NOVEMBER 1963

TAC ATTACK

SLIPPIN' AN' SLIDDIN'

TAC ATTACK

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FAA checks hydroplanning effects on directional control.

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Angle of Attack

Too busy with the crowded hour to fear to live or die.

-- Emerson

I once helped an old cabinetmaker build a piece of furniture from a rough sketch he'd made on the back of an envelope. He laid out the lumber, looked it over and while I was still wondering what he had in mind, started cutting. With walnut at over a dollar a board foot, I asked why he planned things so quickly.

He clamped two boards side-by-side and started to dress their edges. "Most folks waste too much time looking a situation over," he remarked. "They're afraid they'll make a mistake or have the idea that things aren't planned right unless they sit down and figure out every last detail. Others refuse to even start a job because they don't have a lot of fancy equipment. I admit, sometimes I spoil a little lumber, but that's the price I pay for getting things done."

The old craftsman got things done too, but I noticed he was careful where it counted and he checked everything as he went along. He just eliminated the triple checking and was able to plan as he worked because he had a good mental picture of what he wanted to do. He didn't refer to the envelope more than once or twice.

The lessons from this apply elsewhere. During the Korean action I used to watch, with considerable amusement, some of the elaborate tactics used by the MIG pilots. Most were a variation of the time honored decoy approach. They'd send two aircraft in as bait and back them up with a sizable group who were to pounce on anyone foolish enough to attack the pair.

After a quick glance at the situation, two of us would take after the bait while the other element would swing wide to bounce the others as they attempted to spring the trap. In seconds the sky would be full of confused, scared MIG pilots.

We attacked as a team, and then modified our attack to make it fit the situation as it developed. We were like the old cabinetmaker, using a simple basic pre-plan and taking care of the finer points as our work progressed.

Our success with such apparent recklessness was no accident. We were playing the fight to make the maximum use of our strongest asset . . . the fact that our pilots, almost to a man, were capable of sizing up a fluid situation, coming to a decision and taking action. We worked as a team and significantly, our teamwork was based on a mutual trust in the other man's ability to think and act.

In this complex age it would be suicidal not to plan ahead, but it would be equally fatal not to develop and nurture the ability our people have for using their brains and making decisions . . . even if they do spoil an occasional piece of lumber.

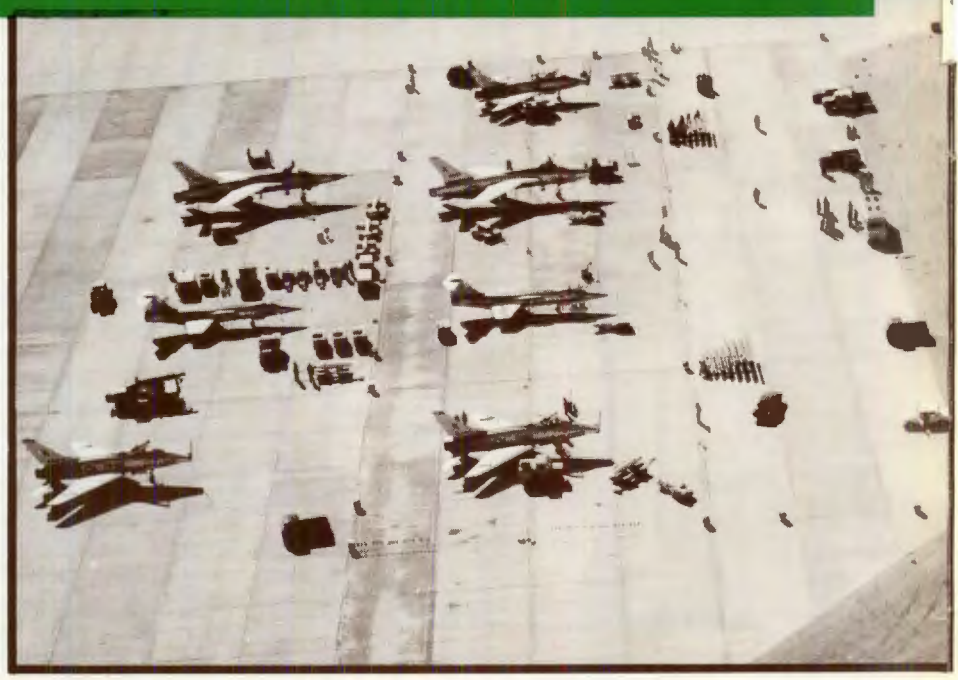
Colonel James K. Johnson
Chief, Office of Safety

This is Col Johnson's final thought for the Angle of Attack. Shortly after this issue goes to press he will retire from active military service to take a position with Northrop Aviation. The Air Force, and particularly the ATTACK staff, will miss the Col's sound practical approach to aviation . . . an approach based on the experience he gleaned from commanding fighter groups in Europe during World War II and in Korea. In Korea he distinguished himself by shooting down 10 MIG-15 aircraft. He was also credited with three probables, and nine damaged.

He came to TAC as Director of Safety after an R and D tour in the Pentagon and assignments in SAC as commander of the 55th SRW and 43rd BW, SAC's first B-58 wing. His decorations include the DSC, Silver Star, Legion of Merit with oak leaf cluster, DFC with two clusters, Air Medal with 18 clusters, Croix de Guerre with palm and Belgium Fourragere.

-- The Editor

TAC'S TOP TEN



NUCLEAR WEAPONS loading crews from ten tactical fighter and combat crew training units competed in the week-long munitions loading competition. Each crew loaded two nuclear weapons training shapes and completed a written examination. Their loading equipment was also evaluated for points.

From the initial planning thru the final loading, Colonel Gust Askounis and his judging staff gave primary consideration to safety. Checklists and nuclear weapon system safety rules were mandatory items. The crews were very safety conscious and demonstrated conclusively their ability to load reliable nuclear weapons safely and efficiently.

The 354th TFW walked off with the lion's share of the trophies and honors as SSgt Duane Reid and his crew copped the overall winner's trophy, first place trophy for the A weapon and second place trophy for the B weapon. The 479th TFW crew, led by A/1C Richard MacRae, finished first in the B weapon competition while SSgt Robert Civil's crew, from the 474th TFW, collected the second place A weapon trophy.

Competition was unusually keen and the point spread among the top crews very narrow. All crews were in doubt until the scores for the final event, the written exam, were posted.

Major General Dean, 12AF Commander, commended the crews very highly as he presented the trophies.

In addition to giving well deserved recognition for our outstanding loading crews, Top Ten provided the opportunity for them to exchange ideas on loading techniques. Each crew observed nine other crews do their best work. Now they will be able to incorporate the improvements they noted into their own training programs.

Congratulations to the winners, and particularly the 354th TFW crew, on a job well done.

We're looking forward to another successful competition next year.

Getting the layout of the loading area

Commander 12AF with the winners: l. to r., A1C Nedley, Maj Gen Fred M. Dean, A2C James, SSgt Reid, A1C Doyle

TSgt Allison conducts a tool chest inspection

Commander's Trophy, plus two for the champs. l. to r., MSgt Lindsay, A2C Hallada, A2C James, 1/Lt McEwen, SSgt Reid, A1C Doyle, A1C Nedley, A2C Jenkins

Stowed and Safetied

Loading the Bull Pup

TAT

WITH TURKEY DAY next on the list, it's that time of year again. Back when TAT was a lad, all the folks would've just about recovered from Halloween...you know, finished rounding up their livestock from the church belfry and other places... realigned the little house over the hole out back and even quit speculating on how us young'uns managed to engineer some of the more difficult pranks. Now-a-days the kids don't even get a tummy ache from eating the horrendous assortment of handouts gleaned off the neighbors...they're used to eating junk like that on a day-to-day basis. So much for progress.

It was inevitable that the old Halloween would phase out. When people stopped fixing their own gates and started hiring someone to fix'em, what passed for mischief suddenly became malicious, unwarranted destruction.

Back in the old days, if a fella stumbled on an uneven place in the sidewalk, he usually got up real quick, dusted himself off, then glanced around sheepish like to see if anyone had seen his clumsiness. Now, the same guy will lie there moaning, groaning, and holding his back, waiting for an ambulance and lawyer. They keep the sidewalks pretty smooth these days. Smooth and safe.

I like the freedom of the old ways, but admit that the ideal is somewhere in between.

Remember when flying was casual, with negligible regulations? Sign out for a local flight, practice what you figured would do you the most good, first one off the ground led the mission? We had a lot of accidents, but developed some rugged versatile pilots.

All these changes are inter-related. The average citizen's changed attitude toward Halloween pranks and the hole in the sidewalk have a direct effect on how we fly. The public will no longer tolerate the grandstander. Add to this the increased cost of the equipment we use, expanded civil air traffic and - most important - the very nature of many weapons we are entrusted with, and you find the real reason for much of today's tightly controlled restrictions. Our challenge is to develop rugged versatile pilots without violating these restrictions or losing aircraft right and left.

It can be done. I well remember a project that was run some years back. A project that looked so risky we expected to lose five or six pilots from the squadron that was involved.

All but three or four of the squadron pilots were in the 600 to 800 hour bracket. Yet, by sending these pilots thru a carefully planned training program that exposed them to progressively more demanding conditions, they were able to complete the project in superb order. We lost one pilot during a GCA approach...a phase of flight that was only incidental to the project. This project remains the best example of how to attain true safety that I've ever seen.

No one can predict and then proceed to avoid all hazards. But, all of us can train ourselves to cope with the vast majority of those hazards we are able to predict. This will make us more broadly skilled and far better able to cope with the trouble we fail to foresee. End of lecture, pass the turkey!

A COUPLE OF MONTHS ago TAT commented on approach end barrier engagements. Since, we've picked up a couple of reports on people using this technique. The first was a duce pilot who blew a tire on a formation takeoff. Skilled rudder, aileron

and opposite brake manipulating kept him from bumping elbows with his flight leader. Going too fast to abort, he continued the takeoff and had his leader confirm the blown tire.

A full fuel load gave everyone plenty of time to settle on a plan of action and the result of this committee thinking was an approach end engagement with the MA-1A removed from the approach end, just in case he was a wee mite short.

He used a normal landing configuration plus an extended hook. He deployed the chute at touchdown, lowered the nose and hooked the barrier. The barrier extended 720 feet.

Right after touchdown the blown tire set up a severe vibration - bad enough to rechannel the UHF and make it impossible to check on nose gear steering. Right brake (the left tire was the bad one) kept the bird straight until just before the engagement. If he hadn't snagged the barrier or if he had touched down much further from the barrier, the pilot thinks he would have been committed to the boon docks. Damage? Well, the left wheel and tire had to be changed and an air line to the left brake had to be replaced. There were a few cuts and dents from thrown rubber... that's all.

The second incident ended almost as happily. A TF-102 was involved after its right gear wouldn't extend. There wasn't enough fuel to hold conferences or even get the MA-1A out of the way. The pilot jettisoned the canopy and told his student to drop the hook on his signal and to follow up with the drag chute after feeling the aircraft start to decelerate. He brought it in just inches off the overrun and called for the hook as the MA-1A flashed by.

