would have saved the Air Force about $9,000 and a lot of embarrassment for several individuals. Now what would have happened if a fire and explosion had followed...?

FIRST AID
WOULD YOU KNOW WHAT TO DO ?



Have you ever happened upon an automobile crash and found people just standing around--not even attempting to aid the injured? Maybe you've even stood there yourself because you were afraid to help. Were you afraid or were you unable? I'll bet you were unable. Our fear grows out of ignorance, and not knowing what to do keeps us from doing anything. In the next few issues of TAC ATTACK, we're going to cover some of the things you ought to know about first aid. No, you won't become an expert. You won't even become proficient unless you read the information closely and memorize the basic steps. Practice--on yourself if you can or another member of the family. You'll be providing an education at the same time.

For this issue, I'll cover one of the most common medical emergencies--bleeding. The risk in any heavy bleeding is that the circulation will decrease to the point that not enough oxygen will be carried to the brain. Your most important concern is to stop the blood loss. If another person is present, send him or her for help, then take the following steps.

1. Apply pressure to the wound. Use a bandage, sterile dressing, clean cloth, or a sanitary napkin. Place your hand over dressing and press firmly. Keep the pressure on and don't relax until the bleeding stops. In most cases this will stop the flow of blood. Don't remove the dressing either. You could break the clots and start the blood flowing all over again.

2. Elevate the bleeding part above the level of the heart. Do this only when you're certain that the leg or arm isn't fractured. This will help the blood flow back towards the body and slow down the bleeding.

3. Keep the victim from moving the wounded part. Movement increases blood flow and also increases the chance of braking open blood clots.

4. DO NOT put antiseptic on the wound. Some antiseptics can damage tissue. Your job is

to stop the bleeding--don't worry about infection.

5. If the bleeding has not slowed down after 5 minutes, push on a pressure point. Make certain that you have kept direct pressure on the wound for 5 minutes. Once you're certain that will not stop the bleeding, use the appropriate pressure point. See fig 1. This cuts off the blood supply to the limb. You are endangering the muscles and skin of the limb, but you're doing it to save a life. To minimize the risk of damage, let up on the pressure point when the bleeding stops--push on it if the bleeding starts again. Keep this up and the bleeding will usually stop.

6. If the bleeding cannot be stopped any other way, use a tourniquet. Only in rare cases will the above methods fail. If a limb has been partially amputated or when a person is in shock and the bleeding has not been stopped, a tourniquet is necessary to save a life. These are the procedures for a tourniquet.

a. Use a wide piece of cloth (at least 1 ½ inches): tie, sock, shirt sleeve. DO NOT use rope, wire, or string.

b. Place it near, but not touching the wound.

c. Tie a stick to the tourniquet with a single knot.

c. Twist the stick until the bleeding stops--but no tighter.

e. Attach the stick to the limb to maintain tightness.

f. Note the time tourniquet was applied.

g. DO NOT remove a tourniquet once it has been applied.

7. Examine and treat for shock. If the victim has pale skin and is cool and clammy and restless, drowsy, or thirsty and has a weak, rapid pulse (over 100), treat for shock. Below are the procedures for treatment of shock.

a. Stop the bleeding by any means available.

b. Lay the victim down.

c. Prop up the legs about 12 inches. DO NOT prop the legs if you suspect a head injury or broken leg.

d. Keep victim warm. Cover with a blanket, jacket, extra clothing.

e. DO NOT move the victim or let him sit, walk, or stand.

f. DO NOT give the victim anything to eat or drink unless there will be no medical assistance available for hours and the victim is awake. Give water, tea, or broth in small amounts. Don't give any alcohol, and if an abdominal wound is suspected, don't give the victim anything.

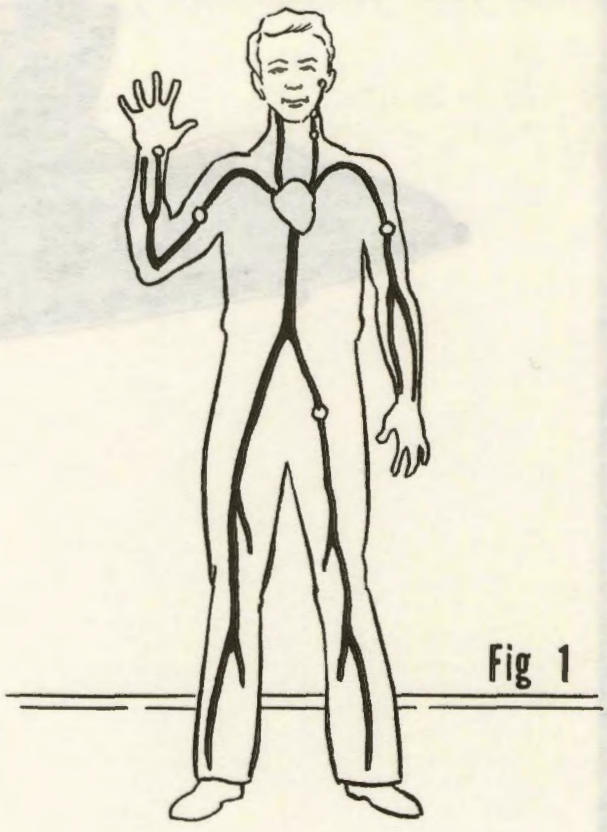


Fig 1

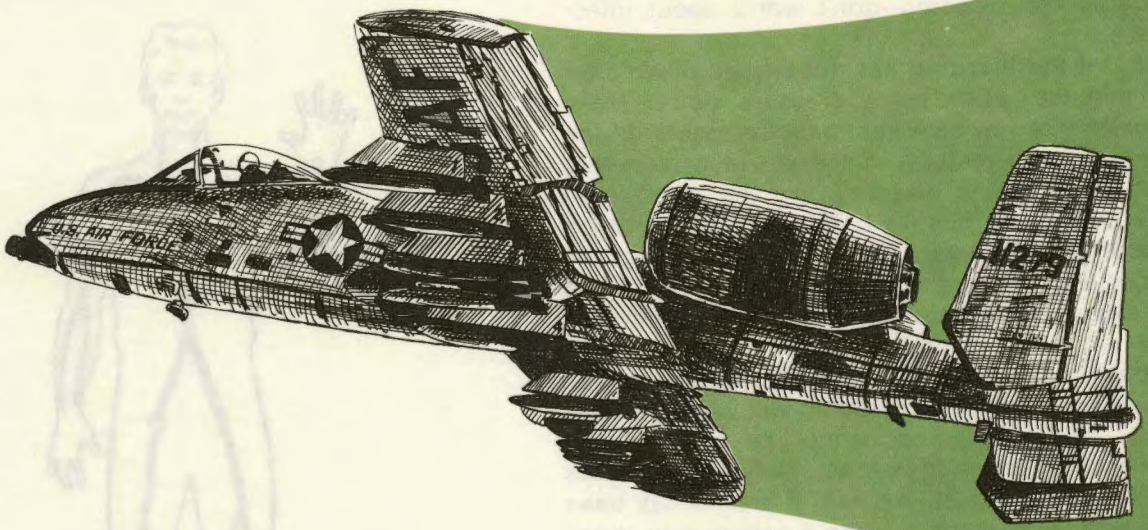
8. Call an ambulance, doctor, or other appropriate help. If you're alone, you'll have to decide whether you can leave the victim or not. Only in rare cases will you be remote from some means of summoning help.

