

# TAC ATTACK

TAC Attack

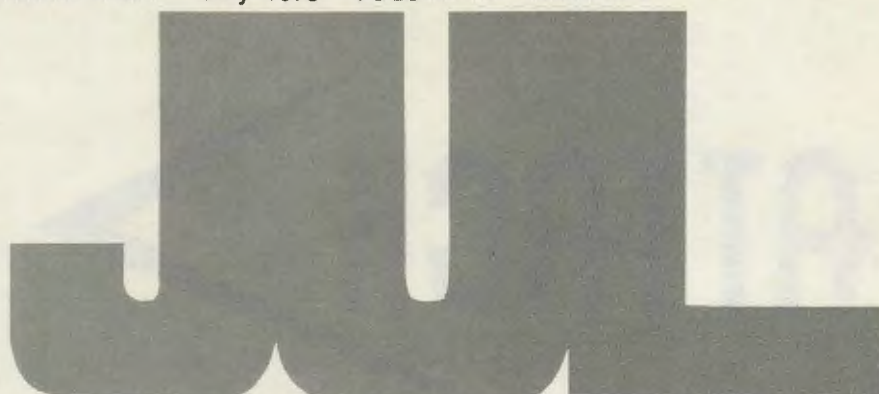
July 1975

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DROPPED OBJECTS  
Pg .... 18

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FOR EFFICIENT TACTICAL AIR POWER



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### TACTICAL AIR COMMAND

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#### TACRP 127-1

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# Angle of ATTACK



## accept the challenge

COL J.D. MOORE  
Chief of Safety

Not too long ago, a young TAC pilot was overheard to remark, "They have taken all the fun out of flying." This officer was known to be a high performer and held a supervisory position, so his loose statement was surprising and disturbing. It obviously betrayed a complete misunderstanding and lack of appreciation for our purpose. It also indicated the possibility of the absence of personal and professional discipline.

"They," of course, is self explanatory.

The operative phrase, "...taken all the fun out..." undoubtedly implied that flying regulations are so restrictive that piloting today's tactical aircraft is dull, uninspiring and unrewarding.

Exception must be taken with this pilot's views. Basic is the fact that our type of flying was not designed or intended to be fun. Occasionally, some less mature pilots have called themselves "hired killers." That is hardly accurate, but it does infer a deadly seriousness regarding our profession. Perhaps it belabors the point to recall that our mission, oversimplified, is "To Fly and Fight—and Don't Ever Forget It!"

Early in our careers our total individual efforts are channeled toward being combat ready. We are trained to use the machines in the most effective, efficient and safest manner possible. Then we hope that training is not put to the test. The thoughtful know that the use of arms is very costly in terms of people, equipment and treasure. It was once said, "War is hell." We know war is no fun and most of us are taught that hell is not, either.

Fortunately, for most of us, tactical flying *is* fun—or more accurately—challenging, invigorating and rewarding, both personally and professionally. It was not meant that way, it is just a happy coincidence. When something happens that indicates a certain procedure, maneuver or whatever is

unreasonably hazardous, "they" usually legislate it out of the pilot's world in the interest of safety and conservation of valuable resources (people, machines, etc.). Occasionally, "they" must establish new rules in order to protect the few who demonstrate a propensity for incapacity (stupidity). Seldom, if ever, can we truthfully state that effective mission accomplishment is jeopardized by directives. One may chafe, because a perceived freedom is deleted, but that is not really important. Being effective and safe is important.

Why the lecture? Because the pilot's words were disturbing and there may be a few others who feel the same way. Anticipating that one or two do, it may help to put our jobs in proper perspective.

It is impossible to overlook the fact that 74 percent of our 1974 aircraft accidents were caused by human error. Thirty-three percent of our accidents this year involved human error. I did not say pilot error—human error! That includes practically everyone directly associated with building, maintaining and operating aircraft.

Attitude is an important aspect of our somewhat unique profession. An attitude that reflects the same thoughts the young pilot expressed is dangerous. It exposes lack of respect for those with responsibility; disdain for flying directives; and, perhaps, a tendency toward undisciplined performance. All indicate an accident about to happen. That is what this epistle is all about. We must constantly guard against such attitudes through training, motivation and supervision.


Elimination of this type attitude is in the area of accident prevention and mission effectiveness. Most of us know that we were not hired to have fun. We were selected and trained to do a very serious job. The fact that the peacetime aspects of the job can be characterized as enjoyable is incidental. That some may consider one restriction or another as an infringement on their fun is both unimportant and immature. We should be grateful and proud that we are fortunate enough to belong to an exceptionally exclusive fraternity—the brotherhood of fighter pilots. And we should all certainly be eager to ACCEPT THE CHALLENGE to be the best—with-in the rules.

• • • • •

TAC was recently named as the winner of the Secretary of the Air Force Safety Award for 1974. This award is based upon TAC's highly effective accident prevention program. In actual fact, however, it results from the dedicated efforts of the TAC team—you and your efforts. With all of the safety honors you earned for 1974, one might think there is only one way to go. Wrong! The same professional intensity with which you achieved recognition in 1974 is still evident. While beating last year's record should not be the primary motivating factor in itself, the preservation of people and equipment that it represents should be. We are doing even better in 1975. Let's keep it up.

Next month TAC ATTACK will contain feature articles on both the Daedalian's Major General Benjamin D. Foulois and Secretary of the Air Force Safety Awards.

Have a good one!





# HYDROPLANING IN THE F-4

hydroplaning in the F-4

By Capt Marty Steere  
HQ TAC/SEPP

During safety meetings, Safety Officers often talk about hydroplaning, but pilots continue to slide aircraft off runways, blow tires, and generally have a bad day when landing on wet runways. Phantom jocks are especially susceptible. Everyone who has flown the F-4 knows it is a real bear to stop on a wet runway. It almost seems as if it were designed to hydroplane. The folks at McDonnell Douglas say this is not so, but tell that to a pilot who is riding a ballistic F-4 sideways down the runway.

Some of the information presented here is in the F-4 Dash One, but do not let that turn you off. You will also find things being done to help lessen the hydroplaning problem. You say you do not fly the F-4? Don't stop reading—all of the theory and most of the data applies to all aircraft.

## Scientific Stuff

There are three types of hydroplaning: dynamic, viscous, and reverted rubber.

*Dynamic hydroplaning* occurs when the aircraft tires are separated from the runway surface by a fluid. Under conditions of total dynamic hydroplaning, the hydrodynamic pressure between the tires and the runway lifts the tires off the runway surface to the extent that wheel rotation slows or actually stops. Under these conditions, the coefficient of friction is reduced to nearly zero, making nosewheel steering ineffective and wheel braking nonexistent. The major factors in determining when an aircraft will hydroplane are: *ground speed, tire pressure, and depth of water on the runway*. To a lesser degree, surface texture, type of tire, and tire tread depth influence the total hydroplaning speed. In the F-4, the minimum speed for total dynamic hydroplaning with recommended tire pressure is approximately 110 knots for the nose gear tires and 140 knots for the main gear tires. This is computed by using the formula:  $8.6 \sqrt{\text{tire pressure}} = \text{knots}$ . Once dynamic hydroplaning is established, it can continue at speeds well below onset speed and in water less than onset depth.

The important thing to remember here is that wheel rotation slows or actually stops when dynamic hydroplaning occurs and the anti-skid system will not do anything to help you. In fact, it may seem like you have lost anti-skid protection or have locked brakes. In effect, you *have* locked the wheel and when you happen to come in contact with some dry pavement, you can blow a tire.

*Viscous hydroplaning* is caused by a thin film of water mixed with contaminants such as oil, JP-4, rubber deposits and/or dust and can occur at speeds less than those associated with dynamic hydroplaning. Tire pressure and wheel loading have little effect on viscous hydroplaning.

*Reverted rubber hydroplaning* is caused by a locked wheel skid on a wet surface which lasts long





ough to heat the rubber sufficiently to revert it to its natural state and seal the tire grooves, delaying water dispersal. Once rubber reversion is well established, the combination of water film and uncured tire will sustain a skid down to approximately 10 knots.

#### *Things You Can Do About It*

OK, so now you know the three hydroplaning gods. When can you expect them? RCR is one method, and the Dash One has a nifty chart that is easy to read. The only problem is that the present RCR system can considerably underestimate the actual landing distance on a wet runway and overestimate it when landing on a snow covered runway. Besides that, pilots are no longer given RCR values. Weather reports simply give rain intensity such as light, moderate, heavy, or we are simply warned of a "wet runway." So here is an easy way to use this info:

*Rain reported as LIGHT: Dynamic hydroplaning unlikely, viscous and reverted rubber hydroplaning are possible.*

*Rain reported as MODERATE: All types of hydroplaning are possible. Smooth tires will likely hydroplane.*

*Rain reported as HEAVY: Hydroplaning will occur.*

all you know is that the runway is wet, assume worst.

Naturally, these must be used as a general guide. Hydroplaning potential will differ with the type of

runway surface... but at least you have something to use.

