# TAC ATTACK

JULY 1976

HAPPY BIRTHDAY AMERICA



### TAC ATTACK JULY 1976 VOLUME 16 NUMBER 7





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#### TACTICAL AIR COMMAND

GENERAL ROBERT J. DIXON

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#### **TACRP 127-1**

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# Angle of ATTACK

### the challenge is clear...

aving been given the opportunity to serve as the TAC Chief of Safety and having reviewed our safety performance to date in 1976, I am inspired to review the task which lies ahead, not just for me, but for every man and woman in Tactical Air Command.

New weapons systems are being integrated into TAC to enhance our combat capability and which are vital to the security of our country. To accomplish this challenging task requires the concentrated effort of every TAC person.

Our operational units have increased combat readiness as a result of hard work. Red Flag is just the beginning.

TAC is participating in the modernization of the Air National Guard and Air Force Reserve. The Total Force Policy has been implemented and is working.

These are but three examples of the opportunities which surround us all on a daily basis. Every task accomplished by TAC men and women has an impact on our present and future combat capability. Can each job be performed safely? I believe that it can. If each job is performed in accordance with the book and is tempered with common sense, it will be done correctly and safely. If the system is wrong, we'll fix it.

So the challenge is clear. Each TAC specialist, first line supervisor, squadron commander, first sergeant, group/wing commander, and staff personnel must work as a team. We have no one on the second team because we don't have a second team. Everyone must do his job right regardless of its scope. When we take positive steps, we conserve our precious resources, we strengthen the fiber which holds us together as a fighting command, and we keep ourselves and our families together to enjoy this precious freedom which we are dedicated to defend at all cost.

If you detect a problem that could impact on mission accomplishment, fix it, or advise your supervisor if the solution is outside your capability. If necessary, surface it to your safety people. They will assure that the problem is solved by the proper agency. If that channel doesn't work, bring it to the commander's attention.

All of us at TAC Safety are available to assist anyone, anytime, anyway we can. We want to develop a closer working relationship with the numbered air forces, wings and squadrons, and each individual on the job. Never in the history of the Tactical Air Command has it been more important to do it right, for all the right reasons. Working as a team, we can do it right -- safely.

uge m Daula

GEORGE M. SAULS, Colonel, USAF Chief of Sarety



during the days of old when fighter pilots mounted a steed that was indeed a steed, CINC-KNIGHT commanded that parchments be prepared to cover the care of weaponry. The parchment was divided into many sections. The first contained a description: Four legs, head, tail,

> Auxiliary Equipment, Blinders, horseshoes reins, etc.

Operating Limitations, Maximum galloping speed limited to 5 minutes or 1.7 miles, whichever occurs first.

mane, subsonic, grain-fed, etc. Section two contained normal operating procedures: Mount saddle with horn toward steed's head; mount steed so as to face saddle horn after seated.

Other sections included:

All Weather Operations, Stopping on icy drawbridges and operating on muddy battlefields In addition, the parchment included numerous charts: e.g. four parts oats to one part bran equals 17 miles per pound of feed when mixed with three gallons of water.

The most interesting section of the parchment, however, was the third: EMERGENCY PRO-CEDURES. This section contained many things to help a knight should things turn brown. Many were printed in Old English bold letters, such as:

### Abort

- 1. Command-Ahoa
- 2. Saddlehorn-Grasp (if required)
- 3. Lance-Jettison (if applicable) or:

Loose Cinch Mhile Galloping

1. Abort

if gallop must be continued:

- 2. Tegs-Squeeze
- 3. Mane-Grasp
- 4. Hance-Jettison (if applicable) If loose cinch is confirmed and seat cannot be maintained:
- 5. Eject (Jump)

All knights were made to memorize section three of the parchment. They were tested weekly and no number of maiden rescues exempted a knight from his test. CINCKNIGHT was pleased and dubbed his parchment, number one (written: -1).

All went well until Sir Snydley, the Green Knight, was caught poaching the charms of a neighboring duke's daughter. He leaped to the saddle and galloped off ... with the duke's men in hot pursuit.

While carefully measuring the distance remaining to safety while staying within system gallop limitations, Sir Snydley noted a listing to port. As his variance from the vertical increased, he wisely determined that he, indeed, had a "LOOSE CINCH WHILE GALLOPING."

With the duke's men in such close pursuit, ABORT was out of the question. He continued



with the memorized procedures and gripped tightly with his legs while grasping the steed's mane. The saddle, however, kept sliding left and Snydley, realizing he could not maintain his seat much longer, proceeded to the next step ... he ejected. Unfortunately, Snydley departed the wildly charging steed as the horse was dashing across a log which spanned the river. Snydley plunged into the stream dressed in 738 pounds of armor and has not been seen since the last drought when the river level went down.

CINCKNIGHT now realized that his emphasis on Parchment III needed some tempering, so he commanded that Change One be published with the following foreword:

#### NOTE

It is impossible to establish a predetermined set of instructions that would provide a readymade decision applicable to all situations. The emergency conditions, combined with the knight's analysis of the condition of the steed, type of emergency, and his proficiency are of prime importance in determining the urgency to dismount. The following parchment provides general guidance.

While this same note is not in all Dash Ones, the intent is. For the Monday morning quarterback, that note allows you the right to earn your flight pay and handle an emergency the way you think best. If you do, no one can speak ill of your parentage ... unless they have to shoot the horse.

# Light Aircraft Flying Can Be Fun

Planning for any emergency can also keep you alive and well. lying light civilian aircraft can be an enjoyable experience. However, it can be hazardous if you're not prepared ... or just careless. TAC personnel who fly light aircraft haven't been doing too well this year. In fact, four people have been killed in light aircraft general aviation accidents which accounts for 25 percent of all TAC off-duty fatalities as of 10 May, this year.

By Capt Marty Steere

How can we prevent light aircraft accidents? The first way is to ensure you are proficient. Do you show up at the airport once every 90 days, make five full stop landings and then vanish for another 90 days? If you do, you could be in for trouble. Sure, it costs money to fly ... but it costs a lot more to have an accident.