Bleeding is one of the most common types of medical emergencies the average person will encounter. If you've read and understand these procedures, you should be prepared to give first aid should the need arise. Remember, you can also apply these procedures to yourself should you require help and no one is available. Next month we'll tackle another area of first aid: bone fractures.

References:

"In Case of Emergency, What to do until the doctor arrives." by Bry Benjamin, M.D. & Annette Francis Benjamin

"Emergency First Aid," by Charles Mosher, M.D. & The Editors of CONSUMER GUIDE.


U.S. AIR FORCE
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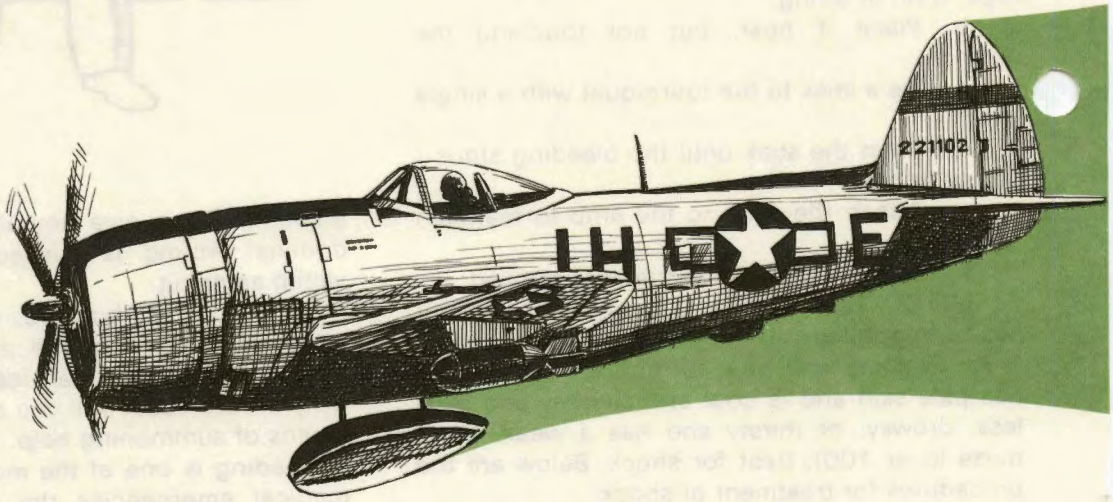
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the ATTACK PILOT

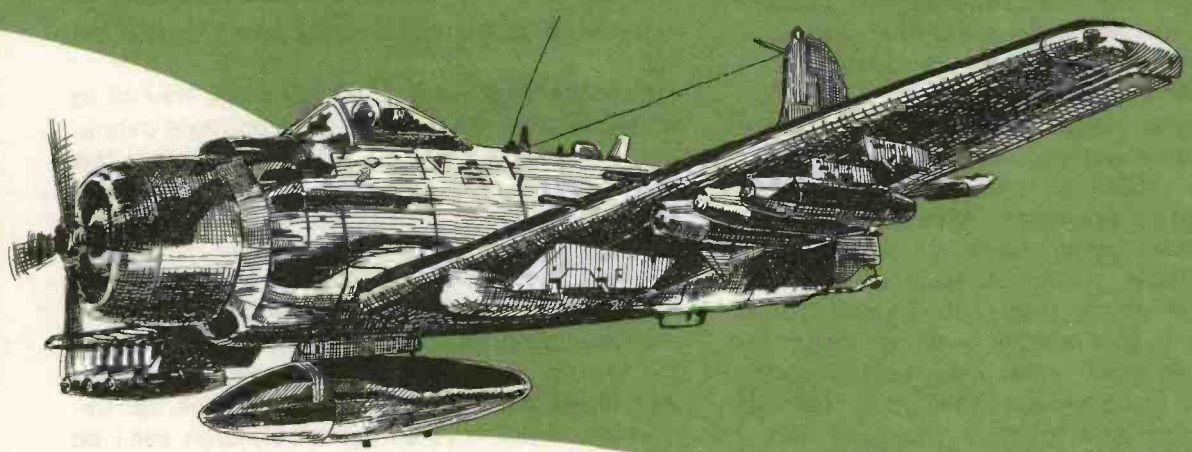
The Attack Pilot

By Maj Harry Kieling
355 TTW/CCE

He's a fighter pilot, but a special breed. To some he is known as an air-to-mud jock. But to the friendly soldier on the ground he is known by fonder names. He comes from a long and proud tradition. His forebearers flew P-47s over the Ardennes and Corsairs over Okinawa. Others fought with Mustangs in Korea or A-1s at Khe Sanh. Today's attack pilot is kin to all of these. Whatever plane he flew or will fly, his mission is the same. He flies and fights with the soldier on the ground.

The attack pilot thinks more about killing trucks than chasing contrails. He would rather fly in the weeds than in the clouds. He would rather get a "Bull" than a "Fox 1." He would rather track a tank than a blip on a scope. The attack pilot flies A-4s, A-7s, A-10s, F-4s, F-16s ... or any other aircraft.

The attack pilot fights as part of a big team. Some of his teammates will fight high above the battlefield; others will support the fight from behind the lines or at home, but the attack pilot will be as close to the ground and as close to the battle as he can get. He is tough -- he is proud -- he is professional. He is an attack pilot.



DAVID GARCIA

DOWN TO EARTH

Down to earth

STATIC ELECTRICITY

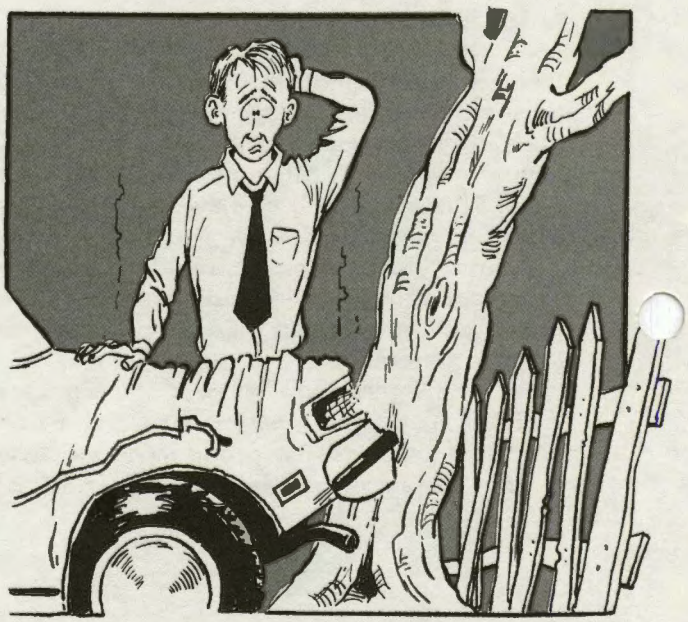
People who work in a hazardous location, or who handle or install unpackaged electrically initiated explosive devices and ammunition, should be particularly careful to discharge their static potential. The same goes for personnel who work anywhere concentrated fuel vapors are present. You can help a great deal in reducing your personal static charge by paying attention to the clothing you wear.