Here are a few techniques to use when faced with a possible hydroplaning situation in an F-4:

(1) *Avoid formation takeoffs and landings.*

(2) *Fly an ON-SPEED approach. Plan a firm touchdown near the end of the runway. After touchdown, immediately reduce the power to idle and deploy the drag chute. Be prepared to jettison the drag-bag if directional control becomes dangerous. The stick should be held full aft to increase aerodynamic drag and braking potential.*

(3) *When runway and wind conditions are questionable, consider making an approach-end arrestment.*

(4) *Use anti-skid throughout the landing roll, but remember, you may think you have lost anti-skid protection or had brake failure if you are hydroplaning.*

(5) *Sometimes the best course of action is to proceed to your preplanned alternate.*

Aha, you say, that is good poop and you do not have to be a fox to know bad things can happen to your bod if the jet starts to hydroplane. But, is anything being done to help correct the problem in the Fox-4?

#### *New Stuff That Might Help*

From March 1971 through October 1974, the Wet Runway Aircraft Control Project and F-4 Rain Tire Project was conducted by ASD. Different types of tires were tested to determine if any provided more





# HYDROPLANING IN THE F-4

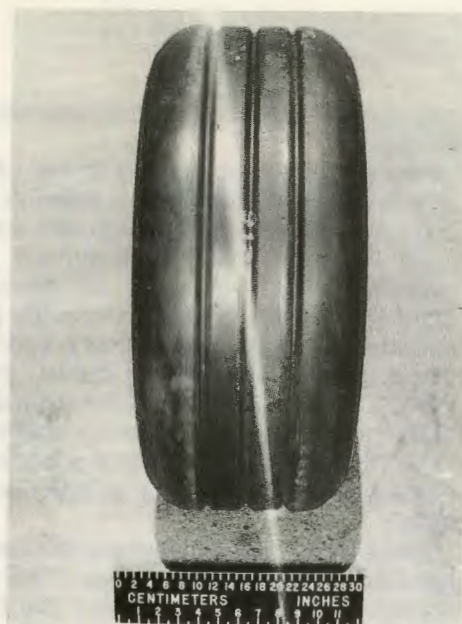


PHOTO 1

stopping potential than the standard three-groove main gear tire (see photo 1 above). The new Mark III anti-skid system was also tested to see if it significantly improved stopping potential and main wheel control.

It was determined that new nose-wheel tread designs did not show any significant improvement. The most promising main gear tire tread configuration was found to be the "Sommer tread" (Photo 2). This tire is a production F-4 tire modified by cutting staggered transverse grooves into the tire. The problem with this tire, however, is that its superior traction degrades rapidly with wear.

Various modifications of the Sommer tire have been tested. The tire which has been approved for service testing is called the "Traction Tread" tire. The main difference between this and the Sommer tire is that the transverse grooves are not staggered. Service test of this tread will be on standard tires that have been retreaded. If the service test produces favorable wear results, new tires will be molded with the Traction Tread design.

The Mark III anti-skid system for the F-4 has been approved. The main differences between the Mark III and the anti-skid system currently on our Phantoms are touchdown and crossover protection. There are other technical differences that are minor and will not be discussed here.

The Mark III system will protect you from landing with a locked wheel. Pressure will not be provided to the brakes until the wheels have come up to speed, approximately 40-45 knots. This should also prevent the wheels from locking if the wheels spin down due to hydroplaning.

Crossover protection means that if the speed of one wheel is not within 50 percent of the other's, brake pressure will be dumped. This will also help prevent many blown tire incidents. The Mark III system will be built into new production F-4s start-



PHOTO 2

ing next March. The other Phantoms, the ones you jocks are now flying, should be retrofitted—beginning in late fall of this year.

These two modifications should help keep us from skating down runways and blowing tires in the future. Until the fleet has both of these new items installed, it is up to us to plan our landings on runways very carefully. Do not let the Phar skate away with you.

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# TAC Wins Foullois Award



The Order of Daedallans presented the Major General Benjamin D. Foullois Memorial Award to Tactical Air Command at the Order's Annual Awards Dinner in San Antonio, Texas, on 17 May 1975.

The Chief of Staff, USAF, selected TAC as the Air Force major air command that achieved the best flight safety record during calendar year 1974. Last year TAC flew about 600,000 hours and experienced 19 major aircraft accidents for an accident rate of 3.2, the lowest in the command's history. This was the second time TAC has been selected to receive this award—the command previously secured the honor back in 1958.

The Order of Daedallans, the National Fraternity of Military Pilots, was founded on 26 March 1934. The Order is dedicated to insuring that America will always be pre-eminent in air and space—the encouragement of flight safety—fostering an esprit de corps in the military air forces—promoting the

adoption of military service as a career—and aiding deserving young men in specialized higher education through the establishment of scholarships.

Major General Oscar Westover, former Chief of the Army Air Corps, approved the establishment of the award in 1938 to recognize the Army Air Corps Unit with the best annual flying safety record. Then known as the Daedalian Trophy, it was first awarded to the 19th Bombardment Group. Except for the years 1941 thru 1947, during and immediately following World War II, the award has been presented annually.

In 1967 the award was renamed the Major General Benjamin D. Foullois Memorial Award in honor of the pioneer military aviator and Chief of the Army Air Corps from 1931 to 1935.

TAC ATTACK will feature this and all of the Command's 1974 Safety Awards in a special article in a future issue.



## INTERRUPTED CHECKLIST

While removing the aft seat bucket from an F-4, the egress trainee allowed the harness loop strap lug to unlock, causing the parachute container to come loose. The supervisor stopped the operation, intending to refer to the Tech Order for procedures to properly replace the loop strap.

Before his supervisor had time to refer back to the interrupted part of the checklist, the trainee removed the survival kit from the seat bucket with the firing lanyard still connected. The piston motor fired as designed.

A distraction from normal checklist procedures caused this incident. In addition, the supervisor allowed the trainee to proceed without specific instructions. Whenever checklist sequence is interrupted, don't proceed until you are certain that no steps were missed. Insure all items have been accomplished and proper sequence followed.

## WRONG BOLTS

The flight had just joined up when lead aircraft experienced several rudder inputs. One of the wingmen noticed Lead's rudder oscillating from side to side. The paddle switch was depressed, and the yaw aug switch was turned off. The oscillations stopped. After the paddle switch was released, however, two more oscillations occurred—pitching the aircraft up and then down. The pitch aug was turned off and oscillations ceased. During remainder of the flight the Phantom's rudder pedals would kick violently every two to three minutes, but



# CHOCK TALK

## incidents and incidentals

no rudder inputs were felt during these kicks.

Investigation revealed that the cannon plug on the rudder power control cylinder was improperly installed. The female portion of the cannon plug was secured to the bulkhead with bolts having larger heads than normal. When the male portion was connected and turned to lock, it would not lock into place because it was contacting the bolt heads. The cannon plug vibrated loose, causing the spurious inputs. Pitch inputs were caused by an out-of-adjustment AFCS Control Amplifier.

Another case of not complying with proper procedures. Make sure the parts you use are the right ones for the job. Aircraft parts are machined to very close tolerances. Do not substitute parts merely look alike. Remember, aircrews can only accomplish the mission with your help. Give them the safest aircraft possible.

## VARI-INTERESTING

During preflight inspection, the crew chief found the lower half of the front canopy safety strut locking pin broken off and missing. He conducted a thorough inspection of both intake ducts and vari-ramp areas but could not find the missing piece, or FOD. The chief replaced the pin and prepared the aircraft for flight.

Engine start proceeded normally and the engines were run at idle power for 3 to 4 minutes. When RPM was increased to taxi out of the chocks, the crew chief heard a rumbling noise and saw sparks coming from the left engine. The pilot immediately shut down the engine which prevented more serious damage.

Several pieces of the missing pin were discovered in the engine compressor section. It is suspected that the pin piece was lodged in the vari-ramp and ingested when vibrations from the engine run loosened it.

When doing a FOD inspection on the Phantom pay close attention to the vari-ramp area. It seems to collect foreign objects and is one of the main contributors to FOD in the Phantom. Check it closely.



*with a maintenance slant.*

**IF YOU DON'T REPORT IT,  
IT PROBABLY WON'T GET FIXED ...**

The mission went normally until just before the number two Phantom finished its inflight refueling. All tanks indicated full, but the aircraft was still taking on gas. The flight lead noticed fuel venting heavily from the left dump mast as if fuel were being dumped. Approximately 10 seconds later, the left external tank ruptured. A breakaway was ac-

complished, fuel burned down and an uneventful landing made.

The rupture occurred in the bolted seam running lengthwise in the tank's center cell. Two of the bolts were missing and three others were stripped out of the nut plates. All bolts were removed from the tank seam and several of the nut plates showed damaged threads indicating possible overtorque. The small tube from the tank pilot valve to the shutoff valve was found broken at the "B" nut which connects it to the pilot valve. This allowed fuel to continue into the tank even though it was full. Fuel from the tanker enters through a standpipe twice as large as the dump mast, and cannot escape as fast as it is being pumped in. Because of this, the pressure built up in the fuel tank until it ruptured.

