

TAC ATTACK

TAC Attack February 1965



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Contents

ANGLE OF ATTACK	2
OFF TO OKINAWA	3
OLD TAT	4
POINT-TO-POINT NAVIGATION	8
FEATHER FOUR	10
SIRENS TO THE SOUTHWEST	11
CHOCK TALK	12
TAWC	14
SEG NEWS	16
BRAKE OR BREAK	19
THE GOOD OLD DAYS	20
TAC TIPS	22
LETTERS	24
THE WEED AND I	26
RECOGNITION	27



COVER PHOTO:

F-4C approaches tanker during deployment to Naha.

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Safety Discipline and the Professional Approach

General Mc Nickle on SAFETY



The subject of Safety has and will continue to receive great attention. It is also a subject that keeps us humble - regardless of our sustained efforts, we have not yet attained a safety record we want to live with.

The subject becomes all the more important and difficult in the days ahead as we plan to increase the percent of alert commitment and convert to more costly and complex weapon systems. At the same time, we must continue to train for both conventional and nuclear delivery capability.

In developing thoughts on this subject, let us look at ourselves. What is the state of discipline among Air Force personnel today? Across the board, they are better trained more responsible and more combat capable at present than at any previous peace time situation. Nevertheless, in a force the size of ours there always will be a percentage who need some extra attention and training and will inevitably result in noncompliance or nonadherence to best safety practices. But, commanders must realize that good safety habits and supervision are absolutely essential in maintaining a position of constant readiness. There is no room for haphazard or poorly executed practices. Safety of personnel and the weapon systems must be of paramount concern to supervisors and commanders at all echelons at all times. Given proper training and motivation our personnel will respond favorably.

The other words in our subject, "Professional Approach", do not only point the finger at our aircrews, but in our Forces today, it must encompass all people who design, support, maintain, and operate our weapon systems. We demand and expect the maximum performance from our aircraft and aircrews. The same must be true for all our other personnel and equipment.

Specifically, we must insure that the safety foundation at all levels of command is strong enough to hold the weight we intend to place upon it. This is a reality we must face up to, if we are to achieve a downward trend in accidents and incidents throughout the coming year. As our equipment becomes more complex, chances for error will increase. The demand for timely and correct actions will become more acute. It is only with an all encompassing "Safety Discipline and Professional Approach" that we will see a dramatic reduction in the loss of lives, equipment and increase in our overall combat capability.

General McNickle on Safety

Major General Marvin L. McNickle, Commander, Ninth Air Force, was commissioned a Second Lieutenant when he graduated from the University of South Dakota in 1936. He completed flight training the following year and saw duty with fighter units in England, North Africa, Sicily and Corsica during World War II. In January 1946, after completing a two year tour in the Pentagon, General McNickle served as Chief of Administration and Plans with the Engineering Division of Air Materiel Command. In August 1951 he was assigned to USAFE headquarters and later with USEUCOM.

In July 1954, after attending the Air War College, General McNickle took command of the 314th Troop Carrier Wing at Fort AFB, Tennessee. He came to Headquarters TAC in July 1956 and served as Deputy for Materiel until June of 1961. General McNickle served as Director of Supply and Director of Operations at Hq AFLC before being assigned to Ninth Air Force.

His decorations include the Legion of Merit, DFC, British DFC, Air Medal, Commendation Ribbon, French Croix de Guerre and numerous campaign medals.

angle of ATTACK

Events of great consequence often spring from trifling circumstances.

- Livy



Colonel Jack W. Hayes
Chief of Safety

Someone once said that trifles make perfection but perfection is no trifle. This old saying holds many implications for all of us. Paying attention to details is a requirement that constantly pervades our lives. Whether we are in the cockpit, at the work bench, on the highway or at a desk, our success or failure and sometimes our very survival depends on how meticulously we attend to details. A seemingly trivial error or oversight on the part of a pilot can lead to disaster. A mechanic who fails to precisely follow the technical order when repairing a small part or conducting an inspection on an aircraft can likewise cause the loss of valuable equipment and human lives. And, every day people die on the highways simply because drivers fail to observe the basic principles of safety.

But these considerations are on the negative side. Let's look at the positive.

It is indeed doubtful if any man ever attained a marked degree of success without first developing the art of perfecting details. Study biography and, above all else, we learn that the masters in every field of human endeavor were first masters of the insignificant components of perfection. Examine any complex piece of equipment such as an aircraft, a missile, an automobile or even a typewriter and we discover that each is a composite of numerous parts, all of which must function - not well - but perfectly, if the equipment is to do its job properly. You and I are no exception... the degree we approach perfection is in direct proportion to how well we perform each small daily routine duty.

Before anyone commits a large error of omission, they first form a tendency to ignore so-called unimportant details. Just as an embezzler or thief, imprisoned for stealing large sums of money, committed the first dishonest act for a trivial amount to open the door for succeeding and more serious acts; the man without personal honor or integrity had first to tell the "little white lie."

Closer to home, any attempt to assess the relative importance of details will surely lead us to deviations... and cause us to bypass the approved methods for revising check lists, tech orders and operating instructions.

If experience proves that certain required actions are unnecessary, we must change the pertinent publications to get them deleted from established procedures.

The TAC Office of Safety will be constantly and continually stressing the requirement for strict and complete compliance with approved procedures and instructions. The details, the little things, produce results. The only results acceptable are accident-free safety records in all areas.



Turning base leg in the pattern at Naha.



Coming up on the tanker.

OFF TO OKINAWA

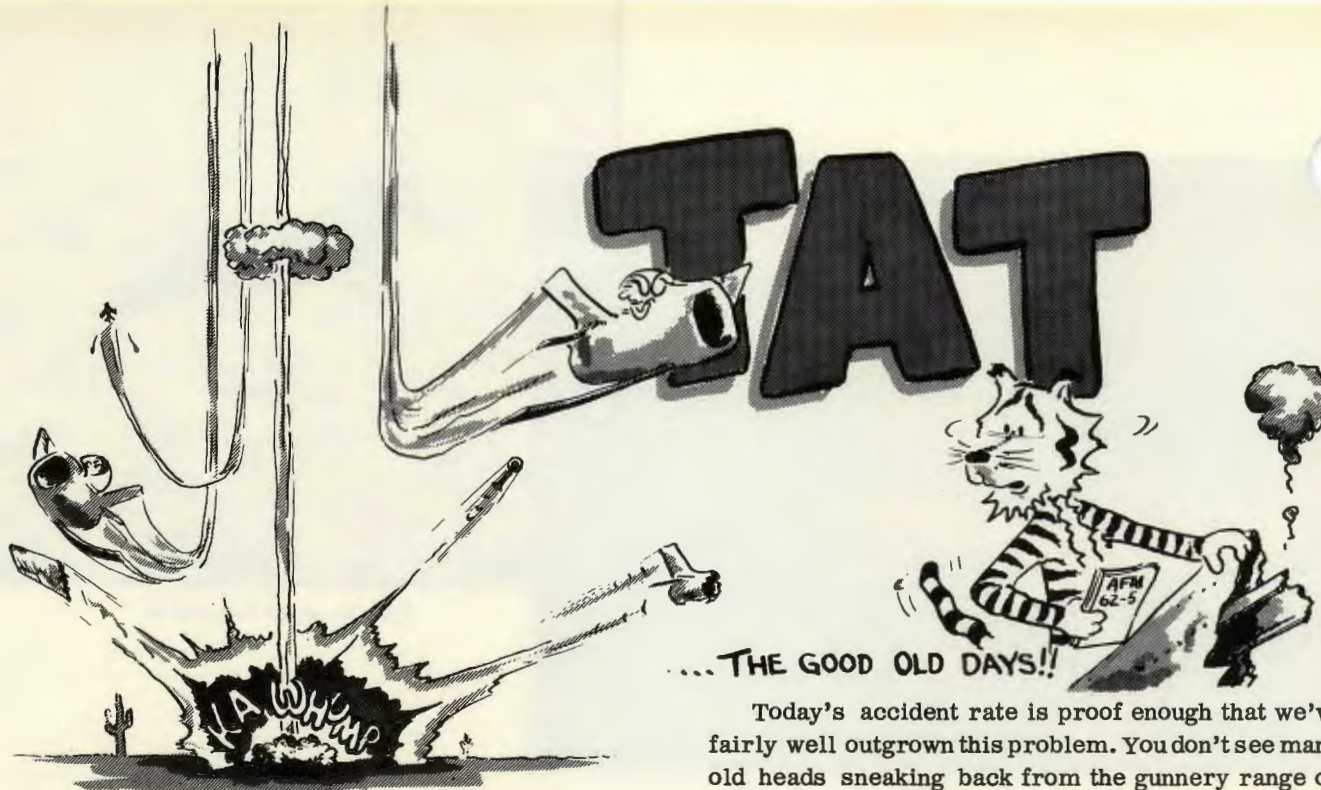
In December 1964, the F-4C came of age. When the 555th "Triple Nickle" Squadron of the 12th Tactical Fighter Wing landed at Naha AB at the end of the first rotational deployment, the F-4C became, in fact as well as in name, a tactical fighter. The 12th has the distinction of being the first combat ready F-4C unit in the Air Force. Every man in the organization can be justifiably proud of a flight safety record unequaled by any other fighter wing... zero accidents!

Although the Phantom II cannot be classified as a pretty airplane, it's great to see them flying from an overseas operating base.

To the 12th Tactical Fighter Wing... congratulations, and, if I may speak for the rest of TAC, welcome to the first team. ➤



Two F-4Cs from the 555th Tactical Fighter Squadron over the big pond enroute to Naha.



BACK WHEN we thought a fighter wing was doing rather well to get thru a month without bashing an aircraft, this tiger and a young airman first held down the safety shop for a two-group wing. One group had 86s, the other F-84Fs . . . and frankly, we weren't doing so good. I spent most of my time ramrodding accident investigations. In fact, I was so busy helping to pick up the pieces it took a month or two before it dawned on me that about half the accidents were from one squadron.

At that time, all squadrons were in much the same boat. The squadron commander, ops officer and one flight commander would be "high time" pilots with 1500 hours or more total flying time, while everyone else had around 600 hours.

The ops officer in this squadron was an exceptionally well qualified pilot with a superb combat record who didn't give a damn about regulations and who operated with less margin for error than a one armed steeple jack on a windy day. The result was as you would guess. His troops were following his example and failing left and right . . . as I recall, we lost five of 'em in three months. Then the boss made some changes that straightened things out . . . even then, there was a lot of reorientation necessary.

A few days ago a rather good head and I were discussing the effect supervision can have on an operation and I mentioned this outfit. Without asking unit or time in space, he allowed the ops officer was one of three troops and named him as first of the three.

Today's accident rate is proof enough that we've fairly well outgrown this problem. You don't see many old heads sneaking back from the gunnery range on minimum fuel or basing their pullout altitude on the foul line . . . and you don't see many of the younger troops trying the same. However, the bird does fly a better pass when it is nice and light and you do get a tighter group the closer your release and there are still those who would attempt to capitalize on it were they not held in check.

If they'd review the records, they'd keep themselves in check.