Uniforms, cold weather garments, and coveralls worn while working with or near flammable materials should be made of cotton or a blend of cotton/polyester. Material of 100 percent polyester, nylon, rayon, or wool should be avoided. These materials build up a large static charge when they rub against one another. Also, if you remove outer garments in the immediate work area, you are creating another heavy static charge. Take your coat off outside the shop and touch a grounded metal object before you enter the work area. After all, who wants to get zapped just because he wore a super cool, 100% nylon psychedelic T-shirt????

LOOK OUT...HERE I COME

Unless you drive your auto in a demolition derby, chances are you spend most of your time and mileage going forward. As a matter of fact, you probably spend less than 1% of your driving backing up. But, that small operation accounted for over 25% of all government motor vehicle accidents in another USAF command. I have a good idea that those figures would also hold true for private vehicle operations.

When we took our driving exams, the task of parallel parking frightened us all--but that's probably the only backing up we had to do to pass the test. Additionally, motor vehicles are designed for forward visibility first. Even with mirrors and other devices, all autos have one or



more blind spots--the majority being behind the car.

Knowing that we aren't extensively trained to go backwards, we ought to be a bit more careful when we put the car in reverse. Here are a few tips which might help . . .

- Avoid backing if possible. Unless you own a garage with doors at each end or a circular driveway, this one isn't going to be entirely feasible. It might help to choose parking spaces that you can drive forward to get out of.
- If clearances are close, walk around your car and check things out before you back up. Remember, small toys and small children can't be seen from your normal driving position.
- Once you're ready to back up, look and look again before you do.

WATCH OUT FOR YOUR LAWN MOWER

So you spent the last two weeks carefully raking, fertilizing, and reseeding your lawn into the lush, green carpet it was last summer. And now it's growing by leaps and bounds. Time to get out the old lawnmower and start cutting. Don't be so anxious. Here are a few quick tips to consider:

- Tune it up. A balky starting mower takes more effort to get running and there's a greater chance of slipping and catching fingers and toes.
- Check the blade for sharpness and cracks. If you've used it all year, you might want to replace the blade. A cracked blade could shatter under high power.
- Don't leave it running unattended or while you're adjusting wheel height, etc.
- Wear good shoes. Steel toed are best, but few of us have them. Sandals or sneakers won't protect you a bit.

DRIVING

The following are actual excerpts from car insurance accident reports . . .

"As I approached the intersection, a stop sign suddenly appeared in a place where no stop sign had ever appeared before. I was unable to stop in time to avoid an accident."

"I pulled away from the side of the road, glanced at my mother-in-law, and headed over the embankment."

"I was on my way to the doctor's with rear end trouble, when my universal joint gave way, causing me to have an accident."

That's the humorous side. Here are some other statistics to think about the next time you're impatient to pass a car going 53 MPH instead of 55 . . .

*Auto accidents are the largest killer of Americans under age 34.

*One out of every 60 infants born today will die in a traffic accident. Two out of three will suffer injuries.

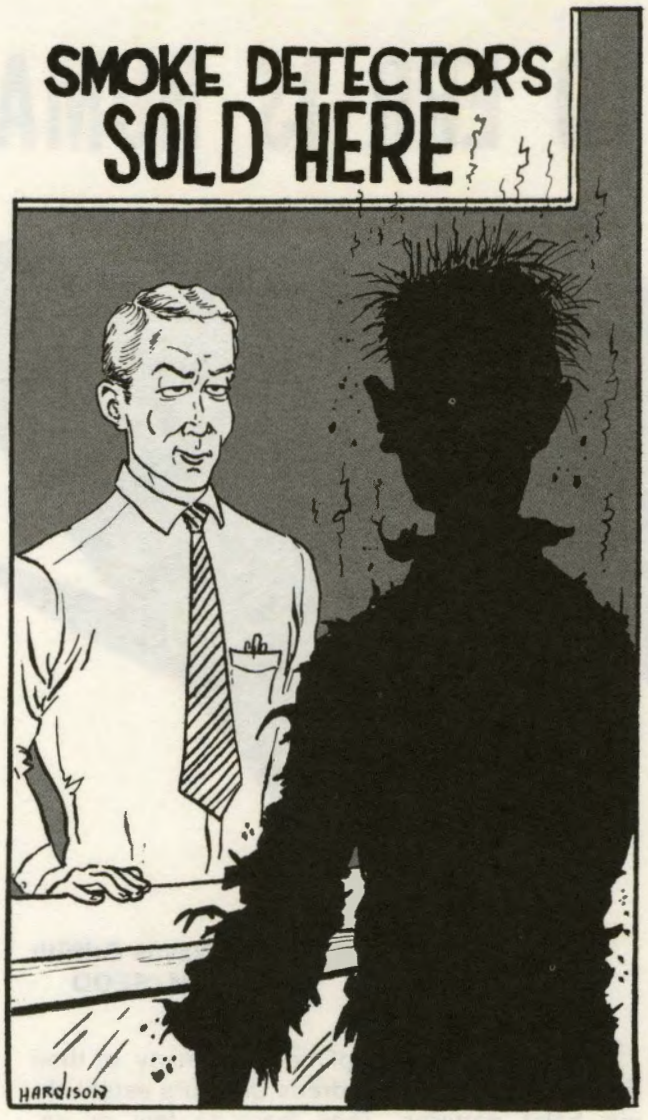
*Car wrecks are the leading cause of paraplegia.

*Traffic accidents cost this country (translate that to costs you and me) 48 billion dollars a year.

Courtesy Texas Traffic Safety Section

SMOKE DETECTORS

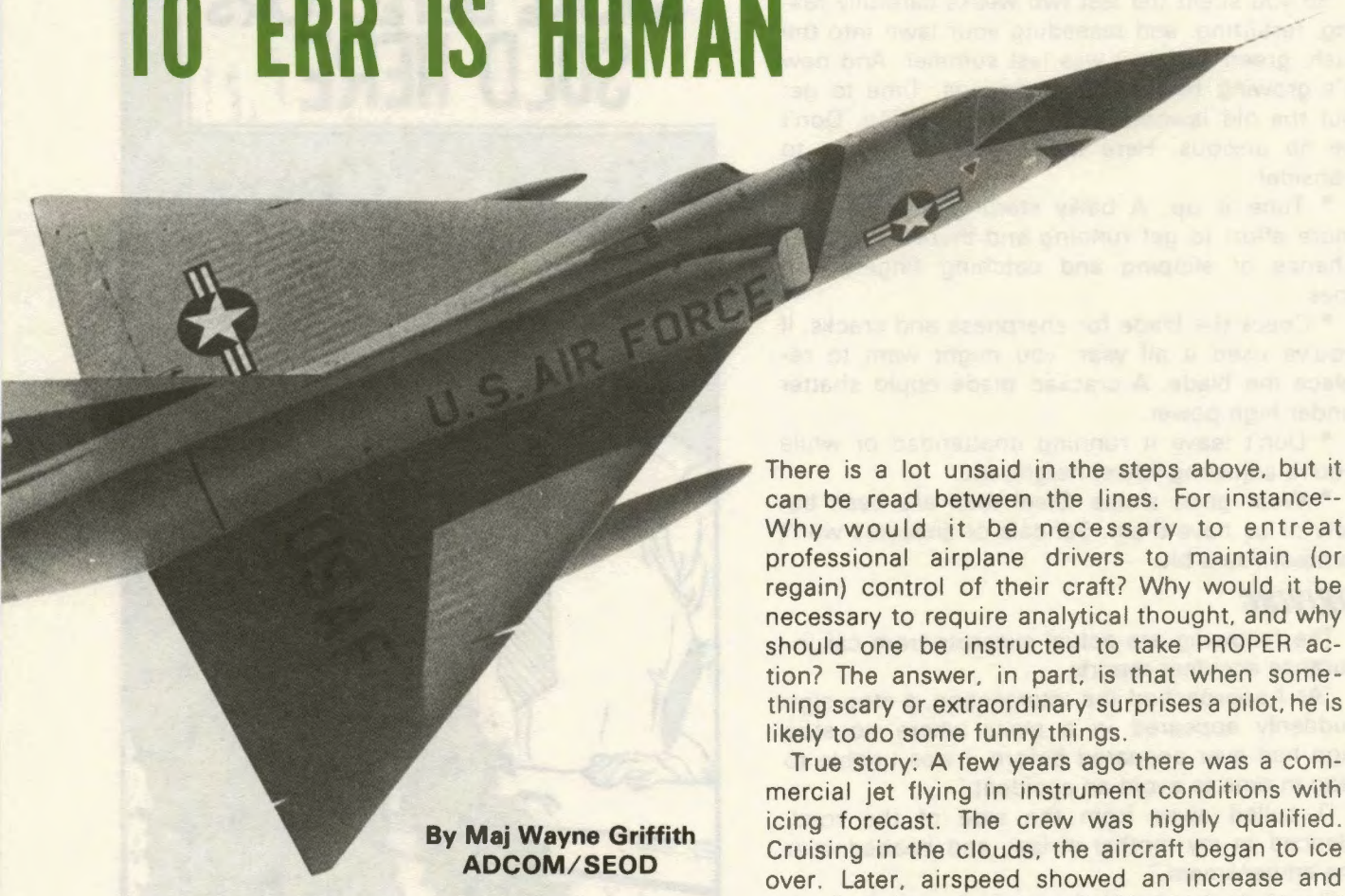
What's your excuse for not getting one? Smoke detectors sense fire only a few minutes after it ignites and warn you several minutes before smoke becomes deadly. They can enable you and your family to escape and reduce the loss to your property.