While the importance of using proper torque values cannot be overstressed, the big problem here was something else. The chief of the tank buildup shop stated that the small tube from the pilot valve to the shutoff valve was a chronic problem and that these valves were frequently replaced. A Category I Report (formerly called an EUMR) was submitted on this incident. Guess what? It was the first tube failure reported in 24 months! Because of this lack of reporting, further action to correct the problem did not seem justified as there was no historical data to indicate a trend.

In this case, failure to use the reporting system to identify trends and problem areas resulted in untimely delays in initiating preventive measures. If there had been frequent failures of the tube, they should have been reported under the National Data Collection (NDC) system contained in AFM 66-1. An AFTO Form 349 should have been filled out and submitted. This would have shown failure trend information on the part—given the necessary historical data. Then when a Category I Report was submitted under the National Deficiency Reporting and Investigating System (TO 00-35D-54), the trend information would have been available and the item could have been fixed. Get to know the reporting systems well—and use them. That way we can get things fixed—right—the first time. ➤





# DIIV7 DI7 DIIV7 DI7 DIIV7-R17 PHYZ-BIZ

by Lt Col Harold Andersen  
HQ TAC Physiological Training Coordinator

## THE "SQUEEZE BOX"---

As a sequel to our series on Decompression Sickness, this effort is presented to bring you up to speed on its treatment, including the latest word from the head shed. By the time you've finished reading this tome, you'll have the answers to the literary "5-Ws," *What? Why? Who? When? and Where?*

Let's start with "what." *What is compression therapy?* Compression therapy is the treatment of severe Decompression Sickness (and certain other diseases) by compressing the patient (victim) with air, in a specially constructed chamber. It's as simple as that! And yet the "cures" I've seen (and heard about) belong in the "miraculous" category! More about that later.

Historically, Decompression Sickness did not exist before the 1830s, when two significant technological advances created the proper environment—the invention of the pneumatic caisson in 1830, and the invention of the "closed" diving dress in 1837. The first usage of the pneumatic caisson was by French mining engineers in 1841—mining coal in the marshy soil at Chalons, in the bed of the Loire River. One of the engineers reported pains in the arms and legs of the workers. To our knowledge, these were the first recorded cases of decompression sickness. The use of compression to relieve these symptoms was discovered by the workmen themselves. They noticed that the persistent pains in their limbs vanished when they went back into the pressurized caisson. They were smart enough to go back into the mine to get relief when they could no longer tolerate the pain at home.



Eventually, pressure locks were integrated into the designs of the caissons, and it was discovered that gradual, slow decompression reduced the incidence of the disease (called "caisson disease" or "compressed air disease" at that time). From that point, it was a short, easy step to a chamber designed to produce pressure effects.



his brings us to the second "W": *Why does it work?* Well, it's understandable if we can visualize bubbles as the cause of the problems. Indeed, the fact that compression relieves symptoms with such alacrity supports the bubble theory. The compression effects are probably due to a "Boyle's Law Effect" as well as "Henry's Law Effect." In the former, the immediate effect of pressure on the bubbles is to reduce the volume, thereby relieving pressure on tissues and/or reopening blocked blood vessels; as the pressure increases, the size of the bubbles decreases. The Henry's Law effect explains a rational basis for the elimination of the bubbles completely, by driving the gas back into the solution in the blood stream and tissues. The compression chamber provides relief by a direct attack on the cause of the disease and this is the most effective approach. Treating the symptoms is, at best, an "after-the-fact" approach.

"W" number three—*"Who gets treated?* We have an opportunity to look at the latest head shed (USAF/SGPA) policy on the use of the compression chamber in the relief and treatment of Decompression Sickness. In Feb. 75, an ALMAJCOM/SG letter from the Office of the Surgeon General stated that *"Immediate compression therapy is the treatment of choice for 'chokes' and for the neurological and motor forms of decompression sickness,"* and, *"the best management of bends occurring, persisting, or recurring at ground level is compression therapy without delay."* It is pretty clear that even "simple bends" (pain in the joints or muscles) which appear at altitude and are *still present* when the individual is returned to ground level or bends pains which *return* at ground level after a pain-free period on the ground, *must* be transported to a compression facility for treatment. The USAF School of Aerospace Medicine policy calls for transportation of the patient in a pressurized cabin "at or near sea level pressure." The policy further states a requirement for notification, "as quickly as possible" to the School of Aerospace Medicine Hyperbaric Center at Brooks AFB of "all known or suspected cases of Decompression Sickness." The old procedure of maintaining the patient in 100 percent oxygen for a period of "observation" is no longer warranted.

"W" No. 4 asks *"When?"—When is the compression procedure to be performed?* A person who fits the description above should be placed on 100 percent oxygen and moved to a compression chamber *immediately* if one is available. If there is no on-site compression chamber, arrangements should be made *immediately* for transportation of the reaction to the nearest compression chamber capable of administering proper treatment. This last phrase, "proper treatment," is important because some compression chambers are not "man-rated," and

therefore cannot be used for treatment. Of course, 100 percent oxygen should be maintained during this travel phase. The word "immediately" has been underscored several times, and it clearly answers the question, "when?"

Finally, *Where are the compression chambers located?* Compression chambers are collocated with the Physiological Training facility on the following bases: Fairchild AFB, Brooks AFB, Wright-Patterson AFB, Castle AFB, Ellsworth AFB, and Kadena AB. In addition to those, there are several U.S. Navy facilities and civilian facilities available. Each Physiological Training Unit maintains contact with at least one (and usually several) compression facilities in its area. Current addresses, phone numbers and other pertinent info are maintained by each unit and made available to the Flight Surgeon as required.

So, there are the five "Ws" promised. In conclusion, a few remarks on the track record of compression therapy as a means of "curing" Decompression Sickness cases would seem to be in order. How good is it? Plenty good! Reports in medical journals describe the condition of patients at the start of treatment as "moribund" (dying) and, literally, within a matter of minutes "at depth" (pressures are measured in feet of sea water), many cases are apparently completely resolved. One case which sticks in my mind involved a chamber technician with chokes and CNS involvement. At the time treatment was initiated, he was coughing, having trouble breathing and was "out in the left field" somewhere, as far as his mental faculties were concerned. Almost as soon as pressure was applied, he began to breathe more easily and cough less; after a few minutes at 60 feet, he began to clear mentally; and by the time ascent had begun, he was mentally clear. As a matter of passing interest, he occupied his time during the ascent by checking, stripping and reassembling an oxygen mask which had malfunctioned during the dive.

In a nutshell, the results of treatment have been uniformly excellent. The only disappointing results have been in those instances where treatment has been delayed—as frequently happens with SCUBA cases.

Other applications have been developed for compression therapy. Generally, these are in diseases where the increased tissue oxygenation, which occurs during compression, is of benefit. There have been notable successes with such diseases as gas gangrene and carbon monoxide poisoning; data is also being compiled by the USAF-SAM Hyperbaric Center on its efficacy in other disease states.

Would that we had as effective treatment for other diseases (e.g., cancer) as the ol' "Squeeze Box" is on Decompression Sickness.



# SAFETY versus MANHOOD

By Chaytor D. Mason  
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In the past 100 years, man has become able to control his environment and manipulate nature more than any previous 10,000-year period in history. But in spite of all his technological advances, man knows little more about himself as a human being than he did 100 years ago. In fact, his knowledge about himself is, in many ways, not greatly advanced over his knowledge 1,000 years ago. His lack of knowledge of himself has produced some curious and dangerous predicaments.

Many of our concepts of man and his behavior no longer serve us in the world we live today. It has become obvious that mankind cannot survive by teaching children by untested methods passed from generation to generation. It has become obvious that we must subject man and his behavior to the same microscopic examination and exhaustive testing which advanced the knowledge of man's materials.

The subject of this article is one of man's behavior patterns—commonly accepted throughout history without question by millions of men. This concept, still alive today, is that manhood and safety are not compatible.

## CASE STUDY:

A group of 12-13 year old boys are standing at the base of a high voltage power line. They are arguing loudly, daring each other to climb to the top. Secretly, each one is afraid. Finally, one 12-year old breaks from the group, quickly climbs to the top





and waves triumphantly to the group below. As he waves, his arm touches the 55,000 volt line. There is a flash, he shudders and falls to the ground—dead!

#### CASE STUDY:

The air is still and calm in this small coastal town. Fog has shrouded the airfield all night. The first flight of the day, Flight 54, a Convair, lets down into the fog. On his third approach, the pilot sights the runway and lands. Each approach was made below company and published minimums, but a successful landing was made.

Five minutes later another Convair, Flight 53, drones over the field. Radio contact is made with the Passenger Agent (who also serves as weather observer). Flight 53 is advised that the weather is well below minimums but that Flight 54 is on the ground and preparing to leave.