About 200 feet separated the two barriers, but the hook extended in time to engage the BAK 9 and touchdown was surprisingly light. The right wing dropped during the slide-out causing the aircraft to swing. This broke off the nose wheel. The pilot stop-cocked the engine as the student deployed the chute. They slid about 750 feet. Damage; a broken nose gear lower unit, a bent wing tip and, the most expensive, a new canopy.

ENGINE PRESSURE RATIO was on the money at full military and likewise after the young birdman lit AB on the roll. He made good his check speed with a solid 110 knots at the 2000 foot point . . . but the stupid airspeed refused to get above 110. Our lad tapped the indicator, but it still read 110. He pulled the throttle to idle, flung out the laundry, punched off the external stores, drapped the hook, all while standing on the no-go pedals.

"Well now, how did it go, TAT?"

"Pretty good friend, pretty good . . . it went almost thru the MA-1A, cause the hook missed the BAK-9. Fortunately the hook took the MA-1A cable to snag the whole quivering mess to a safe halt."

I don't know about the rest of you troops, but this tiger would much rather take his chances making a no-airspeed-indicator landing from off some good head's wing than we would trying to halt 15 long tons of hurtling aircraft once it has passed very far beyond the 2000 foot point on the average runway.

Most of the better birds build up a pretty good head of steam by the time they get this far during takeoff. The average throttle bender will hem and haw one or more precious seconds before making a decision to abort. Meanwhile, his bird continues to eat up the remaining runway at an ever increasing rate. Add to this the fact that the bird is at its heaviest and you suddenly find that a takeoff abort isn't exactly a piece of cake - even if started at about the right time and executed with precise dispatch. No, once your machine has accelerated very far beyond 100 knots, an abort is an unforgettable experience (if you survive it).

We will commend this troop on his abort procedures. He knew 'em and followed 'em, which is no small accomplishment.

THIS TIGER HAS A CONFESSION to make. For the past couple of months I've abandoned the trusty rusty T-chariot and have been living it up in the T-39... better known as the tiny airliner. Over 400 knots true at all the nicer flight levels, with the cabin at 8000 feet, upholstered seats with arm rests, no chute tugging at ancient rounded shoulders, no helmet burning a hole in the top of my hairless head... all this, plus coffee!

'Course there ain't no way to take care of the other half of the coffee break, but three hours is the

usual haul, so that bit ain't too bad.

One thing worries me tho; the cockpit is strictly transport. Big wide posts, little scrawny windows, stuff on top of the cabin and a great big wheel to hang onto. Obviously from the way it's built, the transport types aren't expected to spend all their time looking outside at the rest of the world. It is almost hard to look out. The whole layout just isn't conducive to it. But friend, this tiger does look. I ain't about to get mixed up in one of those mid air messes, with all the parachutes 'way in back (or lately, on the shelf in PE) and a hole in the floor as the only escape route. No, sir. I miss all that crazy scratched up plexiglass and that hot seat. But it sure didn't take long to get used to the arm rests and coffee!

FOUR CENTURY "BOMBERS" from another command were enroute to the ground gunnery range, each carrying two 275s and an MM-1A center line mounted bomb dispenser. They arrived early and the leader told his flight to go into loose trail.

Number three was a little too far back so he goosed his big machine, closed to about 1000 feet behind number two, and looked back to see how four was making out.

Four was at seven o'clock, slightly low and about 5000 feet back trailing black smoke (high power setting). He closed rapidly, overshot to the right and pulled up sharply and proceeded to do a high-G barrel roll around three.

Part way thru the maneuver he apparently decided it was too risky and chickened out, making a fast roll to the nearest horizon. All this took place at about 3500 feet. The rapid roll-out put him in a steep dive which he managed to reduce to about 30 degrees before running out of altitude and ideas.

This tiger has done his share of rolling to get rid of excess airspeed and exuberance . . . but will always question the smart of rolling around another aircraft, except for purpose of combat. If the other guy should decide to make a sudden turn - ugh! I also question the smart of starting any maneuver at low altitude which can't be completed with a safe margin for error . . . except, again, in actual guns-loaded combat. I assume this guy had cause to doubt the outcome of his roll 'else he wouldn't have chickened out. Which brings up another point. There are times when it is more dangerous to chicken out than to press on. Like many things connected with flying, there are no hard and fast rules.

DID YOU READ about the troop who had a cooling turbine fail while ferrying an F-100? He was making a weather penetration into Luke with the cockpit hot as the hinges when he felt what he thought was a grasshopper under his helmet between his ear and the earphone.

Concentrating on the approach and trying to dislodge the unknown intruder he saw a snake crawl across his legs and disappear.

Right here, the story could have gone, "Investigators were unable to locate any evidence to support the pilot's story about . . ." Instead, because of his great devotion to duty plus superior skill and cunning, our hero prevailed against nearly overwhelming odds and managed to complete a safe approach and landing.

Maintenance troops confirmed the presence of the snake, but were unable to catch or kill it. After they fumigated the aircraft for a couple of days and replaced the cooling turbine, seat and other parts removed during the snake hunt, the pilot agreed to, gulp, continue the flight.

From a safe distance, investigators decided that the pilot had carried his passenger into the bird in his helmet bag. He'd left the bagged helmet on the ground at Homestead for several hours before launching.

That's enough to make a fella swear off the stuff or hit it in earnest, since someone opined that the "insect" might have been the snake leaving his temporary quarters.

—TAT—

OL' SARGE

The Old Sarge unlashed the two lengths of spruce and removed them from TSgt Frank Huckabee's car while Huck signed in at the base woodworking hobby shop. The two then carried in the lumber, being careful not to bump anything or mar the dressed surfaces. With spruce at 90 cents a board foot the makings of Huck's sailboat mast represented no small investment and deserved careful handling.

The two had been working in Huck's carport but cold weather isn't conducive to a good glue job and they had decided to try the hobbyshop . . . particularly since Huck's wife had been rather narrow minded about letting them use the living room.

"Looks like they're pretty well equipped," the Old Sarge observed after looking over the impressive assortment of heavy power tools.

"Well, we could have built it here. Might have saved a lot of time."

"Possibly, Huck, but they're a little stingy about working hours and sometimes you can't quit a job when they are ready to close."

Huck grinned, "Can't or won't?" He was thinking about the evenings they'd worked until midnight, just because things were going together smoothly.

The Old Sarge spread out the plans and laid out the next cut. They didn't say much, primarily because someone was planing some old lumber, using a small, rather dull, surfacer. Every time he'd run a board thru the noise made all talk impossible. It made clear thinking somewhat difficult, too.

Between blasts from the surfacer, they got a straight line scribed and took half the mast over to the big bandsaw. After sawing about four inches, the Old Sarge gave up.

"What's the matter?" Huck asked during a lull in the noise.

"Blade appears to be dull on one side and the guide's worn. I'm afraid I'll break the fool thing trying to keep it on this line."

"What you intend to do?"

The Old Sarge looked around. "I'm tempted to free-hand it on the table saw. With this taper it's impossible to use the fence . . . but it's hardly a good practice, so let's check out a portable circular saw."

"You mean a Skilsaw?"

"Bout like that."

Hefting the portable circular saw, the Old Sarge said, "It ought to be heavy enough to do the job."

Several frustrated minutes later, Huck came back from the office with a heavy-duty saber saw. "He says to try this. That's the only blade they have for the Skilsaw and he says he hasn't been able to sharpen it 'cause the steel is too hard. His files just won't cut it."

The Old Sarge just shook his head, "I don't have to look at his files to know why. Take the circular saw back, I'm damned if I'll ruin this mast with the thing."

After ten or 15 minutes, he laid the saber saw down and ruefully wiped a couple of large globs of hot grease off the spruce. His next few words were completely drowned out by another blast from the dull surfacer. It was just as well, since they couldn't be recorded anyway.

"Only thing left is that big jig saw or . . . " he stalked over to the office. "How about a hand saw? A rip saw, ten, or 12 point?"

The SSgt in charge looked puzzled. "Gosh, we never have no calls for them. All I got is one hand saw and it's kinda dull."

"Ah, no, thanks. Forget it."

The jig saw proved no better than any of the other equipment. The Old Sarge looked longingly at the table saw, only to have Huck interrupt his thought. "Right now," Huck said, "you're seeing what it would be like to live under Communism."

The Old Sarge thought a moment. "You're right. You just can't compare community owned equipment to individually owned stuff. This is one reason for individual tool boxes. However, individuals can't own everything and can you imagine how we'd bog down if we let our tool crib operate like this?"

"Yeah, I can imagine it . . . fact is, I've seen some almost as bad."

The Old Sarge rubbed his chin. "Yeah. Say, I move we call it quits for tonight and bring my Skilsaw over tomorrow. This place is about to close and we're not half thru. We could've done the whole job by hand in the time we've wasted."

"Suits me . . . but we can't make it tommorrow."

The Old Sarge's right eyebrow lifted, "Oh? Why?"

Huck nodded toward the office. "It's Wednesday, and this place is closed on Wednesdays."

Answer to Question of the Month

Department of Defense

HERE I BEEP, BEEP, BE

THE PROBLEM of locating aircrew members who have been unlucky enough to find themselves afoot out in the toolies has been with us for years. The situation has run the gamut from comic to tragic. More than once, a pilot on the ground has had a UHF radio while search aircraft had VHF only. This writer once had occasion to set off a smoke flare on a dead calm day. The only result was orange hair that stayed that color about a week.

Those of you who have worked near the RAF undoubtedly envied them their SARAH beacons. Unfortunately they weren't compatible with USAF equipment. Closer to home, the Navy has been using a personal locator beacon for the past two years. This beacon was the primary device used to find and rescue two pilots. It was secondary during six other rescues.

Not to be outdone, the Air Force has just purchased 500 personal locator beacons. These are the AN/URT-21, a unit which has met some rather severe criteria established by TAC and other using commands. The initial 500 are being distributed for field evaluation. When your outfit gets the dash 21 you can learn how it works. In the meantime here are a few things you should know about it.

The beacon transmits on 243.0 and puts out a sound that resembles a cross between a wailing siren and a love-sick caribou. Any UHF receiver can pick up the signal and standard homer equipment is all that's needed to locate the beacon. The sound is so penetrating and irritating that there are reports that some people who have heard it, automatically assumed their receiver was fouled up and turned off the guard monitor. Don't do it!

Tape recordings are presently being made and will be sent out so everyone will have a chance to listen to the beacon. Once heard, it's unlikely to be forgotten. A word of caution . . . the Navy has had some trouble homing in on these beacons because of other transmissions on guard. So if you hear the beacon, you'll have to have guard channel quiet before you can home in on it. Judging from the past, this may take some doing.

Chock talk

LIMITED LIMITS

The left gun bay door of a T-bird came open on final approach, but the pilot was able to complete the approach with a safe landing. Investigators checked the latches and found two of them worn, but within limits. Our info source didn't mention the third latch, so we don't know if it was unlatched, broken or what. However, we do know that a combination of tolerances, even though within limits, can set up an accident. Like red diagonal discrepancies on an aircraft, it doesn't take many of them to equal a red cross!