When was the last time you practiced a forced landing? If it was the last time you had a check ride, it may be too long. Periodic rides with an instructor to refine your skills will pay for themselves ... if you ever have to make an actual forced landing. An engine failure at 500 feet on takeoff is no time to find out you can't make a good forced landing.

Another item that may require a little polishing is crosscountry planning. Some highly experienced fighter pilots take offense at this ... but driving a Cessna around is a little different than flying a Phantom. It's not hard, but just not what you're used to.

Planning for any emergency can also keep you alive and well. But what happens when you actually go down out in the toolies? If you fly cross-country, are you prepared to spend a few days in the boonies? Do you know the ground emergency signals (Fig 1)? Do



### Survival kits are not just for the guys who fly big airplanes.

### Figure 1

you carry a survival kit? Survival kits are not just for the guys who fly big airplanes. I can hear it now, "But ya' see, I follow highways and railroads never out of sight of a town. The most important piece of survival gear I carry is a quarter for the pay phone."

Familiar? You bet ... but, light aircraft do go down. People do survive the crashes only to die because they're not rescued immediately. Survival kits don't have to take up a lot of space, either. Got an old shaving kit around? You can stick a small medical kit in it; put some water purification tablets in it; fold up a piece of finfoil; waterproofed matches, needle, thread, fishhooks, etc. A shaving kit full of goodies can be stowed almost any place, and can sure help if you're ever forced down. If you add a razor and toothbrush ... you're ready for that next breakdown at Grimy Gulch Muni.

Proficiency and planning are the keys to a successful pleasure flight. It's up to you to ensure you have the proficiency required to handle all the situations. Your life and the lives of your passengers depend on it. Proficiency and planning are the keys to a successful pleasure flight.



### TACTICAL AIR COMMAND

# AIRCREWMAN of DISTINCTION



Captain Roderick G: Hines 363d TRW Shaw AFB SC



The mission was a defensive ACM RF-4C IP upgrade check with Capitain Hines as the Filght Examiner in the front cockpit. During the second briefed maneuver, the aircraft was rolled into a 90° right bank nose low slice into the attacker. When the rear seater attempted to roll back to the left, he discovered the stick would not move left of neutral. Captain Hines took control of the aircraft, still in a 90° right back, and continued the right roll through the inverted position back to a wings-level afflude. Recovery was completed at 8,000 feet MSL The mission was terminated, a return to Shaw initiated, and an emergency declared. Captain Hines performed a controllability check at 7,000 feet. He slowed to and eximately 240 KTS, lowered the gest and gradually continued to reduce airspeed. The aircraft indicated a tendency to roll to the tight with no control input is airspeed approached 190 KTS, flaps up. Captain Hines determined that sufficient rudder authority was available at 210 KTS to maintain lateral control and elected to make a no-flap approach at 210 KTS to Runway 22R with a "contrue-end barrier engagement if deceleration became a problem. Final approach was flown at 220-210 KTS, no flap, and touchdown eccurred at 190 KTS. The drag chute was successfully deployed at touchdown and sufficient, braking accomplished to preclude the necessity for a barrier engagement. After landing, the stick would still not move left of neutral. Maintenance investigation revealed a plastic knob lodged in the left lateral control spring cartridge preventing the stick movement.

Captain Hines demonstrated outstanding airmanship and professionalism. His actions saved a valuable sircraft and prevented possible injury or loss of life. Captain Hines' actions during this critical emergency qualify him as the Tactical Air Command Aircrewman of Distinction.



# TAC SAFETY AWARDS

# Crew Chief Safety Award

Sergeant Terry L. Kleinmeyer, 4th Organizational Maintenance Squadron, Seymour Johnson Air Force Base, North Carolina, has been selected to receive the Tactical Air Command Crew Chief Safety Award for this month. Sergeant Kleinmeyer will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



Sgt Terry L. Kleinmeyer

## Maintenance Safety Award

Technical Sergeant Richard B. Cantara, 366th Tactical Fighter Wing, Mountain Home Air Force Base, Idaho, has been selected to receive the Tactical Air Command Maintenance Safety Award for this month. Sergeant Cantara will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



TSgt Richard B. Cantara

# CHOCK TALK

... incidents and incidentals with a maintenance slant.

### WAHOO !

The Phantom's mission was uneventful until on downwind for an overhead pattern and landing. When the pilot lowered the flaps, the F-4 rolled into a 65-degree left bank. The pilot stopped the roll with right aileron and rudder, applied power and raised the gear and flaps. An emergency was declared and climb made to 5,000 feet AGL for a controllability check. When the landing gear was lowered for a no-flap controllability check, the pilot experienced an uncommanded yaw and roll to the right. Immediately lowering the flaps and slats, he was able to maintain level flight using aileron and rudder. The Phantom was controllable down to 180 knots with full right aileron and asymmetric thrust. A straight-in approach and landing were accomplished without further incident.

Postflight inspection revealed that the left flap actuator rod end had failed. Therefore, position of the left flap was determined by air loads. This caused the control difficulties. TCTO 1F-4-1011, requiring installation of a modified flap actuator rod end, had not been complied with. However, the aircraft records indicated that the TCTO had been accomplished. An inspection of other aircraft in the wing revealed five more obsolete rod ends installed (and one obsolete rod end still available in the local parts bin).

As a result of this incident, Ogden ALC has reinstituted TCTO 1F-4-1011 with emphasis on purging the supply system of unmodified flap actuator rod ends and insuring that all Phantoms have been modified.

### BRONCO BOO BOO

The four OV-10s taxied into the arming area prior to a range mission. During arming, the armament crew pulled the safety pin on the AERO 65 rack and the LAU-68 rocket pod fell to the ground.

All station-selection switches and the master arm switch were in the safe position. Loading procedures were reviewed, and it was discovered that the load crew installed the rocket pod prior to performing a stray voltage check. Additionally, when the stray voltage check was performed, it was done incorrectly. A drop check was performed inadvertently ... even though it wasn't required.