AFTER BOTH EXTERNAL TANKS fell off a T-33, maintenance technicians checked the system over. The tip tank jettison switches were off in both cockpits and all other switches in the system were in the proper position. TOC IT-33A-557 had not been complied with - this TOC deactivates the button on the control stick and the armed position of the auto-drop switch. There was nothing in the forms to reflect non-compliance since the TO is over two years old. The discrepancy would not have been noted until the 4th phase inspection due at 3145 hours (the bird had 3089 hours). Altho the aft stick terminal strip was rusty and metal filings were found and removed from around cannon plug G-23, maintenance inspectors believe the pilot inadvertently placed the jettison switch to ARM instead of off (he checked it after losing the tanks by pressing down on the cover) then either he or the aft seat pilot hit the release button.

Pilots who habitually treat the bomb release button as if it were armed, usually don't have any trouble this way. . . neither do maintenance types who keep electrical systems clean and in proper condition.

WHEN MAKING a precautionary landing or flame-out approach, keep your speed right on best glide speed. As long as you have recommended flameout approach speed, you can roll the wings level and pull back on the stick to arrest your rate of descent and turn it into a zoom, which will permit a safe ejection. This will work anywhere in the pattern if it suddenly appears that you can't hack the runway. The two killers are trying to stretch your glide and losing the speed needed to arrest your rate of descent, or failing to zoom even tho flying the correct speed. Remember, the correct flameout glide speed will permit a zoom, otherwise you wouldn't be able to arrest your rate of descent to made a successful flameout landing.

If you discount the value of zooming, consider this. Should you eject inverted in a 30 degree climb at 120 knots you will still be gaining altitude when the seat-separation chute-opening sequence starts! Just remember, if you must eject at low altitude, zoom and shoot yourself up. . . not down.

One last word. Carrying excess speed will **REDUCE** zoom potential because of altitude used while arresting the increased sink rate. Nail that handbook speed. It is best by test!

THE OTHER TROOP was at the controls and about to intercept GCA final of a straight-in approach. This tiger cranked in a frequency change as the other troop slowed our little airliner to the computed final approach speed, then went back to looking for other aircraft. We were in and out of snow showers and there shouldn't be much traffic, but . . .

Something seemed wrong. "Hey, check your air-speed." I grumbled, then glanced at my own. Ten knots below computed speed and decreasing! I glanced at his and saw it was about 5 knots above the computed speed. The aircraft attitude was ample proof that my airspeed indicator was more nearly correct, so he speeded up. His was reading over 20 knots high. Heat was on and we hadn't encountered any appreciable icing.

In a single place machine the only clue would have been aircraft attitude . . . and it occurred to me that this should be a tolerably accurate measure of speed in the approach configuration. I did a little checking and was pleasantly surprised to find that I could come within a few knots of the correct speed using attitude alone. If you haven't paid any attention to this, give it try . . . it could save you from a hard, short arrival ne day.

On the next leg I made an ILS into about 300 and one . . . no GCA. I had drift fairly well killed using

the TACAN and switched to the ILS about 12 miles out. The heading seemed good all the way down the approach, at least the bar remained centered. In fact, it was still centered when we spotted the strobe lights some 300 to 500 feet off our right as we came up on the inner marker. A close check on the next two approaches showed us the course selector bar was extremely sluggish. On one, we were a quarter of a mile off course midway between inner and outer markers, with the bar less than a bar-width off center.

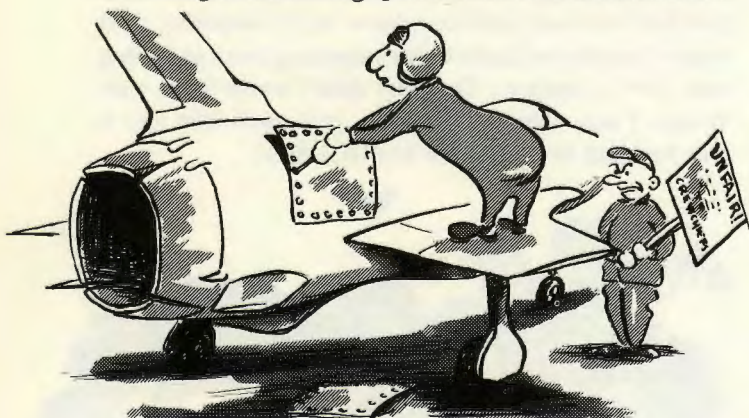
As we wrote it up, the crew chief started telling us about an ILS approach some other hero had made with the bird two days earlier where they'd ended up well abeam the strobe lights before spotting them and S-ing over for a landing. That guy didn't write it up, tho. To him I say, thanks a bunch . . . with pals like you it may be hard to stay alive in sixty-five.



THE FIGHTER was big, complex and at a strange field. After the pilot started engines the crew chief and his assistant - from another unit - both ducked under the bird to accomplish some visual checks. Meanwhile the pilot signaled for chocks out. The crew chief came out from under and started to raise his arms to give a signal just as the pilot added power to taxi. The assistant crew chief tried to remove one chock when the big bird started to roll and the left wheel ran over his foot knocking him to one side. The tire scraped his side as it rolled by, so close he could hear the swish of the scythe.

Perhaps I'm naive, but I thought all units were operating the same way these days. Even so, this should serve as a warning to all airplane drivers. No matter how big the rush, we shouldn't start taxiing until that hard working young man steps out front and signals for us to move out.

THE THROTTLE JAMMED at 90 per cent and this test pilot type started climbing from 3000 feet toward high key. He continued to work with the throttle during the climb and soon had it jammed at 78 per cent instead of 90. This wasn't enough to maintain flight, so he zoomed the bird, slowed to best flameout glide speed and managed to hack the field. I'm not about to argue with success, but when trouble develops that makes you want to go home, and the bird is capable of getting home, it isn't too wise to fuss around with the status quo. You may just fuss yourself out of a ride back home. Kind of like trying to talk away a slip of the tongue and ending up with foot-in-mouth disease.



FROM AN INCIDENT REPORT . . . "primary cause is pilot factor because the pilot failed to make a proper preflight. Contributing cause, maintenance error because the drag chute was improperly installed."

The reg says the primary cause is that factor which made the mishap most likely or inevitable. As I see it, the crew chief made it most likely to occur by not doing his job right. The pilot made it inevitable by not checking. But if we want to stop this kind of nonsense, best we aim at the man who does the work. It's a heck of a lot better to get him doing it right than to try and inspect out his errors.

Continuing this line of thinking, anytime several people make the same error despite being told about the possibility for making the error, it's time to change the hardware or the procedures and eliminate the problem at its source. This is the attitude that resulted in a simple airstart system for the T-bird and shorter, more practical, emergency procedures for most of our craft. To my way of thinking, it is the only attitude that gets at the heart of the safety problem. Any time an accident investigation ends with recommendations that do no more than brief all hands on the circumstances leading up to the accident, we can expect additional similar accidents because

the basic problem still exists. Often there is practical solution to the basic problem, but we should look for one just the same.

"TAT, I CAN'T see why they make us go thru all this foolishness." An old friend waved a smudged form 21a under this tiger's nose.

I backed up far enough to get it into focus and observed he'd completed all columns, including fuel. "I know before I start filling this thing out just about how much fuel it'll take," he grinned. "That is, if I don't have to wait too long on the ground or have to take a different altitude."

I might agree with him, except that he's flying a T-bird . . . a machine that has less combat potential than Princess Ann. Should some misguided button puncher suddenly get bored with it all, 'tis entirely possible some old heads like my friend might find themselves flying real airplanes again.

When they do, they're going to find the system makes good sense . . . like when this tiger went into the tiny airliner. Came time for an extended cross country. I sauntered down to base ops, checked the weather and proceeded to knock out a flight plan just as if it was a T-33 instead of a T-39 . . . the chart all worked the same, only the numbers were different.

Accurate? Sure, fuel came out within about 150 pounds. Time consuming? Nope. We knocked it out just as fast as we usually run one . . . it only takes about five or ten minutes to run off fuel figures.

Figuring this close is no waste of time . . . and can be a bit of fun with the proper attitude. However, I will not concede that the need for short cuts and rules of thumb has phased out. No one can foresee everything and plan for every eventuality . . . and people who accomplish things never manage to flutter thru life without making an occasional mistake. The short cuts help you spot goofs. Compare your finished flight plan with the rough and dirty one you get from short cuts. Also, when the day arrives that you are up there wishing you were down on the ground . . . with nothing sitting still, your preplan shot to shreds because of equipment failure, a horrendous goof, or an emergency . . . and possibly a hard-pressed ulcerous controller on your afterburner wanting to know your intentions so he can help unravel you from the mess . . . well, a few short cuts and impromptu dead reckoning can be worth more than all the E6Bs in the base instrument school.

Many older heads regularly "flight follow" themselves with impromptu DR. This catches the more glaring errors and helps when they must air-plan

partures and arrivals that vary from their preplan. Many use the miles per minute technique for their rough and dirty estimates. When a speed falls between, they interpolate.

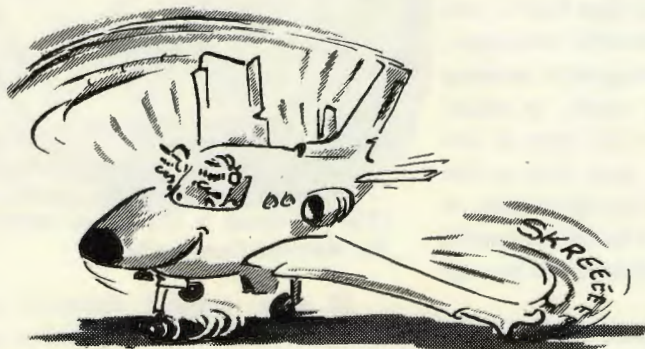
Take 280 knots. It is midway between 4 miles per minute (240 knots) and 5 miles per minute (300 knots). If you had 140 miles to go it would take 28 minutes at 300 knots and 35 minutes at 240 knots . . . which is about 31 or 32 minutes at 280. I personally prefer to work the other way around. At 440 knots it takes 14 minutes to go 100 miles . . . or 1.4 minutes for each ten. I'll fly 140 miles in 14 plus four times 1.4 minutes or about 19 minutes.

Some other rules . . . when flying around FL 200, the mach meter is a good cue to true airspeed. Mach .6 is 6 miles per minute or 360 knots, Mach .7 is 7 miles per minute or 420 knots. At FL 400 IAS is half the true airspeed.

You are 120 miles out from the VOR and eight degrees off course . . . how many miles are you off? Simple, at 60 miles each degree will equal one mile, you are twice that far out and 16 miles off course.

These are a few . . . you may have others. Just remember they are a valuable supplement to the normal way of doing things - not a substitute.

A T-39 DRIVER from another command engaged nose gear steering as the bird slowed to 50 knots on the landing roll. The little beast started edging away from the runway centerline and the pilot corrected with a little left rudder only to have his charge react with a hard right turn. Turn my hind foot. It ground looped, Stearman style, even to dragging the left wing tip and coming to a halt aft end first.



Son of a T-6 . . .

The maneuver was so quick the pilot said all he could do was push harder on the left rudder. He didn't have time to disconnect steering or anything, and he

doesn't remember seeing a caution light to indicate a steering system malfunction.

