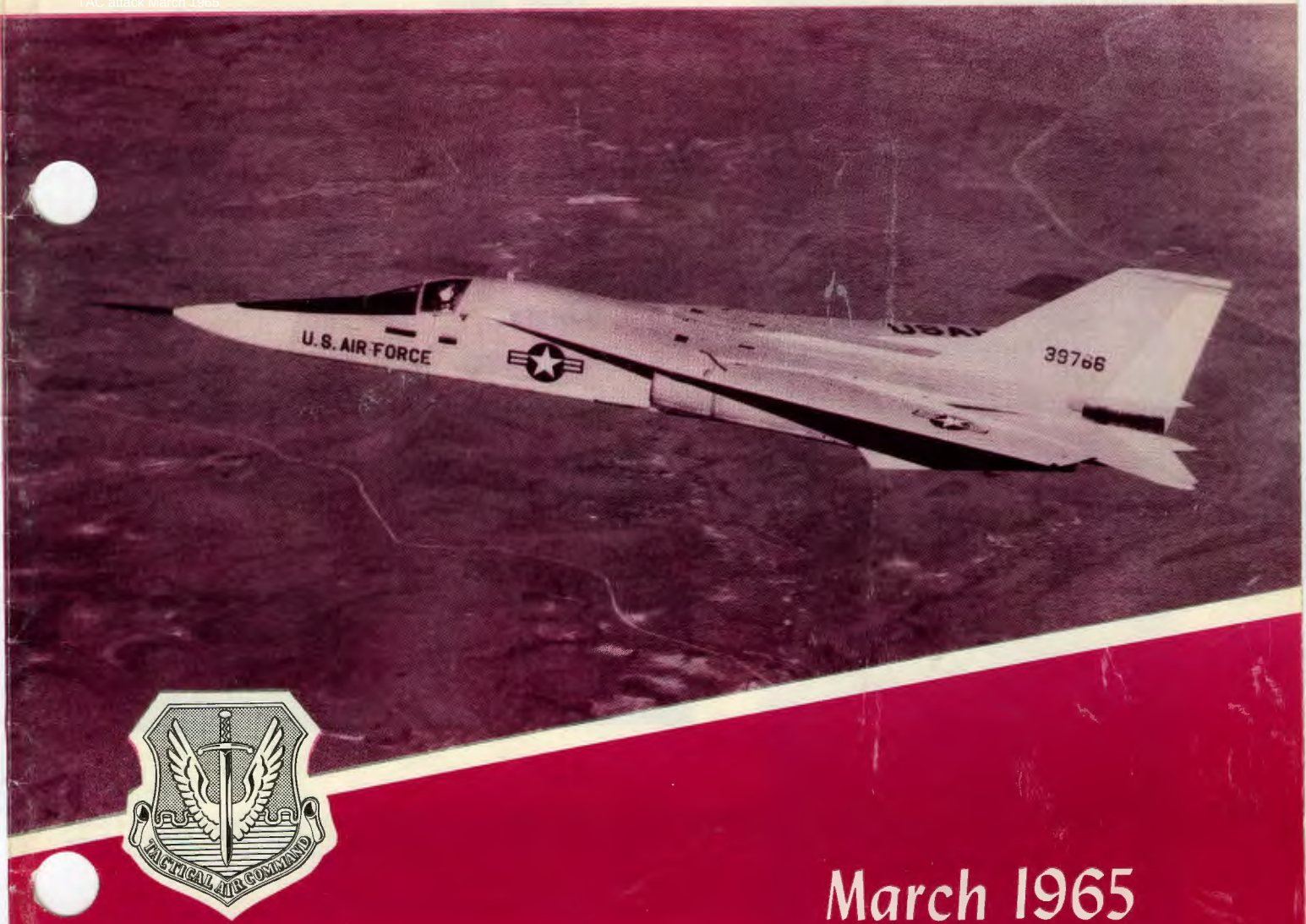
TAC ATTACK



March 1965

TAC ATTACK

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Contents

COVER PHOTO:

F-111 during flight test with wings fully swept.

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General John P. McConnell
Chief of Staff, USAF

General Walter C. Sweeney, Jr.
Commander, TAC

A Salute To The New Chief

General LeMay has just completed a distinguished career in the Air Force and an illustrious tour as Chief of Staff. Our thanks and best wishes go with him into his retirement along with our gratitude for his outstanding service to our country.

I want to take this opportunity to endorse the new Chief of Staff of the United States Air Force, General J. P. McConnell. I have known him for years and I respect and admire him. I feel that we are particularly fortunate that a man of his outstanding abilities and competence is now taking over as Chief. I know of no one who will do a finer job for the country and the Air Force than General McConnell. His experience through the years in strategic, tactical, air defense and other portions of the Air Force qualify him to render fair and impartial decisions in matters affecting all branches of our Service.

My hat is off to him and I am confident that the Air Force will increase in stature and capabilities in the years ahead under his expert guidance.

We in TAC salute our new Chief.

W. C. SWEENEY, JR.
General, USAF
Commander

angle of ATTACK

Colonel Jack W. Hayes
Chief of Safety

Although TAC's 1964 accident rates are now history they remain of grave concern to everyone in the command . . . increased major aircraft accidents, increased fatalities both in flight and on the ground, increased severity of ground accidents and an increased proportion of personnel error accidents in all areas.

To combat this upward trend and develop new ways to prevent further losses, TAC will host a command-wide safety conference, 13-15 April 1965. The theme, The Mission . . . Safely, represents our goal: Prevent loss of life and equipment while accomplishing the TAC mission with maximum effectiveness.

The objective is total safety both on and off the job, since w cannot attain maximum effectiveness without conserving our primary resources of men and equipment. For this reason, the conference will give appropriate attention to all areas of Safety: Flight, Ground, Nuclear, Missile and Explosives, with increased over-all emphasis on accident prevention on the part of every individual.

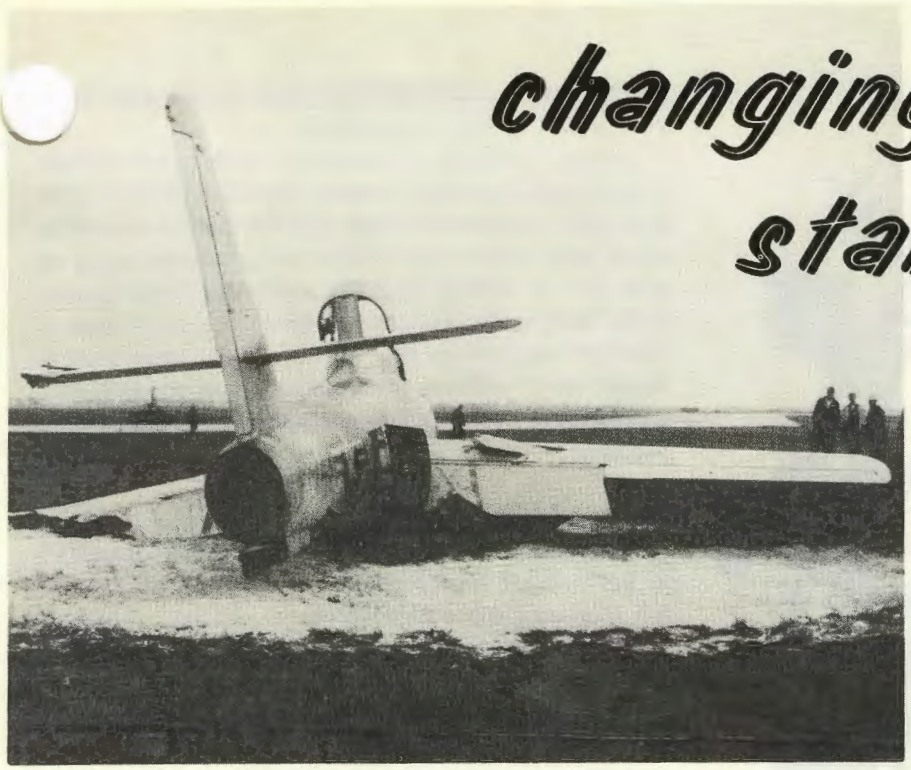
"The part of every individual" is a key phrase. YOU, reading this, may hold some of the secrets of success. If it were YOUR responsibility alone, how would you insure a safe, effective operation? How would you get the job done and do it safely? How would you approach a problem of this magnitude?

If you have an answer to these key questions, this conference is your golden opportunity. Your ground and flight safety officers and the director of safety of your unit will attend this conference. You will find them receptive to your ideas and eager to forward them so we can include your ideas in the agenda or refer them to a seminar.

Or, if you enjoy writing, this is your open invitation to strike a blow for Safety. Write me your method for increasing mission accomplishment - SAFELY - and your ideas will receive command-wide attention. In return, I will personally advise you of the result.

You don't have to be a commander or a safety officer... all you need do is recognize a problem. After all, in the final analysis, safety is up to you.

changing standards



The accident investigation was simple . . . the pilot held about ten knots below recommended airspeed on the base and final and the aircraft hit short of the runway . . . a story that, with minor modifications, is almost as old as flying itself. But, the reasons for accidents like this one have changed, just as have aircraft and the way we fly them.

Not too many years ago, traffic patterns were competitive . . . every eye on the field was turned toward the initial approach as a flight made a hard break with a short three-second interval. The leader who didn't keep it sucked in tight, or the wingman who botched up the spacing hung his head in shame as he trudged into ops. In those days, a traffic pattern was a max performance maneuver and most pilots respected it as such. Unfortunately, like any other low altitude max performance maneuver, the ultra-tight pattern was unforgiving and took a heavy toll of the men who erred.

Two things took us away from the tight pattern. First, starting with the 84F, the aircraft didn't lend themselves to a power-off pattern . . . and since some power was required, the challenge of an idle pattern was lost. Secondly, more and more people started asking what was gained from a tight pattern. The answer . . . nothing!

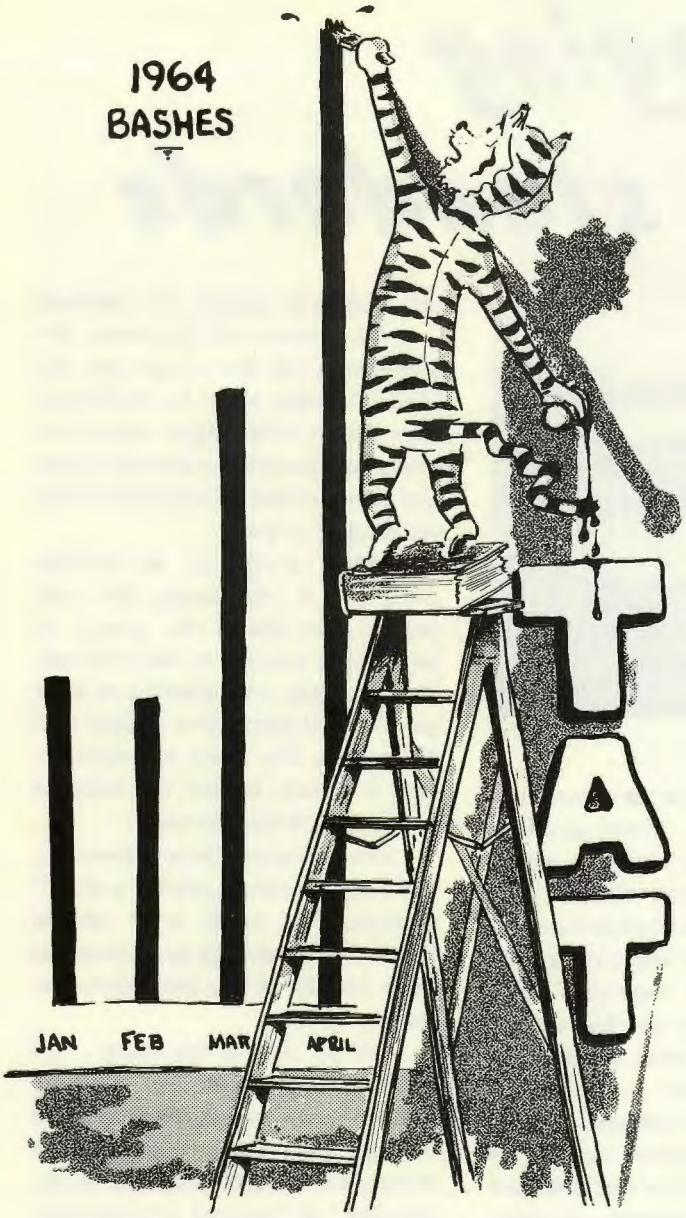
The power-on pattern is a step down the performance ladder. No longer does a knot or two make the the difference between success and failure, the margin for error is relatively broad and because the pattern is large, bank angles and rates of descent have been lessened. The landing pattern has changed and rightly so, from one of the most demanding parts of a mission to one of the more routine. This has brought a subtle change in the attitude most pilots have toward the pattern. When the pattern was demanding, pilots wanted to excel, to fly the tightest, the shortest, the best traffic pattern. Many scales were used to measure the supposed quality of a pattern . . . the violence of the break, the streamers off the wings and the seconds from pitch to touchdown were some of the gages used. Too often the streamers showed a snap and the seconds told the time from pitchout to impact . . .