There are two types of detectors available. Ionization chamber detectors sense flaming fires quickly. Photoelectric detectors are better for smoldering type fires. It doesn't make a significant difference which type you have as long as you have at least one. One of each type would be ideal.

Whatever you do, place the detector on or near the ceiling or at the top of stairs--wherever smoke is likely to pass as it rises. The most important warning you need is when you are asleep. A good detector costs less than $15. If the safety of your wife and children isn't worth that much, what is?

TO ERR IS HUMAN



By Maj Wayne Griffith
ADCOM/SEOD

Pilots are creatures of habit in many of their duties. They spend hundreds of hours establishing habit patterns. They learn to feel or anticipate minute changes. They can change radio channels or frequencies without looking. They learn to set a desired airspeed with throttle alone. They anticipate the need for power and flight control adjustments and can accomplish them by feel--that is, so long as all is routine. However, when something out of the ordinary occurs, that sixth sense disappears in most pilots, and they can become ordinary frightened men. That is why Dash One emergency procedures sections are prefaced with:

FOR ANY EMERGENCY SITUATION:
1. MAINTAIN AIRCRAFT CONTROL.
2. ANALYZE THE SITUATION AND TAKE PROPER ACTION.
3. LAND AS SOON AS PRACTICAL (OR PRACTICABLE, CONDITIONS PERMIT)

There is a lot unsaid in the steps above, but it can be read between the lines. For instance--Why would it be necessary to entreat professional airplane drivers to maintain (or regain) control of their craft? Why would it be necessary to require analytical thought, and why should one be instructed to take PROPER action? The answer, in part, is that when something scary or extraordinary surprises a pilot, he is likely to do some funny things.

True story: A few years ago there was a commercial jet flying in instrument conditions with icing forecast. The crew was highly qualified. Cruising in the clouds, the aircraft began to ice over. Later, airspeed showed an increase and the pilot decreased power. Airspeed continued to increase, approaching the red line. Power again was reduced. Airspeed continued to increase and a horn sounded. The crew interpreted it to be the overspeed horn. The aircraft commander assumed that the problem was a gyro failure and that the aircraft was diving. He pulled back on the control column in order to climb. Airspeed was now indicating near the maximum allowable and a second horn went off. The pilot continued increasing back pressure. The aircraft struck the ground tail first with a forward speed of about 40 knots--all aboard were killed. The crew was so highly qualified that they really did not need a checklist; and someone forgot one small item, "Pitot heat--ON." Then, because of past associations between high airspeed and the overspeed horn (habit), they evidently did not consider the horn to be a stall warning, refused to believe their attitude indicator, and did not follow proper procedures. ADCOM experienced a similar mishap last year.

Another true story: A high timer was to fly a trainer from an out base to homeplate and perform an FCF en route. Because of an IFR delay, he elected to secure his clearance on the APU. In this aircraft, the battery switch had to be off while external electrical power was on. Everything went fine until the FCF portion, when he experienced a double engine flameout at high altitude. Try as he might, he could not get an engine start. He bailed out at low altitude, never having switched the battery back on after engine start.

When I returned from SEA after flying an aircraft without a "hot mike," I was in the habit of punching the mike button whenever I wanted to talk. I went to ATC and did a lot of instructing with the mike button depressed. I once told a student to taxi and that I was going to unstrap and fill out the forms--on tower frequency. Another time, I had some unkind words about a controller with the mike button depressed and on his frequency. It took some doing but I changed that habit soon thereafter.

Habit can be good or bad. Understanding increases with repetition, and repetition induces habit. If something happens to disturb or block habitual routine, however, the results are always an increased expenditure of time and, frequently, erroneous action such as reverting to an "old habit." I have a friend who flew in an aircraft with a face curtain ejection handle. He later had to bail out of an aircraft that initiated the ejection sequence from the armrest. A sudden explosion and fire sent the airplane out of control instantaneously. His first several actions thereafter were to try to find the face curtain. He finally remembered where he was and made it out okay.

Habit patterns are formulated through repetition. So, to establish a properly sequenced series of actions, someone devised the abbreviated aircrew checklist and Bold Face Emergency Procedures. These should provide a common (standardized) approach for all general aircraft operations and common malfunctions. A checklist, on the other hand, cannot induce judgment nor does it address fear, adrenalin, surprise, ambush, MIGs, UFOs, wasps in the cockpit, Bermuda Triangles, fatigue, divorce, stock market collapse, or confusion.

One of the innumerable things which can create confusion in the cockpit is to fall into a routine. While the following little experiment is more effective if done verbally, let me try to illustrate with one of Professor Chaytor Mason's tricks used in his flight safety officer classes. It demonstrates that we are creatures of habit and susceptible to the power of suggestion. After you have read and repeated the instructions, answer the questions quickly.

1. Say "JOKE" five times quickly.
2. What do you call the white of an egg? (Quickly) If you answered YOLK, you're wrong; the white of an egg is the egg white.
1. Say "BOAST" five times quickly.
2. What do you put in a toaster? (Quickly)

If you answered TOAST, you are wrong again. You put bread in a toaster to be toasted.

1. Say "MICE" five times quickly.
2. What do you put in the freezer trays?

If you answered ice, it's water (or daiquiries or something--certainly not ice).