CLOSE CALL

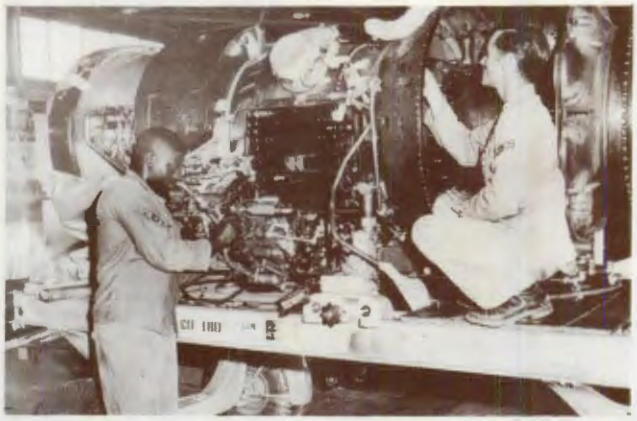
At an overseas air base a test pilot herded his F-105 onto the active and ran the J-75 up to full military. Whomp! A mild explosion shook the big machine. The test pilot retarded throttle to idle and taxied clear of the runway as the master caution light came on with an aft boost pump light, oil pressure light and several others. This, plus dark smoke coming from the heat and vent system prompted him to shut down.

Maintenance men left some nuts loose on hot-air line clamps and 15th stage air going into compartment FF-55 did the rest. The heat and vent system on century birds remains one of the more critical systems on the aircraft and deserves the same treatment of checks and counterchecks reserved for flight control systems.

TIPPY TAIL

Right bright and early one morning the dock chief sent a technician to install the fin assembly on an F-100 aft fuselage. The aft section was on an aft fuselage storage stand assembly that was connected to a Hammond Dolly at the three hydraulic jack points. The legs on the work stand were retracted. The left stabilator needed repair and had been removed. The technician climbed onto the right stabilator to get at the dorsal fin area and the whole works tipped over.

Seems the right rear hydraulic jack telescoped when the technician stepped up onto the stabilator, letting the assembly pivot on the other two jacks. This would not have happened had someone taken the time to extend the four retractable legs before starting to work.



STOCK AND TRADE

Drop in on any engine shop that has numerous boxes of assorted nuts, bolts, clamps and fittings (all of questionable serviceability) lying around and you'll be impressed. If you're thrifty minded, you'll question the supervisor's control of bench stock. If you're safety conscious, you'll think about the possibility of an unserviceable part being installed in an aircraft. Then, if you're a good supervisor, you'll make sure your shop doesn't fall in this category.

PANEL PATTER

One of our F-105 quality control troops remarked that many replacement panels for the bird don't fit right, that they are often wrinkled with bows between the Dzus fasteners. In flight, airflow gets under 'em and rips 'em off. They have been known to kiss the stabilator on the way off, resulting in a slab change. So, aside from being a nuisance, a poor fit can also be expensive.

Sheet metal benders must install panels properly to start with... if they don't, crew chiefs should refuse to accept 'em. Remember, anything short of a professional job won't hack it.

F-SIGHT GAGE

As a mechanic was servicing the utility hydraulic accumulator of a Navy F-4, he saw the gage pass 1000 psi, then the glass front of the gage exploded. A fragment struck him in the right eye and cut it badly. At this writing the medics don't know if he will lose vision in that eye or not. The contractor has recognized this hazard and has provided safety vents in all gages now being delivered. Existing gages can be reworked to provide a vent... regardless, wear safety goggles when servicing this accumulator.

A POINT TO PONDER

When two starting units have to do where five are normally required, somebody is going to have to do some fast and fancy moving to get the mission off on time. The ground accident is there, along with the engine ruined by a hot start . . . it just hasn't been written up yet!

HARD TO CONVINCE

External tanks had just been hung and the refueling operation was to the point where the crew was ready to turn on the fuel when the flight chief reminded the refueling supervisor to use his checklist. The refueling steps were then retraced using the checklist. The crew found a fuel leak in one droptank. The tank was replaced, the fuel spill watered down, in that order, and refueling again started without the checklist. Some people never learn.

QUESTION OF THE MONTH

How-malfunctioned codes and descriptions are controlled by:

a. Department of the Air Force
b. Department of Defense
c. Major Air Command
d. Defense Supply Agency

SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators

MAJOR ROBERT P. COOMBS is a native of Indiana. He entered the service in 1943, graduated from flying school in 1945 and has had continuous service since. During 1946 he served with the Parachute Research Laboratory at Wright Field. He was one of the first two Air Force pilots to graduate from the Airborne School at Fort Benning and performed test jumps at Wright Field. During 1947 and early '48 Major Coombs served on detailed status with the 82nd Airborne Division as a platoon leader. The beginning of the Korean war found him with the 3rd Bomb Wing in Japan flying B-26's. After a combat tour, Maj Coombs returned to Langley in 1951 where he served with the B-26 CCTG and the 405 TFG. In 1955 after attending B-57 CCTS, he joined the 461st Bomb Group and flew B-57s at Hill and Blytheville AFB until the wing was deactivated in 1957. Then he attended the RB-66 CCTS at Shaw AFB prior to joining the 19 TRS in England. Maj Coombs served as operations officer for the 19th TRS for over two years and returned to the States in 1961 when he was assigned to the Standardization Evaluation Group. Since joining the 4450th Stdn-Eval Gp he has served as Chief of the Reconnaissance Evaluation Branch and is a flight examiner in the RB-57.

MAJOR ROBERT P. COOMBS
CHIEF, RECCE EVALUATION BRANCH

F-105 NOTES

The 4450 Stdn/Eval Group's F-105 Team recently completed a proposed AFM 55-105 and a new AFM 60-105. These proposed manuals cover operating procedures and evaluation grading criteria. They are now being coordinated with PACAF, USAFE and all TAC F-105 units.

The F-105 Master Question File has again been completely revised and updated. The new file should reach field units within 30 days.

F-105 pilots will be interested in hearing that the 355 Tac Ftr Wg at George AFB is now conducting TAC Test 61-41. This test program is designed to

establish optimum F-105/KC-135 refueling procedures.

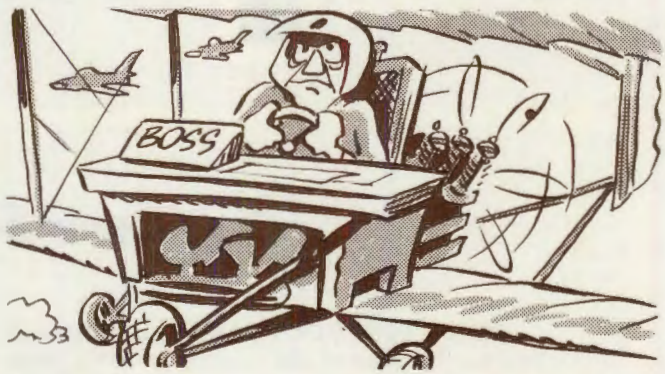
The R & D Division, USAF Fighter Weapons School, also has a Thunderchief test in the works, TAC Test 63-4. This one concerns the development of optimum air combat maneuvers and techniques pertinent to the F-105.

REMINISCING

In a recent nostalgic mood we hauled a small footlocker, the one marked Personal File, out of the closet. After gingerly dusting it, we opened the lid and sat back to while away an hour or two and reminisce with the past. Reminisce with what, we really didn't know. But anyway, there we were looking through old copies of orders, sentimental issues of Air Force Times (yellowed with age), letters of appreciation and many other assorted useless items of print that somehow we have never been able to part with. However, we did hit pay dirt because buried in the middle of this boy scout paper drive dream was an eight year old copy of the Flying Safety Magazine which we recognized immediately as the one containing what we think is the finest article on standardization ever put to print. It is entitled - "You--- From the Same Mold," and authored by a fine chap that was assigned to Safety Research and Analysis Division (D/FSR) at the time. Now although it is impractical to republish this article in its entirety here, we are sure the author would not object to a direct quote of one paragraph. The interesting thing to keep in mind is that this originally appeared eight years ago when standardization was a new term making its debut into the Air Force Dictionary.

"We have the machinery to standardize our pilots initially. If they are all taught from the same book and qualified under the same standard we're off to a good start. What's left? We have to be sure everybody adheres to these standards. Which brings us to the indispensable ingredients of standardization.

Supervision - ah yes, one of those glittering generalities, sometimes regarded as a nothing-word, like "deep down locked-in goodness." We do abuse this word horribly, it's true, the same way we maul indoctrination and coordination. Well, what do we mean here? Simply that once you achieve something, you have to ride herd on it to make sure you don't lose it. If our pilots are trained to meet a standard, we must make sure they continue to meet the standard, and that the standards continue to be set. If you shoot an arrow into the air, it'll fall to earth you know not where - but you can be sure it won't stay up there. Neither will standard proficiency, unless you actively support it. Standardization, like anything else, means nothing if all we give it is lip service. If you want to know how your pilots are stacking up, the only way to find out is to fly with them - frequently. That way, if a man starts getting original ideas about how to work his machine you can spot it right away. If the idea is good, then get it to the right people so everyone can benefit. If it is no good, squelch it now before another statistic is made. In an ideal, utopian organization the CO should be



the best qualified pilot in the outfit, the man who knows the unit equipment best. His operations officer should run him a close second. In the old days this ideal was attained in some units, but today we must admit we can't do it. The old man in most cases has logged far more time with a mahogany bomber than in the current flying machine. The paper blizzard keeps him grounded much more than it used to. So the sharp lad with the airplane is likely to be a junior type who has been really logging current hours. This is how the stand-board pilot was born, how he came into his own. If properly used he is an invaluable man to have around. He is the expert on the unit aircraft; he knows it inside and out, and most important his knowledge is current. So he's the gent who can best do what the old man would like to do. That is to ride herd on the pilots in the outfit and make sure their qualifications and procedures are up to snuff. In its proper perspective his job is not one of required periodic checks, just to fill in squares on a chart. He should be the man with the most intimate knowledge of the real proficiency of the pilots in the organization, their weaknesses and strong points. He should be able to point the finger at areas where more training or corrective measures are needed. He should be a key man in helping the CO determine the capability of the unit."

Now sit back and think about this for a few minutes and do some reminiscing on your own. We leave you with this thought for the day. How far have we come in eight years?

SEAC NOTE

AFM 60-10 now requires that a combat ready aircrew member must have orders designating him as combat ready in his AF Form 846 folder.

Are your pilot's aircraft accident analyses handbooks up to date? SEG will check them on future visits.

The Stdn/Eval Flight Examiners course is back in business. First course for jet started 24 Sept 63, conventional, 1 Oct 63.

ARE YOU PREPARED FOR ANY EMERGENCY

Every flight examiner, whether aware of it or not, usually has certain pet areas he gives added emphasis to during Stdn/Eval flight checks.