Today, without an obvious competitive challenge, the only person who knows the quality of any traffic pattern is the pilot who flies it. But, with nothing to spur you toward perfection except self discipline, it's easy to settle for less at times. Herein lies both the problem and the solution.

Many of us can be heard saying, "I'm my own most severe critic." Certainly in many ways this is true, but our ability to rationalize often makes us our own most dangerous enemy.

And so starts the story . . . I know I can fly precisely, right by the book. My last check ride was a beauty, everything right on the money from flight planning to debriefing. So I gained a couple hundred feet on the pitch yesterday . . . no problem, I got squared away on the base and the final was fine. And so it goes. We tolerate our own substandard performance secure in the knowledge that we can really do better when we need to. Luckily, for most of us, performance doesn't deteriorate enough to cause an accident. For a few, a multitude of minor errors snowball and they learn that they really can't do better.

The accident investigation was simple . . .



THE LAST TWO years the bird bashing chart has taken an upward swing in the spring. You really wouldn't expect it since spring is the best season in the year for flying. All the ice and nasty weather is gone, it's too early for the real thunderstorm season, and maintenance working conditions couldn't be better.

Thinking in terms of overexuberance, I thumbed thru the accident reports looking for a trend. Well, we had one or two that could've been from excess spirit, another pair that might have been induced by day dreaming . . . but pick out the accidents for any three months and you'll find three or four due to these causes. Apparently there is little reason for blaming the season . . . and the blunt truth is you gotta k your guard up the year 'round.

Armed with this information I took it upon myself to pour half a jug of old croaker down the ground hog's hole quite early last month. As I see it, this should've made him either too stiff to venture forth, or in no mood to be chased by mere shadows. Consequently I am looking forward to an early spring. Those of you who appreciate this favor can do your best to repay me by making your decisions on the safe side and keeping ahead of the machinery, the weather, and yourself.

THE FIRE WENT OUT, but an 86H pilot managed to get a start on the emergency system and headed for high key for a precautionary landing. A broken cloud deck kinda loused up his pattern and he ended up having to make a low, tight turn onto final. This contributed to a less than perfect final and he blew both tires getting stopped.

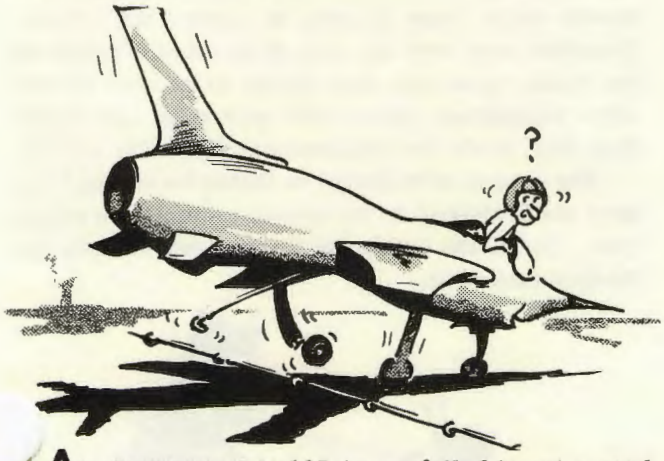
Then they couldn't get the dang engine to malfunction again. It worked fine in both emergency and normal systems . . . leaving this lad feeling somewhat foolish. No, I'm not going to hind-sight h decision to make a PLP under the circumstance. Over the long haul it's a wise decision since he had no way of knowing whether the flameout was induced by a fuel control problem or from an aircraft fuel system malfunction . . . such as blocked fuel filter, stray voltage to the main fuel shut off valve and stuff like that.

Like I say, best course is to play it safe and calm, and get the bird back on the ground using whatever pattern seems most certain at the time. Normally, this would be a PLP. This time, clouds loused up his PLP and undid most of what he wanted it to do for him.

My advice is along two channels. One, there is nothing to keep you from entering a PLP at low key or base key. When broken clouds exist, I favor an entry below the clouds, because it isn't uncommon to have 'em louse up an otherwise good pattern. I practice PLPs to show me how things should look at the lower keys. When an IP, I often gave engine-out drill at awkward altitudes to see if the other troop would use his head and play gear and garbage to make one of the lower keys. Most blindly tried for high key, sadly victim to some sort of reflex action, I guess.

If you feel better heading for high key, or circumstance dictates you must enter a flameout patter from high key over a broken deck, I suggest a me chanical pattern. Again, I practice these. They work

st when you hit high key above normal altitude and ake a fixed turn that will roll you out on a short downwind somewhat higher than half your remaining altitude. Hold a reciprocal of the runway heading on downwind until you are 500 feet higher than half your starting altitude, then make another turn using the same bank as before. You'll roll out reasonably well lined up unless there's a bad cross wind. If there is, and you didn't catch and correct for it, you still have a little extra altitude to play with while trying to line up . . . or are still in good shape to pull up and punch if there are no other alternatives.



AN OVERSEAS F-105 troop failed to get a good chute and dropped the hook in case he couldn't get stopped. His braking technique was better or the brakes more capable than he realized and he was able to stop short of the barrier.

Everyone was quite happy that he managed to cheat the barrier particularly after they looked at the bird . . . the hook was hanging no less than two and a half inches above the runway surface! Air pressure in the nose strut was 100 pounds low and the pressure in both main struts was 200 pounds high, making the bird a little high behind. This brings up some interesting angles, aside from the obvious need for maintenance types to give these struts careful attention and pilots to do likewise during preflight. A failed nose gear tire or heavy braking while crossing over the cable could also cause the hook to miss. Back pressure on the stick would help insure a catch if speed was high enough. But, the only adequate answer to this problem is to change the hook so it'll hit the ground, regardless.

Incidentally, the drag chute failed because the bungee D-ring snagged on the forward edge of the top peed brake pedal. The speed brake sucker doors adn't been lubricated and the top one stuck open, exposing the leading edge of the speed brake.

ONE OF THE PROBLEMS we keep running into in this flying business . . . at 220 a month I can't afford to call it a game . . . is defining such things as turbulence, vibrations, icing and so on. One pilot runs into CAT that spills his coffee and starts calling out severe turbulence . . . another hits an area that darn near turns things wrong side out and as long as he doesn't see any rivets flying out of the wing panel he's satisfied to call it moderate.

I'm not sure, but this may explain an incident report that bugged me the other day. It came in from a TAC F-100 outfit and a second John was at the go handle. I'll quote: "During taxi out a few mild acceleration stalls were encountered . . . on climb, severe compressor stalls were experienced when power was advanced from 84 per cent."

This lucky young man then proceeded to cripple his way around to a successful landing with the engine compressor stalling all the way down final. As you might expect, the compressor was gradually coming unglued. Whew!

The F-100 handbook says mild acceleration stalls are normal . . . but . . . how mild is mild? The good book attempts to explain by indicating a single boom or choo-choo is OK as long as it doesn't take over 15 seconds to accelerate the unit from idle to full military.

Reading thru the F-100 dash one, I get the impression compressor stalls are a normal thing like tears from a woman . . . that they don't hurt a thing. Possibly so, but no one has convinced me that

sustained or extremely hard compressor stalls don't do some harm. It just doesn't seem reasonable . . . and like the tears . . . you can't help wonder when they'll lead to something more violent with plates, buckets, rolling pins and compressor blades flying in all directions.

SHORTLY AFTER a TAC troop rotated his F-100 for takeoff, he found himself looking at the canopy open light and about two inches of daylight between the canopy bow and windscreen frame.

He chopped throttle, considered hollering a warning at his wingman, but noticed the radio was cycling, then grabbed a fistful of drag chute handle and pulled.

No, Horace, the drag chute handle didn't come off in his hand, but the chute did blossom and immediately fall to the runway. He pickled the external garbage, which included a couple of 335s and an MN-1A dispenser, and dropped the hook.

The barrier engagement was a huge success with both the BAK-9 and MA-1A getting into the act.

Egress and electrical specialists were unable to duplicate the canopy discrepancy or find a cause . . . but the drag chute people did find the drag chute cam bungee all the way up which means the pilot pulled the T-handle on into the jettison position.

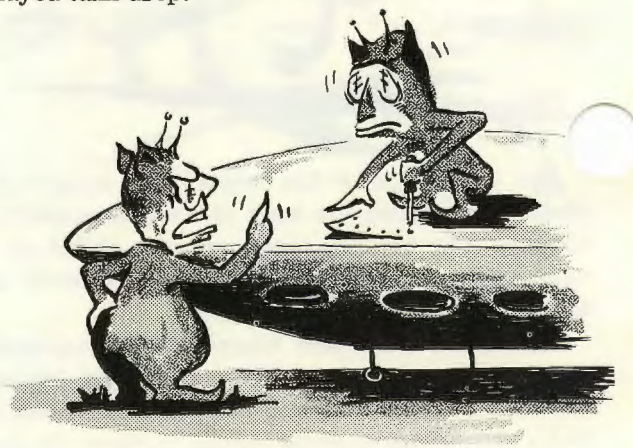
Usually, two things conspire to dump a chute this way. Poor handle pulling technique and poor preventative maintenance on the chute linkage. I can sit here at this cluttered desk and holler about grabbing the handle palm up and caution not to yank too briskly . . . but if you've gotten into the habit of grabbing the handle palm down, odds are you'll grab it that way when the chips are also down. Odds are also in favor of you yanking it much harder than usual. That puts the bee on maintenance to make sure worn cams and other bits and pieces are replaced before they get too worn.

Incidentally, this abort looks to me like it'd make excellent material for a hot discussion around the ready room. Consider the potential involved . . . he had a wingman who could have been seduced into a rather grim situation as a result of the unexpected abort . . . the abort cost a set of tanks and other garbage that, in itself is not important. What is important is that full tanks have made some aborts very nasty because they came bounding along behind the aircraft to treat it like the piece de' resistance' at Antoines. Blown tires are another common by product of high speed aborts and usually induce fractured gear and other unpleasantries. On the other hand, continuing the takeoff offers some unique hazards. The canopy might inflict serious damage to the bird or to the wingman's bird (not very probable). There is also a possibility that he might not lose it at all.

Frankly, having a press-on attitude, I favor taking my chances with the canopy. But the whole point of this discussion is that you must have your decision made before it happens to you. You do not have ti to weigh the pro and con of such things during takeo but must act almost instinctively and fast. Other than getting trapped by the worn drag chute mechanism - or at least I assume it was worn - this troop had his abort procedure down cold and did a fine job. Had he vacillated, the ending would have been anything but happy.

AS THE F-105 broke ground it started to vibrate . . . figuring he had one with a short fuse, the pilot wasted little time heading on around the pattern. Downwind was over the bay, so he tried to punch off the tanks. However, they failed to go until shortly after touchdown. Since both split open and caught fire, this made for a spectacular, tho safe, arrival.