Flight 53 makes a VOR approach and pulls up after going 100 feet below the 390 foot minimums. On the second approach, 200 feet below minimums, ground witnesses can see the vague outline of the airplane as it pulls up again.

On the third approach, there is a sudden orange glow in the fog to the east as Flight 53 explodes through the roofs of three beach cottages at an altitude of 30 feet. Forty-one people die.

#### CASE STUDY:

Due to a fuel system failure, an F-4 flames out at 18,000 feet near a desert Air Force Base. The pilot is told he has too little altitude to make a safe approach, but he responds that he is unable to receive. He continues his approach. On touchdown, the main gear strikes the runway lip, but he makes it.

He receives a commendation for his superb handling of the emergency. In the next year, four more pilots try the same thing. Three fail to make it and

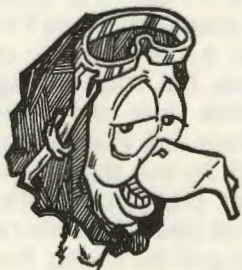
six men die. One of the dead pilots was a Lieutenant Colonel, who, although older, was known for trying to keep up with whatever the younger pilots would do.

What is the common problem in all the accidents? The problem is SAFETY VERSUS MANHOOD.

It appears that many of us feel that looking after ourselves is a sign of cowardice. The 12-year old could not say, "It looks dangerous as hell to me. I'm not going to climb up there." The pilot of Flight 54, who landed safely, knew that the pilot of Flight 53 would continue to make lower approaches until he got in, so he took three chances and made it. The co-pilot on Flight 53 died without a word. He could not express his fear to his Captain, for in his mind, he would have seemed less of a man.

The problem of Safety versus Manhood can thus occur at any time, at any age, in any job, in any activity. Safety versus Manhood is one of the reasons why younger people have so many accidents in cars, in boats, in airplanes. It is one of the reasons why accidents are the greatest single cause of death in this age group. It is why younger people show so little caution. There seems to be one thing more important than safety—the proof of manhood.

Until we accept that it is masculine to consider and even plan for our own safety; to plan for *all* eventualities; to admit the possibility of accident—we men, and leaders of men will laugh and scorn safety practices. It is important for management and training to make sure that the conflict between Manhood and Safety is resolved by coherent safety training. We must define the "Man" as the one who does the job professionally and does it safely. We must make sure there is no difference between safe operating policy and the way aircrews and support people actually perform. We must cut the imaginary lines between manhood and unnecessary risk. ➤



Mr. Mason's contribution  
makes him this month's  
EAGLE T-SHIRT WINNER

*A noted psychologist, Chaytor Mason, is a professor at the USAF Flight Safety Officers' School, University of Southern California and an expert in the field of aviation psychology. A former Marine fighter pilot and currently a civilian pilot, he has taught aviation psychology to military aircrews for 14 years. Mr. Mason is a member of the American Psychological Association and is a registered clinical psychologist in the State of California. Mr. Mason also has a program called "Voice from the Colonies", which is presently being produced by the BBC in Great Britain.*





# FLEAGLEGRAM

## RESPONSES FROM THE FRONT

Dear Fleagle:

While on a day-night out and back in one of TAC's 2-holers, I and another equally experienced jock (high time, would you believe) again learned the value of proper and clear intercockpit communications. Following a needed night landing (2 minutes after official sunset, what else?), a greaseburger at "The Pride of TAC" snack bar, and a quick preflight for the homeward leg, we fired up and taxied. As we rolled on in darkness toward the takeoff runway, belching loudly and bemoaning missing "Kojak" on the telly, trusty Ground Control came up with "Turkey One-Zero, I have your clearance when ready to copy." Grabbing pencil from sleeve, I said to the trusting soul up front, "I've got it," and told Ground to shoot. Halfway through the clearance, I raised my head from the kneeboard just in time to see a blue taxi light disappear under the nose. Quickly executing an ITO (Instructor Take Over), I stomped hard left with max pressure on the nosewheel steering button, smartly regaining the taxiway, missing all taxi lights as the right main rolled inches onto what was, fortunately, hard packed infield. My choice words to the other fellow concerning his brains, lineage, number of legal parents, etc., were silenced when he said simply, "But you told me you had it!" The fact that I meant the clearance and he thought I meant the airplane made little difference. 'Nuff said?

Dear 'Nuff

*If aircrews could read each others' minds instead of verbalizing, our accident rate would drop lower than a penguin's instep. Unfortunately, human beings are stuck with the dubious advantage of oral*

*communication and the best we can do is do better. Thanks for your honest input.*

Fleag

Dear Fleagle:

I thoroughly enjoy your "Fleaglegram—Responses from the Front" column. After reading the latest (May 75) I do feel compelled to comment.

In reference to the A-37 ejection seat article (and all other ejection seat articles), I can't help but feel sorry for the poor fighter jock who flies an airplane equipped with the "handle-trigger/curtain" final approach device. It has gotta' be tough to make all those weighty decisions as to how high (or low), how fast, etc., when the seat can leave the flying machine.

We FACs (O-2 style) have life easy. I don't have to worry about seats (except my own) and the chair I sit on is between the engines. If I get hit or strafed by a fighter on the range, get into a spin while FAC-ing, or lose an engine on a hot summer day (especially in the mountains), I'm cool. I simply unstrap from the chair, climb over the copilot and/or his chair, open the door and step over the side. It's a good idea to duck so you don't hit the wing or the strut or the rear prop, but what's a helmet for anyway, right? Once clear of the aircraft, all you have to remember is to pull the D-ring. From this point the let-down is similar. There is an alternate method of going out the left front window, but my 6'4", 220-lb. frame is a little big for the opening so I prefer the door.

I know what's going through you fighter-type's



ds-yes, we do crash slower and the O-2 can be set down in almost any field. Of course there's a good size radio rack and a rear engine that may try to occupy the front portion of the cockpit if the landing isn't super smooth.

Just remember this though—we may be little, low and slow, but we don't have to worry about an ejection seat. We've got an "envelope" as big as all outdoors.

NORMAN A. OSBORNE, Major, MI ANG

P.S. When we jump out, we don't holler "Geronimo" before pulling the rip cord. We think of Fleagle and say "Guano."

*Right on, Norm. If you jet jocks think you've got it tough, here's the O-2 dash-one procedure for going out through the pilot's window (if airspeed and altitude permit):*

*"Lean out window backwards. Grasp VHF/FM homing antenna base with left hand and brace on wing strut with right hand. Push out with feet on seat and roll backwards out window. Pull parachute ripcord when clear of aircraft." Any volunteers?*

*Incidentally, we had a typographical error on the ejection chart in the May issue. The seat requires 100 ft AGL with level flight, zero sink rate and 100 KIAS—not 1000 ft AGL.*

Fleag



## FLASH—round tuits now available to TAC personnel !

AT LONG LAST WE HAVE LOCATED ENOUGH OF THESE ITEMS SO THAT EVERYONE IN TAC CAN ORDER A TUIT FOR THEIR VERY OWN. WE ALL SHOULD BE ABLE TO CARRY ON THE PAPERWORK BATTLE MUCH MORE EFFICIENTLY WITH ONE OF THESE LITTLE JEWELS IN OUR POSSESSION. PROBLEMS YOU'VE BEEN PUTTING OFF CAN NOW BE SOLVED! NEVER AGAIN WILL YOU HAVE TO SAY "I'LL DO THIS AS SOON AS I GET A ROUND TUIT." NOW YOU'VE GOT ONE.

EA COURTESY: MACK EASTBURN  
DIRECTOR OF SAFETY  
AMERICAN AIRLINES







## *Farewell*

The PACAF PROFESSIONAL has lived up to its name these last four-and-a-half years, providing aircrews and support personnel with safety education material expertly disguised by talented writing and visual impact. More than a safety publication, the PROFESSIONAL provided its readers with interesting articles on historical, current and future developments in both hardware and techniques. It never failed to lace indigestible stuff with spices necessary to make the message more palatable—humor, example and attention-grabbing photos and artwork. Best of all, the PACAF PROFESSIONAL never forgot that "weapons systems" are controlled by human beings—people with the facility to laugh, protest, enjoy, and yes, make mistakes.



# to the PACAF PROFESSIONAL



TAC ATTACK is proud of the opportunity to try to fill the void left by the disbanding "PRO's" staff—but we need your help. We're physically removed from the Pacific, but we need not be isolated. We hope you in PACAF will keep us up to speed on local procedures and unique problems at your end of the world through letters, articles, Fleaglegrams, and even phone calls. We want you to be a subscriber. The magazine is free, but the material inside is not. It reflects a lot of hard work by people like you—people who care enough to put out an article, an idea for an article, or letter to the editor. All we can offer in return is a better magazine—and occasionally a free Fleagle T-shirt. We would like to hear from you. ➤





IT'S A BIRD, IT'S A PLANE,  
IT'S A

# DROPPED OBJECT

by Capt Robert M. Carnes,  
HQ TAC/LGMMP

Tactical aircraft are designed to drop or fire "objects"...but at specific targets. Our tactical weapons systems have performed well as bombing, gun, missile and rocket delivery platforms, but recently objects have been departing our aircraft that were never intended to be released during normal flight and over unauthorized targets. Wing tips, panels, practice bombs, canopies, multiple ejector racks (MERs), external fuel tanks, radomes, pylons and fairings have been falling from the sky at an increasing and alarming rate. Besides reflecting unfavorably on the professionalism of Tactical Air





Command aircrews and maintenance personnel, dropped objects are hazardous to the health of people and animals, not to mention the high possibility of property damage.