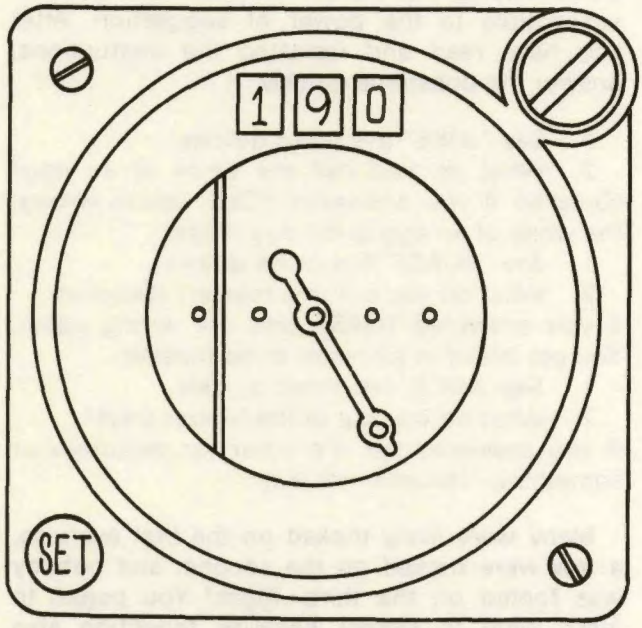
Many were likely tricked on the first exercise, a few were tricked on the second, and nobody was fooled on the third. Right? You began to learn what to expect because repetition also increased your awareness and understanding. However, it's the first one, the surprise, that is of most concern because that's the way it happens in the cockpit.

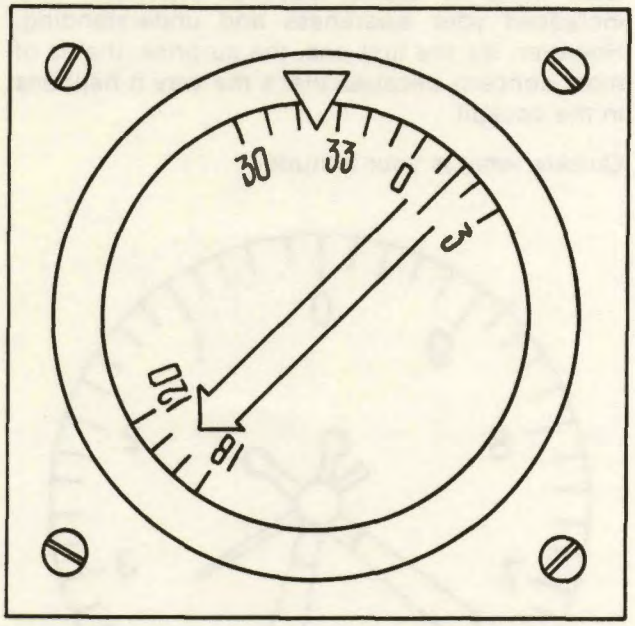
Quickly, what is your altitude?

You will doubtless arrive at the proper answer. However, the average time of recognition is about 7 seconds.

TO ERR IS HUMAN

Quickly, where are you?





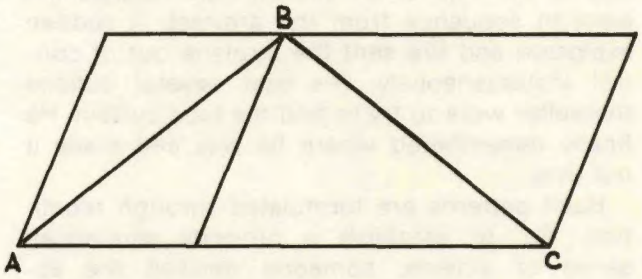
Doubtless, you "solved" this problem, too, but it required about 12 seconds. Some time ago we lost an airplane in the mountains northeast of Albuquerque. You may already know why. The holding fix was located southwest of the station on the 233 degree radial. The pilot selected the reciprocal and proceeded to the northeast of the station. Between him and the station was a large granulocumulus, which he entered during descent.

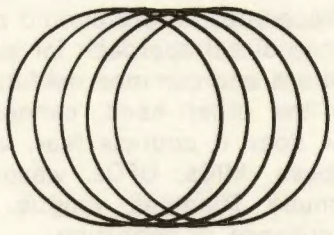
A pilot lined up on TACAN final. The weather was reported as 800 feet overcast, 1200 feet overcast. He descended to 800 feet, then sneaked on down to 700 feet and went missed approach for lack of visual contact. He tried again with the same results. On the third attempt he asked for and received the weather which was still as previously reported. He was placed on final once again, number two behind an F-4. The F-4 broke out and landed. He then realized that he was flying 10,000 feet high!

Cockpit and instrument design also contribute to confusion or vertigo. Virtually everybody has misread a gauge or two, an altitude or two, or a location in space or two. Compounding uncertainties are the things that click inside the pilot's skull: "Did he say turn to 230, squawk 2100, and maintain FL240, or was it . . .?" Or, "Did he say circle right to a left base to 17 left, or circle left to a right base for 17 right?"

Perception, or rather misperception, can lead to confusion in the cockpit, and may not be the same for any two individuals. It is an illusory sense based upon something you feel or think, derived from incomplete inputs to the brain, e.g., the "leans." Perceptual errors are behind many accidents, generally resulting from the pilot's failure to correctly evaluate what he has seen or felt. The most common of perceptual errors is optical illusion:

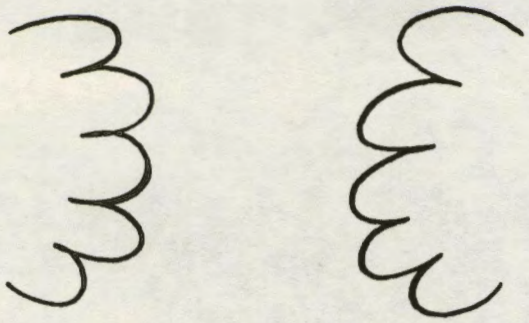
How much longer is line BC than line AB?





Which way does the tunnel run, from left to right or from right to left?

In the first figure both lines are equal. In the second, the tunnel runs both, or either way.

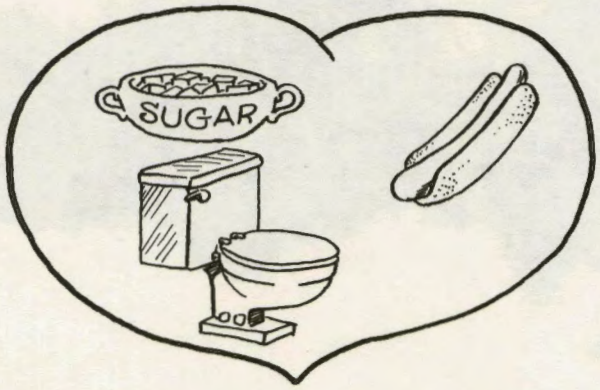


What do you see? Two laundry bags? Two fists? Fat? Clouds?
How about now?

The first illustration could be anything. In the second illustration you have a bit more information to go on. Now suppose I tell you that it represents a cliché or the name of a song? Think about it before you read on.

"Pennies From Heaven" is the most likely title to the "illusion" above. This is another of Professor Mason's tricks.

Now for another. What's the name of this song?



Again, think about it before you read on. What do you perceive? A heart, a sugar bowl, a toilet, and a hot dog. Or is it something else? It could probably be a number of things, but it can represent "Frankie and Johnny Were Sweethearts." This is based upon the slang terms for weiner (frank) and toilet (john).