The ground crew forgot to fasten the oxygen filler door and it flopped in the breeze to cause the vibration. Corrosion froze the pylon guns, causing the delayed tank drop.



Thumb thru any stack of incident reports and you'll find at least one telling of a loose or lost panel. Yeah, someone didn't fasten it and someone else failed to catch it on their trip between tire and tail wheel. In fact, even the high-priced maintenance types are not immune. I saw where the F-111 lost a panel on one of its early flights . . . and along this same line, the RB-70 gobbled up a screw driver on its first flight. Someone left it in the intake. Proof that no one ever reaches the point where they can afford to slide thru an operation - no matter how simple it is. In fact, the old heads have to guard against this even more than the younger fellows. That goes for us airplane drivers, too. When's the last time you skipped an item on your cockpit check . . . or came away fro the weather counter with only a hazy idea as to wh weather was expected to be at airfields you'd overfly?

ALL EFFORTS to extend the nose gear failed. After burning out excess fuel (all but 200 to 300 pounds remaining) the pilot brought his F-105 in for a firm landing, hoping to bounce the gear down. It didn't budge.

He deployed the chute and lowered the nose to within a foot of the runway and held this attitude until he ran out of aft stick. The nose touched about 2500 feet down the runway and he used no brakes, stop-cocked and turned off the battery as the bird came to a halt at the 5000 foot point. It took 88 man-hours to repair the damage.

The runway wasn't foamed . . . which is the current trend for handling emergencies where there is little danger of fuel spill. The foam, altho good for suppressing fire, does not reduce abrasion damage and makes a nasty mess to clean up.

Oh, the expended case compartment access door hadn't been fastened and an empty 20mm case jammed the gear mechanism.

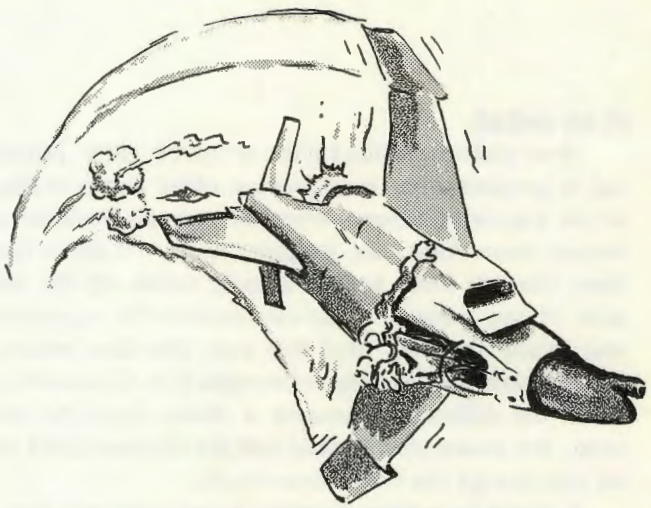
Two small items . . . I'm not sure I'd trust the fuel gage as far as this troop unless my unit regularly checked the gages by actually flaming out the engine on each bird. Also, I wouldn't deliberately land hard in an effort to shake the gear down since it is too easy to misjudge and do damage. If you can't coax it down with G forces in flight, you ain't going to hack it with 'em on a landing . . . at least I've never heard of anyone succeeding. Regardless, this was a well planned, well executed emergency landing and is worth keeping in mind.

"MY TARGET was at 7000 feet and I was at six with about 370 knots. I lit the burners and pulled the nose up and to the right in a sort of wingover to get in position for my simulated attack. Climbing thru 9000 feet in a 15 degree nose high attitude and a 70 degree right bank at about 250 knots and 4 Gs, I felt the nose yaw and wings rock, indicating a high speed stall. Up to this point I had kept my attention focused on getting into position on the target aircraft.

"I checked the cockpit, released back pressure and stopped the stall. The nose continued thru the horizon. At this time I had about 200 knots at 7000 feet and let the nose continue down to 30 degrees below the horizon and accelerated to 250 knots. At about 5500 feet I fed in back stick, but the bird entered a progressive stall and spin. The nose yawed sharply left and the aircraft rolled to the right and entered the cloud deck at about 5000 feet. I again released all stick force and the aircraft seemed to stabilize about 30 degrees right wing down, 70 degrees nose down with about 200 knots. We broke thru the cloud layer at 3500 feet at this speed and attitude . . ."

The ejections were both successful.

This one's a real head scratcher. The bird was a Navy F-4 and it's hard for me to believe that this lad could go thru this particular maneuver in burner, with speeds this low unless he takes the prize for heavy-handed flying. Even if he unconsciously came out of burner, I read bank-and-yank between each line.



I've never been impressed with the bank and yank artists . . . all that stick churning may look aggressive and hot, but it is guaranteed to kill off speed and keep the hot one from being first to the fight. Which, I strongly suspect, may be the true motive behind many such displays. Like a dog that puts up a big growling, snarling front but somehow never fights.

My dough is on the smooth ones, the guys who make flying look easy.

SOME YEARS BACK a right sharp light plane pilot showed me a trick I've been using to figure reciprocal headings. Add 200 and subtract 20 to find the reciprocal of headings less than 180, and subtract 200 and add 20 degrees to get the recip of those greater than 180.

The light plane drivers, with their less sophisticated nav equipment, use a similar system to find headings. If they plan to turn 90 degrees to the right, they add 100 and subtract ten to find the heading they should roll out on . . . or subtract 300 and add 30 above 270.

Just goes to show you, you can learn something from everyone.

TAC TIPS

PLAN AHEAD

Down at MacDill, the 836th SAFETY TIPS points out a problem that may exist at other bases having crash rescue choppers. When an aircraft in distress comes down final, the chopper pilot - if there has been time to alert him - usually orbits off the left side of the runway so he can monitor the approach and follow the sick bird to a halt. For this reason, chase pilots should keep to the right if at all possible. When the difficulty demands a chase from the left side, the chase pilot should tell the chopper pilot so he can change his orbit accordingly.

It would be a dirty shame to have chase and chopper slam together while both are concentrating on helping someone else cope with a problem . . . a little planning can insure safety.

TILT

A C-119 crew was making a combination GCA and ILS when a blinding flash jarred the aircraft and lit up the nose section. At the same time the GCA controller quit talking and the off flag dropped on the ILS . . . a lighting strike that had also knocked out GCA's communications equipment.

The crew thought they'd hit something, made a missed approach and headed out to sea away from the mountains. After making certain nothing was damaged, they recovered safely at another airfield.

WATER INJECTION

A T-bird pilot ran into very heavy rain at 25,000 feet while letting down in the wake of a tropical storm. The rain was so heavy the engine gave a couple of small surges followed, at 18,000 feet, by a rapid rpm decrease from 92 per cent to 50 per cent!

Tailpipe temp rose, but stayed in limits. Power returned to normal, and the malfunction could not be duplicated during subsequent ground checks. Cause was attributed to the heavy rain.

POOF!

The INTERCEPTOR reported an F-106 rapid decompression at 51,000 feet. Of interest, both pilots were unhurt, tho one reported some symptoms of hypoxia. The report did not indicate whether the crew was wearing pressure suits, but we assume they were not.

GOODBYE!

The troop in the aft cockpit realized the electrical system failed, but didn't know the extent of the problem. He checked all circuit breakers and looked forward to the pilot who gave a thumb-up hand sign to indicate everything was under control.

From the aft seat it looked like his thumb-up fist was hitting the top of the canopy. The aft troop made a thumb-up signal that included thrusting his hand up toward the canopy so the troop up front repeated his signal and nodded his head.

Next thing he knew, the aft troop was assuming the position. FTOOM! The ejection was a success.

MINUS READING

While checking out an F-4 flameout, mechanics found the fuel boost pressure moved counter clockwise past zero to 48 psi when they duplicated the malfunction . . . a closed main fuel valve due to a faulty throttle micro switch.

This could be very confusing, since one would expect a zero reading under such circumstances.

COCKED NOSE GEAR

A T-birdman from another command found himself with a nose gear cocked 45 degrees to the right. All efforts to straighten it failed, so he landed on the left edge of the runway and maintained directional control with brake until the left brake faded at about 25 knots.

However, he got the bird stopped safely ten fe from the right edge of the runway.

)SE IN THE AIR

An F-100 had compressor stalls and flamed out climbing through 47M on a test hop. At 37M an air-start was accomplished. The flameout cause is undetermined, but the compressor stalls most likely resulted from a very nose high attitude induced by an erroneously high airspeed indicator.

TAXIING WAS ROUGH

A pilot from another command landed his Blue Canoe but was unable to taxi. First touchdown was on the prop tips and tail skid. He got airborne for a little over 300 feet and then touched down on the main gear doors, partially extended main gear and propellers in that order.

One of the board recommendations is that the operating procedures be changed to check the landing gear horn before and after extending the gear. Along this line, some pilots of other aircraft habitually silence the warning horn any time it comes on - even when they reduce power in the traffic pattern! The hazard is obvious.

DUCK THE DEBRIS

An F-4 aircraft commander fired an AIM-9 and atched it hit the HVAR before starting his right break. After turning 90 degrees he heard a bump and saw a scratch on his canopy just aft of the windscreen . . . debris. They had to change the canopy.

No point risking collision with debris, so make a climbing break immediately after you fire. Also, keep your wingman in mind.

WHERE DID ALL THE GOOD GUYS GO?

Almost without exception, accident briefings contain a testimonial for the person involved. "One of the best in the squadron", "Top-Notch man", and "The last I'd have expected to do such a thing" are a few of the most used phrases.

This repetition caused me to wonder:

What happened to the guys we used to race on Saturday night, out on the pike? Where did they go?

Where are those brave souls who used to tour the town with us, enjoying the local sights. As I remember, they saw everything but the road, pedestrians, and such. Wonder where they are now?

And what became of those fellows who could stay out all night, driving the local trails and highways. I often wondered how they stayed awake. I wonder what became of them?

And there are others I wonder about. The lads who could drink with gusto, and still drive; the no-license guys who lived on brave pills; the self-styled mechanics, who always put their wheels together--almost.

The fate of these "Good Guys" worried me, so I investigated, and now I know.

Where did all the good guys go?

To the graveyard, one by one!

EMERGENCY PROCEDURES

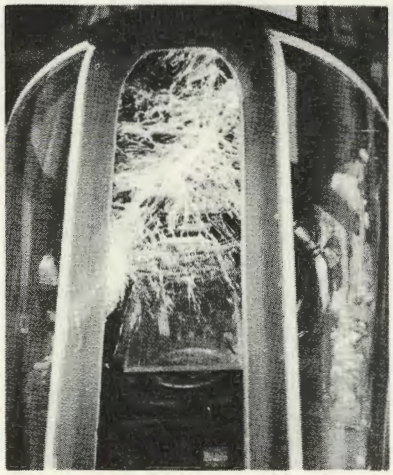
To the typical passenger who catches a ride in a non-plush transport, the emergency procedures briefing usually goes in one ear and out the other. Captain Victor A. Janega of the 4500ABW has suggested a small placard covering emergency actions be placed at each position in the aircraft. Sounds like a good idea that could keep an emergency landing from becoming a panic. It's ideas like this that save lives . . . keep them coming.

PHANTOM PHLAT

Immediately after he made a normal landing, an F-4 pilot felt his aircraft vibrate excessively and heard his wingman warn of a left tire failure. He deployed the drag chute and corrected a left swerve using nose gear steering. He stopped the aircraft on the runway.