What causes dropped objects? PEOPLE DO! Most can be classed as materiel failure or maintenance personnel failure, and both are interrelated. Ever lose some hard earned coins through a hole in your pocket? Haven't we all? Your fault? Heck no, it was materiel failure of the cloth. Think about it... the hole was probably caused by fair wear and tear on the pocket by coins, keys, nail clippers, etc. Why

didn't you notice the thin spot or small hole in the pocket when it started? Well, you did, but like most of us, you put off fixing it or just forgot. You knew that one day you would get around to repairing that pocket. You trusted that it would last another day and preventive pocket maintenance really wasn't necessary...not yet anyway. A familiar story to most of us that tells part of a tale involving maintenance personnel, materiel failures and dropped objects.

Remember that worn fastener on the panel that we intended to replace—one day? There were 11





# DROPPED OBJECTS

other good fasteners holding the panel in place—but that panel came off in flight! Investigation showed “materiel failure” as the cause; the saving grace for maintenance personnel. We now can feel assured that it was not our fault, right?

For those who like facts and figures, let's look at our record on dropped objects. In calendar year 1974, our TAC aircraft lost 132 objects in flight. Of these, 26 percent were attributed to maintenance goofs. A few were aircrew related. A few more were classed as “other” which covers such things as depot maintenance, contractor maintenance, bird strikes, air turbulence, lightning strikes, and “undetermined” causes. Over 50 percent of the dropped objects were classed as materiel failures. This year, so far, dropped objects have caused all levels of management much grief. As of 31 May 1975, 86 dropped objects have been reported. Statistics show 26 percent attributed to maintenance and 59 percent to materiel failure, 5 percent aircrew and 10 percent “other.” Anyway you look at it, that is a large number of objects freely falling from the sky and many dollars and maintenance manhours to repair and investigate the cause. It also creates turbulence in the supervisory chain of command and usually ends up with the maintenance person being hassled.

What can we do to reduce dropped objects? It is so simple that we tend to overlook the obvious. Four basic rules of maintenance goofs and materiel failures.

## **Rule Number One: Completely remove or open; completely install or close.**

This means that all access plates, skin panels, inspection and maintenance doors, pylons, fuel tanks, racks, etc., should be completely removed or opened when the need arises. Replacement and closure should be complete, too. Do not, for *any* reason, partially replace a panel or door. When replacing or closing a panel, do it completely... put it back on in a final fashion with all proper length and numbers of fasteners and with proper torque. It is too easy to overlook or forget about that panel that is in place, but only held with a few fasteners. These become dropped objects.

## **Rule Number Two: Replace all worn or broken fasteners when they are discovered—don't wait.**

It is easy to tell ourselves that panels are secure

and will stay in place even though one, two or three fasteners are worn, broken, or missing. This is the tendency when panels have many fasteners. The aircraft technical order may even specify that certain panels may have a specific number and sequence of fasteners missing and still be safe. But what of those other fasteners that may be worn, cracked, fatigued or possibly the incorrect length... the ones you don't know about? Another object will soon be following the law of gravity!

## **Rule Number Three: When personnel errors are the cause of dropped objects, check technical order procedures/compliance adequacy of local directives/checklists, and quality of training.**

Besides fasteners, what causes dropped objects? Improperly installed electrical wiring, mechanical linkages, a forgotten cotter pin, improperly torqued bolts, lack of safety wire, no in-process inspection where needed, and poor use of tech data—just to name a few. This is a management area as well as a personal challenge to each line worker. We each know when our performance is not of the highest quality. Supervisors should not try to treat each individual case and hope this will alleviate the problems. Look deeper! What is your quality of training, quality control, job knowledge and tech data usage? The answer may be surprising.

## **Rule Number Four: When around any aircraft, look for the unusual.**

Each maintenance person, not just crew chiefs, should purposefully look at an aircraft with a curious eye. Such things as cracks in wing and stabilator tips, worn or missing fasteners, delamination of surfaces, loose objects, and lack of safety wire are just a few items to look for. Normally, anything that looks missing or loose is just that. If you are not sure, ask someone who will know. Ask until you are certain you have found the correct answer. Our job is maintenance, both corrective and preventive. Find just one thing that could possibly prevent a dropped object and correct it. If you are a true professional, it will give you a sense of pride and accomplishment.

Nothing that has been said is new or a revolutionary method of preventing dropped objects. The four rules are just a logical way of thinking and performing aircraft maintenance. Professionalism is a way of thinking that leads to correct maintenance actions. In this earthly environment we may not be able to defy Newton's law of gravity, but if every maintenance person insures that every aircraft flies returns to the ramp intact, we've defied at least one law... Murphy's!



# DOWN TO EARTH

## HOLIDAY DRIVING

Mr. John McColman  
HQ TAC/SEG

A TAC airman decided to drive home for a weekend. He worked the night shift, got off at 0700 Friday morning and was not due back until 2400, Sunday. Not an unusual thing except his destination was 550 miles away, mostly through mountainous terrain. About 300 miles of the trip would be on an Interstate, the rest on regular two-lane highways. The trip could be expected to take between 12 to 14 hours. A tough trip under the best conditions, but a real back breaker after you have already worked a full shift.

The airman did not make it. Shortly after turning right at a major intersection, he crossed the center line and sideswiped a large tractor-trailer rig. The car scraped along the side of the trailer and crashed into the left side wheels. The airman was killed instantly. Two hours after

leaving the base, his trip ended forever.

A little imagination will piece this puzzle together. It was a bright, chilly morning, typical of those on the eastern slopes of the Rocky Mountains. He had his heater on, the sun was shining on his windshield, and the boredom of driving rapidly settled in. Probably fatigue and highway hypnosis took another life.

Undoubtedly this airman overextended himself. How many times have you taken a similar risk yourself? So far you have been lucky! We are approaching the middle of the summer season and we should remind ourselves and the people who work with us to adequately prepare for long trips. Each summer many TAC people take long automobile trips. It may be just a relaxing summer vacation, a PCS / vacation combination, or a trip home like this one. Whichever it is, at least 90 percent of our people will travel by automobile.

If you are planning a trip, here are some reminders:

- The new lower speed limits require more hours behind the wheel for you to get to your destination. Allow ample time.

- Have plenty of rest before starting.

- Schedule rest stops. Take advantage of rest areas on Interstates, etc.

- Hold alcohol consumption down. Alcohol accelerates fatigue. Remember the old adage that alcohol and gasoline don't mix.

- Be sure your car is in good operating condition. Check tires, brakes, windows, mirrors, lights, heater, defroster, air conditioner, water hoses, fan belts, and battery. Last, and maybe most important, use safety belts and shoulder harnesses.

A little preplanning will pay great dividends. With proper preparation, your mind will be free

and you can relax and concentrate on safe driving and the full enjoyment of your trip.

## DON'T BE HALF SAFE

by TSgt Whiting  
HQ TAC/SEG

Recently a member of this command received second degree burns to over 20 percent of his body. Sparks from a cutting torch he was using ignited fumes from a nearby fuel tank.

The individual was in a salvage yard using a torch to remove the rear axle housing from a car. Prior to beginning the operation, he removed the fuel tank from the vehicle and moved it from the area. He then checked another fuel tank that was lying on the ground nearby. He shook it and sniffed it, but finding no evidence of fuel or fumes, left it where it was.

He was cutting the axle housing free when the fuel tank exploded. Severe burns hospitalized him for 60 days. This person was well qualified in the use of cutting torches and was wearing the approved safety equipment for the operation. Obviously, he was aware of the dangers involved and made some attempt to do the job safely—he just didn't go far enough!

Shaking the fuel tank, he probably created fuel vapors from the small amount of gas in the tank. Since he did not hear any fuel or smell any fumes, he assumed the tank was safe and left it where it was. By allowing this unsafe condition to exist, all of his other precautionary actions were negated. The tank should have been moved from the area.