By concentrating so heavily on particular areas or items, a flight examiner may be typed by the examinees. Soon the word is out that if Schmoe gives a check, he's only interested in this area or that item. Emergency procedures are an area in which a flight examiner is most easily typed. A true example of this was a wing SEFE whose pet emergency for a multi-engine airplane was, "propeller master motor failure." Any examinee he checked who could set up fixed pitch prop operation was a sure bet to pass the emergency procedures portion of the flight. Yet the number of propeller master motor failures for this particular airplane were practically nil.

In re-writing the KC-97 grading criteria, particularly the emergency procedures, the SEG team has sought to prevent REPETITION. Understandably, it would not be feasible to give or simulate all inflight emergency procedures. For the KC-97 these procedures have been written in four groups. When administering a Stdn/Eval check, the SEFE is required to evaluate one emergency procedure from each of the following groups:

Cruise:
* Engine failure.
* Propeller overspeed/runaway.
* Engine fire.

Low Altitude:
* Engine failure/fire-takeoff continued.
* Propeller overspeed/runaway on takeoff.
* Low approach with one engine out.
* Go-around with one engine out.

Crew Coordination:
* Fuselage/electrical fire.
* Fuel fumes.
* Smoke and fumes elimination.

Miscellaneous:
* Restarting engine in flight.
* Manual gear lowering (main and/or nose).
* Wing and empennage fire.
* Turbo-supercharger emergency operation.
* Fuel line failure (airplane main fuel manifold).

The item selection is such that is doubtful if any SEFE will be typed. Are YOU prepared for <u>any</u> Emergency?

READ YOUR STAT ANALYSIS REPORTS

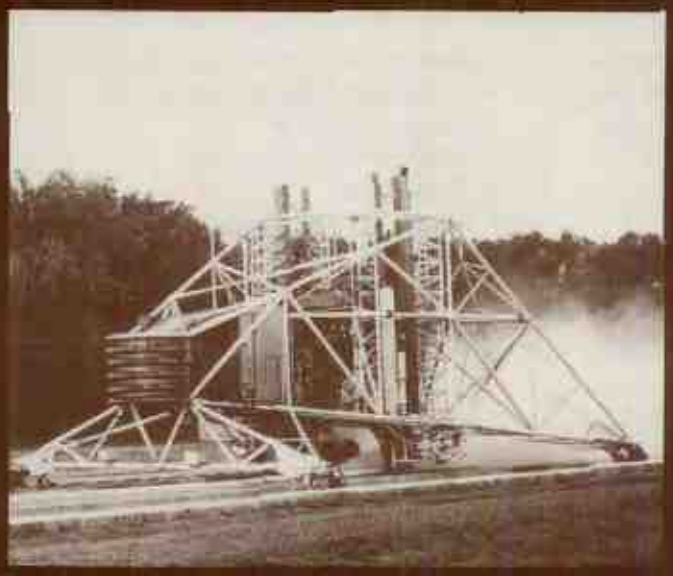
Are you getting the most from your data analysis? Are you relaying this information to your commander? Let's take a few minutes to overcome some mental blocks on data analysis so that the wealth of information contained in your stat run will not be wasted.

There are problems involved in reading and trying to interpret these reports. The greatest stumbling block seems to be the code which covers item areas. On close examination, it's not as difficult as some individuals try to make it.

The code is taken directly from the AF Form 8c. A glance at the code and the 8c will immediately give you the area name. So if you have an 8c handy when reading a data analysis report, you cannot get lost or miss an area or claim that you don't know what "AA" stands for - because a glance at the 8c immediately indicates that it is "flight planning/preparation."

Our next problem seems to be the length or size of the report. It is human nature to shy away from anything longer than two dozen pages. The mental block is working again.

We are removing this block too. The data analysis branch of SEG is developing a new simple format that will contain all the necessary information and present it in a manner that will be easy to read and understand. Programming this new system will take some six to eight months but it is on the way. In the meantime, please remember that the results of reasoning are new and accepted as true; the results of memory are true, but not new; and the results of imagination are new, but not true.



The big machine on a hydroplaning run. A blast of water under 3000 lbs. of air pressure gives it a 3½ G start.

Slippin' an' Sliddin'

Our appreciation to Mr. Horne and Mr. Joyner of NASA and their test staff, who made this article possible.

"THEY'LL NEVER STOP the damned thing and it's gonna scatter that hangar all over the west forty," I mumbled.

"What did you say?" the project engineer asked.

"Nothing," I replied, as cables slowed the mammoth to a halt and spoiled the show.

We were in the landing loads test area, NASA's Langley Research Center, as guests of Mr. Walter B. Horne and Mr. Upshur T. Joyner . . . two top notch hydroplaning experts. You might say they're super sleuths on runway slipperiness and slush that create hydroplaning hazards to aircraft operations.

We had just watched them make a 100 mph run with the big 100,000 pound testing machine which takes an aircraft landing gear down a narrow runway and gives it the works. Numerous strain gages record forces that are generated each time magnets trigger the braking cycle. The wheel and tire under test don't seem to slow the machine a bit. Five cables attached to arresting gear do bring it to a safe, if spectacular, halt near the end of the track.

One product of their experimentation is a color film that clearly presents the hydroplaning phenomena. Running time on the film is 15 minutes and it should really get a safety meeting off to a good start. However, since you safety types won't be able to get your nervous little hands on it right away, we'll draw you a word picture.

When the pneumatic tires of a vehicle roll over water-covered pavements, fluid pressures develop between the tire footprint and the pavement. If the tire rolls slow enough, it pushes the water out of the way. If it rolls too fast, the water just can't get out of the way . . . the weight of the vehicle and the normal resistance of the pavement catch the water, or slush, between a rock and a hard place, so to speak. When this happens, the water starts getting hardnosed and pushes back. Increase the speed further and the water gets so mad it plumb lifts the tire up off the pavement. It's like water skiing. It takes a certain speed to build up sufficient pressure to get up. Water pressure builds up against the bottom of the skis . . . hydroplaning. That's where the similarity between water skiing and tire hydroplaning ends, except for the fact that hydroplaning can cause a free-wheeling tire to spin down to a

complete stop — zero rpm . . . then it really skis and what good are brakes on a stopped wheel? The NASA experts have picture proof that this happens, so don't argue with us.

Water skis can be steered by shifting weight and varying the angle but the steerability of an auto is the cube root of zilch once its tires are hydroplaning. In an aircraft it's a bit better but, only if the speed is high enough for the control surfaces to be effective.

Our friends at NASA have found that total tire hydroplaning will not occur on most runways or roads unless the surface is flooded or heavily puddled, since nearly all are designed to drain water very rapidly. But, they point out that slush is a cat of a different color and much greater hazard because it will not drain off.

Their research indicates that it takes less fluid to hydroplane on smooth surfaces than on rough

Water depth makes a difference

paving and that bald or smooth tires are more susceptible than ribbed or patterned treads. On smooth pavement, a smooth tire will tread water only one tenth of an inch in depth. Ribbed treads may require two to three times that much fluid, depending on tread depth. The reason for the difference is that the fluid can get out of the way faster by escaping through the grooves. Experiments on the effect of tread and groove depth are still going on, but it looks as if we can treat a tire with 85% of the tread gone the same as a bald headed one, when on a wet surface. How'd they find that out? Well, they thoroughly chalked the bottom half of a nearly smooth tire with blue chalk. Then they dropped it on a piece of white cardboard and looked at the print. Grooves that were 85% worn off did not show. They also started with a new smooth tire and kept cutting groves a little deeper until they found the point where the braking coefficient made an abrupt change. Both systems agreed. Clever, eh what?

But, the most important discovery was a formula that gives the hydroplaning speed for smooth tires, or grooved tires in fluid deeper than tread depth. It is $V_H = 9\sqrt{P}$. (Don't go away, folks. That's the last one.) In other words, tire hydroplaning speed in knots is equal to the square root of the tire pressure in pounds per sq. in., multiplied by nine. (See the accompaning table for your vehicle or aircraft.) The figures you come up with are total hydroplaning speeds. At these speeds all the wheel brakes in the world won't do you any good but very small side forces may easily start a JC maneuver from which you may or may not recover in one piece.

But what about partial hydroplaning? That's the insidious, incipient, indeterminate situation that might bring trouble. Partial hydroplaning actually starts at lower speed and gets worse as velocity is increased to the point of total hydroplaning. If one tire strikes a snag or finds a raised spot in the pavement, a vehicular version of the turkey trot will most likely result. Throw in a little centrifugal force, like on a curve, and that 45 mph max safe speed sign becomes a mockery. Strong crosswinds can cause the same effect or add to the effect.

Now that we know all about tire hydroplaning, let's keep these points in mind:

PILOTS

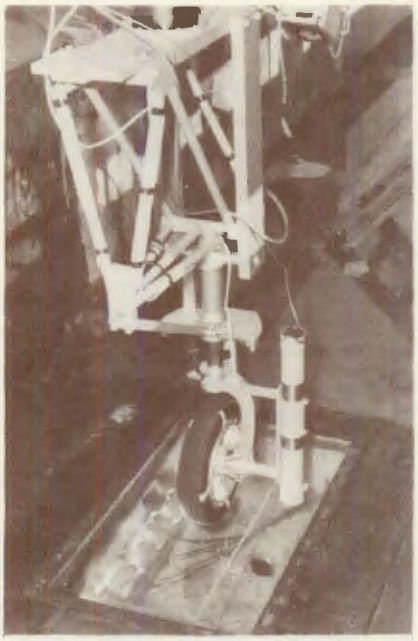
* If possible, avoid take-offs on water or slush covered runways, especially in a crosswind.
* Slow taxi speeds and be unusually careful when cornering.
* Use minimum run techniques and early aerodynamic braking.
* Use reverse thrust and wheel brakes with extreme caution since asymetrical thrust or drag can really start the ball rolling.
* Bald or excessively worn tires and wet runways aren't compatible.

VEHICLE OPERATORS

* Have your tires replaced before they are worn smooth. Remember, for all practical purposes they are smooth once the tread grooves get shallow.
* Intermittent braking is still a valid recommendation.
* On wet roads - triple your normal interval behind the vehicle up front.

ALL PERSONNEL

* Slow down when it's sloppy!



Nosewheel tire on glass track .... camera beneath

Notice that we haven't said anything about operations on sheer ice. Just the thought of it scares us so bad we're too shaky to hold a pencil. Besides, they're about to start that big test machine on a 140 mph run and our nerves would never take it. So, back to our cluttered, large steel desk.

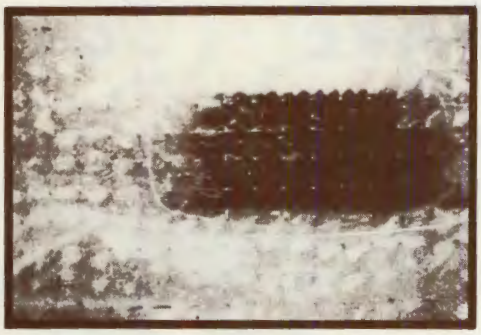
Happy hydroplaneless holiday!