The report indicates the main feed-back steering monitor switch and main feed-back potentiometer were both defective. The investigators think the steering monitor switch had failed prior to the incident and the feed-back potentiometer failed during the particular flight. They blame moisture at this writing.

Another T-39 crew had their bird go thru an identical gyration when the pilot selected the stand-by steering system while taxiing out. He too got a wing tip. Investigators blamed excess side play in the nose wheel steering hydraulic cylinder guide positioner rod.

Well now, T-39 pilots will do well to taxi slow and check the stand-by system while well clear of obstructions and also hold off engaging the steering system until the bird is well slowed after landing.

TAT CAME ACROSS this gem while rummaging thru another command's dirty laundry. On the second GCA, the pilot of a many-motored jet had the runway in sight at about a mile and a half and crossed the threshold about 50 feet above the runway, seven knots faster than best flare speed.

The pilot asked the co-pilot if it looked like they could land OK and the co-pilot said, "Yes, if you land right away."

The bird was still floating at the 4000 foot marker, so the pilot added power for a go-around. The co-pilot thought the pilot was reaching for the para brake and deployed it! Whomp! The big bird dropped like a flat iron and then rebounded into the air. The pilot chopped throttle just as his ever helpful co-pilot jettisoned the drag chute.

The bird finally came to a halt some 150 yards past the overrun with "very little damage." Humpf-some show . . . and a good example of uncoordinated committee action if I ever saw it. I hold the pilot at fault. In the first place, he was too high and hot or he wouldn't have had doubts about making it. This is when he should have started around. Second, anybody that puts an issue to vote in an aircraft when it is time for a decision is asking for trouble . . . this is throwing away authority and asking for precisely what happened.

You troops who are stepping into F-4s should read and note. A crew is seldom any better than the guy in charge and if the guy in charge does nothing else right, he should make clear what he expects in the way of help and NEVER leave doubt as to who's boss of the machine. ➤

POINT-TO-POINT Navigation

By - Captain Walter M. Burkett
Tactical Weapons School
836th Air Division
MacDill AFB, Fla.

While serving an exchange tour with the United States Navy, I became acquainted with what the Navy calls "Point-to-point navigation." This is a technique used for rapidly determining a heading to fly from your present TACAN position to any other TACAN position. This technique is old hat to the new heads because it is being taught in flying training. The purpose of this article is to show the old heads a simple, effective, and versatile navigation technique that has unlimited uses. The technique can be mastered in about five minutes and implemented in less than five seconds!

How often have you been inbound to your destination and had a center clear you from your present position direct to a TACAN fix you had not planned for? What did you do? Chances are you did one of four things:

- * Continued to the station and then went outbound on the designated radial to the fix.
- * Continued in to the correct DME and then arced around to the radial.
- * Asked for a radar vector.
- * Used point-to-point navigation.

If you are familiar with number four, or are satisfied with the way you are getting around the sky now, read no further. If you want

to increase your TACAN navigation ability continue reading.

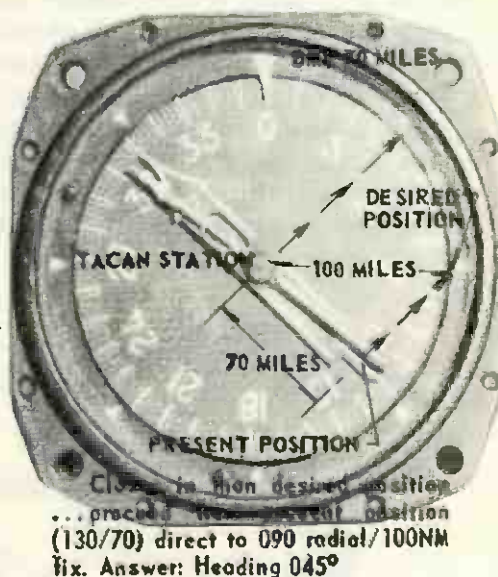
Point-to-point navigation employs the pilot's ability to graphically visualize his present position or point fix (radial and distance out) in relation to a destination point fix (radial and distance out); hence the name POINT-TO-POINT NAVIGATION. To obtain this graphic solution, you can use either a Horizontal Situation Indicator (HSI), a Bearing Distance Heading Indicator (BDHI), or a Remote Magnetic Indicator (RMI).

The point-to-point problem is one of visualizing your present position and the desired destination on the face of the cockpit instrument. Then connect the two points with an imaginary straight line. Parallel this line with a line through the center of the indicator, and read off the magnetic heading on the compass card. In other words, visualize the face of the instrument as a plan view of the ground with the TACAN station in the center and the tail of the needle as a long arm reaching out to your position.

The only mental anguish you must go through is to decide on the scale. This problem is solved by comparing present distance from the station with that of the destination.



If your present distance is greater, visualize yourself at the very end of the needle's tail on the circumference of the indicator. The destination point will be positioned proportionally between the center and the edge of the indicator on its respective radial.



If your present distance is less, visualize the destination at the circumference of the indicator on its respective radial and your position proportionally between the center and the edge, along the tail of the needle.

Next you must visualize a line connecting the two points, parallel this line through the center of the indicator, and read off the magnetic heading to the desired point. To help here, some pilots use a pencil or their finger to help line up.

One technique calls for the pilot to place his thumb over his present position on the face of the indicator and his forefinger on the destination. Then move the hand, parallel to this imaginary line, over to the center of the indicator to read off the magnetic heading to the destination.



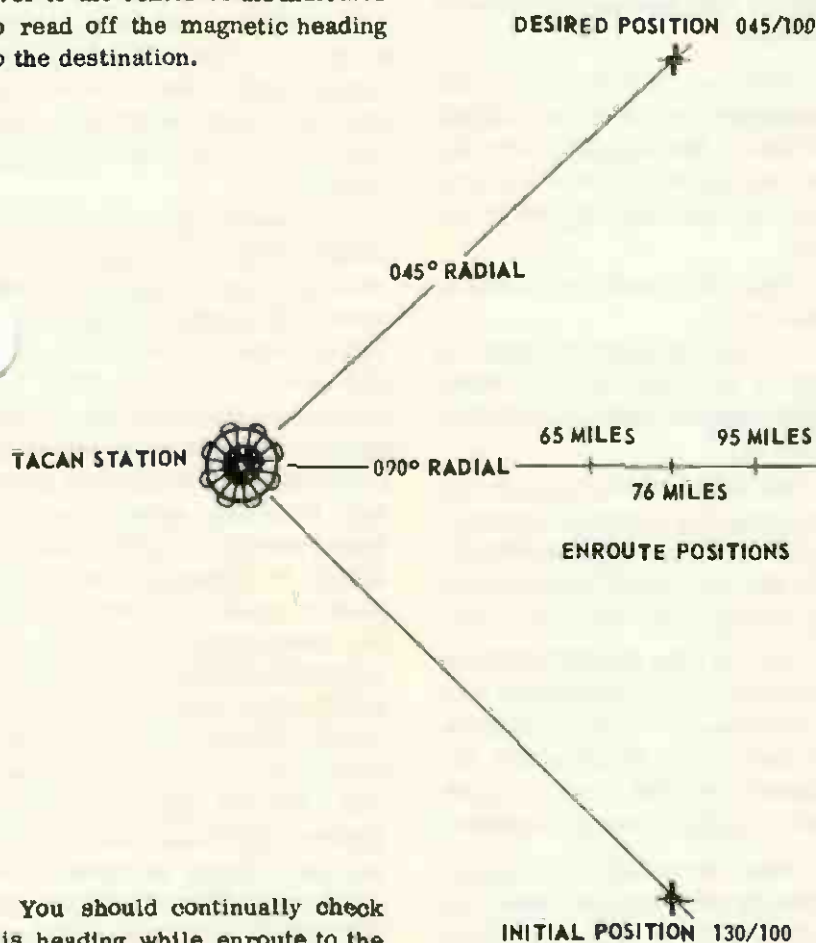
DME 65 MILES
CORRECT RIGHT



DME 95 MILES
CORRECT LEFT



DME 76 MILES
ON HEADING



You should continually check this heading while enroute to the destination point and make corrections to compensate for wind. If you are flying the proper heading to home on the destination point, the position will always be directly underneath the destination point on the graphic display and parallel to the heading. Remember

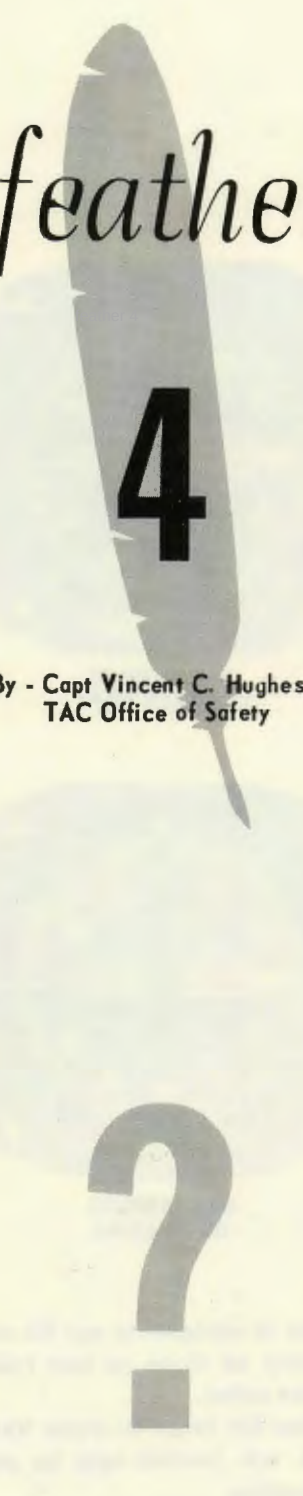
that the graphic scale and position of the two points is constantly changing while enroute.

Once you have mastered the point-to-point technique you will

be able to navigate to any fix with accuracy as close as one radial and two miles.

Uses for Point-to-Point Navigation are limited only by your imagination.

Try point-to-point navigation on your next mission. I think you will agree that it's easy, fast, and effective.



feather

4

By - Capt Vincent C. Hughes Jr.
TAC Office of Safety

"Shouldn't we shut 'er down, Major Casey? That gearbox oil pressure on Number 4 is up to 270."

Casey shifted his cigar from one corner of his mouth to the other, and turned toward the bright young fellow in the right seat. "What for?"

"Well, sir, that's 20 pounds over the max."

"Sarge, better write that up in the form. Oil temperature is normal. The malfunction appears isolated."

"Yes sir, probably a bad transmitter or could be plugged oil jets." The engineer took his foot off the back of the co-pilot's seat and bent over to pick up the 781.

"But, sir, aren't you going to feather?"

"If you can show me where it says in the Dash One to shut an engine down for high oil pressure, I'll do it."

The lieutenant fumbled for his copy from his flight kit, then hurriedly turned the pages under Section III. Casey made a gentle heading change with the auto-pilot.

"Sir, it says we should cage it if we have an uncontrollable drop in oil pressure or an uncontrollable rise in oil temperature. But shouldn't we still cage it to prevent possible engine damage?"

"Son, the designer of this aircraft figured that we need four engines to fly it safely. Uncle Sam thought so, too, or he'd never have paid for that extra engine. That flight manual has been worked and reworked by the best heads in the business. If they had wanted me to shut that engine down for high oil pressure, I'm sure they would have said so."