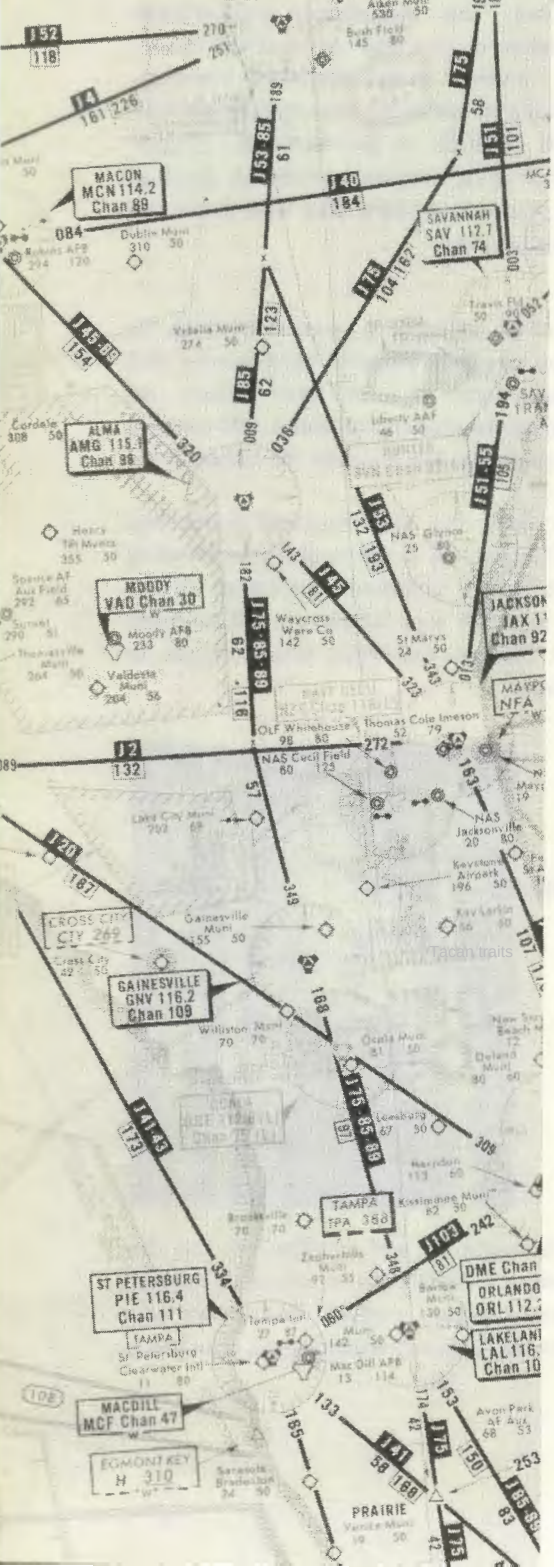
The wingman said the tire smoked about two seconds before it failed, as if the brake was keeping the wheel from turning. However, the wheel turned freely after the aircraft was jacked up and maintenance men could find no anti-skid malfunctions or other discrepancies.

THE DART KILLER



Not much of an angle off and a little low, but I'm tracking good. Press a little closer, come on pipper back up where you belong . . . ouch! "Hey, dart tow three's off and the dart hit my windscreen, I'm going home."

TACAN TRAITS



Even though TACAN has been around for some time, many pilots are still skeptical about its usefulness. This mistrust, in many cases, stems from equipment malfunctions, misunderstood characteristics and unrealized limitations. The maintenance people are doing a great deal to improve reliability and eliminate the mechanical problems . . . so perhaps, if we review some of TACAN's idiosyncrasies it will reduce some of your misgivings.

You get your first clue as to whether your equipment is operational thru the TACAN identifier. The ground station transmits it every 37 seconds as part of the DME and azimuth signals. Your aircraft receiver picks up these signals and puts them into an audible ID tone, but beware of two stations on the same frequency when both are in receiving distance. This will give you co-channel interference and normally occurs only at high altitudes. It can give you any combination of DME, azimuth, or ID from either or both stations and about the only cure is to re-channelize when you are closer in. You get a similar problem, adjacent channel interference, when a TACAN station drifts a little off its correct frequency and clutters up the next numbered channel. The azimuth and ID will be unreliable while the DME will be from the station you've selected. Incidentally the identifier of USAF TACANs a discontinued while maintenance i being performed.

TACAN is a line-of-sight transmission and to receive accurate and constant information there must not be any interruptions between the transmitting antenna and the receiving antenna. Anything from your wingman's rocket pod to a chimney sweep's broom can interfere with the signal. So you can expect TACAN to break lock more often when flying at low altitudes and long distances from the station. Here, line-of-sight angles are low and the probability of obstruction great. Sometimes a change in altitude, attitude or alignment will get you out from behind the screen and restore the lock on. A memory circuit reduces the number of unlocks you see on the instruments by holding the last usable azimuth signal for thre seconds and DME for ten seconds. The ten seconds will normally get you through the maximum 20 degree DME cone-of-confusion during station passage without loss of lock-on. However, the azimuth cone-of-confusion can be up to 110 degrees which makes directional information almost non-available over the station. This is why DME is primary for station passage. The readout on your instruments from the memory circuit alone is not accurate, because the TACAN set is in a search condition. In most cases when the DME locks on again it will jump from a memory to a correct reading, which explains those sudden distance jumps it sometimes gives you.

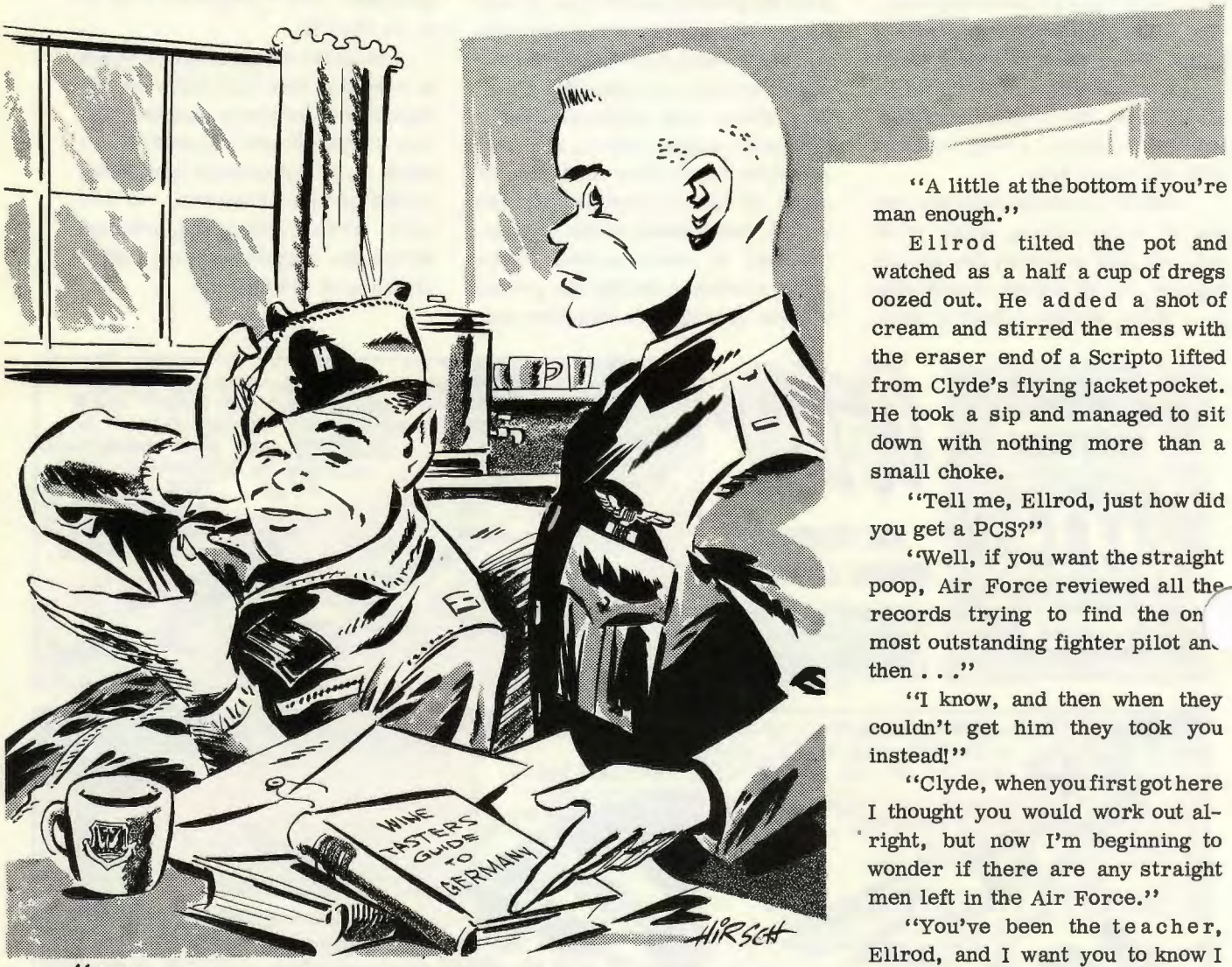
If you don't get a lock on after a channel change, try retuning beyond the desired channel, then back to it. The crystals that make up your 126 usable channels ar imbedded in a drum which rotate when you change channels. A wiper

m contacts these crystals and e search cycle begins. This arrangement is vaguely like the drum in a music box and the wrong channels come up just like the wrong notes when wear and tear loosens things up. Sometimes this recycling gets the proper crystals lined up or makes a better contact with the wiper arm.

Another common problem you can do something about is an azimuth lock-on error that always happens in 40 degree increments . . . which makes it easy to spot. Briefly, your aircraft receiver locks on and fine tunes to the wrong 40 degree group of signals. Each TACAN ground station has an antenna that rotates 360 degrees and spaced around it at 40 degree increments are nine smaller antennae. These nine antennae put out the same signal pattern and your receiver first locks on to one of these 40 degree increments, then it fine tunes itself within this increment by using another cycle pattern transmitted by the ground station. During this situation your DME is valid and usually all you have to do to correct the azimuth lock-on is retune the channel. However, don't forget to write it up in the 781.

I think we all agree that TACAN is a mighty fine NAVAID when it's functioning properly and the best way I know to get reliable equipment is by accurately squawking malfunctions. However, as you have already surmised, accurate write-ups depend on your understanding of the system.

INCLINATION TO DOUBT



"Where all the crews are women and they . . ."

"Sockroller!" A bellow from Major Hardnose's office cut Ellrod's singing short. "Shut up and get in here."

Ellrod stuck his head in to the ops office and smiled, "What seems to be your problem, Maj?"

"Look, Clodroller, you may be going PCS, but you work for me until you sign out and don't forget it. I have your replacement's folder . . . what do you know about a guy named Sideslip?"

"Boss, the old Slipper and I have partied and flown together from Apple Valley to Athens. He's a good troop."

"About all this squadron needs is one of your old buddies and we'll get the Lenin Peace Prize instead of a fly safe plaque. I guess I just wasn't meant to have an easy life."

"I'll leave now sir, it hurts to see you cry."

As he strolled into the pilots' lounge, Ellrod wore a smile. "Any coffee left, Clyde?"

"A little at the bottom if you're man enough."

Ellrod tilted the pot and watched as a half a cup of dregs oozed out. He added a shot of cream and stirred the mess with the eraser end of a Scripto lifted from Clyde's flying jacket pocket. He took a sip and managed to sit down with nothing more than a small choke.

"Tell me, Ellrod, just how did you get a PCS?"

"Well, if you want the straight poop, Air Force reviewed all the records trying to find the on most outstanding fighter pilot an then . . ."

"I know, and then when they couldn't get him they took you instead!"

"Clyde, when you first got here I thought you would work out alright, but now I'm beginning to wonder if there are any straight men left in the Air Force."

"You've been the teacher, Ellrod, and I want you to know I appreciate almost everything you ever taught me."

"What do you mean almost?"

"Well, that DF steer I had to get after following your advice on navigation was a little embarrassing."

"Can I help it if you sharpened your 100 nautical mile pencil?" Ellrod rose and poured what was left of his coffee down the drain. "Boy that stuff is good . . . reminds me, I have to get the o changed in my car. You know Clyde, you have come a long way.

'hen you first came into the quadron you were just a beginner and now you're a fully qualified member of the first team. But there is one thing I want you to remember even if you forget everything else I've ever said . . . always be a skeptic."

"A skeptic?"

"That's right. When you became a combat ready TAC crew, you assumed the responsibilities of professionalism and discarded the notion that it was not yours to wonder why, but only yours to do or die. Skepticism . . . the inclination to doubt . . . is as much a part of the professional as blind obedience is of the amateur."

