

FEBRUARY 1964

TAC ATTACK

TAC Attack February 1964 High 7



HIGH 7

TAC ATTACK



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Contents

MISSING LINK	2
OLD TAT	4
THE POSITIVE SIDE	8
LETTERS	11
ILLUSIVE TRAP	12
HIGH 7	14
EVOLUTION	16
OL' SARGE	17
TAC TIPS	18
GROUND SAFETY	21
CHOCK TALK	22
SEG.	24
RECOGNITION	27
TAC TALLY	29

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Mechanics from the 434th Troop Carrier Wing
checking out an engine.

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EXTRA Effort



GENERAL SWEENEY WITH "COMMANDO" AND
LT COLONEL ROBERT L. GLEASON OF THE
605TH AIR COMMANDO SQUADRON

This is a dynamic command with a large number of commitments that have made deployments and exercises part of our way of life. It is a complex command with a wide variety of missions and hardware. Hardware that ranges from light aircraft through World War II equipment to the F-105 and F-4 with their highly complex and sophisticated electronic systems.

Our training programs are equally diverse... each TAC fighter pilot must train and be able to expertly and accurately deliver every piece of ordnance his highly versatile aircraft is capable of carrying. His counterpart flying troop carrier aircraft must be able to support his deployments and must also be expert at air dropping men and equipment for the Army or delivering supplies to remote areas in any corner of the world.

All of these missions demand outstanding individual performance as well as highly coordinated team efforts. Outstanding performance must be our standard, anything less is unacceptable. We are a busy command, a command that has no room for those who are unwilling to pitch in and pull their share of the load.

It is time to take a close look at ourselves and assess our present performance against what can be done with just a little extra effort. I want every man in TAC to apply "Extra Effort" in every action on a daily basis. To accomplish its mission, TAC must become in fact, and be known, as the "Extra Effort Command."

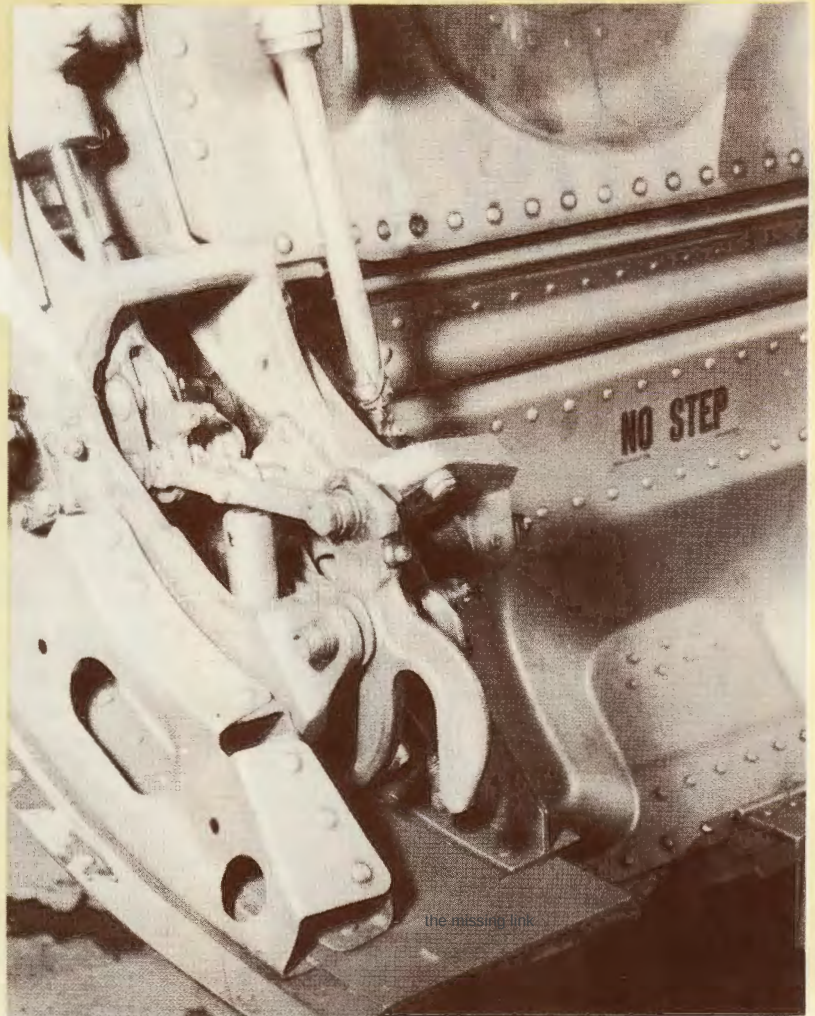
But hand-in-hand with this extra effort should be recognition by responsible commanders. Aircrews who distinguish themselves in their performance of duty should receive prompt consideration for the Air Medal or Distinguished Flying Cross. Likewise, maintenance men, crew chiefs and other support personnel should receive Commendation Medals or be recognized through the TAC Awards program.

We have a lot to do and for us to do it well is important to this country's security. Let's all give more in '64.