"But, I know you can fly it 130 without any sweat on three, and we might help save an engine."

Casey reflected that the lad was no dumbbell. It's so hard to explain in a few minutes what years of experience have taught you. "You're right, flying on three is no problem . . . if nothing else goes wrong. Of course it requires a little more thought and planning, particularly during landing. And before you tell me we can always shut it down now and bring it back in later, I want to say I know that's a good idea in some cases. I prefer to do it if I figure I have only a limited time to use the engine before I'm forced to feather. Then it's wise to save it for the landing phase."

The bald major reached for his coffee. "You understand this is all opinion. There can't be rules written for every situation. That's why we have aircraft commanders and certain seemingly strict requirements for check out. We are paid to exercise sound judgment. Some pilots get featheritis. Every time something goes wrong, they figure the cure is to shut down the engine. To illustrate, there is almost no reason to feather for low oil temperature, fluctuating oil pressure or failure of a tach generator. Even when you have low oil quantity without other indications, you're not required to shut down. That decision depends on other factors. Sometimes these fellows are just looking for an excuse to spin a good war story at the bar. Some of the problems can be corrected in flight if you understand your systems."

The co-pilot was all attention. The engineer was lounging easily with a half smile on his face, occasionally scanning the instruments. The navigator was working furiously.

Casey wasn't through yet. "On the other hand," he drawled, "the book doesn't tell you every time you should shut an engine down. For instance, I have a friend who shut an engine down one day because he could see prop fluid streaming back over the engine cowlings. The prop low oil quantity light did not come on and rpm remained steady. Later, after he had landed a second-guessing maintenance type called the stan/eval

chief and asked him how come the pilot had shut down the engine? He was told there was a new policy out. If you see fire coming from the engine you don't have to wait for a fire light to feather. Do you get the point?"

"Yes sir; I'm beginning to see that a standard emergency is an uncommon thing."

Casey reached over for the lieutenant's Dash One, flipped open the first page and pointed to

a paragraph that reads, "Instructions in this manual are for a crew inexperienced in the operation of this airplane. This manual provides the best possible operating instructions under most circumstances, but it is a poor substitute for sound judgment. Multiple emergencies, adverse weather, terrain, etc., may require modification of the procedures."

The four engines droned on smoothly. ➤



sirens of the southwest

true deity of death. From altitude its surface would look mighty smooth and enticing to a troop with a sick airplane. But, at 500 feet where it is getting a little late . . . particularly with a high sink rate . . . to decide to eject, the cracks, gullies and rock-hound holes stand out like the warts on Cromwell's nose. On most of these rough surfaces, the gear wouldn't last two seconds.

Admitted, some dry lakes are suitable for landing most types of aircraft. Usually these already have runways laid out. Unless you know their whereabouts and present condition they can be just as insidious as fruit punch. There have been some recent accidents that strongly hint that the pilot decided to put her down on one of these mythical emergency fields and then decided to eject when he realized how rough the surface actually was.

A quick look at most fighter type dashes one tell us that landing on an unprepared surface is not recommended. So give it some thought before you set up a high key on what may well be a temptation to disaster. ➤

Almost every pilot has given some consideration to the idea of dead sticking or forced landing a bird. It may only have been in casual conversation over a cup of coffee, after reading about someone's recent success, or perhaps, it was the last time you flew over one of the Southwest's many sunlit dry lakes and recalled that every

landing the X-15 made on the Muroc dry lake was dead stick.

The last time I gave it much thought was on a combat profile mission as I turned over a dry lake. At first glance the lake surface looked like one of nature's handmade airfields; however, a second careful look told me that the lake bed was a real siren, a



CHOCK TALK

sidewinder

The AIM-9B Sidewinder has been in the Air Force inventory for quite a few years. Those who have fired it and those who have seen the weapon demonstrated have been impressed by its accuracy and killing power. But, perhaps because it is a fairly simple, straight forward item, many maintenance people have come to treat it about the same way they do sand filled practice bombs. Nothing could be further off base. In fact, three men died recently because they didn't respect the AIM-9B for what it is...a dangerous and deadly weapon. The propellant fired while a crew was running an electrical test on a missile. This ignited two other rocket motors in the room and the fire and explosion killed the three men. Eight others were injured. When the accident was investigated, the serious discrepancies read like a list of what not to do.

- * The electrical connectors were locally manufactured and didn't mate with the test set. This probably allowed current to pass to the rocket motor case and caused ignition.

- * No standing operating procedure was available to guide the operation.

- * Many jobs were being performed in the bay at the same time, thus unnecessarily exposing many personnel to a hazardous operation.

- * The officer-in-charge didn't have the knowledge needed to assure that the job was being done properly.

- * Workload control had not established a schedule that insured known inspections and TCTOs would be

accomplished.

- * Electrical power in the bay didn't meet standard requirements.

Even a brief safety survey would have detected the faults that led to this accident. The basic problem was that all concerned had become complacent and hadn't bothered to even attempt to be professional. Take a look at yourself and your unit...are you making the same fatal errors?

phantom, broken rods

We've had a series of BLC system failures caused by the rod connecting the flaps to the bell crank. The rod breaks and leaves the BLC valve open with flaps retracted. ECP 587 should solve the problem... meanwhile, F-4 mechanics will do well to make sure this rod is installed correctly. It is easy to reverse the installation, see last item on page 13 of the November ATTACK.

near perfection

While reading thru AIRSCOOP, looking for items to steal, we noticed an item the AIRSCOOP had lifted from 5th AF Safety News that featured a TAC F-100 unit...the 110TFS at Lambert Field in St Louis. We hate to admit it, but it was news to us. The 110TFS was all upset 'cause they just had another parachute failure...their first in a year. That's right, 1800 hours between failures!

The 110th attributes much of their success with the reluctant rags to their drag chute maintenance team. This team accomplishes all maintenance on the chute system and completely disassembles and returns it to a like-new condition during each periodic.

Anyone think they can beat 1800 hours without a single drag chute failure or drag chute system write-up? You'll have to show the 110th, they're from Missouri!

old and creaky

Nearly every month, four or five aircraft incident reports tell of inflight loss of an F-84 drag chute. Most of these occur when the speed boards are extended and the rear end of the bird begins to shake and rattle. The cause is usually maladjustment of the chute compartment door because of normal wear and subnormal maintenance. The Hogs have been here a long time and the older they get, the more important it becomes to check and recheck the adjustment of little things all over the aircraft... landing gear uplocks have caused problems in the past and linkages throughout the bird get increasingly sloppy with age. Don't let familiarity breed contempt... the casualty list doesn't mention the age of the airplane.

busted bull pup

The armament crew chief ordered two munitions specialists to transfer a newly built-up AGM-12B from a maintenance stand on the ramp to the weapons trailer. After parking an MJ-1 aerial stores lift truck with hoist boom and HLU-42/E sling assembly on the edge of the ramp, the airmen rolled the maintenance stand under the hoisting sling.

One airman detached an end of the large nylon hoisting sling strap, only to note that the missile was 180 degrees from the required pick up position. He dropped the strap and released the brake on the rear caster of the maintenance stand while the other airman backed up the lift truck to give him room to turn the stand around. The metal clamp on the free end of the nylon strap was draped over the missile.

As you probably guessed, it snagged on the lower part of the maintenance stand and pulled it off the edge of the loading ramp. The missile tumbled onto the roadway, badly damaged.

On the surface, this accident looks simple enough. But the real causes are below the surface. Supervision in this missile maintenance section was lax. The

span of control within the branch was too extensive and most of the NCOs seemed to avoid taking charge of things. The two airmen had never been given any explicit instructions or training on the proper transporting procedures and no step-by-step procedure was published. Their supervisor wasn't around during the handling operation even though he knew they were untrained for the operation.

There was a lot of experience and know-how available in this particular section at the time of the accident. But experience and know-how are a lot like money... of little value when kept locked up and out of circulation.

loadmasters' dream

New for the Hercules! ASD is presently testing a weight and balance computer for tentative installation in TAC C-130s. The unit is manufactured by Pneumodynamics Corporation and consists of sensors mounted to each wheel axle, main and nose, which measure axle deflection as weight is applied. Signals from the sensors are sent to an amplifier/computer black box installed in the aircraft which converts them. Signals are then displayed as total gross weight in pounds and the center of gravity in per cent of MAC on indicators at the pilot's and flight engineer's panel. The system is so sensitive the readings note a person walking from the front of the cargo compartment to the rear.

Pending outcome of final testing, we anticipate the TAC Hercules fleet will be equipped with this advanced technological system. Loadmasters can stow that slipstick - when - and IF.

close trail

After launch, the dart flew in trail about eight feet directly below the F-104C's tailpipe. A splice, burr, or other defect in the cable armor shield caused it to peel off and jam the cable cutter. A closer inspection during cable rewinding may prevent unauthorized close-trail formations such as this.

preflight

More static was created than eliminated when emergency gear lowering procedures, pulling Gs and yawing didn't get a 105's nose gear down. It seems the static ground cable assembly was installed wrong after the nose wheel was changed. There was a hanging... the cable bracket on the lip of the nose wheel well.



By - Lt Col Allan D. Read
TAWC Information Officer
Eglin AFB, Fla.

A C-130 comes to a dusty stop on a 2000 foot dirt strip. This is still the primary way to deliver logistics by air.

Back in the day of Caesar's Legions, logistics were not much of a problem. Food came from the granaries and storehouses of the conquered, weapons were carried or built on the spot and transportation was shank's mare or an occasional oat burner. Today we aren't so fortunate - or unfortunate - and getting combat supplies to the battle zone is a major problem that has been receiving considerable attention at TAWC. On these pages we bring you a sample of some of the delivery techniques that have been developed to solve this problem.

All of these delivery modes were tested or used during joint Army-Air Force exercises, Indian River and Gold Fire I.

For some years, sky divers have been steering specially constructed 'chutes to make accurate spot landings. Someone asked, "Why not make a steerable chute and control it by radio?" A steerable, 51 foot cargo chute was soon being tested to see if it would help deliver loads more accurately. This is typical of TAWC's aerial delivery experts...they leave no

stones unturned in their search for efficient, accurate ways to deliver logistics to the combat zone. Speaking of accuracy, C-130 crews can place a 3500 pound load into difficult terrain...such as mountains or forests, day or night, using PLADS - Parachute Low Altitude Delivery - and spot it with a max error of 60 feet. They go in at 200 feet, first dropping a semi-open parachute into the slip stream. At drop time, an electric actuator fully deploys the reefed parachute which pulls the pallet from the aircraft on a pre-computed ballistic trajectory. Each C-130 can deliver several of these loads per sortie. If there is a small cleared area, the C-130 can accurately deliver three 6000 pound loads using Low Altitude Parachute Extraction or LAPES. Delivery altitude is six feet and again, the cargo is extracted from the aircraft by parachute. This system allows a quick response to an emergency request for supplies, since no equipment is needed on the ground.

For very heavy drops, a single 26,000 pound load can be dropped in the time tested way using mul-

tiple parachutes and dropping from about 1500 feet. However, TAWC has made several improvements in techniques.