"I don't know about that, Ellrod. This is still a military organization and orders are orders whether they are in the form of a procedures manual or a 'hecklist. How can a skeptic fit to this picture?"

Ellrod eased into his best soapbox posture . . . feet propped up, zippers half undone . . . and focused on infinity. "Clyde, you often hear that necessity is the mother of invention . . . well, skepticism is surely the father! Unless someone is skeptical enough to question the status quo, skeptical enough to think that maybe there is a better way to do things, there isn't any progress or improvement. I think it was Edison who said, 'There is a way to do it better. Find it!' and this is the attitude every professional aircrewman must have. But there is a very fine line for us to tread . . . a line between skepticism and cynicism."

"I think you just ismed me there, Ellrod. How about getting down from cloud nine and talking so I can understand?"

"OK, look at it this way. We get procedures manuals and tech orders daily, and then we get changes, and then changes to the changes. All of this guidance comes from somewhere . . . some from experts who have practical experience, some from theorists, and finally some come from people like us. In any case, this everchanging way of doing things is the result of someone's skepticism. Somebody found a way to do it better."

"That sounds fine, but where does old green sixteen fit in?"

"Green sixteen, or to be more reasonable, squadron level pilots and crewmembers know more about the specifics of their bird and their mission than anyone else. They may not always have the big picture, but remember the reverse is just as true. The troops up the chain a way don't always have the little picture. We are the fountain of information and ideas. Here's where this skeptic jazz fits . . . if we sit here and blindly accept everything as if it were the absolute, unimprovable end, then we aren't doing our jobs."

"Now Ellrod, I haven't been around very long, but I know enough to follow the checklist and the dash one. The boss has made that clear enough to me."

"You're accusing me of bad things, Clyde. I'm not suggesting for a minute that we simply flush the rules and operate however it happens to suit us. I've been a Captain too long already! As professionals we are obligated to follow the rules, but we're also obligated to do everything we can to make the rules, the procedures, the techniques, better. Sure, being at the bottom of the funnel, we get deluged, and it's easy to say 'what the hell, I can't do anything about it anyway.' If we use our heads we can turn that funnel upside down. If we maintain an attitude of healthy skepticism we can find the better ways and then scream loud and strong until they get written as the law."

"It's a long hard way to do things tho', isn't it?"

"Not as hard as it was before the form 847! I'm convinced if every aircrew in TAC realized how important his opinions can be, we would all be better off. Well, I've got to press on and clear the base . . . you know how it is, about 40 stops to get the squares initialed."

Clyde nodded his agreement, "You know, there ought to be a better way to do that."

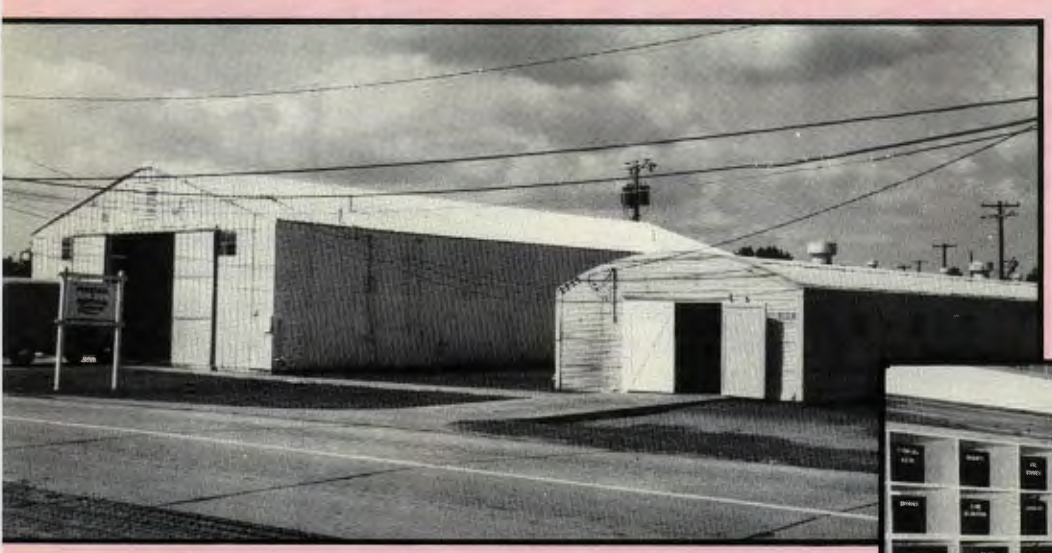
"Now you're catching on, Clyde . . ." >

TAC SAFETY CONFERENCE

The TAC Safety Conference is now firmed up . . . 13 - 15 April 1965. The theme of the conference, and indeed the theme for TAC safety efforts for the future, is "The mission . . . safely."

The challenge facing TAC today is to increase our ability to perform the mission. Every accident and injury is a direct reduction in capability, and a prime purpose of the conference is to find ways to eliminate wasted striking power.

The safety conference provides a chance for those who believe they know a better way to do the job to air their views. Pass your ideas along to your safety officer.



Plain and simple on the outside... a place for everything and everything in its place on the inside.

THE PERSONAL TOUCH

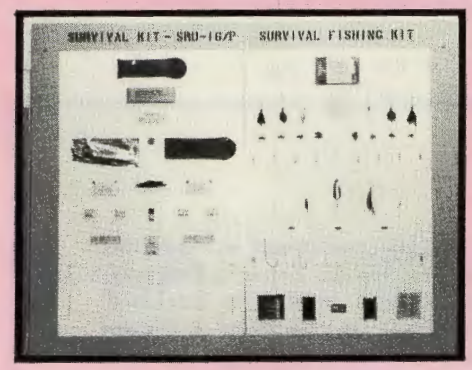
By - Major John D. Beers
834AD Office of Safety
England AFB, La.

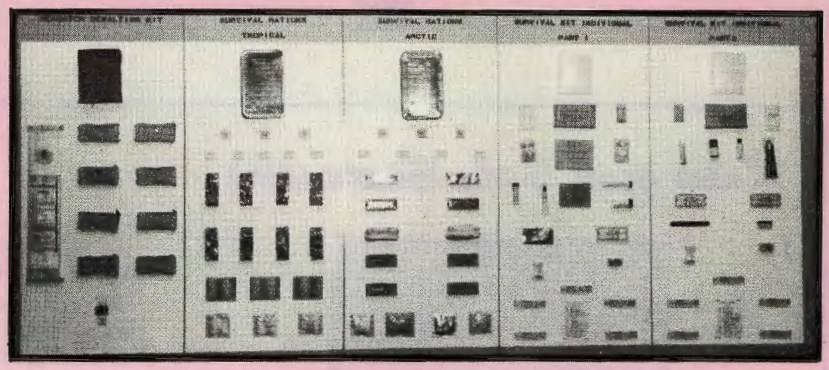
The neat work area leads to higher quality... the end product, professionalism.

WORKING PRIMARILY on a self-help basis with nothing more than brushes, paint, imagination, professional pride and esprit de corps, the men in the personal equipment section at England AFB transformed their facility into an efficient plant that has earned them a reputation for having the best PE shop in TAC. With the same energy and enthusiasm, they also transformed the adjoining building into a survival and personal equipment training classroom for aircrews and personnel on mobility status.

The efficiency and good management of the section are immediately apparent as you walk into the large tin structure. Everything is clean and orderly, a mannequin clothed in the proper equipment of the fighter pilot catches you attention. Beyond the mannequi are rows of helmets for base flight

The Gourmet's Counter, a valuable way to learn about poisonous and non-poisonous reptiles.



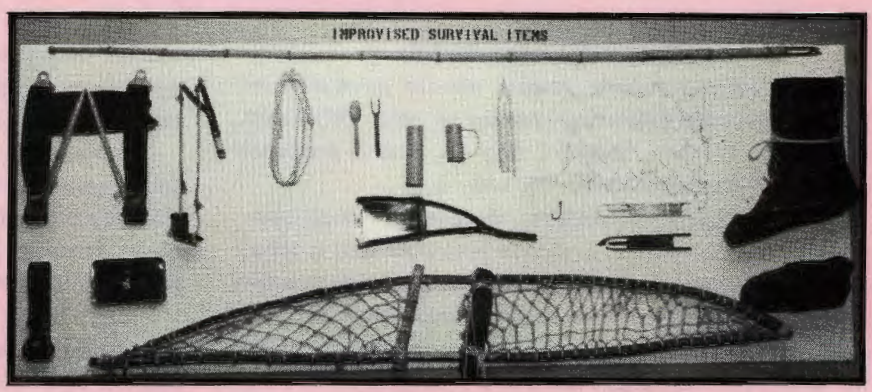


Display boards lay out the items in survival kits so pilots will know what they can plan on using in a survival situation.

personnel and the workbench containing spare parts and test equipment for oxygen masks and helmets. Parachutes for crews flying support aircraft are hung on racks to the right. Thru a door in the partition you note the survival kit section. On the left is the kit packing table. Bins behind the table contain items for the kit. Items packed in the kit are displayed on the opposite wall. The inspection date for each kit is maintained on a chart that hangs on the side wall. Across the aisle from the work table are the mobile bins for storing MD-1 kits that have been repacked or are awaiting repack. Continuing through a door into the next partitioned area you come to the flotation section. Again cleanliness and orderliness mark good housekeeping and management. Mobility boxes containing TDY personal equipment are stored in the back room ready for the next unit deployment.

Imagination, initiative and good management are again apparent as you enter the survival and personal equipment training classroom established in the small building alongside the main PE facility. Interesting and eye catching displays are located along each wall, such as the reptile display, boards showing improvised survival items and various kits and components. Aircrew members and personnel holding mobility positions are all given a classroom presentation on survival before they receive practical experience with exposure suits, and flotation gear in the base swimming pool.

Here at England, we're proud of our PE shop and proud of their program. Under the able leadership of Technical Sergeant Elbery P. Lormand they have used their initiative to set an example for others to follow.



Improvised survival equipment... what you can do with what you have.

SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators

TSGT HAROLD G. CURRY
C-119 LOADMASTER EVALUATOR

TSgt Curry was born and raised in Frederick, Maryland. He entered the Air Force in February, 1951 and received basic training at Lackland AFB, Texas. Sgt Curry was stationed at Ellmendorf AFB, Alaska, working in air freight and passenger service for two years. Returning to the United States in September 1953 he was assigned to the 3rd Aerial Port Squadron at Pope AFB, N.C., where he cross-trained into the loadmaster field. While at Pope AFB, N.C., he worked with the test board at Fort Bragg and later was assigned as flight examiner with the 3rd Aerial Port Squadron. In January 1962, he was assigned to the 4452nd SES at Waco, Texas, and in August 1962, transferred to Langley AFB, Va., and his present assignment in SEG as a C-119 Loadmaster Evaluator. Sgt Curry and his wife Aumalou are the parents of two, son Steven and daughter Elaine.

AIR REFUELING MANUAL

Most of you fighter people should have bumped into the new air refueling manual by now. Officially, it is TO 1-1C-1, dated 1 Sep 64, and it replaces SAC/TAC Manuals 55-9, -15 and -6.

A joint SAC/TAC effort, the new TO is an integrated manual under a single manager and it takes over where your dash one leaves off. If the new manual conflicts with your dash one or some other pub, the new manual takes precedence and you should send in an AF Form 847 to get the other changed.

Those of you who work with operations plans should be sure to incorporate procedures from the new manual into any new or revised plans, since it is the latest thinking on the refueling business.

The new TO consists of a basic manual that contains general information that applies to all users. Chapter Two is especially important to fighter pilots since it deals with fighter refueling procedures and planning factors.

Augmenting the basic book, are 14 supplements that contain specific procedures for various tanker/fighter combinations and detailed information on th individual aircraft refueling system, along with crew-

ember duties and so on. All procedures are mandatory.

The TO is not automatically distributed, and TAC units having a requirement must order them thru their TO distribution officer.