One small mistake can make the difference between a professional job and a tragedy. Please, do not be half-safe. ➤



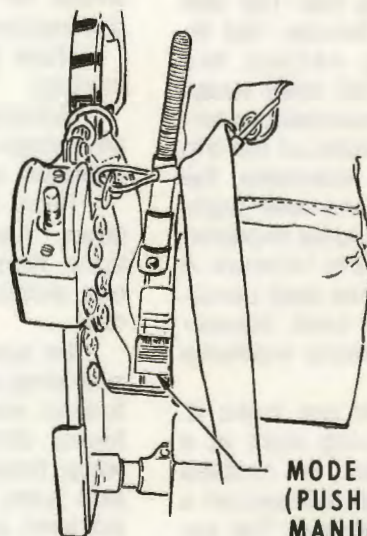
# THE GREAT SURVIVAL KIT BOOM

by Capt Mike Byers  
HQ TAC/DOXBL

Most people who work on and around ejection seats realize how careful you have to be to avoid blowing yourself up. Those few who didn't take care or "slept through the briefing" found out that riding an ejection seat without a parachute is a quick way to become severely dead. There's hardly anybody around these days who thinks they're stronger or quicker than a seat catapult. Unfortunately, TAC is still having problems with ejection seat-related explosive incidents—not the kind that blow people up and get a lot of publicity (like holes in the hangar roof), but the kind that are unspectacular and don't cause any injuries. Anyone care to venture a guess as to what is causing the problem? Right! It's the survival kit, and it seems like people are popping the darn things (or "inadvertently actuating" them, as the big boys say) on a frequent basis.

The thing is, every time a kit is accidentally opened it's an EXPLOSIVE INCIDENT. This generates a lot of work for everyone: ops, maintenance, life support and safety. You've got to re-do the kit, investigate the incident, write the report (which usually generates more work for someone else), brief and re-brief the troops—in short, it's a pain, and the money and time would've been better spent on something else.

Now comes the tough part: Trying to figure out why the best maintenance people in the world have problems with a relatively simple procedure like



MODE SELECTOR ARM  
(PUSH DOWN FOR  
MANUAL POSITION  
PUSH UP FOR AUTO  
POSITION)

Figure 1



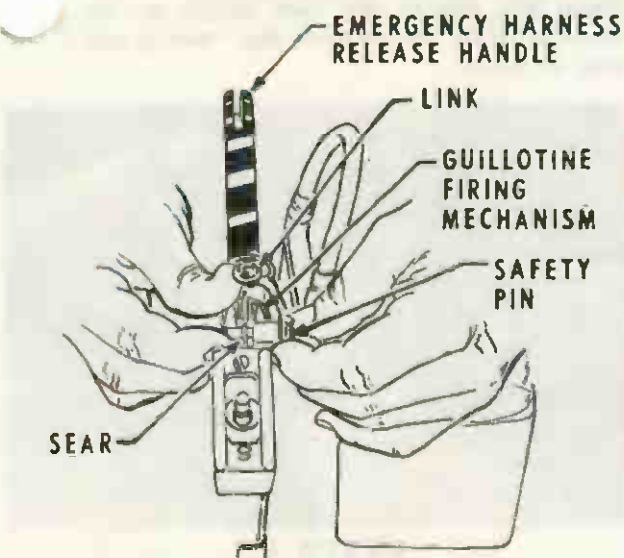


Figure 2

removing a survival kit. When you look at last year's bunch of incident reports, the problem appears to be due to that friendly, familiar, number one, all-time problem-causer: NOT USING TECH DATA. Now that's a nice, simple explanation. It's easy to f and write about, so it's naturally popular. However, like a lot of simple explanations, this one doesn't really tell you what you need to know to solve the problem. The fact (shocking as it may seem) is: *You can follow the TO and still accidentally pop the kit!* Now this is no news to people who've done it, but maybe a little analysis of the "how so?" would be valuable to those who haven't had the problem and would like to avoid having it.

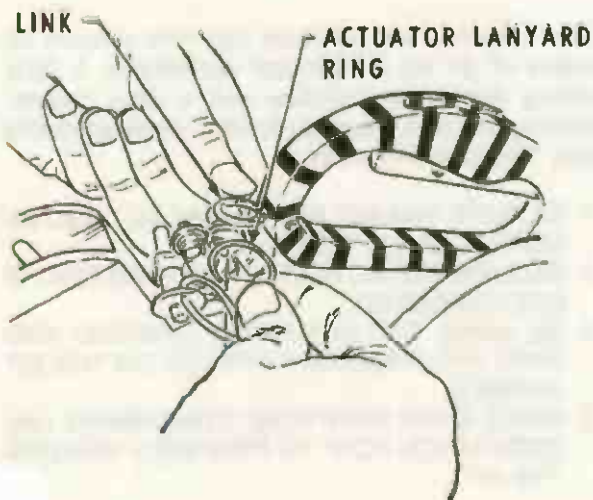


Figure 3

Let's take the F-4 kit for example, since it's been a repeat offender:

### REMOVING F-4 SURVIVAL KITS FOR FUN AND PROFIT

#### Basic Requirements:

- 1 ea F-4 (RF-4 will work OK)
- 2 ea Egress or Life Support Technicians
- 1 ea TO 1F-4C-2-3 and/or checklist thereto

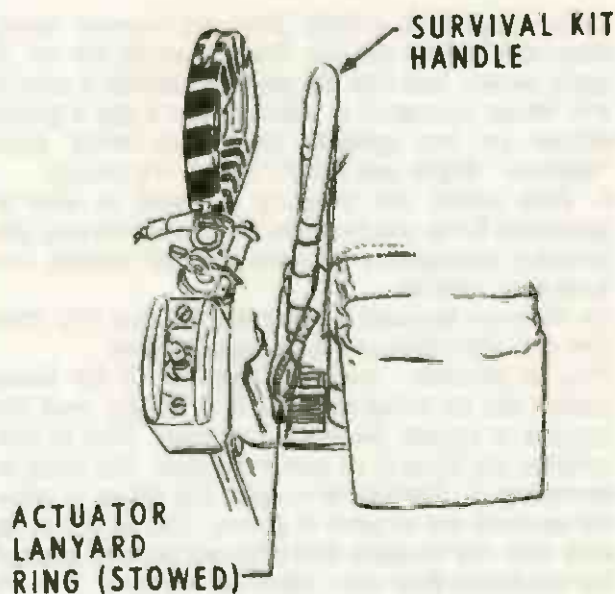


Figure 4

#### Sequence:

(Note: This guide is not to be used in place of TO 1F-4C-2-3.)

1. With canopy open and safety strut properly installed, insure all pins of ejection seat are installed and lower ejection handle guard is up.
2. Disconnect sticker strap lugs. Stow parachute container hold-down straps under parachute pack opening bands.
3. Buckle lap belts together and apply tension to lap belts.
4. Hold harness strap loop lugs in place in harness locking mechanism.
5. Push harness release lever down and remove lap belts. (Watch out for the 'chute container!)
6. On seat with 32-82046 lumbar pad, remove lumbar pad.
7. After TO 1F-4-996 and TO 15X11-19-508, insure safety streamer is inserted into beacon mode selector switch.

**WATCH OUT! HERE COMES THE PROBLEM!**

8. Place survival kit mode selector arm in manual position. (Fig 1)

If you don't do this, the kit will actuate if the ac-



## SURVIVAL KIT

tuator lanyard is pulled. This will happen every time—that's why the Air Force bought the kit. It really works, just like the guy who builds it says it will. When you put it in manual, you'll see a green sticker on the selector that says (what else) "manual." If you see a red "Auto," it's wrong.

9. With safety pin properly installed in sear of guillotine firing mechanism, move sear aft and disconnect emergency harness release handle link from sear. (Fig 2).

10. Remove survival kit actuator lanyard ring from link and stow through kit handle. (Fig 3).

This is another "gotcha" because if for some reason the kit mode selector is in "Auto" and the lanyard is pulled, the kit will actuate. This is true whether the kit is in or out of the seat. The thing to remember is: If the kit is in auto, it is going to actuate anytime the lanyard is pulled. You've got to be sure that the lanyard and ring are stowed around the handle so they can't catch on anything. There's some Velcro on the lanyard and the side of the kit to keep the lanyard from flopping loose when the kit is carried. (Fig 4).

11. Lift survival kit from seat.

This sounds easy, but... here's a problem: If you lift the kit out of the seat from the rear—grabbing the back of the kit and rotating it forward as you lift—it's real easy for the mode selector to hit the forward edge of the seat bucket and flip to "Auto." Now it's "armed" and should the lanyard get snagged on anything... ZAP! Even if you've done everything by the book, this one can get you, because it's not that hard for the lanyard to get snagged on something while the kit is out of the seat. Even if the lanyard is properly stowed, it still can (and does) happen. Lift the kit out by its connector straps, since this will keep the selector from getting bumped to "Auto."

Another thing (special for life support types): You can actuate the kit by pulling out the actuator when the kit is in the "Manual" mode. (Used to be you could win some beer with this one; maybe there are still some "fish" around.) What you do is pull the actuator out the wrong way (photo 1) instead of the right way (photo 2). As you can see from the photo, the "wrong way" will force the actuator against the slider bar (by putting some thumb pressure on the bottom of the actuator) and the kit will actuate.

Show this one to the new troops in the s because once you've seen the "wrong way," it's easy to avoid.