The trouble with being human is that it is possible to be conscious of only a small range of sensory inputs at one time. That is, one can concentrate first on one sensory pattern, and then another, but it is not possible to be aware of all sensory inputs at one moment of time.[1] For example, when you really listen intently for something, you see less well. Ever notice how you tend to close your eyes in the audio chamber during the annual physical? Did you ever see anybody close his eyes while listening to music? The reverse is also true: when you look at something, you hear less well. Have you ever been concentrating on your instruments or on an aerial maneuver and missed a radio transmission? There is a tertiary corollary that somewhat combines the two above: when you think about something, you both hear and see less well. This can be exemplified by the daydreamer, the avid reader, and the "absent" minded. A loud bang frequently startles that individual back to the present, chasing away those deeper thoughts until another time. A loud bang or warning light flashing may also startle a pilot and interrupt his thought processes.

A pilot responded to an unsafe canopy indication by jettisoning it. He was preoccupied in a fix-to-fix dilemma when the canopy unlocked light suddenly flashed. He reached for the canopy handle and pushed it forward to close it. Nothing happened, so he moved the handle the other way (not the thing to do) and he blew the canopy, breaking his thumb for his troubles.

Attention shifts involuntarily as the result of any sudden change in environment. Fear and anxiety will decrease one's range of attention such that the normal channel is reduced or bypassed. Narrowing is the strongest when the emotion is strong.[2] And that's when we get into trouble.

Wrapping it up, it takes a long time to learn a system and a long time to become proficient in it. Yet there remains a large number of elements that we can never control: surprise, trouble, weather, human limitations, the FAA, etc, etc, etc. The best avenues of attack are to be aware of your human frailties, learn lessons well, use the checklist, practice, believe the instruments, avoid fatigue, and know your emergency procedures.

[1]Bond, N., et al, Aviation Psychology, University of Southern California, Los Angeles, CA, 1968, p. 4-1.
[2]Ibid, pp. 4-5 and 4-9.

RESCUE THE ROUND TRIP TICKET

By Captain Dick Mullery
HQ ARRS/DOX

D-Day in Europe: The Warsaw Pact forces roll, march and fly into western Europe. You go airborne to blunt the invasion. Losses inevitably come. AAA punches through your fuselage or a missile noses its way up your tailpipe. You punch out, get a good chute and soon are safely on the ground.

Now what? In Southeast Asia (SEA) the answer was relatively simple. Stay hidden until the Jolly arrived. The average survivor rescued there spent 25 minutes from ejection to pickup. But this isn't SEA. Total control of the skies doesn't exist. The weather is bad. There is no lush jungle growth to hide in. People and troops seem to be everywhere. The combat survival environment in Europe is a complete reversal from our SEA experience.

Despite geographical differences, the basic principles of any rescue still apply. First and foremost, rescue forces rely heavily on you, the survivor, to help yourself. In SEA, when ejection was certain, most folks tried to go "feet wet." In the European scenario, there isn't such a cut and dried decision. That water in the North Sea is cold! Are you prepared for that survival situation--probably not.

The most probable ejection situation in Europe then is over land. You must be prepared to head for friendlies or a safe area if you can. Know your escape and evasion techniques. At the beginning of any large scale military conflict, there is bound to be a great deal of confusion--use it to your advantage during evasion. Battle zones will be very fluid in the initial days. If you go down anywhere close to the FEBA, your biggest problem may be protection from the stuff the ground troops are throwing at one another. Keep your personal authenticator current. Know your equipment and how to use it. Recent search and rescue (SAR) exercise reports show that some jocks don't know how to properly use a survival radio, what to wear to survive, or when to pop a smoke. We, the rescuers, depend on you, the survivor, to hang in there and be ready when we arrive.

As I said previously, the situation in Europe and other potential conflict zones may/will be markedly different than SEA. Many survivors of that conflict attest to the fact their survival was due to what they did before they went down. Your life support equipment, rescue equipment, and evasion aids will do you no good if you can't use them or if you've decided to "give up." Your unit conducts periodic training on all these subjects. Do you take it seriously or are you just there to "fill the square"?

The Aerospace Rescue and Recovery Service is still dedicated to getting you back alive and will hang it out as we did in SEA to do just that. In SEA, we recovered 2,870 fliers. We are still prepared to do the same for you in Europe or any other worldwide theater.

To meet the demanding European scenarios, we at rescue have been busy. Our SAR crews sweat through combat exercise just like every combat dedicated unit. We use Alaskan, CONUS, Pacific, and European exercises to train crews and to test new combat tactics. ARRS units participate in all Red Flags. Depending on the scenario, our involvement ranges from one or two UH-1s to a full force of HC-130 aircraft and helicopters. We've also been to Blue Flag, Maple Flag and any other "flag" you'd care to name.

RESCUE

We too "train like we intend to fight." "King" (HC-130) is still our airborne mission commander and helicopter tanker. "Jolly" (H-3s and H-53s) will still come and get you on a long range SAR. Our "Save" (UH-1N) crews will get you in a local SAR operation as "Pedro" used to. We still train with "Sandy" (A-7 or A-10) and the FACs in the classic SAR task force concept from SEA days.

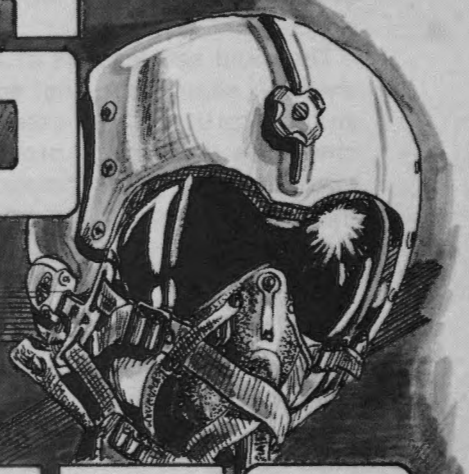
But we don't live in the past--we've put some new tricks into the SAR bag. Our King and Jolly crews are checked out in low level tactics, navigation and threat avoidance. Our Jolly crews train in both escorted and covert, single ship operations, fighter and helicopter evasive maneuvers, and other operations which will increase our survivability and give us a better chance to get you back.

To give our crews the best vehicle to get you out, Pave Low III, the modified HH-53 "Super Jolly," was developed and will become operational this year. This has been the best shot-in-the-arm for rescue forces in a decade. Using off-the-shelf equipment, the HH-53 was modified to give us a precision low level navigation system, terrain following/terrain avoidance radar, and forward looking infrared radar (FLIR). Day or night, good weather or bad, Pave Low III will go. When all else is grounded, we'll be flying. If you end up on European soil after an encounter with AAA, don't be surprised to see our penetrator slipping through the fog to extract you from your new and unfriendly accommodations.

ARRS is also eying the future. Scenarios call for a rapid deployment capability. Although proven combat capable, our Jolly force is getting old and tougher to maintain, especially in a quick reaction environment. The bad guys are throwing more sophisticated stuff at us than our present aircraft are designed to duck. We know the problems. We're working on the answers. We have a validated replacement helicopter identified which will include Pave Low III's bag of tricks as well as a few of its own.

In the meantime, we are tailoring our tactics around you--the potential guy and the ground in an E&E situation. If you jump out, we'll be there. You may be on the ground several hours--maybe even days--in the conflict. But take heart and keep it together. Believe me, we'll meet you more than halfway to punch your ticket for the trip home.