Ground Proximity Extraction System, GEPS, is another way to deliver heavy loads, and with pin point accuracy. In this system, the pilot flies over a clearing low enough to engage a cable with a hook that trails from the aircraft. This extracts up to 12,000 pounds in a single unit set and 25,000 pounds with two sets in tandem. Three platforms can be carried per sortie. This is the most accurate delivery mode, except for

tawc by Lt Col Allan D. Read TAWC Information Officer Eglin AFB, Fla.



A 1500 pound load is accurately delivered by Parachute Low Altitude Delivery.

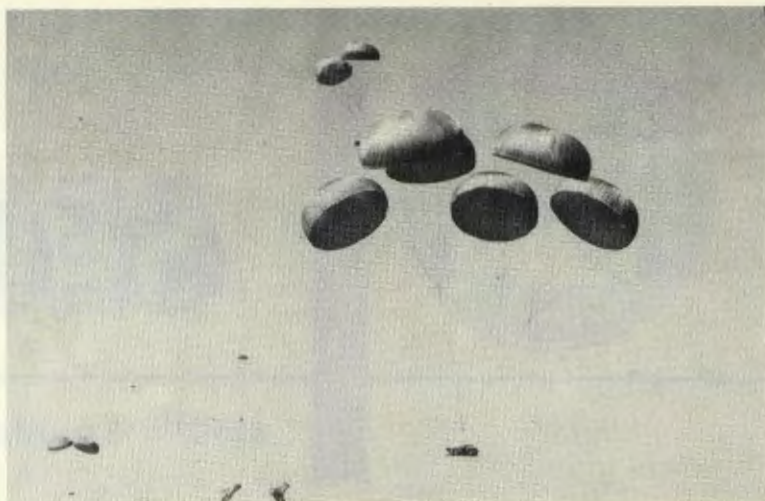


A Low Altitude Parachute Extraction is no equipment in

actual assault landing. Speaking of assault landings, this still remains the primary way to deliver logistic support to the ground forces.

It takes army engineers about 24 hours to hack out a 2000 foot dirt strip. TAC crews flew hundreds of C-130s in and out of these strips during each joint exercise. When you realize that many light aircraft pilots get tense when they have to land on a 2000 foot strip, you begin to get some idea of our present day capability. It's enough to disturb great Caesar's ghost!

The CH-3C is one of the newer additions to the tactical family of assault airlift aircraft. A heavy duty helicopter, it can carry 25



A heavy equipment drop. This time tested method is used to deliver loads up to 26,000 pounds.

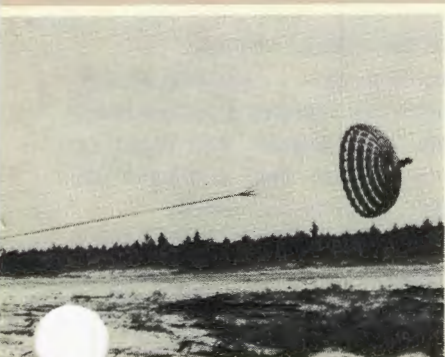


CH-3C delivers supplies to Army troops in a frontline area.



Ground Proximity Extraction System... the most accurate of the auxiliary aerial delivery modes.

TAWC accomplishments have... and for the foreseeable future... will continue to have a definite impact on the tactics, techniques, procedures and hardware being used by the rest of us in TAC. This is the first of a series of articles submitted by TAWC to let you know what has been going on and to tell you about some of their latest projects.



gets the supplies in quick when there stalled on the ground.

combat-equipped troops, 15 litter patients or an externally slung 6000 pound load and can cruise at 130 knots.

Amphibious, the CH-3C will also operate off lakes and ponds. Normally, it will be used to support Air Force radar sites and move communications equipment and combat control teams. It can also delivery personnel, supplies and equipment to the frontline area in those relatively few cases

where a C-130 assault landing, air drop or other delivery mode cannot be made. Up at the forward edge of the battle area, the Air Force will operate UH-1F Helicopters to evacuate casualties and deliver Tactical Air Control parties, supplies and equipment. Despite its small size, it can carry a 4000 pound externally slung load, ten passengers, or three litter patients.



SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators



CAPTAIN MANFORD E. SIMPSON
F-105 FLIGHT EXAMINER

Captain Simpson entered the military service in 1946 and served as an aircraft mechanic and crew chief on P-51, B-17 and B-25 aircraft. He was accepted in the aviation cadet program in 1953 and received his wings as a pilot in 1955. Completing gunnery school at Luke Air Force Base, Arizona, he spent the next five years as an instructor pilot in F-84 and F-100 type aircraft. In 1961, he was assigned to the 49th Tactical Fighter Wing in Germany, where he completed a three year tour as an F-105 pilot. Captain Simpson was assigned to the 4450th Standardization Evaluation Group in May 1964, and has performed as an F-105 flight examiner since that time. He is married to the former Ann Day, of Duncan, Arizona. The couple and their three children presently reside in the Hampton, Virginia, area.

ARE YOU PROFESSIONAL?

Standardization/evaluation is designed to instill a high degree of professionalism in each aircrew member in his particular field. By instill I mean to make professionalism a normal everyday habit rather than something that is reserved for special occasions.

As aircrew members, we have selected a profession that is governed by regulation, procedure and experience. In effect these establish the standards for our chosen trade. How often then, and why, do we allow our standards to deteriorate? What effect does each departure from sound practice have on our

mission, our pride, and the example we set?

A new pilot has been assigned . . . are you, by any chance in the veteran aircrew this new pilot has been scheduled with for his first flight? The flight is hypothetical, but the events are real and have all involved "professionals" such as ourselves:

0630 - "Well, this is the big day, honey! My first flight with the unit. Course, I'll just be riding as third pilot, but I'm going with two old veterans, so I should learn a lot."

0730 - That's a handy little crutch the co-pilots use for figuring takeoff data. Nice and quick. Com-

...e too - he didn't even have to check all those charts in the dash one, and with this load we've got, that could have been pretty complicated. Must see about getting one of those.

0735 - Started to prepare a 21A but they kind'a laughed at me. Guess I'd better be a little less aggressive. Course, like the major says, he's been over this route before and that just takes extra time. Does seem like I read in AFR 60-16 where... oh well!

0740 - 365F? That's a new one, but not too important I guess. They say there's one on file and we're only a few thousand pounds heavier, so we'll let it go this time.

0750 - Little trouble at the desk about that DD 175, but those ops types should know that the blank ETE space should be filled even if we did file an enroute stop! I'm with the major on that one!

0800 - Was kind'a hoping I could follow my checklist during the walk-around, but the captain was thru by the time I had my gear stowed. Must be OK, he said he talked to a guy who flew it yesterday.

0810 - Guess they ran out of jump boots... our navigator doesn't have any. No sweat, the AC didn't ask them! Got to find my dash one without being too obvious - he said something about all emergency procedures being IAW the dash one. Must remember to pass it on to that Army Private who is going as a passenger.

0815 - Something must have gotten fouled up. Just discovered there are no chutes on board.

0830 - Boy, our AC is sharp! - he had everything turned on and was ready to start by the time the co-pilot found the right page in his checklist! I had planned to follow them thru, but... well, next time, when we're not in a hurry!

0845 - Ready for takeoff as soon as co-pilot can get his seat adjusted. His shoulder harness is tangled up in it. Thought the checklist mentions using them, but I guess - like he says - it should be pretty smooth today and they are a little uncomfortable.

0855 - Well, we're off and how fortunate I am to be able to observe crew coordination such as this! A cattle buyer's nod and the gear is up. The wiggle of one finger brings me to power and the after takeoff check and another nod establishes normal cruise. Course, there is some question as to who was supposed to have brought the nav-kit but with veterans like these...?

- Major Herbert Zumhingt
434th SEF, Bakalar AFB, Indiana



TIME FOR A CHANGE

Early this year the really new Dash 1 for the 105 series will hit the field. There will be OOHs and AAHs from some, the same old indifference from others, and the whole process of refining will begin another cycle.

This issue will offer some major advances in the development of the "Good Book" for the Thunderchief, to wit:

- * The D & F series are combined into one volume that is only ten pages longer than a manual for the F alone.
- * The Phase of Flight format is used in the emergency section. All procedures have been arranged by phase of flight, such as take off emergencies, cruise emergencies, and landing emergencies.
- * Overall volume of the volume has been reduced. The major paring was in the performance section.
- * The systems operation and auxiliary equipment sections were clarified and updated.
- * Flight characteristics section was revised and now contains a great deal of the type of material you would hear at a good TR-1 briefing from an old head in the airplane.

We were able to radically trim down the performance data section by expanding the drag index method for computing varying configurations. The only fly in the ointment was that the F model failed to fall into the charts in any predictable ratio to the D. This is going to take some more work. Takeoff data for the checklist will be in a monogram format for ease of readout and fast computation. Several items on the preflight and postflight have been removed and will go into the crew chief's checklist in the dash 6.

We have strongly resisted any effort to use the dash one as a training manual or a flying safety

pamphlet. The line is often uncertain where to caution and where to casually mention an item, since individual experience is such a varying matter.

Tight funding contributed to the spartan appearance of the manual. Cartoons and color having been ruled an unnecessary extravagance.

The process of building an effective, usable flight manual is a long and often uncertain one. The basic mechanics are outlined in AFR 60-9 and Mil Spec 7700-A. However, the actual process is much more involved. Although there are many very knowledgeable people involved in producing a system's flight manual, a truly definitive book must always wait until the man who drives the airplane tries to use it, and then sounds off. In the beginning, most of the material comes from test reports and engineering treatises. As the system comes into wider use, a gradual distillation of what the crews have been saying all along begins to appear in the manual in readable language. A perfect example of this is the F-100 manual. After ten years of service under all conditions, the flight manual has been refined into a lean, accurate, testimonial to the efforts of many good men. Have you noticed what a marvel of sparse prose the T-bird manual is today? Some difference from the volume I poured over as a cadet ten years ago. Every ounce of fat has been rendered through years of yeoman service to the absolute essential. Have you noticed the wealth of good firm airplane-driving poop that has been added to this manual over the years? This type of book is what we are aiming at for the rest of the birds. We are unabashedly plagiarizing from anybody's book for ideas.

Now, in just a few months, it will be time for another manual review. The new one will again depend upon the material that is made available to a relative small handful of men. This material, hopefully, will consist of reams of suggestions and recommendations for improvement from you, the users. In the past, response from the troops has been sporadic and disappointing when it came time to put the good "bar talk" down on paper for the rest of the guys to share. This material is gathered from a year's experience and input via the AF Form 847. A great way to clean up the book is to grab your new copy and argue with it from the words "Flight Manual" on. Write down anything you read that varies with what you have experienced, then put your idea on an 847 and send it on. Believe it or not, some of our best ideas have come from you people. One fellow I know practically rewrote his flight manual when his hardnosed flight commander made him read

it through after he had been flying the airplane three years. He was so shocked at all the baloney he saw that he wouldn't rest until he had redressed this shocking state of affairs!



NAVIGATION LOGS

SEG has received many suggestions from TAC units for various low level logs, airway logs and station stamps. We agree that maintaining a TAC Form 24 Flight Log on low level and airways detracts from the mission and is a duplication on flights which strictly adhere to the flight plan.