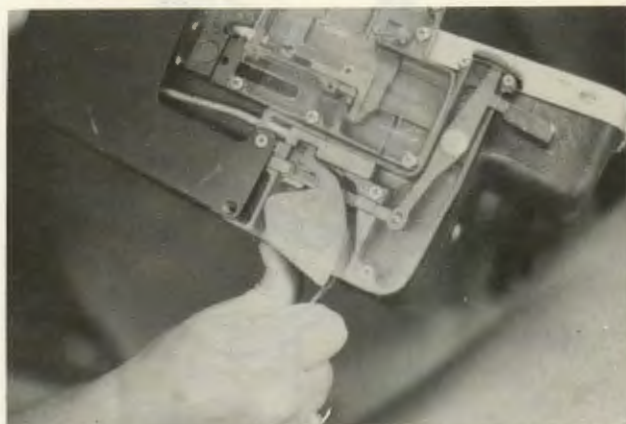


PHOTO 1



PHOTO 2

The following simple rules will help prevent 99 percent of all kit inadvertent actuations. A little thinking about the problem and a little double-checking will go a long way toward eliminating this pesky "explosive incident."

1. BE SURE THE KIT IS IN "MANUAL" AND BE SURE IT STAYS THERE.
2. BE SURE THE ACTUATOR LANYARD RING IS DISCONNECTED.
3. BE SURE THE ACTUATOR LANYARD AND RING ARE PROPERLY STOWED ON THE KIT HANDLE.
4. MAKE SURE EVERYONE CONCERNED UNDERSTANDS HOW TO PROPERLY REMOVE THE KIT.

Let's put the Great Survival Kit Boom into recession!



# Notes from the Egress Safety Council

...interrupted checklists. When in doubt as to where you left off, start again at the beginning and recheck. Better yet, don't lose track of the last step... still better, don't interrupt.

...lessons learned the hard way. Experience is a good teacher but not the easiest. Once bitten, twice shy is another old saying...point is, once we experience an egress mishap, digest the causes -- ruminate the corrective actions -- and actively apply the new knowledge. DON'T REPEAT.

...safety pins. Safety pins are only as good as their capability to do the job. Bent, worn, damaged pins should be replaced. Don't rely on the other guy to replace it -- do it now.

...insufficient lighting. Ever try to dress in a dark closet? Difficult isn't it? Can't quite tell what is going on without a light. Same holds true working in a cockpit at night -- no time to be fumbling around in the dark. Solution: if you can't see to do the job right, DON'T -- get a bigger flashlight (NF-2 Lite-All)!

...Red-Ball work orders. A do-it-now attitude is great and under the right conditions should be encouraged. Under the wrong conditions, it sets the stage for a mishap. Egress shop chiefs and maintenance controllers need to talk more. Quality work takes time -- the more you rush it, the poorer the quality. Don't be forced into a time squeeze by accepting more Red-Balls than you can handle safely.

...council charter mentions F-4, A-7, A-37, F-105 and T-38 egress systems. Nothing says you can't add to the list if needed. How about F-104, F-5, F-15? Anyone have transient aircraft for maintenance?

...mini/maxi tool kits. One unit uses these instead of individual tool boxes. Kits require replacing each tool after each task is completed -- positive tool control. If you add a bit of frosting by not dropping the tools in the process, it becomes a great idea!

One last note from an observer. Put yourself in the Driver's Seat. An old story (still holds true in Army Airborne units) concerns trust in the skill and pride of the parachute packer ...the man who will gladly demonstrate the quality of product by using it. Obviously, one can't demonstrate the quality of his work on egress systems ...but would you be willing to? The man who straps the seat to his backside trusts YOU. Every single time. Think about it.



# TAC TIPS

Nothing in life is so exhilarating as to be shot at without result.

Churchill

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

## PILOT KILLS DEER...

Approximately 2,000 feet into the landing roll at a civil airfield, the RF-4 Jock observed a deer running beside the runway. The deer then ran across the runway in front of the aircraft.

The aircraft struck the deer and sustained damage to the left inboard main landing gear door and the left trailing edge flap. The damage to the Phantom totalled \$3,600. The deer? Fatal.

This was the first deer ever seen on this airport. Each year, however, aircraft get damaged from hitting various types of animals, even alligators. Be prepared for any type of emergency on takeoff or landing roll, even a deer strike.

## DEER ALMOST KILLS PILOT...

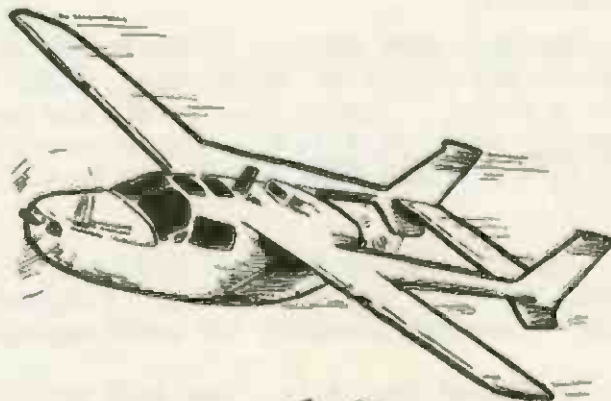
The pilot of the O-2 took off on a day visual reconnaissance flight. During the flight, he noticed some deer near a hillside. The pilot descended to take a closer look. While flying at approximately 200 feet AGL, the pilot suddenly felt a bump and then noticed a 3-inch hole in the upper part of the front windscreen. Not knowing what he had hit, (he had observed no obstructions) the pilot climbed straight ahead, declared an emergency and landed without further complications.

Investigation of the incident revealed that the aircraft had struck a wire approximately 3/32 of an inch in diameter. The front propeller cut the wire and then the wire whipped around and struck the aircraft in several places. Six feet of wire was found lodged between the left outer flap and the tail boom.

Prior to the flight, the pilot had been briefed on the minimum altitude for the mission. In addition to

violating this restriction, he also violated AFR 60-16 in that he descended below 500 feet over a non-congested area. Fortunately, the aircraft and pilot were not lost, although it took approximately 40 manhours to repair the aircraft damage.

Probably this pilot has learned his lesson and will not pull a similar stunt again. However, we cannot afford for everyone to have a similar learning experience. So learn from his mistake and profit from his experience. Most of our flying regulations for your own protection. Follow them and protect yourself and your aircraft.





## WHICH WAY IS UP ?

The weather was 500 feet overcast with light rain and fog when the F-100 began rolling down the runway. As the gear locked up, the Super Sabre entered the clouds and the pilot transitioned to instruments. Following noise abatement procedures, the jock established a 20-degree nose-up attitude. Passing 1,500 feet AGL and 230 knots, he raised the flaps. While adjusting the pitch attitude to 10 degrees nose up, a slight settling was noticed. Airspeed continued to increase and at 300 knots, AB was terminated. At 350 knots, the pitch was increased first to 20 degrees, then to 30 degrees nose up, yet the airspeed continued to increase to 400 knots.

The pilot had a "feeling" of descent and then observed the ground starting to flash by—400 feet below. At this point, he transitioned to the standby attitude indicator and selected standby inverter. The standby attitude indicator showed the jet to be in a 60-degree right bank and 10 degrees nose low. The heading indicator was also drifting to the right. The pilot immediately rolled wings level and established a 15-degree climb to VMC on top where a climb-up was made with another F-100, followed by formation approach.

A few pertinent points about this incident should be highlighted. First, noise abatement procedures should not conflict with sound safety practices and should conform to flight manual procedures. The other point is that a combination of acceleration forces on takeoff, deceleration forces upon AB termination and loss of your primary attitude reference can lead to severe disorientation.

Many attitude indicator failures are insidious. You must crosscheck *all* "control" instruments, including your standby attitude reference. A proper crosscheck of all your instruments is the only way to alert you that your attitude indicator is giving you bad poop. It will also go a long way in preventing real-life unusual attitudes.

## PHANTOM FLYER

While returning to base, the IP upgrade student in the Phantom's rear seat noticed the stick was stiff in pitch. The IP in the front seat took control and thought that the pitch control felt OK, but noticed the stick move aft by itself while in a bank—just like the auto-pilot was on.

The auto-pilot had not been used during the flight, but when the pitch aug was turned off in an attempt to isolate the problem, the pitch aug and auto-pilot disconnect lights came on.

The auto-pilot was suspect because the dis-

connect light illuminated and the engagement controller of the unit was found to be defective. An internal short allowed the auto-pilot to be turned on with the AFCS switch in the "off" position.

Because of their thorough system knowledge, the pilots isolated the problem and saved maintenance folks a lot of wasted time trouble-shooting other systems. As a result, the aircraft was put back into service in the shortest possible time... good on ya!

## OVER G'D PHANTOM

The pilot of an F-4 spotted another flight of two Phantoms at his four o'clock low. He made a right turn to obtain a radar lock-on to check out his system. When the other flight started an easy left turn, the pilot executed a 4G, 370 knot pull up and then went into a left climbing turn to remain clear of the flight of two. At this time, the forward section of the centerline tank failed and separated from the aircraft.