AIRCRAFT

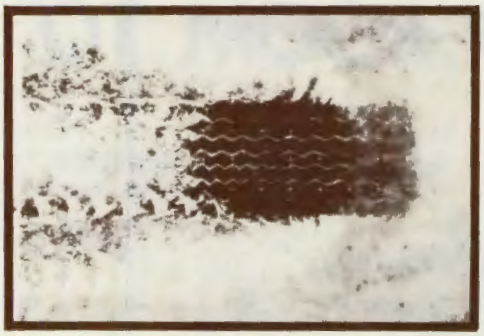
TIRE PRESSURE	HYDROPLANING SPEED
100 PSI	90 KTS
150 PSI	112 KTS
200 PSI	127 KTS
250 PSI	143 KTS
280 PSI	151 KTS

MOTOR VEHICLE

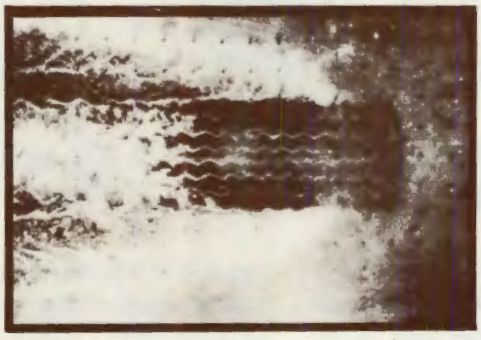
TIRE PRESSURE	HYDROPLANNING SPEED
18 PSI	44 MPH
30 PSI	57 MPH
36 PSI	62 MPH
60 PSI	81 MPH
70 PSI	86 MPH



Static footprint

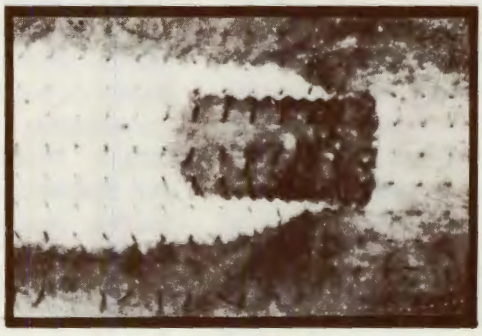


28 mph



37 mph

47 mph



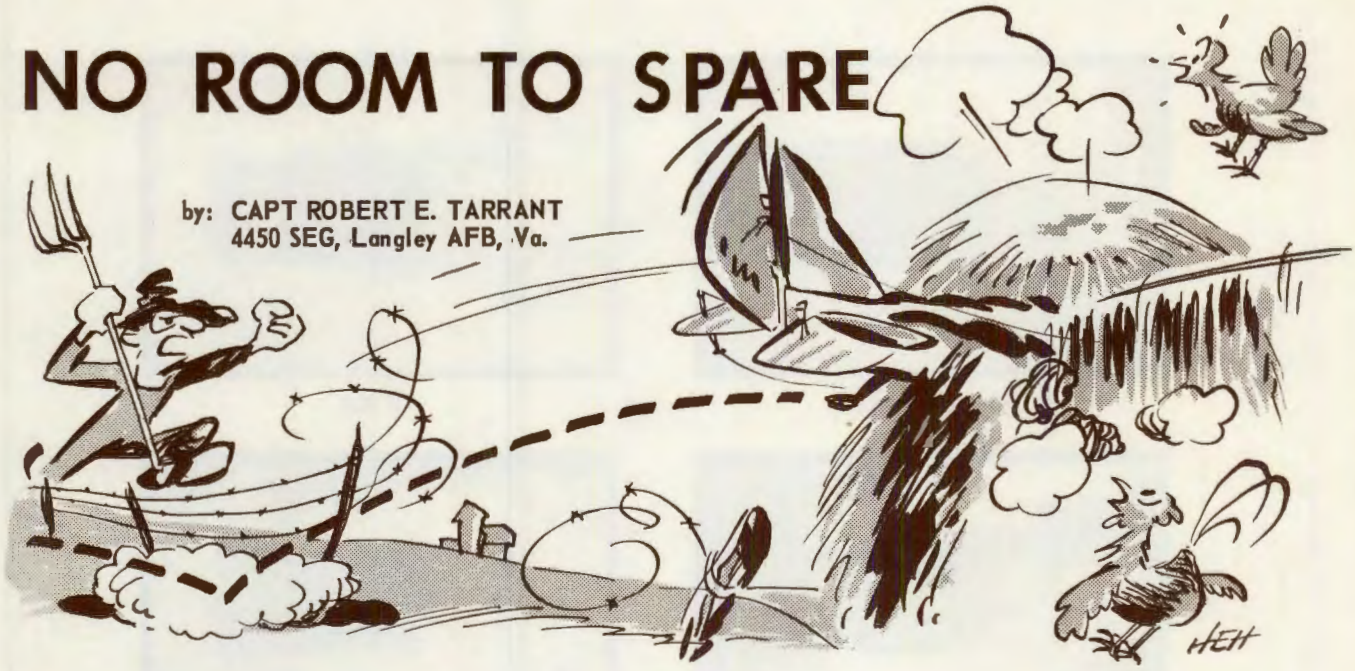
61 mph

These photos were taken with a camera mounted under a section of glass along the test track. Note the clear tread outline of the static footprint in the first photo. The second photo shows water escaping through the tread grooves . . . tire speed 28 mph. The third photo shows partial separation between the tire and the surface as speed reaches 37 mph. In the fourth picture, at a speed of 47 mph, total hydroplaning has occurred and the tire is completely supported by water. The last photo shows conditions under which a free-wheeling tire would spin down to zero rpm at a speed of 61 mph.

This was a 5.60 x 13 auto tire with 20 psi pressure under normal load. The water depth was one-half inch.

NO ROOM TO SPARE

by: CAPT ROBERT E. TARRANT
4450 SEG, Langley AFB, Va.



FROM SOMEWHERE out of the past, there echos an old cliché about the world's most useless things. Two of them were "the sky above you" and "runway behind you." The USAF has slowly, painstakingly discarded these two old items thru cartridge and rocket ejection seats, crash barriers and BAK-6 barriers, not to mention 500' to 1000' of runway overrun on the vast majority of all military runways. New pilots are not taught to do without these luxuries and old pilots have long since forgotten little techniques that will cope with the lack of them. Which, as they say on television, brings us to our story.

The USAF Special Air Warfare Center operation, with its specialized missions, has reopened this old flying safety wound. The very nature of the counterinsurgency mission demands the use of whatever landing strip is available, no matter how bad, without wasting valuable time constructing or remodeling a strip to conform to USAF runway criteria. Operating at low altitudes over mountainous or jungle terrain, in aircraft with no ejection seats and no zoom capability makes a whole sky full of uselessness above you. Ever see how much altitude you gain from a "zoom" in a T-28 B or D? The very thought of it makes an old jet pilot shudder and shake. There is not too much to be done immediately on that problem though. Therefore, let's confine our discussion to the takeoff and landing problems of SAWC aircraft.

In the case of the T-28B/D, the B-26, and the A-1E strike aircraft of the Special Air Warfare Center and the 1st Air Commando Wing, IP's found it very simple to transition jet types (most of them from F-100s, F-104s, B-66s and T-33s) into the SAWC strike aircraft. Even the A-1E, which is the old Navy AD-5, with its tail wheel type landing gear has presented no problems, as yet, during transition. But, initial transition takes place at sea level on 9000 feet of runway with plenty of paved overrun! Minimum run takeoff and landing techniques are emphasized and practiced during training and are a part of the standardization /evaluation flight check requirements, but there the similarity to actual conditions ends as abruptly as the end of a 3000 foot runway with ditches at both ends. This is the type of runway that recently gave two commando strike pilots accident problems.

Both of these pilots landed 400 to 500 feet down this runway which, incidently, was of rough cracked concrete. Both pilots stated that they did not consider their touchdown point long. According to the flight manual their touchdown roll should have been less than 2000 feet. It turned out to be somewhat longer. The point is this. Attempting to land precisely on the end of a 3000 foot runway with a large ditch immediately preceding it is quite different from touching down at an exact point 500 feet down a runway that has plenty of paved overrun. It can be done, however, and SAWC pilots do it every day. To emphasize what (like the old cliché) has long since been forgotten, let's restress some pertinent points for all aircraft during minimum run land-

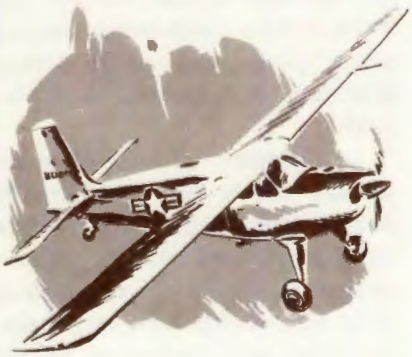
ings.

* Use a long flat final approach with plenty of power at the exact airspeed prescribed in the flight manual for minimum run landings.

* Take into consideration the heating effect that will balloon your aircraft when you cross abruptly from over ground to over the end of the pavement. This varies considerably in each different type of aircraft, but has some effect on all.

* Create as much drag as possible for your aircraft during the final approach phase... full flaps, speed brakes (if available) or canopy open (if available or desired, as in T-28 aircraft). In many cases during hot weather conditions, it is possible to open cowl flaps, particularly if you use a power on approach.

* Carry power to the touchdown point and then make sure it is off. This is the point where depth perception is most important; don't pull your power off too soon and drop the beast in... short.



* If your aircraft minimum run techniques say to use aerodynamic braking as with a T-28 or 101, then use it to the maximum angle, then lower the nose and use the wheel brakes with vigor (pronounced "vigah").

Above all, when operating off abbreviated landing strips, don't get careless or revert to home drome habit patterns and fly to touchdown at least 500 feet down the runway. The sky above you and and runway behind are still useless! Now, what was that other third useless thing????

Let's back up some and talk a minute about a bird that is still very much around and is the granddaddy of them all. I'm speaking, of course, of the old dependable, faithful, forgiving, (use almost any nice adjective) gooney bird. Now here is an airplane that will surprise lots of you young troops when we speak of its STOL (short takeoff and landing) capability. Let me give you a hypothetical (whatever that means) situation. Let us make a minimum ground run takeoff at 23,000 lbs, sea level and max power. Use four 1000 lb thrust JATO units. Oh yes, let's make the takeoff from a sod cow pasture and give ourselves a nice twenty knot headwind. Now if I told you what the takeoff performance ground run would be under these conditions, you wouldn't believe me, so why not pick up a C-47 Dash 1 and check it out? Pretty impressive performance for a tired old warrior, don't you think? Our landing performance under similar conditions is not as impressive, but she gets down pretty short if you use the correct procedure and get max braking action for the existing conditions. Speaking of procedures, let's review for a minute. Minimum ground run operations are not difficult or hazardous but they are more sensitive than normal operations and less forgiving if correct procedures are not followed, or if trouble develops. I can recall at least two fairly recent major accidents that occurred during minimum run takeoffs. These accidents destroyed two aircraft and cost several lost lives. They would not have occurred if good judgment had been used and the correct procedures followed. For the gooney bird we check our aircraft weight and from forecast weather conditions determine what results we can expect from the takeoff charts in the flight manual appendix. For a minimum run takeoff, we hold the brakes and apply maximum power. Holding back pressure on the column, release the brakes and gradually release back pressure on the control column. At approximately 39 knots lower quarter flaps, keeping the aircraft in a tail

low attitude. The aircraft will become airborne at 52-61 knots. If JATO is being used, best results are obtained by firing it at approximately 30 knots. When the aircraft is safely airborne, the gear should be raised and a normal climb established. Remember, since the liftoff speed is less than minimum control speed you must reduce power on the operative engine to maintain directional control should an engine fail.