Therefore, the requirement for TAC navigation to maintain a TAC Form 24 on low level and airways flights is being deleted. TAC Supplement 1 to AFM 51-40 is being revised to reflect this change.

In lieu of the TAC Form 24, the TAC Form 26 has been modified to a low level and airway flight plan log. This form will be printed on both sides; one side for the standard flight plan, which is unchanged, the other side for low level and airways, which includes columns for magnetic course, doppler and remarks. Pilots will continue to use the AF Form 21a. Accurate dead reckoning is still the primary means of navigation and finger-following pilotage is not advocated. The new TAC Forms 26 will be distributed on a normal replenishment basis.

JUST A REMINDER!

The last sentence of paragraph 4-13, TACM 60-2 specifies that a list of personnel currently assigned to each stdn/eval function be attached to the copy of the unit's Standardization/Evaluation Review Panel minutes which is forwarded to SEG. In the past, a good many units have neglected this requirement, causing considerable concern and additional paper work at SEG. This information is important and do need it. Please make sure the listing is attached to your panel minutes. ➤

BRAKE OR BREAK ?

I HARDLY NEED remind you that we're in the middle of the season for slippery runways, low ceilings and longish GCA touch-downs and that a few drag chute failures could result in much gnashing of aluminum and wailing of sirens.

Unfortunately, we'll probably get a few such failures and whether we gnash and wail will depend on how much you know about stopping and how well you apply your knowledge.

There are four ways to stop an aircraft . . . with aerodynamic drag, wheel brakes, by hooking a barrier cable or hitting something solid. Let's stick with the first two. Aerodynamic drag works best at high speed where this force is highest. It varies directly with the square of the speed. Use aerodynamic drag early for max effect. As a rule with most aircraft you use all the drag devices you can, hold the nose as high as possible, use speed brakes, spoilers, flaps and, of course, the drag chute.

Wheel brakes are more effective in the slow speed range. Their effectiveness depends on friction between tires and the runway and the proportion of the aircraft's weight bearing down on the main gear. The friction is determined by the type of runway surface and its condition and it is no secret that snow, ice, water, oil and dirt will reduce friction and extend your braking distance while speed and technique affect the amount of weight on the main gear.

Normally you want to stop as safely as possible with the least amount of wear and tear on the equipment. On a long dry runway you'll hold the nose off . . . if it works for your bird, ease it down when speed dissipates beyond a certain level and then brake the bird just enough to achieve proper turnoff speed as you approach the taxiway.

When you plunk most birds in on a short, mean, dry runway your technique changes: Right after touchdown you lower the nose, hang out the laundry, raise the flaps to add weight to the wheels, and stand on the binders until the anti-skid starts to cycle or the tires start to skid. On many birds you bring the stick back to add still more weight to the poor tortured rubber, open the canopy on some types and hopefully stop on the concrete with a hot set of brakes. They should be hot, they absorbed almost all of the energy it took to stop you.

If you touched down at the published short field landing speed and did everything right, you should have stopped in the distance listed in the stopping distance chart in the dash one. Blow a tire, skid 'em more than ten per cent or do anything other than the handbook max-stop procedure for your bird and you will not match the handbook distance.

Slick down the old runway with a little water or ice and the best procedure becomes a combination of aerodynamic and max wheel braking . . . again depending on

your bird. With anti-skid, and much discretion, you can often cut a few feet off the landing roll by using wheel brakes while you are holding the nose off. This depends on the bird, of course, and must be done very carefully since there is very little weight on the gear and 'tis extremely easy to slide a tire. Except for birds with reverse thrust or props, an idling engine produces some thrust. So if stopping will be a problem and you can shut one or more down without losing hydraulic pressure, by all means do it and as early as possible.

The biggest problem with panic stops is we can't practice max braking technique without abusing the equipment. On many birds a panic stop on dry pavement will generate all the heat the brakes were designed to absorb. This means they will fade or fail if you insist on taxiing before allowing them to cool. Chances are, the heat has also ruined an expensive set of tires.

Incidentally, if your normal brakes are working during a hard stop, the emergency brake will NOT help you stop any quicker. In fact, if the normal system has hydraulic pressure, all you can get from the emergency system is trouble - like blown tires.

As the man says, we don't count 'em as safe landings anymore until the birds are stopped unbent. Which means you have to know your BRAKING problems if you want to avoid BREAKING problems. ➤

GOOD OLD DAYS



“What did you think of the flick, Clyde?”

“It was great, Ellrod. Most of these flying movies are made strictly for non-pilots, but this one was good. I can’t help think I was born about 30 years too late.”

“I know what you mean. The barnstormers and racers were a real bunch of goers. Some of those old birds were held together with nothing more than bailing wire and faith, and when they said that any landing you could walk away from was a good one, they weren’t kidding.”

After a month of weapons training the squadron was again TDY to prepare and participate in a firepower demonstration. Ellrod Sockroller and Clyde Youngfell had spent the early evening at base theater and were enjoying the cool breeze from the nearby bay.

“We have the late mission tomorrow, Clyde, so let’s drop by the club for a cool one before we face those four walls back at the Q.”

“Fine . . . it should help fight off malaria. You know, I keep thinking about that movie, Ellrod. How do you think I would look in a long white scarf and a leather helmet?”

“If it’s all the same to you, I won’t answer that.”

Ellrod paused to let Clyde open the door. After letting their eyes become accustomed to the gloom, they picked their way across the room. Clyde turned to Ellrod, “Just so you won’t think I’m trying to make points, sir, you can go ahead and buy this round. I’ll find us a table.”

Ellrod set the glasses down and took a long sip. “Clyde, altho it

ks to us like the pioneer pilots and a pretty good life, I'll bet it was a lot of work."

"Maybe so, but about all they had to do was jump in the airplane and fly . . . even if the airplanes weren't quite as classy as ours, they had more flying and less of all the other stuff."

"Don't be too sure of that. The aviation history books tell of some really involved operations that took just as much preflight planning as we go thru."

"I can't believe it. Remember that last practice deployment? The ops order was an inch thick and we had about six separate briefings!"

Ellrod nodded. "Then we aborted, but it may surprise you to know that back in 1929 a couple of pilots stayed airborne for over 150 hours. That's right, mid-air refueling and the whole bit. Their procedures weren't sophisticated, but must have taken months of detailed planning to accomplish that mission. And just think of the work that went into the round-the-world flights they made in those days!"

"Well, they were one-time operations. They didn't have to do it all the time."

"No, they didn't, but remember, a lot of things we take as routine were experimental back then. About the same time as that 150 hour flight, a young troop named Jimmy Doolittle completed the world's first successful outside loop. Undoubtedly there were a lot of pilots before him who, because they didn't plan everything just right, are credited with some of the world's first unsuccessful outside loops. And, speaking of unsuccessful, you are, if you think I'm going to buy all night!"

"Alright, sir, one for the ditch and we'll still have time to log tonight straight of sack time." Clyde soon returned with two freshly

filled steins. "Ellrod, not all the early types were military. What about the racers of the 30s?"

"They had a different problem. Remember the Gee-Bee? The wings were so small that they looked like the builders had run out of money and tried to make do with a couple of spare elevators off a Jenny. With the great big prop it turned and the torque the pilots had to handle, it must have been a full time job just to get it off the ground and back in one piece. Those troops were ripping around the pylons at 50 feet, pulling all the Gs they could get . . . really max performance. They had to do more than just kick a tire and ask where the finish line was. They had to know their aircraft's capabilities intimately and here we go back to detailed preplanning."



"I see your point, sir, but still they were stick and rudder men."

"That's the real difference between them and us, Clyde. The aircraft have certainly changed, but more important, the mission has changed. Pilots in the 30s could get away with being stick and rudder men . . . like I said, that was a full time job in some of their aircraft. But you and I can't afford the luxury of being just pilots. Flying the airplane has to

be one of our minor efforts. Using the airplane as a weapon is our job. Even in the big war, a pilot's job was relatively simple . . . he didn't have a lot to work with . . . machine guns and bombs and maybe some rockets and that was about it. They didn't have to worry about filling the inverted-night-refueling square or working with air-to-air missiles one day and napalm the next."

"We do have to be pretty versatile. They keep adding on requirements . . . I wouldn't be surprised to see someone come up with a way to put paratroops in the external tanks so we could get into the troop carrier business."

"I don't think that's programmed until fiscal year 68, but with this varied mission, we have to use every crutch we can find to make it easier. The professional aerobatic pilots put a little card in the center of the instrument panel to tell them what maneuvers come next. This is a crutch. We use a lot more crutches than they do . . . checklists, briefing guides, procedures manuals and all sorts of things, but they are all aimed toward the same end result, getting the mission accomplished. I'm probably the only man alive who could hack all of our missions without any aids at all, but lesser clods like you . . ."

"I can tell that it's time to aim you back to the Q, Ellrod. Before long you'll be giving your famous impersonation of a smashed fighter pilot."

"Alright Clyde, let's go, but I want you to remember something. Altho we would both like to be just plain old fighter pilots, our mission demands that we be professionals. Nobody ever said that our profession was supposed to be fun and games."

"Yes sir, and isn't it a shame!



TAC TIPS

AERIAL DELIVERY LIFE INSURANCE

It used to be that you only had to memorize the Dash One and 55-130, and add the flying skill of an Eddy Ricketyback, to make a successful and safe multi-driver. But it isn't that easy any more. Goldfire I showed us some new types of aerial delivery malfunctions that made even the old heads think about a little more life insurance. Actually, the best of such insurance doesn't cost a dime, but it does take a little work. Not only aircraft commanders, but all crewmembers need to learn more about how to install and operate the dual rail system, as well as how to rig and prepare loads for GPES and LAPES and PLADS. All of the info is not laid out in a nice simple package for you, but your loadmaster knows a lot, and I'll bet if he doesn't have the answer he knows where to find it. Sure the equipment and systems are new and sometimes goof up, but a lot of troubles could be prevented if everyone on board had taken a little more time to inspect, a little more time to learn, a little more time to think.

TOWER OBSERVATION

When the weather is particularly fickle . . . rain and snow showers and such . . . few things irritate a pilot more than to ask a tower what the weather is and be told what it was 20 or 30 minutes ago.

Weather observation sites aren't normally located in the control tower and both normal and special observations are passed along as soon as they are made. But this takes a little time and while weathermen are quick to report deteriorating weather they are apt to stick with the lowest report when the ceiling and viz are fluctuating.

Usually when a pilot asks a tower operator for the weather, he is really asking for two things; first he wants the latest official report and second, he wants to know how it looks from the tower. For example, the official sequence reads 800 broken, 2000 overcast and one mile in snow, but the tower operator can see that

the snow shower is passing over, the viz has picked up to a couple of miles and the lower deck seems to be breaking up. Obviously, the pilot would like to know the complete weather picture. He may not realize it but a pilot can get this kind of information, all he has to do is ask.

Tower operators are trained and authorized to give their observation of the weather as it exists. They are not going to argue with a ceilometer, but they can give up to the minute info on visibility and general conditions.

When you want the big picture ask for a tower observation of present weather . . . they'll be glad to help.