Although the exact cause could not be pinned down, it is suspected that the asymmetrical G limits were exceeded during the rolling pull up. Besides not adhering to the prescribed G limits, the crew also deviated from their planned mission in order to try to get the lock on.

Another case of lack of discipline! Fortunately, no one was hurt this time. Even this would not have happened though, if the briefed mission had been adhered to and the pilot had observed aircraft store limitations.



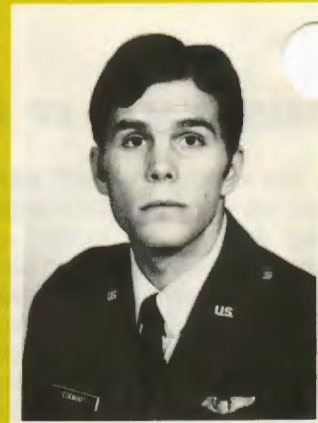


# TACTICAL AIR COMMAND

## AIRCREW MEN of DISTINCTION



MAJ THOMAS J. DEVINE  
33d TRTSq  
SHAW AFB, S.C.



2LT JOHN A. EISENHART  
33d TRTSq  
SHAW AFB, S.C.



Major Thomas J. Devine, instructor pilot with the 33d Tactical Reconnaissance Training Squadron, and Second Lieutenant John A. Eisenhart, student aircraft commander, were accomplishing an RF-4C wing formation takeoff on an ACM training flight. Immediately after takeoff, as afterburner was terminated, the intercom went dead and cockpit indications were that both generators had failed. Some electrical power, however, was apparently being supplied despite both generator-out lights being illuminated. The crew immediately lost the UHF radio and noted slowly decreasing utility pressure and intermittent flight control oscillations in all axes. Major Devine, in the rear cockpit, took control of the aircraft while Lieutenant Eisenhart attempted to reset the generators. Several unsuccessful attempts to reset the generators were made. The Ram Air Turbine (RAT) was extended but would not come on line since some power was still being supplied by the malfunctioning generators. Despite the inoperative intercom, the crew found they were able to communicate by shouting to each other. A HEFOE signal was given to lead to signal their emergency situation. Lead declared an emergency and led the crippled aircraft back to

Shaw Air Force Base for a straight-in GCA landing. On downwind, the crew accomplished the required emergency procedures checklists and blew the landing gear down. Because the flaps did not move when the normal handle was placed down and due to imminent loss of utility hydraulic pressure, the crew elected to make a no-flap approach-end barrier engagement. At three miles on final, Major Devine transferred aircraft control to Lieutenant Eisenhart. On short final, while he was making a slight correction to line up with the runway, aircraft bank increased and it continued to roll right. Aircraft control was regained by both crewmembers applying maximum rudder pressure and nearly full left aileron. They accomplished a missed approach and a second GCA, followed by a successful approach-end barrier engagement.

Major Devine and Lieutenant Eisenhart prevented loss of their own lives and saved a valuable combat aircraft through immediate, positive, and well-coordinated response to a critical compound emergency. Their actions qualify them as month's Tactical Air Command Aircrewmembers of distinction.





# TAC

## SAFETY AWARDS

### Maintenance Safety Award

Staff Sergeant David P. Petit, 834 Avionics Maintenance Squadron, 834 Tactical Composite Wing, Hurlburt Field, Florida, has been selected to receive the Tactical Air Command Maintenance Safety Award for this month. Sergeant Petit will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



SSGT PETIT

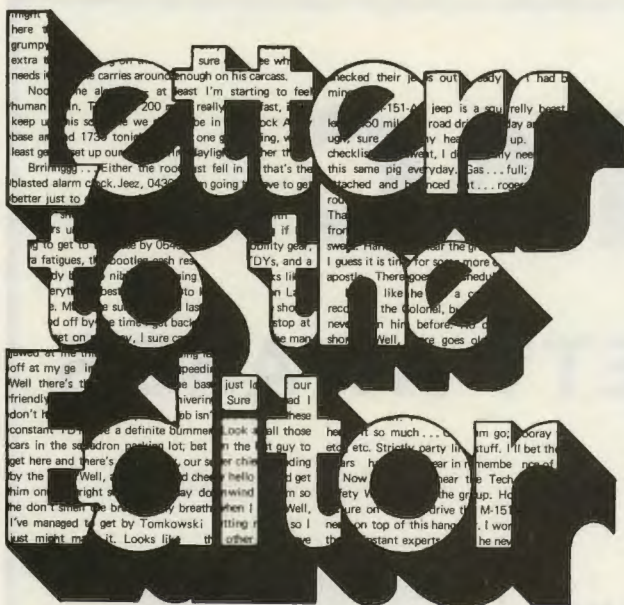
### Crew Chief Safety Award

Sergeant Carlos R. Ross, 23 Organizational Maintenance Squadron, 23 Tactical Fighter Wing, England Air Force Base, Louisiana, has been selected to receive the Tactical Air Command Crew Chief Safety Award for this month. Sergeant Ross will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



SGT ROSS





Editor:

As a member of the Royal New Zealand Air Force I have received an American Squadron Plaque



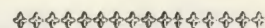
bearing the inscription "71 Eagle Squadron" (refer enclosed photograph). This plaque was given to one of our members by an elderly gentleman who unfortunately could give us no history about 71 Squadron or where this plaque came from originally. It appears that this plaque may have been handmade by one of the Squadron members as the Eagle, letters and scroll are of alloy material, and mounted to a wooden shield. In fact, it may be a "one of item." If this is the case and the Squadron is still in existence and sentimental value is attached to this plaque, I would gladly endeavour to return it to them.

We would, of course, like to keep this plaque ourselves and mount it along with the other plaques we have, however, if we do this we would like to know a little of the Squadron's history:

- When was the squadron formed?
- Type of aircraft that have been used.
- Is the Squadron still in existence?
- Battles or Battle Honours the Squadron may have earned.

Yours faithfully,  
Flight Sergeant Browne  
Power Plant Bay  
RNZAF Base Ohakea  
Private Bag  
Palmerston North  
New Zealand

*If any of you can help Flight Sergeant Browne out, please drop him a line or send your response to us—we'll forward it.—ED.*



Dear Fleag:

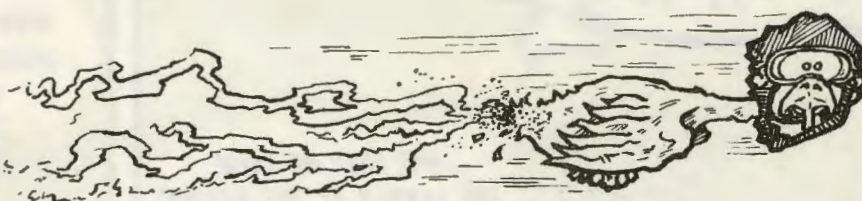
I hate to ruffle your tail feathers, but the "Hummers" ejection envelope is bigger than the "matchbook cover" you published on the Fleaglegram page in the May '75 TAC ATTACK. The level flight, sink rate 0, 100 KIAS ("D" ring engaged-zero second seat) altitude required is 100 ft AGL, not the 1,000 ft AGL published. With the "D" ring not connected, the altitude required increases to 200 ft AGL. It looks like the printer slipped in an extra "goose egg" when you weren't looking.

ROBERT W. SWEGINNIS, Major, USAF  
Chief, Technical Specialties Branch  
A-10 SPO, Wright-Paterson AFB, Ohio

*Right you are, Bob. See this month's Fleaglegram... page.—Fleag*



# TAC TALLY



TOTAL ACFT. ACCIDENTS ►
MAJOR ACFT. ACCIDENTS ►
AIRCREW FATALITIES ►
TOTAL EJECTIONS ►
SUCCESSFUL EJECTIONS ►

TAC		
MAY	Thru	May
	1975	1974
2	8	10
2	6	10
0	12	6
2	4	10
2	2	9

ANG		
MAY	Thru	May
	1975	1974
2	6	8
2	5	8
1	4	6
1	1	4
1	1	1

AFRES		
MAY	Thru	May
	1975	1974
0	0	4
0	0	3
0	0	1
0	0	1
0	0	1



FIGHTER/RECCE WINGS		
ACCIDENT-FREE MONTHS		
72	33 TFW	TAC
53	4 TFW	TAC
38	127 TFW	ANG
35	31 TFW	TAC
29	117 TRW	ANG

OTHER UNITS		
ACCIDENT-FREE MONTHS		
149	130 SOG	ANG
129	2 ADGP	TAC
118	136 ARW	ANG
110	143 SOG	ANG
98	DET 1, D.C.	ANG

## MAJOR ACCIDENT COMPARISON RATE 74-75

TAC	74	4.5	5.4	5.6	4.5	4.0							
	75	7.9	5.4	3.6	2.6	3.1							
ANG	74	7.2	8.6	8.2	5.7	6.0							
	75	5.3	2.8	5.3	3.7	4.9							
AFRES	74	0	16.4	8.9	8.8	6.7							
	75	0	0	0	0	0							

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



# FLEAGLE