The stall characteristics of the gooney bird cause the outer wing tip to stall before the center wing, and, if one tip stalls first, it will cause the aircraft to roll violently. Those of you who have

been through a single engine power-on stall that reacted this way will know what I mean. For you who haven't, don't try it, especially on takeoff. Things would deteriorate rapidly and probably scare even those of you who are fearless. The minimum run landing is the same as a normal landing except that upon turning final, extend full flaps, increase RPM fully and establish 1.2V50. A flat power-on approach will assure maximum aircraft control and leave less room for error. When approaching the runway threshold, reduce power to 1.1V50 and touch down tail low with power off. Retract flaps on touchdown and begin braking immediately. As the aircraft decelerates, full back pressure on the control column will be necessary to prevent nosing over. Good, effective braking action can be realized even with the tail of the aircraft still flying. However, it requires a good deal of feel and care to prevent locking a wheel or nosing over. These procedures are simple and proven but are also a true test of a pilot's rated skill in an old aircraft that still has an important mission in a relatively new concept of air operations. It's a real joy to see people fly this fine old bird in the manner in which it should be flown. It also makes you feel good, just try it!

The story is somewhat different when it comes to short takeoffs or landings in the U-10, but this is logical because it was built for just this purpose. It is the closest thing going to a fixed wing helicopter. The traffic pattern can be flown relatively close in with a short final approach, but from here it is the same as with all aircraft. Power is used to control the sink rate. The U-10 will not stall no matter how hard you try or what attitude you put it in. But it will fall out from under you. Final approach is flown with power on and the nose relatively high. Actually you come down final in the landing attitude. The rate of descent is controlled by power right up to touchdown which can be right on the SPOT every time when you get the hang of it. If landing on a relatively smooth runway, you can apply brakes hard and stop the aircraft in the length of your living room. On rough terrain brakes are still effective but the landing roll will be a bit longer.

The big difference between the U-10 and other aircraft, when it comes to short field landings, is the steeper final approach. The large flap area and excellent control characteristics at slow airspeeds eliminate the need for a long flat final. It is ideally suited for landing among the trees on short, primitive jungle airfields.

The U-10 is small and does not contain all of the complex systems of some of the other aircraft in the Air Force but it still has a tendency to place pilots in uncomplimentary situations. In one case, a pilot used a little less runway for takeoff than was required for the attitude of the airfield and found himself suddenly in the top of some trees. He hadn't checked the performance data for the altitude. In another case, a pilot had delivered some passengers to a small dirt strip which had been drenched two hours

earlier by rain. The landing was without incident but, on takeoff, one gear hit a mud hole and swerved the aircraft. Then the other gear hit another mud hole and the bird flipped. Scratch one U-10. Here a little common sense and a quick check of the runway condition could have saved an aircraft.

A different concept of operations? Not in this big blue eyed world! The Special Air Warfare Mission is different, but the techniques of taking off and landing from short fields with few, if any, facilities was learned by our grandfathers and has been retaught ever since. All you troops, whether you fly zippier, heavier, deluxe models equipped with hair-dryers or whether you are being pulled by one fan or four, look up the procedures in the dash one and practice, practice, practice!

GRND/EXPL SAFETY

HUNTING HORSE SENSE

Going hunting this year? An expert takes no chances. So, before you go be an expert and check over your weapon. Open the action and make certain there are no fired shells or cartridges in the chamber or magazine. With your finger OUTSIDE the trigger guard, point the muzzle away from your body, your friends, dogs and autos. Then operate the action several times to be certain no ammo is in the magazine. Look in the chamber to insure that it is empty-and check the barrel to make certain it is clear of excess grease or other foreign material. Check for worn or broken parts, particularly the extractor and safety. Check the safety by rechecking the chamber empty, cocking the action and trying to pull the trigger with the safety on, then turning the safety off. If the hammer falls when the safety is on, or as you release the safety, the gun is defective and you should take it to a good competent gunsmith.

When you get to where you intend to hunt... in the blind or in the field, after you've crossed the fence, it's time to load up.

While hunting, be careful where you swing the muzzle. Turn your head before you turn your body. Keep the safety on until you are ready to shoot. If it is too inconvenient to use this way, trade the gun in on one that does have a convenient safety! Never point the gun at anything you wouldn't be willing to shoot, even when you know it is empty. Don't shoot at water or a flat hard surface. Identify your target before you shoot...only an idiot shoots at a movement in the brush. Deer, and most animals will not be clumsy enough to rustle brush unless frightened and moving out of the area. By the time you've seen a deer rustle the brush it's too late to try for him.

Take time to unload before crossing fences, climbing trees or carrying your weapon into a car, or into camp. Lay off booze until after your gun is empty, cleaned and put away.

Store guns and ammo separately out of the reach of children. Follow these simple basic rules and insist that your hunting companions follow them, and you'll be around at the end of the season.

CHEATING THE STATISTICS

When an accident is not an accident! Off base auto crashes are not recorded as accidents if no one (except the car) is hurt. Statistically this is fine, until we want to thump the tub for seat belts or some other safety device, then we find that the statistics are loaded, the wrong way. In other words, seat belts are a lot more effective than our accident figures show since quite often a bad bash isn't recorded simply because the seat belts kept anyone from getting hurt.

You doubt it? Then talk to the TAC staff sergeant who drove his 63 Monza around a curve and found himself face to face with a Falcon that was in the wrong lane coming head-on at high speed. The Monza is a total loss. The staff sergeant got a few minor cuts and bruises. His passengers were shook up, but unhurt. On the books, it wasn't an accident. Need we say more?

ODE TO A DRIVER

It isn't the car that begins to whine
When forced to stop for an old stop sign

It isn't the car that fails to heed
The danger of reckless, discourteous speed

It isn't the car that takes a drink
Then quickly loses it's power to think

It isn't the car that steps on the gas
and causes an accident trying to pass

Is it you?

LETTERS TO TAT

Dear TAT

The TAC Tally (July) in the September issue of TAC ATTACK credits the 121st Tac Ftr Wg with a major accident which properly belongs to the 122d Tac Ftr Wg. The F-84F you describe as sustaining extensive fire damage belongs to the 180th Tac Ftr Gp (112th Tac Ftr Sq) which is a unit of Indiana's 122d Tac Ftr Wg. While the 180th Tac Ftr Gp is in Ohio as is the 121st Tac Ftr Wg, the units which comprise the 121st Tac Ftr Wg are the 121st, 178th and 179th Tac Ftr Gps located at Lockbourne, Springfield and Mansfield respectively. We much prefer to have our Wing make your TAC Tally in the box score labeled ACCIDENT FREE.

You edit a very fine magazine and I look forward to reading it each month, especially ole TAT.

FREDERICK P. WENGER
Brigadier General, Ohio ANG
Ass't Adjutant General for Air

Dear Sir

Sir, you caught us on the runway with gear up and flaps down. I'm happy to note that you got your druthers, edging out the 131st by 13 days. I sincerely hope the 121st enjoys a long run in the accident free column.

TAT

Editor, TAC Attack:

We especially appreciated the article "Vectored In," published in the September '63 TAC Attack. It is through joint efforts such as this article that major conceptual and operational improvements are implemented with minimum evolutionary disruption to the system. The controller/pilot team concept is greatly enhanced where problems and objectives are mutually understood.

In consonance with the spirit of a team effort, we wish to point out there has been a recent revision to the ARTC controllers' manual (AT P 7110.1A), effective September 15, 1963, which modifies how the pilot should ask for an en route penetration. Change No. 25 to AT P 7110.1A contains a new Section 707 which in essence states a pilot need ask only for an EN ROUTE PENETRATION. The ARTC controller shall then assign only aids or fixes depicted on high altitude charts or appropriate JAL charts.

This means there no longer exists a separate phraseology to differentiate between a pilot's low altitude or high altitude chart availability. Inasmuch as JAL charts are almost assuredly available to the concerned pilots, we have deleted the requirement to request a "JAL" EN ROUTE PENETRATION, thus reducing communications phraseology and its attendant communications time. The rare occasion a pilot may have and wish to use low altitude charts should be communicated to the controller at the time the en route penetration is requested.

We submit the above in the belief you will want to bring this development to the attention of concerned pilots.

G. W. Kriske
Chief, Air Traffic Division
FAA Central Region

Dear Sir

Thanks for your kind comments and for bringing us up-to-date. The new change is a positive improvement that should help make these approaches even better and safer than before.

TAT

Dear TAT

Enclosed you will find some pictures of jets, both from the Navy and Air Force. There are also some from the Army. I sure I sure hope you can use these pictures in your fine magazine.

Keep up the good work and I will be looking forward to reading the coming editions of TAC ATTACK.

JERRY SIRES
Moisant Sqd., C.A.P.
Moisant, La.

Dear Jerry

Many thanx for the photos . . . if we could get a similar response from a few of our other readers, the ATTACK'S photo problem would soon end. How about following Jerry's example, fellas?

TAT

TAC nuc/msl SAFETY

under watchful eyes . . .

HAVE YOU EVER wondered how many accidents and incidents we could avoid each year by using a little foresight? Actually, a good accident prevention program is nothing more than taking a good look ahead to see if we are doing everything possible to prevent mishaps.

But where do you start?

You can check all your regs and SOPs. Many were no doubt written long before you were assigned your present duties. Do all of them still apply to today's situation and conditions?

How about your communication channels - have you kept them open? Or have you unwittingly blocked them off, making yourself remote and sealed off from the reality of the day-to-day operation?

Many excellent ideas have been stifled because communications channels were clogged by red tape. Many hazard reports and TO deficiencies have gone unsubmitted because no one made it easy for the working man to submit them.

You should do everything possible to encourage suggestions and cultivate ideas, but at the same time insist that your people follow established directives and procedures. If the established procedures are weak or need revision help get them changed. Take the attitude of, "We'll try to change this directive to get it more realistic. But, until we can get the authority to deviate, we will follow it to the best of our ability."

You, of all people, must abide by directives . . . else how can you expect those working for you to follow them? This is the only way that you can get reliable results from your people. It is the only way you can prevent blunders like:

*Equipment shelf damaged because it wasn't installed before the MM-1 truck was connected to the translauncher.

*Missile wing damaged because spotters were not alert while they positioned the crane.

*Internal electrical connections were not completed, so the missile failed to launch.

*An incorrect battery installation caused a missile to be destroyed during recovery phase.