Essentially, an F-100 pilot should have the basic TO plus Appendix X, or TO 1-1C-1-10. For reference, his squadron should have an appendix for the KC-135 (TO 1-1C-1-3). On the other hand, KC-97 crew members should have the basic manual, and the KC-97 appendix while their squadron should have reference appendices for each receiver aircraft.

If you have some comments on the new manual, please make them on AF Forms 847 and send 'em forward. If they are valid, they'll be incorporated into the next manual change. Remember, the manual will only be as good as you make it.

A MEDIEVAL HISTORY FABLE

Once upon a time, long, long ago in a great land not unlike this one, there lived a mighty ruler whose crest was a winged sword affixed on a shield of red and blue. Although this ruler had many brave warriors sworn to his allegiance, giving him awesome power, he was discontent. Far too many things were going wrong as the soldiers went through their daily battle preparations. Horses were throwing their shoes during mock charges because grooms were not properly inspecting for loose nails; foot soldiers were being mowed down by archer's arrows because hey weren't holding their shields at the proper angle to protect themselves; several men had accidentally stricken their comrades through careless misuse of

the short sword, the mace and the hand axe in close combat drill. Something had to be done, so the great ruler sent couriers throughout his vast empire to select from the most skilled of his knights a group which would come together in his castle to decide the best ways to employ all the weapons of the kingdom. The giant juggernaut; the great catapult which could heave cauldrons of boiling oil; the lesser catapults which threw the piercing balls of Greek fire; the mighty battering-ram; the highly secret swamp stomper were only as effective as the men who manned them. It came to pass after much discussion; arguing and arm wrestling, that a general agreement was arrived at, based on the experience of the selected knights (as bolstered by the answers to queries sent far and wide throughout the kingdom), on how to properly use the tools of their profession. Great proclamations were issued outlining procedures, tactics and techniques for using the greatest to the least weapons of the kingdom. At first this caused a great gnashing of teeth and clenching of fist throughout the corps, for each man had his own idea on how best to use his weapon and each commander had strong ideas on how to use his men. But the great ruler had made up his mind and was too powerful to be denied. Oh, there were some who dallied, who drug their sandals and quibbled that their way was better, but the wise great ruler said, "If your way be better, then let us hear about it. Write of it on a Form DCCCXLVII and send it in by fastest courier."

After much time had passed without receiving a single Form DCCCXLVII, the great ruler decided his men must have become proficient in the new ways of the land, so he dispatched special scouts, under the sign of the orange pumpkin, to travel far and wide and report to him on the progress of his warriors. Imagine his surprise when he learned that some were still following the old ways. These men and their commanders were invited to the big castle to tread the hot coals before the round table while they explained their dalliance. Some who did not have good explanations were sent to the scullery to serve as cooks and bakers while some were admonished to "Get with ye olde programme."

And it came to pass that after much trial and error and submitting of Forms DCCCXLVII that the

warriors wearing the crest of the winged sword on the shield of red and blue came into favor because of their great skill and versatility. So much so in fact, that they almost totally eclipsed their brother warriors of the lightning bolt in the mailed fist.

MORAL: If you don't like something in the programme, then you'd better send in a Form DCCCXLVII to change it or you may find yourself treading the hot coals before the round table in the great castle for not getting with it.

TOM BLAKE, Astronomer
Scribe to the Great Ruler

APOLOGIES

Last month we inadvertently credited Major Zumhingst with the article on professionalism when credit belonged to Captain Richard C. Baguley, former 434SEF, presently SEF Commander 908TCG at Brookley. Sorry 'bout that Dick. Incidentally, we're saving space for your next effort.

Blue Canoe

- By Capt Stephan F. Squires, TAC Office of Safety

Technically I am known as the U-3. I come in two models, A and B. and am usually called "The Blue Canoe." I'm not sure whether this is an affectionate name or if someone is making fun of my size and simplicity. Not that I mind. Believe me, I have been called a lot worse. Since 1957 my sisters and I have flown over 626,674 hours for the Air Force with more than 610,305 landings. We have flown 24,709 hours for TAC. After all of these hours, the records show we have had 35 accidents that killed over eight people. Seven of my sisters have been destroyed. Considering what we have had to put up with, this is a cotton pickin' good average.

Enough history, now let's get down to what I'm really poppin' my rivets about. My gripe is; why don't you throttle benders treat me with as much respect as you do those new transport and century series fighters? I have my place in this man's Air Force too, you know!

All of my good points and weaknesses are published in the dash one. However, it seems that my good nature and simplicity lulls some into complacency. I just want to remind these clowns that I have my limitations!

You can throw a few parachutes and other extra equipment into some of my larger cousins and it doesn't make a great deal of difference but I am just not built that way. Take five high calorie jokers and enough baggage for a week-end RON, add a full fuel load and I get a bad case of "over-grossitus." Altho I can climb on one engine at over 100 FPM with gear and flaps down at my max gross weight on a standard day, overgrossed I just can't hack it. Even though I only carry small loads, I would like to see one o your fancy new jets or cargo aircraft make a shor hop as economically, or land as short.

My ability depends on people, without people I couldn't do my job. This means people behind the scenes. I'll never forget the transient maintenance troop who filled my auxiliary tanks with JP-4. We took off on main and after an hour the pilot changed to auxiliary. Did I get sick! I changed from blue to green, but thru supreme effort I got the boys to an airport.

We are a team, you and I. I have made a few goofs . . . seven to be exact, but you are 'way ahead of me. Take a look at the last six years . . . inadequate flight preparation; incorrect operation of aircraft systems; poor ground operating techniques; poor technique in flight; poor technique in the pattern and lack of supervision caused the other 22 accidents.

Even if I do say so myself, I am a pretty slick chick with swept back tail, leather seats and carpets on the floor. Most people rest their feet on the carpet, but some yokels step on the fuel selector valves between my two front seats. These must be in detent for me to get fuel or it can cramp my style. Just remember, that when you go with me, you're going first class and it's a heck-of-a-lot safer than drivin . . . 'long as you treat me first class.

ENROUTE PENETRATIONS

Enroute penetrations have just about made the old teardrop penetration go the way of the bustle. In fact, the commands are working on a SAC sponsored project to get rid of all the extra letdowns in both high and low altitude approach books. As I see it, the idea is to use enroute letdowns and penetrations as the primary recovery system and the teardrop or TACAN straight-in (they hope to get rid of most of the TACAN around-the-May-pole song and dance routines) as secondary recovery and for use when communications have been lost. An intelligent approach to the problem. Those of us who regularly use enroute penetrations have found only one small problem . . . each center seems to have slightly different ideas on where you should start your penetration. This can create a fuel sweat if you don't play your letdown to fit the distance they give you, or you may end up making box patterns trying to kill off excess altitude.

The cure is simple. Figure out a letdown point that is compatible with your aircraft and then advise the center controller some minutes beforehand that you wish to start penetrating at a given time or position.

For the past year and a half I've been experimenting with crutches for figuring the optimum letdown point for the bird I fly. I prefer a clean descent because I get a little more range out of the bird. At first, I divided my altitude by the average descent rate and asked the centers to start my penetrations on time from station based on this. It was OK as long as the wind was 75 knots or less and provided I used a fudge factor. The truth is, you can't maintain a uniform rate of descent without changing speed or power and I had to find a distance for each altitude.

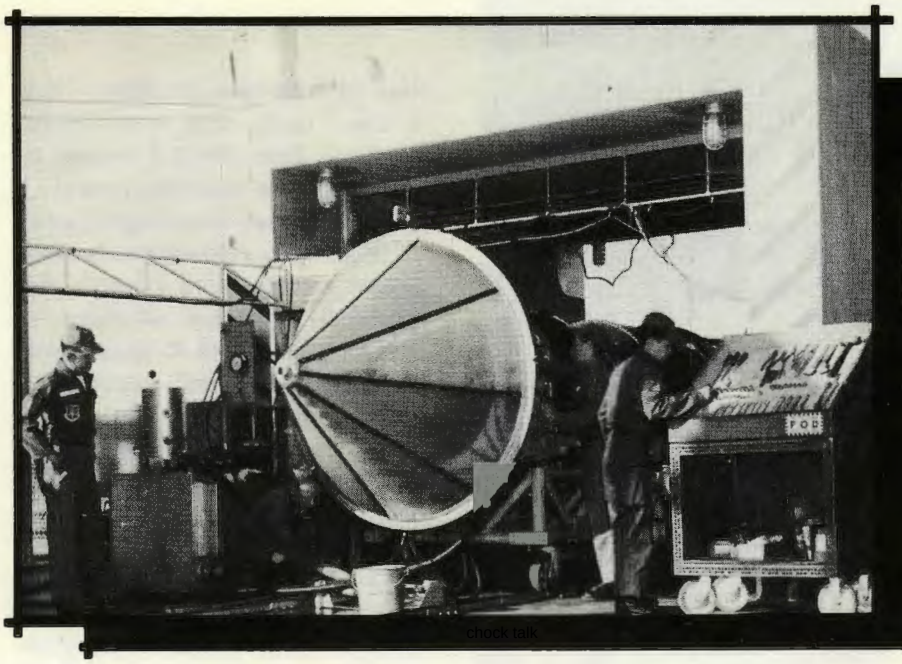
Next I experimented with a system based on distance instead of time. This one works. With the bird I fly, I multiply my altitude in thousands times three and - if wind is less than 50 knots - ask to start down that many miles from the field itself if coming in 90 degrees to the duty runway. I add five miles if coming straight in. Wind below 20M usually doesn't bother too much so I juggle my approach at higher altitudes to cross 20,000, 60 to 65 miles from the field at normal penetration speed.

Lately, I've been applying a wind correction distance . . . subtract 20M from flight altitude and multiply by wind velocity in hundreds. With a 100 knot tail wind at 40M, I start descent 20 miles further out. I've found this system superbly accurate, particularly since I make corrections as the letdown progresses in order to reach 20,000 at 60-65 miles, or failing that, to reach 10,000 feet at 30 to 35 miles on normal penetration speed. In this manner I compensate for being held too long at altitude or being let down early.

I use power to slow my descents and higher than standard airspeed to increase them until approaching 10,000 feet. Below 10,000 feet I either use speed brakes or reduce power to increase a descent.

I obtain distance info off the destination TACAN, or when not available, off the last station enroute or a station beyond destination. When my TACAN refuses to lock-on, I ask the center for distance out at start of the penetration and at one of the key altitudes.

With a little experimenting you can come up with a system of your own that is compatible with your aircraft and way of doing business. Then, instead of having to guess and mess around, you can call the shots and make a seemingly effortless recovery every time.



CHOCK TALK

cooked

An F-105 crew chief inadvertently left panels FF-43 and FF-107 open during a cartridge start. Both are in line with the starter exhaust, and had to be replaced.

gas pains

Shortly after takeoff a U3A crew switched from the main to the auxiliary fuel tanks. Within minutes, both engines were sick . . . oil and cylinder head temp were over the red line and oil pressure had dropped to 15 psi. After declaring an emergency and switching back to the main tanks, the crew was able to make a safe landing at a nearby airfield. A quick fuel sample told the story . . . JP4 in the aux tanks!

The bird had been serviced at an exercise airfield where things were pretty hectic, but when things are hectic, mistakes are most common. Maintenance supervisors must continually fight the carelessness that causes this kind of problem. However, the actual burden of prevention belongs on the shoulders of the many men who handle fuel from the time it leaves the fuel dump until it is pumped into the aircraft's tank.

bad chute

An F-105 drag chute failed to deploy because the crew chief installed the pilot chute too far forward and it snagged on the spring guide installed by TCTO IF-105-906. As a result, the TO is being held in abeyance with instructions to remove the spring and leave the guide in the aircraft. A snag-free replacement spring will soon be available.

loaded

An armament technician didn't use the checklist when he removed a 20 MM gun from the bird. He wasn't too familiar with the proper procedure and failed to realized the weapon was loaded with live ammo. In the armament shop the NCOIC did not check to insure the gun had been disarmed. Branch chief did not insist on his men using checklists and during maintenance the weapon fired. One man killed and another hurt. Besides not using checklists, everyone who handled this weapon violated THE BASIC RULE for handling weapons . . . to make sure they are unloaded!

t-bird trouble shooter

Staff Sergeant John F. Welsh, of the 15th FMS at MacDill, was annoyed because he had to change aircraft equipment and fuss around in order to check out T-33 fuel counter problems. Unlike some, he decided to do something to correct the situation and soon came up with a portable harness assembly. One part of the dual harness wire is 20 feet long with a press-to-test switch at one end and a two-pin male cannon plug on the other. The other dual wire is 15 feet long with clips at one end and a two-pin female connector at the other.