Once again, not complying with the Tech Order caused an incident. Even though this incident didn't occur in TAC, the message is clear ... there are no short cuts, no easy way out. In the long run, it saves a lot of manhours and money when the job is done by the book.

### FOULED CANNON PLUG

The A-37 began its takeoff roll, accelerated normally to nosewheel lift-off speed and began to rotate. At this point, pylon tanks and an empty B-37K bomb rack jettisoned from the right wing. The Dragonfly continued the takeoff, climbed to 8,000 MSL and burned fuel out of the left pylon tanks. Then the jock performed a controllability check and returned to base for an uneventful landing.

The armament panel had been installed just prior to this flight. During installation, the master arm relay cannon plug reference was misaligned. The misalignment of the keyway in the insert assembly occurred because the back shell and clamp were loose. This improper connection of the cannon plug allowed electrical power to actuate the pylon bomb racks. As the aircraft rotated and weight came off the nosewheel squat switches, a circuit was completed that allowed power to pass the master arm switch and enter the armament panel.

An AFTO Form 22 was submitted by the unit recommending a warning note be placed in TO 1A-37B-2-9, stating that the alignment of the cannon plug be checked before installation and a requirement be established for an operational check of the armament panel after installation.

Be careful when installing cannon plugs to prevent misalignment. Should misalignment occur, aircraft fires, dropped objects, or false instrument indications may occur ... possibly causing the loss of an aircraft.

### BOMB DAMAGES AIRCRAFT TIRE

The fighter was scheduled for an early morning air-to-mud mission. During preflight inspection, the crew chief discovered a piece of metal protruding from the inboard side of the left main gear tire. Because of its depth, the cut rendered the tire unserviceable, and the aircraft was removed from the schedule for a tire change. Additional bits of metal were discovered on the ramp near the aircraft which were pieces of a CXU-2/B cold spot charge. The SUU-21A dispenser was checked . . . it contained one expended BDU-33B/B.

How did this happen? The day prior to discovering the cut tire, one of the two night-shift weapons technicians called in sick. All of the weapons loading was accomplished in the afternoon and an inspection made of the aircraft scheduled for missions the next day by the night weapons supervisor. During this inspection, the mishap aircraft was inadvertently overlooked. Later that evening, the night weapons supervisor discovered that this aircraft had not been loaded with "little blue" bombs and decided to download another aircraft and put its bombs on the aircraft. Before removing the BDU-33s, the weapons technician installed the safety clip, but failed to secure the clip with the cotter key. He then transported the BDUs to the aircraft and placed them on the ramp next to the SUU-21A. While preparing the bomb dispenser for loading, he backed up and the heel of his foot struck the firing pin of the CXU-2/B charge. The cold spot discharged and propelled the seal plug of cartridge into the left main tire.

There are many lessons to be learned from this mishap. Inexcusable is the fact that the weapons technician tried to hide the mishap by loading the expended bomb in the SUU-21A. Had the aircraft flown with the cut tire, it could have caused an accident with possible loss of pilot.

Never work alone while handling munitions, and above all, adhere to checklist procedures... DON'T cut corners. If you do goof up the loading, don't try to cover up your mistakes. Report the mishap immediately to your supervisor and safety personnel.

### OVERHEARD ON THE FLIGHT DECK



Clipper One has just landed and is taxiing toward the terminal. Qantas 434 is lining up in preparation for takeoff.

Clipper One: "Tower, this is Clipper One. We'd like to report a turtle on the runway just this side of the second taxiway."

Tower: "Roger, Clipper One. Is it stationary or moving?"

Clipper One: "Oh, he's mobile - moving right to left."

Tower: "Can you give me an estimate on when he'll be clear?"

Clipper One: "Oh, he's pretty close to the edge and doing about point zero two knots."

Tower: "Qantas 434, did you copy?"

Tower: "Do you wish to delay takeoff for the traffic to clear?"

Qantas 434: "No thanks. We'll go around him."

Tower: "Roger. Qantas 434 is cleared for takeoff. Beware wake turbulence departing turtle."

Courtesy Pan Am's CROSSCHECK Magazine

"Do you realize that we're going 340 knots and I'm climbing at 5,000 FPM?...Would you believe that ... I believe it, I just can't do anything about it ... no, just pull her back, let her climb."



This cockpit conversation taken at FL 230 from the flight recorder of a commercial airliner just before its fatal crash was followed immediately by a stall warning stick shaker, further attempts to "pull her back," and departure from controlled flight while in Instrument Meteorological Conditions (IMC).

The conflicting, simultaneous cockpit indications of both stall and Mach overspeed resulted from a missed checklist item (PITOT heat!). Actual loss of control resulted from improper pilot reaction to those indications ... rather than any accident producing predisposition of the indications themselves. Simply stated, the crew put faith in the infallibility of a single instrument - the airspeed indicator - only one of a number of performance instruments that provided clues to the problem.

All TAC pilots receive a multitude of indications of how well they are attaining desired flight parameters during their progress through the three dimensional environment. Even on takeoff roll, our computed linespeed, takeoff

# Don't Take Everything At Face Value By Lt Col Gary R. Tompkins Comdr. 353th TFS Myrtle Beach AFB SC

distance, and the performance of our formation mate give us additional inputs in the event of an instrument failure.

The salient point here relates to our ability to assess the interrelationship of those numerous inputs available and relies on our interpretation of their credibility if they conflict with each other - or the laws of aerodynamics. We are taught to believe our instruments ... and well we should .... However, note that the term is plural. Any instrument can be as faulty as the feelings induced by our semicircular canals. But which one? Several lessons can be learned from these and many other examples:

1. Any instrument in the cockpit can fail, with or without "off" flags appearing.

2. Be aware of the indications that you are expecting when any night or IMC maneuver is

the gauges in a while.

6. Talk your simulator IP into being as "devious" as possible. Basic instrument problems are as valid for your emergency training as any other failure - and there is no master caution light or telelite panel to help you "maintain aircraft control, analyze the situation, and take proper action."

7. Analyze your own cross check. See if you can remember what all the gauges were telling you.

8. Don't forget you have a friend on the ground that may be able to help. Radar controllers can usually provide altitude and/or groundspeed information if you suspect pressure instrument problems.