*A missile was dropped during assembly, breaking the guidance enclosure.

If everyone had been using the proper procedures - procedures that have already been established - not one of these mishaps would have occurred. Yet all occurred, here in TAC, since the first of the year.

TAC TIPS

EJECTION STUDY

The Life Sciences Group of the Directorate of Aerospace Safety has just run off a study on 1961 and 1962 ejections. Here are some of the more interesting points.

On ejection altitude: Only 11% of all ejections were attempted from below 500 feet, yet this group accounted for almost half the fatalities. The success of low level ejections is predicated on ideal flight conditions and proper functioning of all components in the escape system. This is also true for systems with rocket catapults and man-seat separators. It is unrealistic to place undue reliance on the low-level capability of improved escape systems. No pertinent environment factors were reported in any of the 28 ejections made above 20,000 feet.

On speed: Average ejection speed was about 210 knots, with 85% below 300 knots, 11% between 300 and 400, and 4% (16 ejections) above 400 knots... advantages of high speed, high altitude features must be realistically evaluated in terms of our operational experience.

On aircraft attitude: Aircraft attitude is an important consideration in low level ejections. If time and conditions permit, zoom as per handbook instructions. Get the nose slightly above the horizon, but DON'T GET IT SO STEEP THAT YOU LOSE ALL YOUR FORWARD SPEED, SINCE THIS MAY SLOW CHUTE OPENING AND GIVE A LESS THAN OPTIMUM TRAJECTORY.

On ejection difficulties: The major problems were locating and operating the controls and lack of time. Training programs using hardware identical to that used in the aircraft can substantially reduce this problem.

On difficulties after ejection: Seventy-five percent of the fatalities were from ground impact. Eleven ejectees drowned or are presumed drowned following overwater ejections. Four were killed after striking aircraft structure. One was killed by tumbling (Q force) and one was dragged to death in rugged terrain. Over half of the fatalities could have been averted by some action on the part of the person involved. For example, 12 delayed their ejection unnecessarily, three went in hanging on to the seat.. (follow-thru by trying to beat the automatic system gives a good cure for this.)

Of note, despite all improvements that have been made in the ejection system the past few years, fatal ejections are about 1-1/2% higher than for the preceding two year period. Are pilots placing too much trust in these refinements?

C-130 TRIM TROUBLE

Entering traffic for landing, the aileron trim ran full deflection. The pilot was able to overpower the out of trim condition and continued the approach. Turning final, the elevator ran away to full nose down. Emergency trim had no effect; however, the pilot managed a successful landing. A short in the aileron and elevator control switch caused the problem.

PHANTOM PHUN

If, while flying along in your F-4, one generator warning light comes on followed very shortly by the other, you will obviously be faced with complete electrical failure. Don't yawn friend, at least five of your Navy F-4 flying cousins have had just that happen. It can be quite uncomfortable, with all lights going out at night, Stab-Aug tripping out accompanied by some wallowing as the aircraft responds to the five control servos as they seek their mechanical null. All of this aggravated by any control imputs that might exist when the electrical nulls are lost. Yeah, and the rudder gets more sensitive, too. As the Navy man says, "You could well have a bear by the tail."

Immediately extend the RAT and hope it stays on the aircraft. Recognize what is happening and don't overcontrol. Then, if you got a reading on the failure lights, cycle the generator that went last and try to get it back on the line. If caught by surprise, pick one. If it doesn't reset, try the other.

Then shutdown the engine to the bad generator, 'cause that CSD has failed and may break open. Wha' hoppen when the CSD failed? The opposite generator tripped while trying to keep the busses parallel.

Incidentally, the CSD has been the subject of no few engineering changes. The latest is the G-5. It has harder gears and pintle, with improved internal plumbing. It should last about ten times longer than earlier tries.

Existing G-2 and G-4 models can be modified to the G-5 configuration.

CHAPSTICKS AND OXYGEN

In case you've heard of someone getting a fried face because they used anti-chap stick, then went on 100% oxygen... relax. The medics have no cases on record and their tests indicate no danger of a reaction when anti-chap stick comes in contact with pure oxygen.

NO SUBSTITUTE

After analyzing the accident, the Board noted the pilot's last encounter with a simulated single-engine had been one year before. Altho he had been instructing students and had been judging their response to single-engine procedures, his own response was impaired by lack of practice.

THUNDERING CHIEF

An F-105 pilot from another command squeezed off a burst from his M-61 during a gunnery mission. Much to his surprise, it kept right on firing after he released the trigger. He finally stopped it by pulling the circuit breaker to the gun control. About three minutes later another round cooked off followed in two minutes by another cook off.

A defective gun fire control box caused the trouble ...while careful range practices kept anyone from being shot.

DOUBLE TROUBLE

An overseas C-130 crew extended gear for landing, only to receive an unsafe nose gear. Recycling failed to lock the gear even using both emergency and manual systems. A look-see revealed the down lock was binding. The crew cut a hole in the nose landing gear access plate and used a 25,000 pound tie-down chain to secure the gear in the downlock area.

After a normal landing the truth was out... the pilot had failed to remove the nose gear downlock prior to takeoff, initiating the trouble sequence. Poor design permitted the oversight to create such difficulties.

WILD BLADES

In the far East a Thunderchief cut loose with a series of compressor stalls as its pilot retracted speed brakes pulling out of a bomb run. He reduced power and the engine smoothed out. When he reapplied power the compressor stalls returned. He dumped external stores and made a precautionary landing. Ninth stage compressor blades had failed, but the J-75 lasted long enough to get him home.

ATTENTION SAFETY OFFICERS

Be sure all of your crash rescue and salvage people know about ALL potential danger areas within crash wreckage such as seat catapults, squibs, thrusters, etc. Incidentally, damaged mercury batteries can be extremely dangerous and should be handled very carefully . . . especially if the case is damaged but not punctured. Under certain conditions gas can build up in the case and cause a low order explosion.

Struts, tires, high pressure accumulators and LOX bottles also deserve respectful treatment.

ANALYSES HANDBOOKS

Pilots, safety officers and SEF commanders should check the new TACR 62-1 dated 12 September 1963. It changes responsibility slightly and limits us to three revisions before we publish a new book. This will give you a new basic book annually.

The first new handbook will be out in November. Route your requirements through your base PDO. The new regulation takes the safety office out of the distribution business. Also, hang on to the original covers . . . we can't get anymore that good.

BOOK LOOK

Two well-qualified types approached a forthcoming cross country in their usual professional manner. Planning, filing, and preflight were all by the book.

As they taxied toward the active, a maintenance dispatch truck came racing down the ramp with a crew chief hanging out the window waving what appeared to be a form 781.

"Wazzamatter with them guys," one of the pros growled, "We got a form 781."

True, they had a form 781 . . . but not the one for the aircraft they were taxiing. After sheepishly exchanging forms, they checked the RIGHT one thoroughly and proceeded on their way, masks and visors hiding rosy complexions.

SWIPED IT, HE DID

After the KC-135 started transferring fuel, its hose straightened and disconnected the F-100 receiver. A second and third hookup were frustrated the same way. The F-100 pilot complained and the tanker commander obliged by going to the forward boost pumps. On the fourth try, the hundred herder took on 2000 pounds, made a successful disconnect and another hookup. When he said he was ready for fuel, pow, off came the basket. The F-100 troop brought the basket home and then shipped it to the tanker troops, COD. Investigators think the KC-135 had a bad pressure regulator.

STATE OF THE ART

In case you may have swallowed too much of this jazz about manned aircraft being doomed, relax. When the experts analyzed the first 40 X-15 flights they found that they would have lost the aircraft on 16 of those flights if a pilot hadn't been aboard to cope with equipment malfunctions and other emergencies. This is a 40% failure rate with an even worse accident rate - no matter who does the calculating.

GOOD SHOW

PILOT OF DISTINCTION

First Lieutenant Wayne L. Gosnell, of the 354th Tactical Fighter Wing, Myrtle Beach AFB, South Carolina, has been selected as the Tactical Air Command Pilot of Distinction.

Lt Gosnell was scheduled for a Swift Strike III air-to-ground mission and was briefed for the number two position in a flight of four F-100Ds.

During the formation takeoff Lt Gosnell fell slightly behind lead. As he retracted his flaps at 150 feet and 200 knots, he felt his aircraft decelerate rapidly and start sinking. He quickly placed the throttle inboard, checked the pressure ratio and found it low. Noting the rpm drop rapidly through 75%, he immediately hit the airstart switch, selected the emergency fuel system and jettisoned his two external 335-gallon tanks. He felt a surge in power and the rpm climbed to full military. Lt Gosnell then pulled up onto a high downwind, declared an emergency and landed without further incident.

The power loss was caused by a break in the PB-4 line between the P&D valve and the main fuel control. Such a break will cause engine rpm to drop between 32 and 40 percent regardless of throttle position. In flight, however, this could cause a flameout by rapidly leaning the fuel-air ratio in the combustion chambers. Most likely this happened since the flight leader saw a thirty foot sheet of flame shoot from the aircraft tailpipe as Lt Gosnell accomplished his low altitude restart procedure.

Lt Gosnell's immediate, deliberate and precise reaction to this extreme emergency in the most critical phase of flight are indicative of the self discipline required in tactical fighter operations.

A truly professional performance, Lt Gosnell.

OUTSTANDING FLIGHT SAFETY OFFICER

Captain Ellis C. Vander Pyl, Jr., of the 354th Tactical Fighter Wing, Myrtle Beach AFB, South Carolina, has been selected as Tactical Air Command's Outstanding Flight Safety Officer for the six-month period ending 30 June 1963.

After graduating from the USAF Flight Safety Officer's course with a straight A average, Captain Vander Pyl turned his full attention to developing and applying a sound safety program for the wing's operation. His attention to details, perserverance and exceptional grasp of accident prevention concepts was one of the factors which enabled the 354th Wing to win the USAF Flying Safety Plaque for 1962 as well as the Colombian Trophy.

Because of heavy requirements placed on the wing throughout the past year, Captain Vander Pyl has supported the squadrons as a combat ready pilot on two major exercises. He has also served as Quality Control Functional Test Pilot. His selection for this duty was based on his outstanding skill as a pilot and unusual knowledge of the F-100 aircraft.

In addition to accident prevention efforts at Myrtle Beach, he has performed aircraft accident investigations for other units. These investigations were conducted in a professional and competent manner and gained him letters of appreciation from the units concerned as well as higher headquarters.

RECOGNITION

MAINTENANCE MAN OF THE MONTH

Staff Sergeant Daniel P. McIver of the 516th Troop Carrier Wing, Dyess AFB, Texas, is selected as the Tactical Air Command Maintenance Man of the Month.