HOT POTATO

An F-4C crew had some real excitement after they overlooked a seemingly insignificant item on the checklist. Just after takeoff the cockpit got extremely hot and filled with smoke. A glance to the right showed the temperature rheostat in full cold, but the temperature control switch was off. When the switch was placed in auto, the smoke stopped and the heat dropped down to normal. A look in the dash one explained the problem . . . with the switch off, the rheostat will stay at whatever temperature was selected the last time the switch was on. The after-landing check requires the pilot to put the temperature at full hot and that means up to 200 degrees! Little items can cause a red face for more than one reason.

836 AD Fly Safe Tips

BAK-9 MISS

The hook missed the BAK-9, but the MA-1A made the catch. A steel plate projecting about a half inch above the runway was located on the runway about 40 feet in front of the BAK-9. The hook hit the edge of this plate, which caused it to bounce and miss the cable. The people who surveyed the runway some weeks before this near miss did not fully appreciate the potential hazard induced by this plate . . . but now you know.

BYE BIRDIE

The first element of F-84Fs scared up a flock of starlings and the tower radioed a warning to the second element. Too late, they were already committed. The element lead thought of screens, but didn't have time to extend them before he plowed into the little birds.

He felt engine vibrations which smoothed out as he continued his climb on around into a closed pattern and successful landing. Blood and feathers were all over the aircraft and engine, but neither were damaged. Of interest, had the pilot extended screens, safety people believe enough birds may have become plastered on them to cause a flameout.

NORMAL - NORMAL - NORMAL

From an aircraft incident report: "Landing approach and touchdown were normal. Pilot pulled the drag chute handle, but the chute did not deploy. Braking was normal but it was apparent the aircraft would engage the barrier."

Might have been in real trouble if the approach and landing had been long and hot!

LEAN 'EM UP

A TAC fly safe type went out to fly a conventional weapons mission in a bird loaded with practice bombs and rockets. When he climbed in he found all armament switches hot except one! True, rockets are not supposed to fire when the weight is on the gear . . . but past experience has proven the folly of trusting the squat switch.

Offhand, the armament people did not check the switches off prior to loading and apparently the previous pilot forgot this not-so-small item. 'Tis the kind of trap that leads to accidents.

JACKPOT

A 105 pilot from overseas really hit the jackpot --- three gear safe lights, three gear unsafe lights, light on in the gear handle and an unsafe gear warning beeper . . . all at the same time. Investigation, after a safe landing, found a rotary switch on one landing gear door shorted out, but rumor has it a similar light-up at Las Vegas paid six to one.

VISOR DOWN

Turning final a student pilot saw a buzzard coming straight at his face. He tried to duck under it but it hit center windscreen, burst thru and hit him in the face. The next thing he remembers clearly is looking with his left eye at the instrument panel and seeing

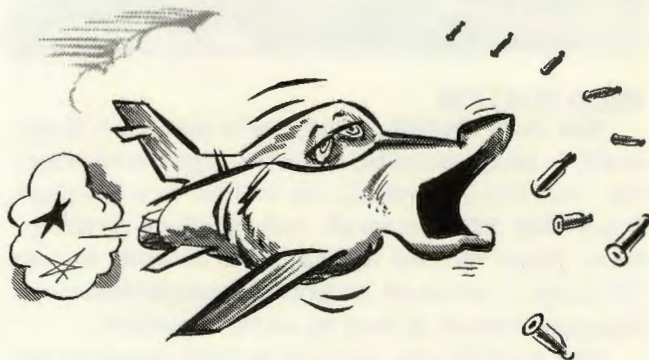
TAC ATTACK

95 knots on the airspeed, then seeing the runway. The landing was a success and the student was only slightly injured . . . requiring a good wash job and eye clean up. This and similar bird-strike mishaps should be sufficient incentive to get us into the visor-down habit during landing and takeoff.

STATION BREAK

When air filing a flight plan with a Flight Service Station, give the man a break and include the three letter identifier after each station in your route of flight. For example, Dallas, DAL, J-21 Austin, AUS, etc. This eliminates confusion between Springfield SGF, SGH, SPI, SFD and SRI or between Columbus CSG, CUS, CBM, UBS, OLU and CMH!

In addition, it will cut down on the number of read backs. The troops in FSS seem to appreciate getting the identifier. I've had 'em say so and one even told me he wished all pilots would include them.



A LITTLE LOW

An F-100 pilot flying wing dropped a little bit low during one of lead's hot passes at the dart. The compressor stall was reported as very mild; however, the 20 mm shell casing sure tore up the air scoop and the first three compressor stages.

YOU GOT IT!

The attitude indicator tumbled on one of our F-4s, coming to rest inverted in a 20 degree bank. The pilot selected the stand-by reference system but all he got was electrical smoke.

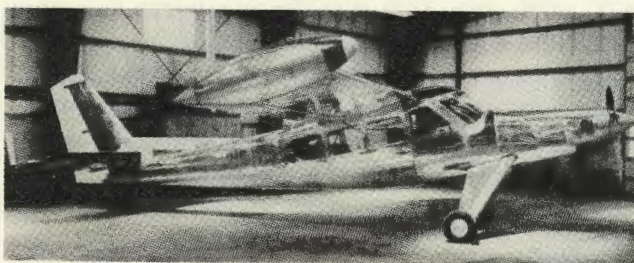
The ADI indicator had failed internally. The Navy F-4 people have had problems with this instrument and it looks like we're headed down the same path. Fortunately, we have another indicator for the aft pilot . . . but visualize for a moment the tug-of-war that could develop as a result of one of these failures. Now's the time to get squared away on how you intend to cope with one of these and perhaps cut some of the confusion.

FIRED OUT

An F-100 pilot from another command fired out on his third strafing pass when the 20 MM guns continued to fire after he released the trigger.

Armament experts went thru the complete electrical firing circuit but couldn't find a thing wrong. They eventually replaced the stick grip, but had no evidence to support a malfunction.

The pilot thinks his glove may have induced the problem . . . that the seam on his middlefinger may have been pressing on the bottom edge of the trigger hard enough to keep it from releasing properly.



HELIO STALLION

The Helio Stallion, successor to the U-10A/B aircraft, is being evaluated at SAWC, Eglin AFB, Florida. Turbine powered, the Stallion is a ten-place heavy-duty STOL aircraft with excellent performance. Flight envelop extends from 35 knots to over 175 knots . . . adequate for armed-reconnaissance and helicopter escort as well as utility transport.

The aircraft can carry up to 2400 pounds of external stores and will have a 2300 nautical mile ferry range.

SNUBBED

Those F-105 hydraulic P1 and P2 pumps are still causing a few anxious moments. One of the suspected culprits is rapid stick movement without an aerodynamic load on the control surface. Knowing the hydraulic gages to be a good problem indicator, the factory made some tests and found that transmitters, indicators and pump speed cause very little variation in the rate of indicated pressure rise. What you can expect is a two to three second time lag between P1 and P2 gages, even tho they will generally stay in phase with each other. This time lag appears to be a result of how much snubbing the snubbers are doing.

SLIPPERY

The PACAF FLYER reminds us that many pilots have had their gloves become slick and slippery as a chamois skin immediately after parachuting into water. This is especially true when the gloves are a little too large. This makes it even more difficult to operate a stubborn quick release or work with survival gear and often the aircrewman must waste precious time trying to remove the soggy things.

Altho wearing gloves is strongly recommended during flight, it's a good idea to pull 'em off and store them in your pocket if you find yourself floating in earth via parachute.

BOMBS AWAY

Quote from an incident report, "The pilot changed bombing mode from automatic to manual with the freeze button depressed . . ."

Letters to the Editor

Dear TAT

The article published on page five of the November ATTACK regarding the F-105 with hot brakes has caused a great deal of confusion and dissension in this organization. Some of the corrective action you mentioned seems to be in conflict with TO 4B-1-1. We



fully realize that the articles in TAC ATTACK are non-directive, but it is surprising how difficult it makes the job of enforcing the Air Force directives once items of this nature are read by interested personnel.

We of the 108th Tactical Fighter Group Quality Control Section think this item is important enough to have the record set straight and believe you will aid us in this endeavor. With this thought in mind, we would like to point out the following:

TO 4B-1-1, dated 5 May 1961, titled, Use of Landing Wheel Brakes and Wheel Fire Fighting Procedures, states, "If an aircraft is subjected to excessive braking action (especially a rejected takeoff),

fighting equipment and personnel should be dispatched to the aircraft immediately whether fire is evident or not. All personnel other than those in the fire department should evacuate the immediate area.

Your article states that personnel at McDonnell aircraft are approaching and measuring the temperature of tires and wheels that are suspected of being hot! This is like approaching a time bomb with the timer set to explode at some undisclosed time. Using a cage does not save a man's hearing if he happens to be the unlucky victim directed to violate a technical order by someone who, in his zeal, to save a few dollars, has set up such a policy. What price can you place on a man's hearing? Certainly greater than the price of a wheel, tire or piece of fairing on a given aircraft!

The use of air as a cooling agent is questionable and technical order 4B-1-1, para 6, states water will be used on the exposed brake. (This is nearly impossible on some aircraft configurations.) After the brake is cooled by water, then air can be used.

The good point of the article is the idea of puncturing the tire with spikes imbedded in a steel plank. This looks like the real answer to this problem. We

l this should be expanded on. The pilot is, in the majority of cases, aware of a hot brake problem, and if directed into a hot brake area, he can puncture the tires by taxiing over the planks. Let's face it, a tire and wheel assembly subjected to heavy breaking is not in all probability going to be serviceable, and at the very least requires complete break down for inspection. Once the tire is punctured, the danger involved is completely removed.

We understand that this problem is being overcome on multi engine, multi wheel, aircraft by a blow-out plug. Perhaps this item can be incorporated into fighter aircraft tires.

RICHARD W. SPENCER
Chief Inspector
108TFG, NJANG

Dear Spence

No argument from me. I think the problem revolves around the term "moderately hot." To me, this means the tire isn't obviously hot and that the McDonnell people are going two steps SAFER than the TO. They are checking tire temperature on moderately abused tires, which most of our people would eyeball as OK, then taxi to the ramp, and they are pulling the fuse on those that have been overheated and ruined. In this respect, the tires they cool by air - actually they cool

the wheel and brake assembly - are cooler than ours are AFTER being given the water treatment. Those hot enough to get the water treatment are simply spiked.

If there is any doubt they taxi across the spikes. Also, I'm certain the temperature takers wear ear defenders just in case.

TAT

Dear TAT

I have always enjoyed reading your rag even though when more closely associated with the TAC Office of Safety, I had to straighten you and your one-motored assistants out on the finer points of flying (multi-engine-non-jet-wise). The December issue has just been delivered and the picture on page 23 stirred me.

For a number of years, pilots flying the C-119 have voiced the lament that the old bird won't perform as the charts claim. In many instances they are entirely correct! In using the referenced picture, you have, perhaps unwittingly (sorry TAT), graphically shown one of the causes of this poor performance. (Note damage to wing leading edge around oil cooler air intake caused by refueling hose nozzle).

Another command has long utilized an aircraft of the same vintage (C-118, serial numbers starting with 51 and 53) which shares the over-the-wing refueling procedures and a heated wing with no de-icer boots to protect it. When this aircraft first came into the inventory, the damage potential was recognized and a procedure placed in effect to prevent it. While refueling, it was mandatory that a pad be used over the leading edge to prevent the refueling hose nozzle from denting the skin.