In recent months, the A-7 fleet has had a number of ADI failures without an "off" flag ap-



made. E.g. right climbing turn: Turn needle right, ball centered, heading indicator increasing, airspeed steady, altimeter increasing, VVI indicating a climb, etc. If you aren't getting the proper indications, sort out your problems while flying verified control instruments. Call for help if it is available!

3. Have some "hip pocket" (or exact numbers if you're flight planning properly!) values in mind for various flight conditions. What Mach number/indicated airspeed will give you desired cruise TAS? What is the expected relationship between fuel flow/TOT/ and RPM at this altitude?

4. If your flight leader is not at the prebriefed or stated altitude and/or airspeed, or is not following the clearance ... tell him!

5. Just like the "Good book" says, verify the instrument readings with your wingman before dropping him off. It may be his first good look at

pearing ... and we only know about the ones written up in the 781. No one knows how many undetermined cause accidents have resulted from the pilot's reliance on a faulty instrument.

Any one of us can expect all kinds of spurious pitot static indications if we are unfortunate enough (or dumb enough) to get caught in a thunderstorm. In spite of the fact that all of our flight manuals recommend "attitude" flying in this case, numerous accidents have resulted from attempts to maintain control by using the performance instruments. A forgotten or malfunctioning pitot heat switch can make its omission known at the most inconvenient time, as the flight recorder transcript above so tragically demonstrates.

None of these problems, however, will throw a steely-eyed fighter pilot with a good cross-check habit pattern.

# DUV7-DI7 PHYZ-BIZ

" IN THE GOOD OL' SUMMERTIME..."

### By Lt Col Harold Andersen HQ TAC Physiological Training Coordinator

Songs and poems have been written extolling the virtues of the summer season. Christmas may be the season to be jolly, but summer brings the outdoor life in full force-it's the time to get out on the tennis court, golf course, or beach and get the lawn or garden in shape. It can be a healthful, rewarding and fulfilling season - but it can also be dangerous. Prolonged exposure to high temperature and high humidity conditions during periods of prolonged, strenuous activity can cause significant physiological problems.

There are several broad categories of heat disorders which everyone should understand, but which are confusing. Let's examine each category beginning with the most lethal and proceeding to the least dangerous.

HEAT HYPERPYREXIA (Hyper: over, above, more than normal, excessive)(Pyrexia: fever, feverishness) - you would probably recognize this problem if we called it by the more familiar names of "sunstroke," "heatstroke," and "thermic fever." All are characterized by failure of the heart-regulating mechanism, and commonly cause high fever and collapse. This category can be lethal - severe reactions include convulsions, coma and death! Contributing environmental conditions include prolonged exposure to high temperatures, intense sunshine,



and poor ventilation while exercising strenuously. During a heat wave, occurrences can increase on the second and subsequent days because of dehydration, cardiovascular disease, effects on the aged, and lack of acclimatization. Signs and symptoms include dizziness, weakness, headache, nausea and pain in the region of the heart and stomach. Sweating may have ceased several hours before the attack, and the skin is flushed, hot and dry. Body temperature may rapidly rise to 106°F or higher very quickly causing convulsions and forceful vomiting which indicate a serious reaction. Kidney and cardiac failure can result in circulatory collapse, profound shock and death. Recognition of any of these symptoms indicating heat hyperpyrexia must be treated as an acute emergency! Their presence, after undue exposure to heat, requires immediate treatment which is rather severe and radical (sometimes referred to as "heroic measures" by medical people). If rectal temperature is 106 degrees Fahrenheit or higher, an ice-water bath is required (or a blanket soaked in ice-water). Immediately, call a physician. Rectal temperature must be checked every 10 minutes, but the body temperature should not be reduced below 101 degrees Fahrenheit because hypothermia (lowered body temperature) may occur later. Remember, the temperature regulating mechanism in the brain is fouled up, and the ice bath may drive his body temperature to a dangerously low level unless carefully regulated. So don't just drop the victim in a tub of ice water and leave him there!

Heat Prostration (heat collapse or heat exhaustion) results from exposure to excessive heat, coupled with the failure of the body to adjust to the dilation of the blood vessels of the skin. The body attempts to get rid of the excess heat by flooding the capillary bed of the skin with large amounts of blood. However, this attempt to radiate away the excess heat causes problems when the blood volume is too small to permit maintenance of normal blood pressure while the skin is engorged. Any condition which causes dehydration -- lack of water, excessive sweating, water loss due to vomiting or diarrhea. excessive alcohol - increases the probability of heat prostration. In this case the unconscious victim may have initial symptoms of weakness, dizziness, dim or blurred vision, headache and nausea; the skin becomes cold, damp and ashen, while perspiration is profuse. Treatment

consists of placing the victim in a cool place and, if conscious, giving cold drinks (water). Heat prostration can progress to heat hyperpyrexia (above) if collapse occurs in a hot sunny area and the victim is unattended. To prevent heat prostration, reduce physical activity in hot weather and drink enough water before and during physical activity to produce a quart or so of urine daily. The use of light, loose, wellventilated clothing is also a good preventive measure.

Heat cramps can occur when heavy muscular work is done in environments while the temperature is over 100 degrees Fahrenheit. The profuse sweating causes loss of body salt which results in sudden, severe muscular cramps. To treat this condition, body salt must be restored to its normal level by drinking diluted salt/water solutions (1 gram of table salt per glass of water). If the solution administered is too strong, it may cause vomiting, so be sure the salt concentration is low enough so that the fluid will be retained. Salt tablets, if available, are very good for restoring body salt.

The problem in all these conditions is that people tend to overestimate their capabilities and underestimate the potential of the hot environment. Remember, you must modify your pattern of physical activities during hot weather by reducing the amount of work and increasing your water and salt intake. If you jog or play basketball, you should do so in the cool of the morning or evening avoiding the mid-day heat. It may also be necessary to drink more water than you generally do. Where you used to drink one glass of water, drink two. We're all creatures of habit, and drinking one glass of water may be enough psychologically, but it may be inadequate physiologically. The end result is a borderline condition of dehydration which becomes acute when you encounter heavy thermal loads. Interior temperatures in automobiles and aircraft which are parked in direct sunlight, may exceed 160 - 180 degrees Farenheit. And while I am on the subject, never leave children or pets locked in your car, even for short periods. It's a terrible form of torture, intentional or not.