The harness adapts to the fuel flow transmitter, and is connected to a Volt-Ohm meter. Using it, technicians are able to observe and check the fuel counter indications from either cockpit without having to change aircraft equipment.

During the past six months the section at MacDill trouble-shot and corrected 23 totalizer malfunctions without getting a repeat discrepancy. They can duplicate fuel flow transfer without starting the engine by making and breaking ground (with the switch).

Good show, Sgt Welsh . . . you have the right approach . . . and we're passing this on for other T-bird maintenance sections.

amateur hour

The AIRSCOOP reports an F-105 flight control malfunction that resulted in a wildly gyrating flight was eventually traced to maintenance error. Someone left off the two lower aft section nuts! Airloads during some phases of flight caused the aft section to open which moved the control linkage and led to porpoising. An inch of fuselage separation would give full nose down stab. Whew!

starter explosion

OOAMA reports an F-4 damaged during an attempted cartridge start. The cartridge exploded, cutting fuel lines and starting a fire which was promptly extinguished by the ground crew. The TO limits cartridges to five flights before use and this particular cartridge had flown more than that. Very fortunately, this ground crew was Johnny-on-the-spot with their fire bottle . . . usually these incidents leave little more than a cinder.

the hurrieder you go

When the flight crew shut down their C-130 at Lajes after a long overwater flight, the spinner on number three prop fell off on the ramp . . . the spinner retaining ring was set and safetied in position for spinner removal during post flight. The lock ring was retracted when it should have been expanded to hold the prop nose spinner in place. No telling what damage would have occurred had it come off in flight.

This is no isolated instance. Three other similar C-130 incidents occurred within 45 days, mostly from another command. In one, a failed locking device on the nose spinner retaining nut caused a loose spinner in flight to induce vibrations. The flight crew shut the engine down. In another instance, the upper half of the propeller afterbody assembly came off in flight and damaged the wing, engine cowling and prop cuff. Again the engine had to be shut down. Two anchor bolts were missing, which allowed the afterbody to contact the propeller cuffs, tearing the afterbody loose.

The cuffs were damaged again when the cowling separated from another aircraft during after landing reversing. This time the cause is unknown. The prop was replaced.

All too frequently, the ground crew starts to hurry during the buttoning up operation after they've completed the more difficult part of the maintenance . . . and as old Will the bard once said, "Haste is slow . . . they stumble who run fast."

overtorqued

A broken Marman clamp T-bolt caused an F-4 crew to use 12,000 pounds of fuel in two and one half hours! They were with a tanker on an overwater flight and had to on load over 7000 pounds to make it. The failed clamp was on the external - internal wing fuel transfer line between the flow switch and number one cell. With all the trouble these clamps have caused, we could certainly use stronger clamps . . . meanwhile, F-4 mechanics must be very, very careful when torqueing.

phantom strip

The F-4C has a gear problem, at least those that have the L shaped drag beam bolt pad have a tendency to come unglued. The pad breaks and off comes the bearing surface. This strips the nut and cotter pin right off the drag beam pad bolt. The report we have said the pilot spotted the stripped bolt when he was making his preflight . . . which doesn't speak well of the crew chief's post flight.

Birds with U shaped pads are not affected and we may get the older ones retrofitted. Meanwhile this is an area to watch.

thunderchief murphy

When an MN-1A bomb dispenser was loaded on the centerline pylon, maintenance troops installed the left hand cannon plug backwards. I mean 180 degrees out of phase. This cannon plug has fuel system wiring in it and the Murph popped the fuel system circuit breaker and kept the tanks from feeding.

short life

A forward muzzle clamp locknut on an M-61 gun installed in an F-105 cracked completely thru on the first firing mission after the nut was installed, brand new! The unit recommends these nuts be magnafluxed or otherwise checked prior to installation. This is a very critical item, since a broken nut lets the clamp slip forward and come off. When this happens, it can fall into the engine intake.

phantom oil loss

One of our F-4 units reports three failures of the line leading from the oil tank to the lub and hydraulic pump. The line cracks just aft of the pump inlet brazed flange, possibly because the line is not clamped enough to dampen vibrations.

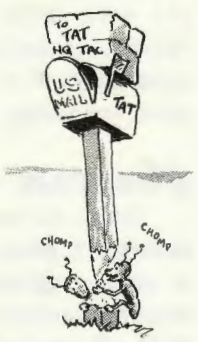
early launch

A loading crew was making a systems check of the left inboard type nine pylon when the AIM-9B on the number three station launched. The umbilical cable was not connected.

The missile hit about 30 feet away, smashed a couple of bicycles and tore up a chain link fenc before falling into the nearby mud flats. One airma received painful burns, another minor cuts and abrasions. Both received temporary ear damage. A third airman got clear with a bruised thigh.

The loading crew was using a checklist; however, they were using it out of sequence and the pylon ground safety switch was defective. Worse, the crew accepted the aircraft as satisfactory even tho major discrepancies existed between required checklist indications and those actually received on the ASM-11 tester.

Letters to the Editor



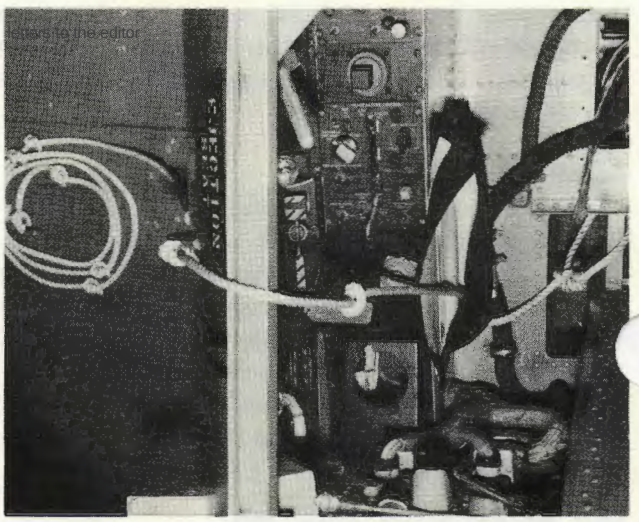
Dear TAT,

Reference your "OUT OUT OUT" article, TAC TIPS section in the December 64 TAC Attack. We are presently in the process of accepting a fleet of "Super Hogs". The maintenance and safety troops of the 108th TFG, "Home of the Air Guard Thunderchiefs," have come up with a "ludicrous" and simple Indian rope trick for our F-105B. Part of the initial hangar work, prior to flight this station, is the installation of a ground emergency escape rope and storage pouch.

The braided 7/16 inch thick nylon rope is secured to the aircraft frame under the ejection seat, and routed clear of the seat and ejection system to a storage pouch on the left lower vertical console. The 18 foot rope knotted every 15 inches stows neatly in the pouch until needed.

Keep up the good work in TAC Attack. Your only competition is Hugh Hefner, and his equipment always has forward C.G. problems.

Maj William Diener Jr
Flying Safety Officer
108th Tac Ftr Group
New Jersey ANG



Dear Bill

Thanx for the swingin' idea, kind words and photos. Speaking of photos, sure wish we could dish out some of those forward type center fold outs - sigh - I'd volunteer for extra duty as photographer!

TAT

Dear TAT

In reference to the December issue of TAC ATTACK, page twenty six, I call your attention to an error that I think should be corrected.

With all due respect to the 363d Tactical Reconnaissance Wing, I would like to inform them that they are not the only Tactical Reconnaissance Wing in these United States. The Air National Guard has three Tactical Reconnaissance Wings: the 127th Tactica Reconnaissance Wing at Detroit with two groups of

F-84F and one group of RB-57s; the 117th Tactical Reconnaissance Wing at Birmingham, Alabama, with four groups of RF-84F; and the 123d Tactical Reconnaissance Wing at Louisville, Kentucky, with three groups of RB-57s.

In fact, it could be possible the Air National Guard has a few more Tactical Reconnaissance aircraft than the 363d Tactical Reconnaissance Wing.

Lt Col Richard E. Reiner
Deputy Commander of Materiel
Michigan ANG

Dear Sir

We got our f stop crossed with our shutter speed and underexposed the ANG. Sorry.

TAT

Dear TAT,

I am somewhat puzzled about paragraph two of the article on Inspect, Schedule and Repair in the Jan ATTACK. You refer to a saving of 82 man hours on each of 500 inspections. This is entirely within the realm of possibility. However, the next statement, "To put it another way, this is an average of 5.6 aircraft days per inspection", does not ring true to me.

The sentence implies a savings of 5.6 aircraft days per inspection. I cannot reconcile the two figures. The 82 man hours saved would indicate, when correlated with the 5.6 aircraft days, a work force of 1.86 men while the aircraft was in work. Surely a larger dock crew was used than this.

If, as I suspect, the 5.6 aircraft days were actually the overall average Periodic Inspection days per aircraft, it should be so indicated.

CMSGT Donald G. Mortimer
Periodic Maint Supr
23d OMS, McConnell AFB, Kan.

Dear Don

The troops in DMEM-P tell me the data is accurate and was taken from actual time and day savings. The article would have been clearer if we'd said, "In addition, the program saved an average of 5.6 aircraft days per inspection." You cannot make an across-the-board comparison between aircraft days saved and man-hours saved because the work force does not stay constant on an inspection . . . it starts out fairly low, builds up, and then tapers off. Also, better working schedules thru the Inspect, Schedule and Repair concepts puts more people working on the bird at a given time than was formerly possible, accounting for most of the apparent conflict.

TAT

Dear TAT,

I ran into a problem the other day that I thought you might pass along so that no one else gets caught. On most IFR flights, ATC clears you part of the way and then "via flight plan route." I always accepted this at face value, but recently found a fly in the normally smooth FAA ointment. I use the high altitude terminal approach charts to plan the last couple of legs of every flight. I pick out a feeder facility that aims me at the letdown I want to use. Frequently, in the light blue print I find hash marks showing that the course from the feeder facility to the letdown fix crosses a restricted area. (JAX to MCF on JAL-418-TACAN-4 for example). But I figured that since someone was kind enough to give me the heading and distance I ought to use it.

One day I copied the usual flight plan route and launched. About 50 out of the feeder fix, the UHF quit and nobody said anything over the VOR so I proceeded via flight plan route and found myself number five in a four ship gunnery pattern. On arrival, I decided to act official, take the offensive so to speak, and tell FAA that if they shaped up I wouldn't press a violation . . . it was a mistake. It seems that my clearance "via flight plan route" didn't include that little jaunt through the restricted area.

I don't know any way to cure this except to have an alternate plan in the back of your mind. As long as the radio holds up you can verify your clearance when you approach the restricted area . . . if you lose radio contact with the center, I recommend deviating around the place.

—Anonymous

Dear Blue Five

Thanks for the tip. I agree with your recommendation . . . and wish you best of luck when your violation comes up.

TAT

NAHA NOTES

By - Capt Walter E. Bosselmann, Jr.
555 Tac Ftr Sq
MacDill AFB, Fla.

Starting engines for the big trip.

WEEK OF 30 NOV: Finish off last of required accomplishments . . . plenty of good flying, one hour missions, land and go, land and go, enough flying to know your proficiency is at a keen edge.

FRI 4 DEC: SAC/TAC combined briefing on refueling . . . last minute coordination with the flying gas stations . . . PM out to aircraft to check forms and preflight. My aircraft causes some mild consternation because the last time it flew the wing tanks wouldn't feed after in-flight-refueling . . . hope maintenance did a good job fixing this squawk.