HOW'S YOUR HELMET?



By TSgt William T. Smith
123 TRW/DOTL

The introduction of the custom fitted flying helmet has been the greatest innovation to aircrew comfort since the invention of the relief tube. A lengthy cross-the-pond flight in a fighter is much more tolerable now without those excruciating hot spots that were so common with the older type helmet liners, not to mention the sporty look of the handcrafted leather work. The secret to the outstanding fit is that the liner is formed in place on the crewmember's head with a molding device. Once the liner is removed from the mold, covered with leather, and installed in a flying helmet, a perfect fit is inevitable.

But the molding process to make these liners has provided Life Support people with some logistic problems. Due to the high cost, TA 450 limited the number of molds authorized for TAC to 25 and a total of 5 for their ANG counterparts. The molds were distributed to key Life Support offices and are loaned out to other units as needed. Getting a set of molds each

time a new crewmember transitions into your unit gets to be bothersome for both the crewmember, who has to wait for a customized helmet, and the Life Support people, who have to get both the crewmember and the molds in the same place at the same time.

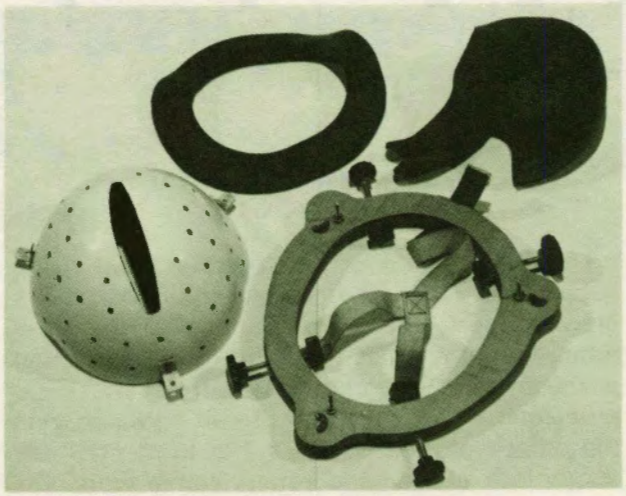
For aircrews processing into the 165 Tac Recon Squadron in Louisiville, Kentucky, there is no delay. The Life Support technicians there have fabricated a set of molds from a pair of old helmet shells and a dollar's worth of hardware. With a few hours of work, they now have a set of their own available whenever the molds are needed.

The mold set consists of a medium and large shell, an adjustment ring, and a rubber cap and seal to protect the crewmember from the chemicals used in the process. The shells were made by cutting old helmet shells on a plane that passes through the front and rear edge of the shells with a band saw or sabre saw. After adding a couple of dozen air holes and a slot in the top to pour the chemicals through, the shells were finished except for three hold down tabs that were riveted to each of the front and sides of the shells. The adjustment ring, which holds the mold in place on the crewmember's head during the pouring process, was made out of a piece of ¾" veneer grade plywood. (An old cabinet door works fine.) The adjustment bolts and hold down bolts were purchased at a local hardware store and finished out the ring. Other accessories, such as the spacer cap, ring seal and release compound, were ordered from the Federal Supply System using "NSNs" specified in "TO" 14P3-1-121.

Mold assembly in place.

In these days of limited financial resources, self help projects like this are sometimes necessary to keep up with the demands of your mission. But whether it be constructing helmet molds or designing a new relief tube, keep in mind that although you may be using salvaged material in your construction, quality workmanship is still essential. Because, nobody likes anything that leaks.

Adjustment ring in place.



Mold shell, adjustment ring, spacer cap, and ring seal.

AIRCRAFT RECOGNITION

3

1

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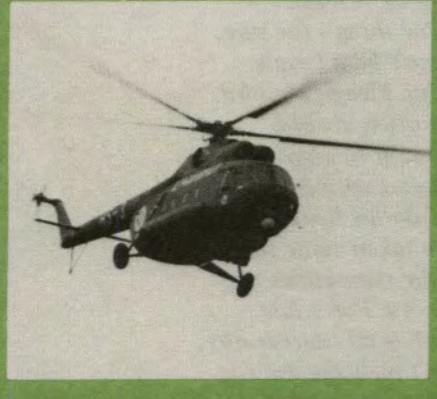

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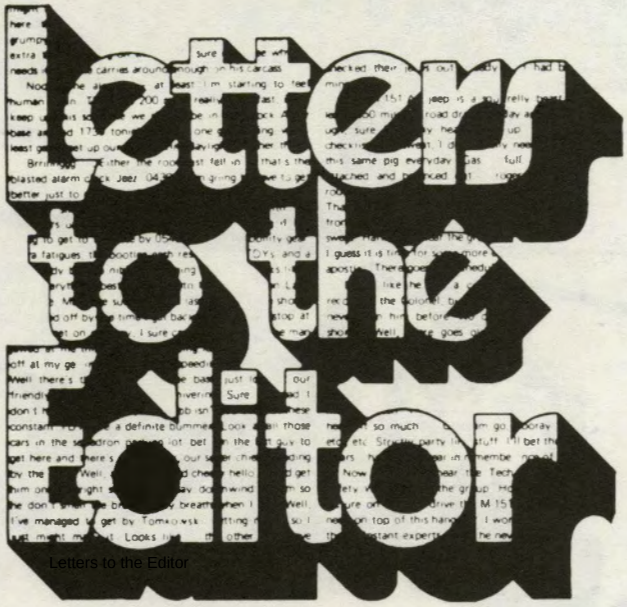
☐HIP C ☐HARKE A ☐HOODLUM ☐HIND A
☐HORMONE A ☐HOMER

Answers on page 30



Dear Editor,

In response to the Fleagle Fanny Feather of Fate Award (Jan 80 TAC ATTACK), the squadron in question (199th) was originally constituted as the 464th Fighter Squadron. During the period 20 Oct 1944 to 14 Dec 1944, the unit was stationed at Bruning Army Air Field, Nebraska. The unit was redesignated the 199th and allocated to the ANG on 28 May 1946.

My editor and I look forward to seeing each new issue of TAC ATTACK as we are both ex-TAC troops.

Walter D. House, SMSgt Ret
Staff Writer, Boeing Service News
Wichita, KS

Dear Sgt House,

Congratulations! You're correct and your entry was also the first I received, entitling you to the Fleagle Fanny Feather of Fate Award. You should receive it in the mail shortly. My thanks for the kind words.

ED

• • •

Dear Editor,

Hi, I'm stationed at Eielson AFB, AK, way up here at the top of the world. We get the TAC ATTACK in our squadron and seeing as how I'm fortunate enough to work in the orderly room, I get to see it as soon as it arrives. I have a special kinship to the magazine, and that is...Fleagle. He is great! The kinship is our names. FLEAGLE is the bird, and FLEEGLE is myself. The spelling is different, but the pronunciations are the same---and so is the ribbing I get. I guess I should feel honored to have a name that is the same as such a famous celebrity in the TAC world. Even though I'm in AAC, I must have a link of brotherhood (sisterhood) in there somewhere with Fleagle.

Your TAC ATTACK mentioned getting a free T-shirt. Well I certainly would like to have one. With the stuff I take in the squadron, I deserve one if anyone does. Here is something I wrote in the hope that it will help get me a shirt.