If you must work in a hot environment, you may be a candidate for the thermal problems noted above. Being aware of the problem is half the battle; the other half is using mature judgment in controlling environmental heat exposure and strenuous exercise, and increasing water and salt intake.

# The American Crisis

### by Thomas Paine

These are the times that try men's souls. The summer soldier and the sunshine patient will, in this crisis, shrink from the service of his country; but he that stands it now, deserves the love and thanks of mah and woman. Tyranny, like hell, is not easily conquered; yet we have this consolation with us, that the harder the conflict, the more glotious the triumph. What we obtain too cheap, we esteem too lightly; it's dearness only that gives everything its value. Heaven knows how to put a proper mise upon its goods, and it would be strange indeed, if so celestial an article as Freedom should not be highly rated.





# LIFE SUPPORT UPDATE

### By Capt Mike Byers TAC/DOXBL

F/RF-4 Survival Kits - The 140000-100 survival kit has proven to be a rugged, super reliable kit, but like many other items, it's been in the inventory for quite a few years and may require a little extra "care and feeding." Tech Order 15X11-19-2 allows for complete disassembly, cleaning and inspection (at the discretion of the unit commander) in geographical areas where environmental conditions could jeopardize normal kit operations. If you consider how long some of these kits have been in service, it could be well worth the time to take them apart and give 'em a good cleaning and inspection. San Antonio ALC plans to issue a Safety Supplement on this subject in the near future.

You've Come a Long Way, Baby - The drawing shows the basic sequence for an early (1940s) Martin-Baker scheme for pilot ejection. The long arm was equipped with a U-shaped piece that hooked into rings on the pilot's chute harness. The device was never tested, as the concept was dropped in favor of the explosive type seat. Wonder what the F-4 system would look like if the "springer" had been the final design?



New Life Raft - Many units are now receiving the new LRU-16/P one-man life raft. It's a good item, because it provides the same cold water protection as the other rafts with inflatable floor and spray shields, but packs into a smaller space. This is pretty important since most of our modern survival kits (especially the F-15, A-10 and F-16) have limited room for components. The LRU-16/P will allow us to put some "goodies" that wouldn't otherwise fit. However and there's always a "however" - several units have expressed concern because the LRU-16/P is dark blue rather than yellow, and will be hard to spot in the water.

The decision to make the raft dark blue goes back to 1968 when, as a result of combat experience, it was determined that it was better to have a dark colored raft. In addition, with all the signaling devices we have, raft color isn't that significant. In any case, life support gear should be designed to work where it's most needed - in combat.

It's often hard to balance necessary tradeoffs between peacetime and combat effectiveness, but we are looking at the possibility of providing a visual signal panel for the LRU-16/P. Remember, though, that the addition of a panel could also increase the packed bulk of the raft, requiring elimination of other, more useful kit components.

Lockridge Mapstrap - According to USAFE Life Support, the national stock number for the Lockridge Mapstrap II is 8465-01-012-9174. Nomenclature is "Clipboard, Pilot (Lockridge Mapstrap Kneeboard)." It's authorized for use by any TAC aircrew who wants one.



Cartoon idea by CPL Carl D. Griffin, H&HS ATC TWR, MCAS. El Toro. Courtesy of APPROACH MAGAZINE.

Next month: Results of the caption contest!

TAC ATTACK



interest items, mishaps with morals, for the TAC aircrewman

Liberty is a boisterous sea. Timid men prefer the calm of despotism. Thomas Jefferson

### Nose Gear Steering

The two A-7s executed a formation ILS approach at homeplate and went missed-approach. Gear retraction was normal and the flight accelerated to 300 knots and began a climb for a VFR pattern entry. As Blue Two began a crossunder from left to right, he noticed something white fly through his field of vision. Once established on the right wing, the wingman noticed that lead's right aft main gear door was missing from the leader's aircraft. He informed lead and the flight continued to initial and executed an overhead full stop pattern and landing. While using nosewheel steering to clear the runway, the pilot of the lead aircraft noticed limited rudder travel.

What happened? The right main landing gear door adapter failed through its two-rivet connection point. The broken adapter caused the six degree rudder stop control belicrank to become disconnected from the right forward main landing gear door. With this connection broken, the required tension to the aft main gear door was reduced and the mechanical locking system disabled. Airloads then separated the aft main landing gear door from the A-7, braking the actuator rod. With no tension left on the bellcrank assembly, the rudder stop cable pulled beyond the full-up position. This severely limited the rudder travel to approximately zero to two degrees.

An important aspect of this incident was that the pilot was unaware he had limited nose gear steering authority after the loss of the aft main gear door. Technical Order 1A-7D-524 removed the rudder-stop cable from the left trailing edge flap and connected it to the right upper main landing gear door. The folks at Oklahoma City ALC tell us that all TAC/TAC-gained A-7 aircraft have had this T.O. accomplished. So, if you have a malfunction with the right main landing gear, be prepared for landing with only limited nose gear steering authority and pian your landing accordingly.

### Duck A La Thud

The pilot lowered the F-105's wheels on a night approach and all down and locked indications appeared. Shortly thereafter, the light in .

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the gear handle and warning horn came on. The pilot recycled the landing gear with the same result, so he assumed that the anti-spin system did not de-energize. Appropriate emergency procedures were executed and an uneventful landing was made on the next approach.

Postflight inspection revealed bird remains on the left main gear strut and a severed wire bundle. The remains appeared to be those of a duck.

There's not too much you can do to avoid a birdstrike at night, but you can increase your personal odds. If you have a helmet with a clear visor ... use it. If you want a dual visor on your helmet ... just ask your life support folks to install one.

### Breakaway !

A recent incident pointed out a lack of discipline on the part of the aircrew during air refueling. Here's what happened ....