WEEKEND, 5-6 DEC: Last minute packing and fixing things around the house, things that should have been done months ago.

MON, 7 DEC - 0700L: . . . 23 years ago Pearl Harbor. Now we're departing to defend Japan . . . amazing. Last mission briefing. Lots of cameramen nosing around. Must be celebrities or something.

TUE, 8 DEC: End of crew rest . . . last minute good-byes to family . . . out to aircraft at 0730 . . . start and takeoff no hitch.

1540Z: Thru first refueling . . . sweat . . . couldn't be better . . . no one tired . . . all received max load in one hookup . . . nothing but smooth.

1800Z: Second refueling . . . number four had trouble with refueling receptacle. Finally got it open and received full load. No problems with other aircraft. Lot of noise and confusion with three tankers and six receivers on same

Brigadier General Albert W. Schinz, Commander, 836th Air Division, checks form 781 before departing MacDill.

When we first heard that the triple nickle squadron would be deploying to Naha, we immediately thought of Captain Wally Bosselmann, one of the 555th squadron troops who writes real good letters. Why not get him to jot down his thoughts? So, that's the way we put it to him and we think you'll enjoy reading his first hand account of TAC's initial F-4 deployment.

eq . . . maybe the procedures should be changed.

1830Z: Getting a little tired, time for a go-pill and some lunch . . . crummy lunch. Buddy refueling from here to 1000 miles out of Honolulu. Nice having tankers do all the navigation. Good contact with Duckbutts . . . nice to know they're down there. Number four still having trouble with his IFR door. Airborne command post has made decision for him to continue on to the next abort point.

1900Z: Third refueling . . . tanker boom operator is doing a good job so decision was made for number four to continue.

1935Z: Fourth refueling . . . smooth and no problems. All aircraft are go and everyone is in fine shape. Good weather helps also. One thousand miles out of Hawaii we depart the tankers and assume our own navigation. The inertial navigation system we have is, of course, invaluable on an overwater flight like this. Hawaii picked up on our radar at 200 miles. Quite a confidence builder? You bet!!

ARRIVAL AT HONOLULU, 2300Z: Happy to get on the ground. Cold beer waiting for us.

Enroute from Hawaii to Okinawa

WED, 9 DEC: Woke up bright and early but mission has been cancelled for 24 hours because of high winds and bad weather at Guam. Tankers can't hack it.

Time sequenced is resumed after blowing 50 bucks downtown and 12 hours of much needed sleep.

THUR, 10 DEC 1500Z (0500L): Wake up and breakfast then to combined SAC/TAC mission briefing followed by individual flight briefings at 1830Z. Weather reported real good for takeoff and entire route. Possibility of some build-ups in the area of Guam.

2100Z: Takeoff from Hickam anything but routine. Forty-five seconds separation between tankers and fighters turns out to be a little tight. Due to the extremely good acceleration of the F-4, we break ground shortly after the tankers, and with an horrendous

Final flight briefing before leaving MacDill.

overtake.

The weather turns out to be much worse than anticipated and a pretty thick rain shower must be penetrated during join-up on the tankers at about 500 feet. About 10 seconds worth of terror and then the tankers break into the clear. Climb out and flight on thru the first refueling area are normal.

2230Z: Shortly after the first refueling we are informed by the airborne command post that the number three man on the first cell has developed a fuel leak and will have to abort into Midway. Three, four and their buddy tanker will all abort into Midway. At 0030Z we learn that all have landed safely. The fuel leak was in the main fuel manifold and about 9000 pounds of fuel was lost during the two hour flight from the abort point to Midway. Three additional refuelings with an onload of 12,000 pounds was necessary to reach Midway. A real close call for three. Flight from second refueling up to one hours prior to the fourth refueling was normal and quite boring. In-flight lunch was good this time. Weather excellent.

0030Z: We are informed by the airborne command post that due to bad weather the first cell was unable to join-up with the tankers over Guam. This of course causes some alarm because the weather was supposed to be good.

0400Z: The tankers over Guam are contacted and things at first look a little grim. The tanker commander, however, mentions that he was told by the first cell flight leader that the weather from 10 to 15,000 feet over Guam was suitable for refueling. The tankers are finally coersed into descending to 15,000 feet to attempt a join-up. Amazingly enough the weather over Guam was fairly good at 10,000 feet and a join-up was made with the tankers. Shortly after join-up we were in and out of weather until the drop-off point. Not being a Hemmingway I can't fully describe how hairy the last refueling actually was. Except f a small area over Guam we we in solid weather for three hours. Much credit must go to the tanker pilots for doing one hell of a fine job in that crummy weather.

0530Z: Duckbutt X-ray Bravo informed us the third cell was unable to refuel over Guam and would be landing at Anderson. I'm sure everyone in the second cell, including myself, was disappointed that weather had ruined an otherwise perfect deployment.

0630Z: The lead aircraft picked up a bogey at 80 miles closing at 1200 knots. It turned out to be a Navy F-4 making an intercept on us because we were overflying his aircraft carrier. He stayed with us for about ten minutes, then departed for the carrier.

I suppose at this point I should comment on the comfort of myself and my pilot. Having at best a tw hour tail, as most fighter pilc do, things were pretty sore. The numbness of the middle six hours had worn off and for the last two hours I was mighty sore. Once again, the go-pills helped tremendously to remain alert.

Other than having some pretty heavy rain showers at Naha, the landing of our entire cell was routine. About 30 minutes after landing we were informed that the third cell had refueled at Guam and would be landing shortly.

The next morning the first cell arrived followed by the two aircraft that diverted to Midway. All in all the mission was a complete success and the F-4C has proven itself beyond doubt. The two man concept is particularly good, since the added man permits periods of rest that wouldn't be available in a single seat aircraft.

The author, and Lt Ben Giere land the first TAC F-4 on Naha.

PILOT OF DISTINCTION

First Lieutenant David W. Milam of the 4510th Combat Crew Training Wing, Luke AFB, Arizona, has been selected as a Tactical Air Command Pilot of Distinction.

After completing an in-trail and fluid formation mission that gave Lieutenant Milam 20 hours experience in the F-100, he maneuvered his aircraft to rejoin with his instructor. Lieutenant Milam noticed his oil pressure was above 100 psi and immediately notified his instructor while turning toward the nearest suitable runway 65 miles away. His instructor joined in the chase position and advised Lieutenant Milam that fluid was streaming from the underside of his aircraft. As Lieutenant Milam approached the auxiliary field, he left the throttle at 90 per cent to prolong engine life and noted the EGT was 100 degrees above normal. Lieutenant Milam lowered the gear and flaps at an ideal position and began a final turn, the engine compressor stalled and surged as flame and smoke shot from the tailpipe. At 400 feet above the ground on final, the rpm started to rapidly decrease. Lieutenant Milam raised the flaps upon his instructor's advice and executed a landing 1000 feet down the runway as the engine seized. Investigation revealed engine bearing and carbon seal failure that resulted in oil contamination and oil starvation of other bearings. The compression shifted forward destroying the first two compressor stages.

Lieutenant Milam's airmanship and calm application of procedures and instructions, despite very limited experience in the F-100, qualify him as a Tactical Air Command Pilot of Distinction.

MATCH POINT V

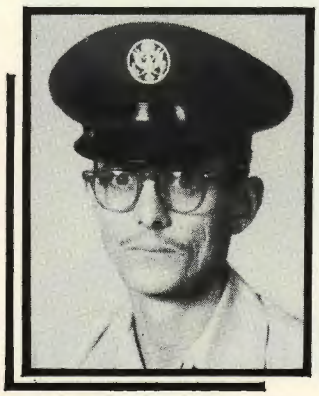
A real professional flight from the 474th Tactical Fighter Wing, Cannon AFB, New Mexico, won Match Point V with a record total score of 27,420 points. This is the highest total score ever obtained during a Match Point competition. From left to right, the flight's sharpshooting pilots are First Lieutenant Raymond H. Vos, Captain Franklin D. McMillen, Flight Commander, Captain Carl R. Wiedenhoeft, First Lieutenant Thomas P. McAtee and Captain Don Snyder. Additional team members were Forward Air Controller Captain Fred Hancher, Intelligence Officer First Lieutenant Minda V. Mikolainis and Intelligence Specialist Technical Sergeant M. D. Huser. Well Done.

MAINTENANCE MAN of the MONTH

Master Sergeant Homer C. Herron of the 4510th Field Maintenance Squadron, Luke Air Force Base, Arizona, has been selected as a Tactical Air Command Maintenance Man of the Month.

As Coordinator and Controller of the engine shop, Sergeant Herron supervised the repair and installation of all jet and reciprocating engines at Luke AFB. Combining his technical knowledge and ingenuity to solve an engine nozzle problem, Sergeant Herron devised a support that allowed the welding of nozzles without complete hot section disassembly. He unselfishly coordinated and monitored the construction and initial application of his new engine support. Sergeant Herron's prompt and complete action has saved the Air Force large sums of money and man-hours.

His resourceful and professional performance qualifies Sergeant Herron as a Tactical Air Command Maintenance Man of the Month.



Maintenance man of the month

CREW CHIEF of the MONTH

crew chief of the month

Staff Sergeant Donald G. Christich of the 4511th Organizational Maintenance Squadron, Luke Air Force Base, Arizona, has been selected as a Tactical Air Command Crew Chief of the Month.

Assigned as crew chief on an F-100D, Sergeant Christich performs his duties with diligence and thoroughness. During a recent three month period he maintained a 95 per cent in-commission status for his aircraft. Sergeant Christich was commended for his performance by Quality Control and pilots often attest to the outstanding condition of his aircraft. While supervising an OJT program he continually demonstrated a willingness to impart his technical knowledge to others and help them improve their effectiveness.

Sergeant Christich's ability to perform his duties in an outstanding and professional manner qualify him as a Tactical Air Command Crew Chief of the Month.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

JAN TALLY

UNIT	MAJOR	MINOR
401TFW	1	
1ACW	1	
445TCW	1	

ACCIDENT FREE
MAJOR & MINOR

JET			
ACTIVE	MONTHS		ANG
12TFW	20	21	140TFW
363TRW	8	17	123TRW
CONVENTIONAL			
ACTIVE			RESERVE
4500ABW	43	98	434TCW
4442CCTG	26	59	435TCW

MAJOR ACDNT RATE

TYPE	1965*	1964
ALL	3.1	10.5
F-4	0	4.9
F-105	0	26.7
F-104	0	12.1
F-101	0	20.1
F-100	6.7	18.8
F-86	0	0
F-84	0	21.6
B-66	0	0
B-26	0	76.0
T-39	0	0
T-33	0	0
T-29	0	0
C-130	0	1.2
C-123	0	8.6
C-119	0	1.9
A-1E	102.2	10.7
U-10	0	28.6
T-28	0	0

*1 - 31 JAN 1965

January and the New Year began with three major aircraft accidents. As a flight of four F-100s turned initial, number four reported a stuck rudder and three verified it as being fully deflected. After a controllability check, number four attempted a precautionary landing, but rudder oscillation caused him to initiate a go-around. As power was applied and the gear raised the aircraft began an uncontrollable left roll . . . the pilot ejected receiving minor injuries.

Shortly after an A-1E pilot made his initial after takeoff power reduction, the engine began losing power and eventually quit. A gear-up forced landing on the infield area of the airdrome resulted in major damage to the aircraft.

With complete electrical failure on a night mission a C-123 pilot entered downwind for landing, using a flashlight to see into the cockpit. Prior to completing a successfull landing both engines caught fire, causing major aircraft damage.


Princess
AMN
MSGT HIRSCH
RACKETY RACK
POP
CHICKEN!
BRAAAAA AAAAACK!!
ZIP
NIP
WAR
SPRING IS THE SEASON SOME LOSE ALL REASON...
SO WHEN THINGS BEGIN TO GROW DON'T LET THE
SAP
START TO SHOW
!