Fleagle, Fleegle, Fleagle,
What am I,
Beagle or eagle?
In the office
They call me
Fleagle Beagle
BUT...
I open up TAC ATTACK
And there I am,
A buzzard who fell
Out of a sack.
Oh, I know one thing,
This Fleegle.
Be it eagle
or
Be it beagle
Really can giggle
Over Fleagle

Amn Shirley Fleegle
25th TASS
Eielson AFB, AK

Dear Amn Fleegle,

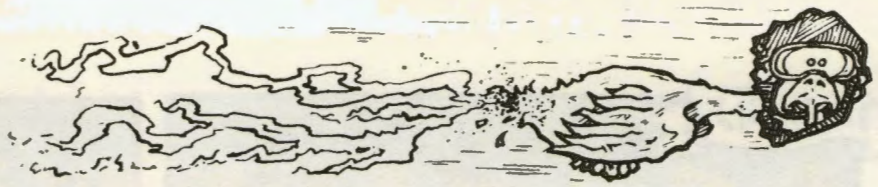
Be you Fleagle or Fleegle
Whichever is legal.
One thing's for sure,
You can't be a beagle.
Our Fleagle's a bird,
Who's often absurd.
And if he's not careful,
Could end up interred.
If on his behalf,
You've taken some sass,
Our sympathies to,
A fine Air Force lass.
While a T-shirt is nice,
It won't melt the ice.
But, we certainly hope,
*Fleagle's threads will suffice.**

**It's in the mail. Even though we usually look for something longer in the articles folks submit, we have to admit--you've probably earned it.*

ED

1-Hormone A 2-Hip C 3-Hind A 4-Harke A 5-Homer 6-Hoodlum

TAC TALLY



	TAC			ANG			AFR		
	FEB	THRU FEB		FEB	THRU FEB		FEB	THRU FEB	
		1980	1979		1980	1979		1980	1979
CLASS A MISHAPS	3	4	6	2	3	3	0	0	0
AIRCREW FATALITIES	2	2	3	1	3	3	0	0	0
TOTAL EJECTIONS	3	4	7	3	3	3	0	0	0
SUCCESSFUL EJECTIONS	2	3	4	2	2	0	0	0	0

TAC'S TOP 5 thru FEBRUARY '80

TAC FTR/RECCE	
class A mishap free months	
38	347 TFW
25	479 TTW
24	33 TFW
20	56 TFW
17	1 TFW

TAC AIR DEFENSE	
class A mishap free months	
99	84 FIS
85	57 FIS
38	5 FIS
35	48 FIS
21	318 FIS

TAC GAINED FTR/RECCE		
class A mishap free months		
132	152 TRG	(ANG)
94	188 TFG	(ANG)
86	138 TFG	(ANG)
85	917 TFG	(AFR)
82	116 TFW (128 TFS)	(ANG)

TAC GAINED AIR DEFENSE		
class A mishap free months		
91	191 FIG	(ANG)
72	102 FIW	(ANG)
68	177 FIG	(ANG)
34	125 FIG	(ANG)
17	119 FIG	(ANG)

TAC/GAINED Other Units		
class A mishap free months		
127	182 TASG	(ANG)
120	193 TEWG	(ANG)
112	110 TASG	(ANG)
107	USAFTAWC	(TAC)
103	919 SOG	(AFR)

CLASS A MISHAP COMPARISON RATE 79/80

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

				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TAC	1979	6.9	7.0												
	1980	2.0	4.1												
ANG	1979	0.0	11.4												
	1980	5.0	7.8												
AFR	1979	0.0	0.0												
	1980	0.0	0.0												

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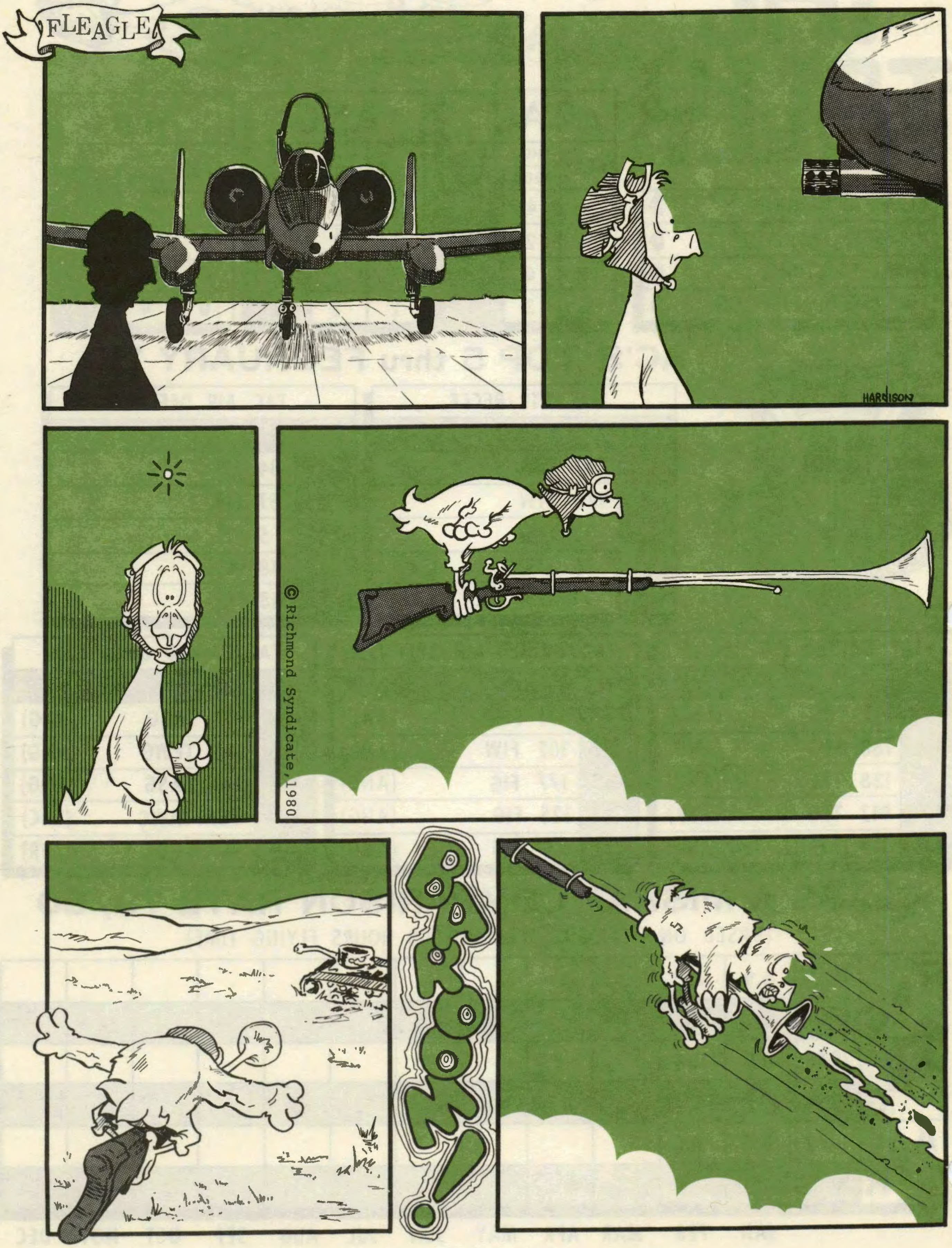
FLEAGLE
HARRISON
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BAROOM!