A normal rendezvous and approach to the contact position were made. The boomer called "Contact" and was acknowledged by the receiver pilot. Almost immediately, the fighter jock began to move in and down in the air refueling envelope. The boom operator noted the movement and directed the receiver "back four ... back six ... breakaway." The automatic disconnect triggered, and the boomer triggered his disconnect button; but the nozzle did not come out of the receiver's receptacle due to binding. Separation finally occurred at approximately 48 degrees down elevation and 3 feet extension. Damage to the boom tail cone assembly was noted on postflight.

The discipline problem was that the receiver remained 20 to 30 feet in trail with the tanker during the breakaway maneuver. A breakaway is an emergency procedure and must be executed as such to prevent damage to both the receiver and the tanker. If given a "BREAKAWAY" while air refueling ... do it - now.

### **CB** Blues

The Phantom was leading a four-ship air-tomud mission to a Southeastern range. No thunderstorms were forecast along their route of flight. En route to the range, the flight encountered numerous rain showers. Initially, however, the flight was able to avoid them using aircraft radar. At 7,000 feet MSL, the fighters entered what appeared to be a light rain shower. Approximately 10 miles later, the wingman procedures. The leader maintained straight and level flight and reported flying through very heavy rain, but observed no lightning or hail. After leaving the rain shower, the flight rejoined in elements.

The range was closed for weather and the aircraft returned to base. During postflight, the leader discovered two broken position lights. A closer inspection by the maintenance folks revealed several small chips in the radome and damage to the RHAW antenna radomes. The three other aircraft received no damage.

Ya' don't have to fly through a thunderstorm to damage your bird ... sometimes all it takes is a nymphocumulus to make it a bad day.

TAC ATTACK

# POPEYE

# **Reviewing The** Fine Print

RUNWAY SLOPE: The runway slope depiction shows total gradient when the gradient is equal to or greater than 0.3%. Runway slope can be an important consideration for the pilot who transitions from instruments to a visual landing during marginal weather conditions. Since few of us fly aircraft with hands-off landing systems. this instrument to visual transition is important for all of us. On short instrument finals, we tend to maintain a visual 2-3° glide path by maintaining a constant angular relationship with the runway environment. This angle can present various illusions to the pilot. For the normal 3° glide slope, the pilot is used to seeing a 177° relationship between his flight path and the runway. If the runway is sloped upward or downward from the touchdown end, it is very easy, even under VFR conditions, to attempt to make good the same approach flight path in relation to how it looks on final to a level runway. For an upsloped runway at night, the problem is more acute when lights or other cues are not available to warn the pilot of his dangerously low altitude. Notice at El Toro the 1.6% upslope on runway 7L and the .6% upslope on the instrument runway 34R. On a short visual final in weather, the natural tendency would be for the pilot to correct downward in an attempt to set up his normal 2-3° visual approach angle. Exercise caution as this illusion may cause the Capt M. C. Kostelnik Test Project Officer 4485th Test Squadron Eglin AFB, FL



SANTA ANA, CALIFORNIA EL TORO MCAS

pilot to descend prematurely below obstruction clearance altitudes!

**RUNWAY DIMENSIONS: Runway dimensions** vary greatly, but runway widths at military fields are generally somewhere between the 150' shown at Webb and the 400' shown at Hamilton. The runway width at a cross-country field should be a preflight consideration since varying widths present various illusions on short visual finals during low visibility approaches. If you are familiar with the term linear perspective, you know that as any pair of parallel lines recede, they converge at some point in space. Our experience then tells us to some extent how far away the end is. In this manner we are able to mentally compute how far out we are on final and estimate our height above the ground. The wider the runway, the shorter it appears and if two runways of different widths are located side by side, the wider runway appears to be higher than the other. Pilots used to landing on 150' runways should be prepared for depth perception problems when landing on wider than normal runways in low visibility conditions. It is a natural tendency on wider than normal runways to feel that you are lower than you actually are when established on the proper glide slope. If you accept this false sensation as reality and attempt to correct for it, you will probably flare high and experience touchdown difficulties. An illusion awareness, cross-check





of other landing aids, and a thorough instrument cross-check on short visual final should help to make the transition from an instrument approach to a visual landing a smooth one.

VISUAL APPROACH SLOPE INDICATOR: The visual approach slope indicator (VASI) can be a very effective landing aid and should be of prime importance to the pilot in low visibility conditions. The VASI functions equally well during day or night conditions, insures safety by providing a visual glide path which clears all obstructions in the final approach area, and assists in the transition from instrument conditions to visual flight. When the VASI system is depicted as nonstandard, as for runways 18L and 36R at Moody, pilots must be aware of the fact that these aids are applicable to ATC T-38 aircraft only. Referring to the IFR-Supplement for Moody, the VASI glide slope is 3.5° with GP interception point 450' short of the runway threshold. A short landing will result if VASI onslope indication is flown to GP interception point. When flying a precision approach to runway 36R at Moody, the normal VASI indication at DH will be white over white when you are actually on glide path. It is very difficult to entirely disregard VASI indications even when you know they are nonstandard during low visibility approaches, so be wary of instrument approaches with nonstandard visual aids!

APPROACH LIGHTING: Perhaps the most important information of all contained in the Aerodrome Sketch is the approach lighting system and the associated airfield lighting. Approach lights, runway markings, runway lights, and contrast are the primary sources of visual cues during low visibility approaches. Try your hand at the following quiz and see if you consider your knowledge of approach lighting systems adequate. If not, review the approach lighting legend contained in the FLIP Terminal books.

### APPROACH LIGHTING QUIZ

1. A dot portrayed with the approach lighting letter Al at Andrews depicts what kind of light-ing?

2. What do the white dots down the centerline of runway 1L-19R at Andrews signify?

3. What do the letters TDZL and HIRL stand for?

4. What is the standard length of the A1 lighting system?

5. What does the asterisk (\*) next to the A2 lighting symbol on runway 3 at Charleston signify?

6. What does the star depiction signify?

We have touched briefly on a few of the more important items depicted on the Aerodrome Sketch. These depictions contain a wealth of information so enhance your professionalism with a thorough Aerodrome review prior to flight!