This procedure has worked. Examine the next C-118 you see. Most have three or four times more total flying time than the average C-119 and hence three or four times the number of refuelings.

An airplane is very much like a woman - a little care, a little worry and a lot of attention will keep it in a desirable shape much longer.

Major Neil E. Gallier
FSO, 463d Troop Carrier Wing
Langley AFB, Va.

Dear Neil

Many thanx for your comments and I certainly agree that a little padding helps keep the old girls in better shape.

TAT

THE WEED AND I

Photo Credit - SSGT Joseph D. May, LA FB, Va

Last year as I listened to those ghastly news reports on smoking and watched the tobacco stocks drop, I decided it was time to take a look at myself and the pack of cigarettes I'd been smoking each day. This self appraisal took into consideration my general health and condition, the taste in my mouth each morning and a few other items, and terminated with a simple answer...stop smoking. I did.

The next couple of weeks were miserable. I popped my knuckles, chewed on mints and lost whatever limited ability to concentrate I once possessed. The satisfaction I received from the inner knowledge that I was noble and strong fell far short of the craving I had for just one good smoke. Like the newcomer to the nudist camp who is lost without pockets, I continuously fumbled for matches that weren't there. Bit by bit I weakened and one evening after a particularly delicious meal, scrambled madly through the house, found a cigarette, lit it and really enjoyed myself.

But soon great pangs of conscience overcame me...I had fallen. Not without the ability to rationalize, I decided that cigars were the answer. With visions of suavely offering one to a lady, I ran to the store and purchased a pack of cigars. The first deep drag blacked me out. Not one to be easily discouraged I kept at it and within a week I was able to smoke nearly half a cigar without gagging. But the recurring spells of nausea were interfering with my

flying and so I decided that the real answer lay in pipe smoking...off to the tobacco counter again.

Properly outfitted as a pipe smoker...pipe, cleaners, matches, pouch and all purpose pipe tool (a steal at only \$1.75), I entered an entire new world. After ten days of lights, relights and relights, my tongue was nearly broken in. After each pipe full I closely measured the cake that was building up in the bowl, con-

fident that soon the high priced aromatic tobacco I used would taste as nice as it smells when someone else smoked it. I waited and waited...it never did. One day a friend watched as I dumped ashes from my pocket and said "Here, have a cigarette." So I pen this with stained knuckles, a slave again to demon nicotine.

Since fear of a lingering death hasn't been strong enough to make me quit smoking, I have started to explore the possibility that the wicked weed might bring on my sudden demise. The Air Force has published a lot of direct and indirect anti-smoking information in an attempt to urge people to give up cigarettes. An obvious hazard to aviators is the possibility that your oxygen mask and face may ignite when you try to light up. Not too long ago this very thing happened when a B-66 pilot lit up a weed with the oxygen lever in emergency. Immediately thereafter came a flurry of activity to make smoking in aircraft illegal. (A curious side effect was that altho this incident occurred in a single piloted bomber, the prohibition actually published only applies to fighter and fighter trainer aircraft.) Prohibition by itself hasn't eliminated the smoking problem but maybe there is a realistic middle course as addicts can follow.

First we should look at how smoking and flying disagree. Smokers have a constant fairly high level of carbon monoxide in their system...which means we always have a little less oxygen than the good guys. A smoker is always at about 8000 feet physically. Based on my experience, this has a negligible effect as long as cabin altitude stays below about 14 thousand. Above, things get pretty grim and it's switch to 100



cent, cinch up the mask and ask for a lower altitude.

Nights are always bad for a smoker. I used to hear the other fellows talk about bright moonlight but figured it was something like a bucket of jet wash and didn't let myself get fooled into thinking it existed. Then one day a friendly flight surgeon gave a talk about night vision... rods and cones and that sort of stuff... and casually mentioned that smoking destroyed most of a person's night vision. I got the point.

In view of the way smoking hurts my flying and the way my recurring morning sickness has been getting worse, I now have the following personal rules for smoking.

- * Don't smoke while flying, at any time.

- * Have a last smoke before the flight briefing begins. This averages out to at least an hour between smoking and flying.

- * Don't smoke before breakfast or within an hour of any meal. (Note for heavy smokers...

breakfast is a meal that non-smokers eat in the morning).

By following these rules I will be able to avoid smoking when it's particularly dangerous and cut down on my total poison intake. If, during one of the periods of abstinence I feel the craving, I try to think of something that will make me forget about smoking. Although I am frequently accused of having a dirty mind, I have been feeling better lately. Care to give this system a try?



First Lieutenant James W. Anderson of the 27th Tactical Fighter Wing, Cannon Air Force Base, New Mexico, has been selected as Tactical Air Command Pilot of Distinction.

The remote Pacific island was under the effect of a typhoon when the flight of four F-100s arrived. This was the second leg of a deployment and winds made fuel a problem. With no alternate available and Lt Anderson's TACAN and ADF inoperative, the element he was in started a RAPCON approach. Radar contact was temporarily lost but re-established in time for a GCA hand off.

However, the element leader failed to follow GCA instructions. Lieutenant Anderson realized his leader's UHF was out and took the lead. Due to the time lag, this left the element much too high on the glide path. On the missed approach, with 750 pounds of fuel, Lieutenant Anderson's UHF transmitter went out. He re-established communication by using the emergency squawk and IP button on the IFF SIF and the element was directed to final approach. To conserve fuel he held the gear and flaps until two miles out, and at precision approach minimums with insufficient fuel for another approach, continued following the controller's directions, finally observing the runway lights less than a half mile from touchdown. A successful formation landing was completed in a heavy rainstorm.

Lieutenant Anderson's presence of mind and proficiency under extremely adverse conditions qualify him as a Tactical Air Command Pilot of Distinction.

PILOT OF DISTINCTION

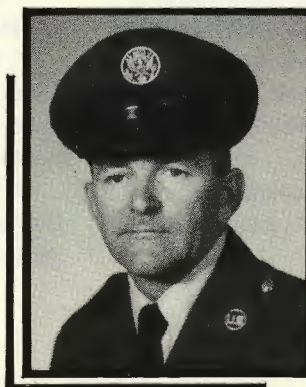


MAINTENANCE MAN of the MONTH

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

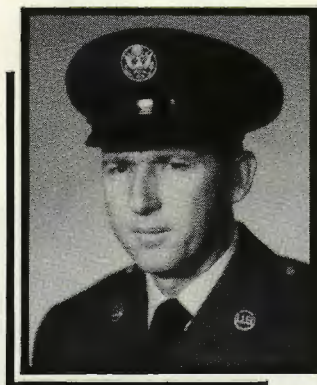
As crew chief on an F-100D, Sergeant Trudell performs his duty with diligence and thoroughness. Recently his aircraft logged 100 hours in 30 days and he maintained it operationally ready thruout this period. Sergeant Trudell was commended for his performance by a spot aircraft inspection team and pilots often attest to the superior condition of his aircraft. He has continually demonstrated a willingness to impart his technical knowledge to others and help them to improve their effectiveness.

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



CREW CHIEF of the MONTH

crew chief of the month



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

Thru outstanding managerial ability as a supervisor in the Propulsion Branch, Sergeant Williams helped make the J-57 section an efficient and highly productive unit. Combining his technical knowledge and ingenuity to solve an engine lubrication problem, Sergeant Williams devised an oil system modification that was adopted for the J-57 and J-75 engines. He unselfishly supervised and monitored the testing of engines initially converted to incorporate this modification. His prompt and complete action has saved the Air Force large sums of money and manhours.

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

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

DEC TALLY

UNIT	MAJOR	MINOR
31 TFW	1	
355TFW	1	
4510CCTW	1	
27TFW	1	
1ACW	1	
4520CCTW	1	
354TFW	1	
401TFW	1	
3TFW	1	

ACCIDENT FREE

MAJOR & MINOR

JET

ACTIVE	MONTHS		ANG
12TFW	19	20	107TFW
363TRW	7	20	140TFW

CONVENTIONAL

ACTIVE			RESERVE
4500 ABW	42	97	434 TCW
464TCW	20	58	435TCW

MAJOR ACDNT RATE

TYPE	1964*	1963
ALL	10.5	10.3
F-4	4.9	0
F-705	26.7	23.5
F-104	12.1	33.2
F-101	20.1	13.9
F-100	18.8	12.8
F-86	0	0
F-84	21.6	22.9
B-66	0	0
B-26	76.0	8.6
T-39	0	0
T-33	0	1.6
T-29	0	0
KB-50	11.0	4.1
C-130	1.2	1.0
C-123	8.6	4.6
A-1E	10.7	0
U-10	28.6	22.6
T-28	0	37.2

* 1 JAN -31 DEC 64

This month we've added a black border to this column in deference to the lost lives, wrecked equipment, and reduced combat potential . . . a bad ending for an otherwise reasonable year, with TWELVE MAJOR ACCIDENTS, one minor and ELEVEN FATALITIES. To compound this tragedy, most of these accidents were caused by personnel error and were definitely preventable.

An assault landing resulted in minor damage to a C-123 when it was landed gear up. Four crewmembers were fatally injured when their C-123 apparently spun in on a transition mission.

While shooting landings, a KC-97 pilot touched down short of the overrun, hit an embankment and slid onto the runway. Four of the eleven persons aboard were killed. Sighting the runway at GCA minimums the pilot of another KC-97 hit a wing tip while maneuvering to line up. The aircraft slid into a refueling rig and burned.

One crewmember was fatally injured and a B-26 severely damaged when a 100 pound bomb inadvertently released and exploded.

An F-84 crashed in a dry lake, 1-43 after takeoff. The pilot had declared an emergency with 5 minutes fuel remaining and stated his intentions to eject. The aircraft had been serviced with almost three hours fuel.

Adverse yaw during a hard turn claimed another F-100... the aircraft entered a spiral and the pilot ejected. As a flight of two F-100s crossed a mirror-smooth lake on a low level nav mission, the wingman saw his leader hit the water. Another one-hundred pilot was seriously injured when his aircraft hit 2000 feet short of the runway during a VFR approach. Still another F-100 type escaped injury when his aircraft left the runway and sheared the gear while aborting a takeoff because of a blown tire. The pilot of yet another F-100 ejected safely when the EGT pegged and fire was reported coming from the tailpipe during an airstart attempt. After rpm decreased to 71 per cent and an airstart on emergency fuel didn't correct a power loss in another F-100, the pilot ejected successfully. The main fuel shut off valve was found to be 90 per cent closed.

The pilot of an F-105 successfully ejected after the stab out, fire and overheat lights came on and the aircraft pitched up violently shedding its external stores. His flight leader observed flames in the vicinity of the burner section on the right side.



FORMATION COLLISIONS
ACCOUNT FOR
MOST OF OUR
MIDAIRS
AND
ARE CAUSED
BY...



... PILOTS PUTTING TOO
MUCH ATTENTION IN THE
COCKPIT !!



NOT
FLYING AS
BRIEFED !!



OVER-
EXTENDED
WINGMEN !



NOT
FOLLOWING
LOST WINGMAN
PROCEDURES
AFTER GETTING
SEPARATED !!



AND NOT BEING
POSITIVE WHEN CHANGING
LEAD !