Although primarily assigned as flight engineer on a C-130 aircrew, Sgt McIver volunteered for TDY with the Wing's ice cap re-supply mission at Sondrestrom, Greenland, as it's maintenance line chief. As an original member of the Group that established the re-supply detachment to sustain DEW line sites and a rotating crew member on duty with the Detachment, he had observed it's maintenance capability deteriorate to the point of acute mission interference. Though not a ground maintenance technician in the strictest sense, he believed his long experience in aircraft maintenance would qualify him for the task. In his initial analysis of the situation, Sergeant McIver found that after four years of operation, the Detachment was still functioning strictly on a temporary basis. Through inept supervision and lax control, valuable equipment had been lost or badly misused. He even discovered major ski components buried under the snow and the ski change dolly so run down it was virtually worthless.

Sergeant McIver diagnosed the problems and reported his findings and recommendations to his Wing Commander. All of his recommendations, consistent with the Wing's resources, were put into effect immediately upon his return to home station. The resulting improvement in the Detachment's operation made it efficient almost overnight.

The professional and diplomatic leadership that Sergeant McIver exhibited while successfully completing this assignment certainly warrants this recognition.

CREW CHIEF OF THE MONTH

Airman First Class Arthur H. Heath, of the 1st Air Commando Wing, Eglin AF Auxiliary Field Number 9, Florida, has been selected as the Tactical Air Command Crew Chief of the Month.

Airman Heath continually sets good examples for others to follow. He accepts and completes all assigned duties and can be relied upon to do more than is required. For instance, while TDY to Detachment Two Alpha, South Viet Nam, he was assigned duty as crew chief of a U-10. Under extremely adverse conditions at an emergency airstrip, he replaced a tail wheel A-frame assembly on his U-10 aircraft. His outstanding maintenance capability enabled him to complete the repair without requesting special tools, equipment or help from the main base. This airman's cheerful attitude, ingenuity and initiative typify the characteristics of a professional airman.

BEST MAINTENANCE RECORDS

The Commander, Tactical Air Command, awards monthly certificates of achievement to airmen who maintain outstanding Aerospace vehicle records.

AUGUST SELECTEES

SSGT RALPH O. GODWIN
31st TFW, Homestead A.F.B., Fla.

A1C ROLLEN I. HOLSEY
314th TCW, Sewart A.F.B., Tenn.

A1C CHARLES H. WEISENBURGER
4500th ABW, Langley A.F.B., Va.

SEPTEMBER SELECTEES

SSGT BILLY MORING
836th Air Div., MacDill A.F.B., Fla.

SSGT EMILE E. StCYR
464th TCW, Pope A.F.B., N.C.

TSGT HENRY KAPAN
836th Air Div., MacDill A.F.B., Fla.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

MAJOR ACCIDENT RATE
1 JAN - 30 SEP

TYPE	1963	1962
ALL	11.1	13.5
F-105	33.2	39.9
F-104	29.0	29.1
F-101	18.6	17.6
F-100	13.2	19.7
F-86	0	76.1
F-84	24.7	16.7
B-66	0	0
B-26	10.2	30.7
T-39	0	0
T-33	0	4.0
T-29	0	20.5
KB-50	0	11.2
C-130	1.5	0
C-123	5.4	10.2
C-47	0	5.9
U-10	14.2	87.0
T-28	32.6	0

SEP TALLY
GUARD AND RESERVE

UNIT	MAJOR	MINOR
433 TCW	1	
102 TFW		1

ACCIDENT FREE
(MAJOR & MINOR)

JET			
ACTIVE	MONTHS		ANG
355 TFW	13	9	108 TFW
388 TFW	11	8	121 TFW
CONVENTIONAL			
ACTIVE			RESERVE
516TCW	20	82	434 TCW
463 TCW	28	33	435 TCW

SEP TALLY
ACTIVE UNITS

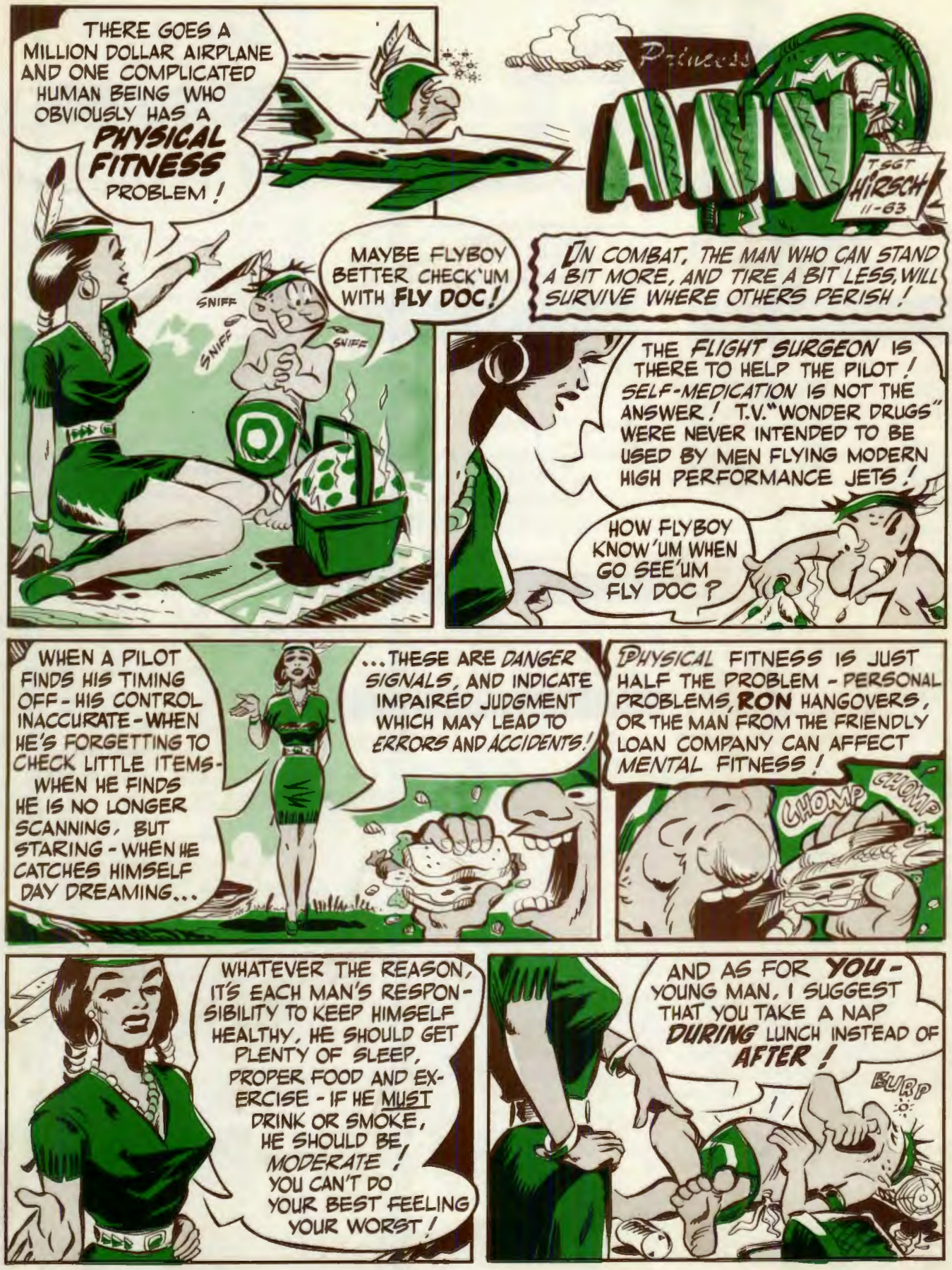
UNIT	ACDNTS*	INCDTS
4 TFW		5
12 TFW		0
15 TFW		5
27 TFW		11
31 TFW		9
354 TFW		12
355 TFW		6
388 TFW		0
401 TFW	1	9
474 TFW	2	3
479 TFW		18
TARC		1
4510 CCTW		4
4520 CCTW		7
516 TCW		0
314 TCW		1
463 TCW		0
464 TCW		3
4505 ARW		2
4442 CCTS		0
SAWC		3
363 TRW		4
839 AD		0
831 AD		2
366 TFW	1	16
836 AD		3

*MAJOR AND MINOR

September saw the regular forces finish the month with four major accidents and two fatalities. They lost one F-100D on an ACM mission after number two added back pressure to a 45 degree bank twoG turn at 24,000 feet. The aircraft went into a spiral or spin. Unable to recover, the pilot ejected. Another F-100D crashed after an engine vibration was followed by a flameout from an undetermined cause. The pilot got out OK. An F-199F pilot entered a rocket run steeper and lower than normal. He did not recover and the crash took two lives. The left main tire on an F-84F failed after touchdown and the pilot was unable to keep the aircraft on the runway. Both main gears collapsed but he was not injured.

The reserves crash-landed a C-119 in a corn field for their only major accident. One engine failed shortly after takeoff. There were no injuries and the cause was materiel failure. An F-86H starter came unglued during a ground start and caused minor damage to the main fuel cell and fuselage.

Our overall rate dropped a wee bit for September and that's good but, there's still plenty of room for improvement.


THERE GOES A MILLION DOLLAR AIRPLANE AND ONE COMPLICATED HUMAN BEING WHO OBVIOUSLY HAS A PHYSICAL FITNESS PROBLEM!
Princess
ANN
T SGT HIRSCH 11-63
IN COMBAT, THE MAN WHO CAN STAND A BIT MORE, AND TIRE A BIT LESS, WILL SURVIVE WHERE OTHERS PERISH!
MAYBE FLYBOY BETTER CHECK 'UM WITH FLY DOC!
SNIFF
SNIFF
SNIFF
THE FLIGHT SURGEON IS THERE TO HELP THE PILOT! SELF-MEDICATION IS NOT THE ANSWER! T.V. "WONDER DRUGS" WERE NEVER INTENDED TO BE USED BY MEN FLYING MODERN HIGH PERFORMANCE JETS!
HOW FLYBOY KNOW 'UM WHEN GO SEE 'UM FLY DOC?
WHEN A PILOT FINDS HIS TIMING OFF - HIS CONTROL INACCURATE - WHEN HE'S FORGETTING TO CHECK LITTLE ITEMS - WHEN HE FINDS HE IS NO LONGER SCANNING, BUT STARING - WHEN HE CATCHES HIMSELF DAY DREAMING...
...THESE ARE DANGER SIGNALS, AND INDICATE IMPAIRED JUDGMENT WHICH MAY LEAD TO ERRORS AND ACCIDENTS!
PHYSICAL FITNESS IS JUST HALF THE PROBLEM - PERSONAL PROBLEMS, RON HANGOVERS, OR THE MAN FROM THE FRIENDLY LOAN COMPANY CAN AFFECT MENTAL FITNESS!
CHOMP
CHOMP
WHATEVER THE REASON, IT'S EACH MAN'S RESPONSIBILITY TO KEEP HIMSELF HEALTHY. HE SHOULD GET PLENTY OF SLEEP, PROPER FOOD AND EXERCISE - IF HE MUST DRINK OR SMOKE, HE SHOULD BE, MODERATE! YOU CAN'T DO YOUR BEST FEELING YOUR WORST!
AND AS FOR YOU - YOUNG MAN, I SUGGEST THAT YOU TAKE A NAP DURING LUNCH INSTEAD OF AFTER!
BURP