**JULY 1976** 



# CHIEF OF STAFF INDIVIDUAL SAFETY AWARD

The TAC safety staff is especially pleased to announce that Mr. Stan Hardison, Art Director of TAC ATTACK, received the Chief of Staff Individual Safety Award. The citation and trophy were presented to Mr. Hardison by General Robert J. Dixon, Commander, TAC, 24 May 1976.

Stan Hardison and Friend



### CITATION

The Chief of Staff Individual Safety Award is presented to Mr. Stancil R. Hardison in recognition of his outstanding contributions to the accident prevention programs of the Tactical Air Command and the United States Air Force during 1975.

Mr. Hardison served as Air Director of TAC ATTACK Magazine, and his inventive approach to safety education has produced voluntary safety program participation by personnel throughout Tactical Air Command. He created innovative artwork for the safety magazine, safety education films, and posters that increased safety awareness. His cartoon creation "Fleagle," has become an "Ambassador of Safety" promoting accident prevention and understanding between the Tactical Air Command, the civilian aviation community, and the air forces of other nations.

TAC ATTACK



### F-15 Gear Limit Switch

### By Capt Dan Brown TAC/SEF-15 SPO

he Wright Brothers initially flew the "Flyer" off a rail; but it wasn't long before carriage wheels took the place of skids. The next major advance in landing gear came with the B-7, the first operational aircraft with a retractable landing gear system to decrease drag. Naturally, it wasn't long until some bright young aviator proved that landing gear are more effective when placed in the extended position prior to alighting gently upon the aerodrome. Subsequent events demonstrated that gear-up landings resulted from two causes: Not placing the gear control in the down position and failure of the gear-lowering mechanism. Efforts to eliminate the first, though never totally successful, have involved such technological breakthroughs as horns, buzzers, bells, flags, recorders, various colors of lights - and on the ground, binoculars planted firmly upon eyeballs. Gear-lowering mechanisms have been improved

through a series of devices involving bicycle chains, gears, electric motors, pneumatic pumps, and high pressure electro-hydraulics. As time moved on and aircraft manufacturers gained experience with series after series of aircraft, including the Century series fighters and beyond. The warning devices for the pilot and actuating devices for the gear increased in effectiveness and reliability.

All landing systems are subject to faults, however, and the Eagle's is no exception. Its landing gear system can provide both inaccurate gear indications and prevent the normal actuating system from operating. The culprit is a down-limit switch subject to jamming in the "gear-down" position, which stops gear-down sequencing and turns on the green cockpit light.

The "slip-stick" kids tell us a permanent fix will be available in 9 to 15 months. In the meantime, TCTO 710 provides a warning of gear-down



limit switch failure by means of a constant green gear light, and a new emergency gear extension procedure will keep the Eagle soaring.

Have no doubts what that constant green light is telling you, and why the emergency gearlowering procedure sequence is as published in 1F-15A-SS-28. If it isn't clear, ask an IP or Safety Toad. A gear-up landing and approachend barrier engagement have been successfully accomplished, but 3,000 psi in the right place ... at the right time ... is a much better way to go.



### F-105 Shakey Start

By Capt Skip Weyrauch TAC/SEF

Most jocks devote a considerable amount of time and effort to studying, planning, and practicing the individual skills required for various missions which may be performed under less than desirable conditions. One critical phase of aircraft operations often taken for granted is engine start. During their initial checkout, pilots are required to be well versed in all normal and emergency procedures. However, after the training period, many of these procedures become "old hat." Consequently, many jocks make engine starts out of habit, rather than planning for any emergency which may arise. For instance:

It's going to be a great day. You've strapped on your Thud ... ready to start and get on the range for the Turkey Shoot. As the air comes on, the RPM starts to increase ... throttle around the "horn," fuel flow, EGT coming up. Seems the RPM is a little slow ... but the crew chief said this bird starts a little slow. Throttle seems a bit stiff, too. The air is off now, and after about a minute at idle RPM, the engine begins to unwind. Unconsciously, you select emergency fuel at 60% RPM (isn't that the



airstart procedure?) in an attempt to get a relight. Now there's smoke coming from the tail pipe so you quickly go back to normal fuel and do the ground egress bit.

Investigation reveals a malfunctioning main fuel control which caused the flameout. The "smoke" was really a large cloud of fuel vapor that enveloped the aircraft when the jock used an airstart procedure on the ground. Fortunately, all the elements required for an explosion didn't get together in the right combination ... this time.

The moral can be simply stated: Know your aircraft and its procedures, keep your mind on what you're doing, and be prepared for a malfunction with an appropriate plan of action.

TAC ATTACK

# notice



My friends at TAC ATTACK need your help in providing the best information to aircrews. Articles on safety, survival, life support, weapons.delivery, tactics, weather, new systems developments, maintenance, aviation psychology, and aviation history are needed. We also need inputs from you PACAF and AAC aircrews. Our audience is approximately 200,000 readers ... worldwide.

The Editor will provide services such as rewriting and correcting spelling and punctuation, if necessary. You get a special bonus. I'll send a Fleagle T-shirt to the author of the best article printed each month. Send all articles to:

Editor, TAC ATTACK TAC/SEPP Langley AFB VA 23665 Phone: ATVN 432-2937/3373

# LET'S HEAR FROM YOU SOON.



### Editor

I would like to comment on the caption on one of your "Funny Fotos" on page 15 of the May issue of TAC ATTACK. The picture shows a C-47 standing on its nose and a reference to "fat-boy program" in the caption.

It is obvious that you, along with most of the personnel in the Air Force, are not aware that there is no "fat-boy program". There is a program for overweight airmen, but it is not referred to as "fatboy program". In fact, that phrase does not appear in the regulation governing the overweight program.

Webster defines "boy" as "a male child between birth and puberty." All Air Force males have certainly reached and exceeded puberty. In fact, all have exceeded to a rank and status that commands a measure of respect.

"Fat-boy" is derogatory, insulting and disrespectful. (It is also "sexist" now that women are on the overweight program.) To most people, the program is a joke, as so aptly demonstrated in your magazine. Perhaps you should read the regulation or study some case histories to learn the consequences of failure to lose weight on the program. It is certainly no laughing matter when an airman's career is compromised.

As a voice of TAC. your magazine has the potential of educating leaders and supervisors about the plight of overweight personnel. Losing weight is not easy. Overweight people must overcome many obstacles during their diet. Perhaps if your magazine sponsored an article from a different point of view, it would help the cause. Overweight personnel would certainly benefit as a result.

Sincerely,

Thomas A. Bender, SSgt, USAF Physician Assistant, Student USAF Hospital, Langley

### Dear Sergeant Bender,

TAC ATTACK has taken a serious approach to the overweight airman problem in the past, and will continue to educate TAC personnel to the dangers of obesity. Our last feature article on the subject was a three-page feature, written by a Physician Extender, published in the November 1975 issue.

While we agree the program for overweight airmen is not in itself humorous, neither are such subjects as Space Available Travel, Wake Island, or Zippers -other subjects we used in captioning the photographs in the FUNNY FOTO centerspread. Only in combination with (hopefully) humorous photographs do these subjects serve their intended purpose -- reader enjoyment. The lack of humor, like being overweight, can be a problem in the military.

Incidentally, we would appreciate an article on the overweight airman program, so if you (or other TAC ATTACK readers) have a new approach to this old problem, we'd like to hear from you.

ED

#### Editor

Your October 75 center page illustration and article "The FAC" was outstanding. As an ex-FAC, though, I feel obligated to bring up something that most FAC's find more upsetting than dry passes, duds, min fuel fighters, or Gomers jamming our radios.

Even though most FAC's have pride in knowing that we were respected by those we worked with (including the fighter jock), it's the lack of appreciation or recognition received by the Air Force that drives us up a wall. Have you ever been a FAC trying to get the flying assignment you really want?

An ex-FAC with 800 hours in the OV-10 and 200 combat missions does not qualify to be an OV-10 instructor stateside because he does not meet TAC's requirements. Those assignments are given to F-4 jocks whose knowledge of FAC tactics totals what he overheard at the stag bar. Have you ever been an ex-FAC calling TAC assignments requesting a fighter slot? If they don't hang up on you, the likely response will be "call SAC."

Have you ever been an ex-FAC calling MPC for

# Letters

career counseling? The likely response will be ... "Sorry, but you only have prior OV-10 or O-2 time . .. no weapons system experience ... maybe SAC will take you."

Ten enemy trucks on the trail and no air available cannot compare with that kind of frustration.

An ex-FAC

Colonel James Lilly, Director of Assignments, Tactical Air Command, has provided us with the following reply.

### FACS AND FIGHTERS

ED

During the peak of the Southeast Asian War, the demand for Forward Air Controllers (FACs) permitted many nonfighter qualified pilots to serve in the war. as FACs. These nonfighter qualified FACs did outstanding work and some have since received fighter assignments. Many who got into their desired weapons system did so by volunteering for a second SEA tour. We wish we could cross train all FACs into fighters; however, entry at this time is constrained in two major ways:

First, senior captains or majors entering fighters for the first time would be significantly behind their contemporaries in fighter experience. Assigning pilots with limited fighter experience to management positions in a fighter unit could have a negative effect on unit capability. Competition with better qualified contemporaries also could have a negative effect on the new fighter pilot's career potential.

Second, believe it or not, the Air Force will soon have a short-fall in pilots and the tactical fighter force is limited in the total number of prospective fighter pilots that can be effectively trained per year. Therefore, the major portion of available training must be dedicated to new UPT graduates.

There is some hope in that the Tactical Air Command (TAC) is continuing to push for an increase in fighter training quotas for other than new UPT graduates. During FY 77, 161 fighter training spaces will be available for nonfighter qualified pilots. That's 115 more quotas than were available in FY 76. However, over 1,000 ATC first assignment instructor pilots (that still lack credit for the first gate) and large numbers of other pilots seeking identity with a major weapons system, will compete for these spaces.

Officers now serving as FACs are, for the most part, fully trained fighter pilots. Their chances of returning to fighters are excellent. The assignments people have established a good record in this regard and intend to keep it going. Incidentally, three of the pilots selected for the first F-15 operational squadron are coming from FAC tours.

There is a difference between bad news and bad service. Follow-on assignments for fighter qualified FACs today are generally good news. For the nonfighter qualified FAC whose heart is set on a fighter assignment, the heavy competition for available fighter training can be bad news. Bad service is another matter. If you FACs ever get that, mark it, and call me - Autovon 432-2605.

Colonel James Lilly Director of Assignments HQ TAC, Langley AFB VA

Editor

I am trying to whip up an aerial gunnery program for the Honduran Air Force, utilizing their T-33 as a tow ship. We desire to use either the old "sleeve" or "banner" type target, but these systems have long since passed out of the USAF System, and I've been totally unsuccessful in finding tech orders or any other info about them through USAF channels. We could build the system down here if we had dimensions, specs, operating (launching, recovery) info, etc. Surely there are some old TAC heads around who still know where I can lay my hands on the needed data for the care and feeding of the "rag."

...

Additionally, would appreciate a copy of an old SOP pertaining to the gunnery itself (break off parameters, safety rules, and the like). I think I still recall most of the rules of the road, but it would help not to have to reinvent the wheel.

Can anyone out there help before we're forced to go the trial and error route?

Lt Col James R. Bassett Chief, AF Section, USMILGP Honduras Answer to letter

If any one has the information, pass it on to Lt Col Bassett. The address is: United States Military Group Honduras, Chief, Air Force Section, APO New York 09887.

Help another jock out!

ED

35th REUNION - The 2d Aircraft Delivery Group will host a 35th Reunion, 13 and 14 August 1976 at Langley AFB, VA. Former members of 2 ADG, 4440th, 1708th, etc are invited. For details call Lt Cols Bill Watson or Hank Zimmerman at 804-764-5967, or write to 2 ADG, Langley AFB, VA 23665

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