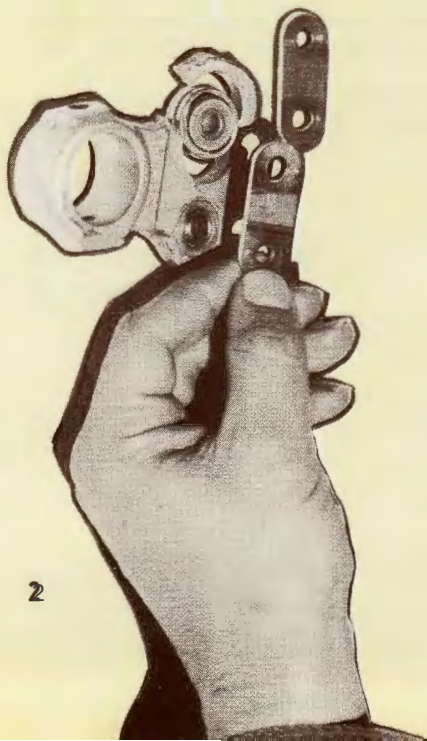
W. C. Sweeney
W. C. SWEENEY, JR.
General, USAF
Commander

the Missing Link

BY: CAPTAIN JOHN R. CANTY



the missing link



"MYRTLE BEACH TOWER, this is Blue Velvet 21, only two gear lights in the green. Request a low pass for gear check, over." This was the beginning of an F-100 crash.

Twice within one year, F-100s of Tactical Air Command, crash-landed with nosewheel and one main gear extended, the other locked in the well. Both pilots elected to land their aircraft and escaped without serious injury-

but damage to both aircraft totaled nearly a million dollars.

Captain Melvin J. Anderson, the Wing quality control officer and an F-100 test pilot at Myrtle Beach, witnessed both landing attempts and examined the damage afterward. He also knew that five similar crashes had occurred worldwide during the preceding year . . . each one was caused by a broken forward bellcrank lock assembly. When this happens the

main gear door will remain closed, holding the wheel in the well. The emergency gear extension system has no effect on the failure.

While Captain Anderson and SMSgt Julian M. Baker, NCOIC of the quality control section, were studying the broken links shortly after the second accident, Captain Anderson remarked that there must be some way to hold the linkage together should it break.

"Why don't you design a way, sir?" Sgt Baker challenged.

So Captain Anderson did just what Sgt Baker suggested. He designed two stainless steel links, similar to a bicycle chain link only much larger, to fit over and under the bellcrank assembly. These links, costing about 25 cents each, would act as an alternate support to the assembly should it fail in normal operation.

Meanwhile, he sent his theory and recommendations to the Director of Materiel at TAC headquarters, Langley AFB, Virginia, and received a go-ahead for local testing.

Captain Anderson designed his links so that they would fit into their normal, close quarters. He also took into consideration the fact that the links and bellcrank assemblies must be easily inspected to insure that the assembly and his devices were still functional.

His first test was to see if the links could be installed into healthy F-100 bellcrank assemblies without interfering with normal landing gear retraction and extension. An aircraft was set on jacks in the wing maintenance hangar and the links were installed by Sgt Baker. Gear up and down cycles were A-OK under normal system pressures. One of the healthy gear door bellcrank as-

semblies was then deliberately hacksawed to coincide with the breaks found on the two crashed units, and reinstalled with the "Anderson Links." The aircraft was still on jacks and again, under normal system pressures, the landing gear was raised and lowered continuously for about 30 minutes. It functioned normally each time.

Captain Anderson then took a modified F-100 upstairs to ascertain that the additional links would not interfere with a normal bellcrank assembly on an operationally ready F-100 in flight. They proved to be entirely satisfactory.

Captain Anderson had successfully designed a way to eliminate the problem.

He sent a blueprint of his design, photographs of the installation and a sample link to TAC, which was keenly interested in the experiments underway at Myrtle Beach, and received permission to install the links on all

F-100s in the four squadrons of his wing, including the 355th on NATO duty overseas in Turkey at the time.

The TAC Director of Materiel reproduced the information they had received from Captain Anderson and sent copies to all F-100 units within the command. Sacramento Air Materiel Area, McClellan AFB, California, next directed that Captain Anderson's "missing links" to be installed in F-100s everywhere.

Since that time there has been only one F-100 bellcrank failure crash recorded in the world. Captain Anderson held his breath as he checked details of the crash. It was an F-100 that crashlanded with extensive damage somewhere in the Far East. The cause was determined as "bellcrank assembly failure in the main landing gear door." However, Captain Anderson breathed easier upon learning that the particular F-100 had not yet been modified with his "missing links."



Capt Anderson and SMSGT Baker with the missing links on an F-100.



TAT FLEW THE TRIP down and gave the bird to this young lieutenant for the haul back. He gave the little liner both needles and soon lifted her into the blue and picked up the gear... picked up the... well bless my old bones one gear was still a hangin' and the hydraulic pressure on the normal system was at about 1000 psi. Humm

"Stand her on her tail, Son, and try recycling it."

He did, and we ended with all three of 'em down and the hydraulic pressure at zero. This wasn't according to plan. Even with a backup system for brakes and steering, the smart thing to do was land light. Home wasn't far away so we decided we might as well land light at home as land light anywhere else. Home we went at 170 knots indicated.

Enroute, the lieutenant said, "TAT, if you want to make the landing I'll change seats... after all, it's your bird."

"Stay put. Make a normal landing as if nothing was wrong. Then as soon as you get the nose on the ground try the brakes, if they work continue with the stop. If they don't, take it around and we'll pull the T-handle and try again. If that doesn't give us brakes we'll make another go-around and burn her down to 500 pounds and change seats."

Well, the lieutenant greased her in on the money, held the nose off like a pro. When it came down of its own accord, he tried the brakes and they worked. As

far as emergencies go, it wasn't much to talk about. It didn't have much chance to even get close to being hairy... still, if something had gone wrong that we couldn't have hacked I undoubtedly would have been criticized for not making the landing. But tell me, how else can a young lieutenant learn how to handle trouble?

By the way, this was the fourth time TAT has had a similar failure in the particular aircraft. In the previous three cases, the trouble was "cured" by someone rapping on a pressure regulator back in the hell hole. After writing up the discrepancy I promised the crew chief I'd rap on his skull if he used this cure again.

FROM OUR CORRESPONDENT in Spain comes this report of an F-102 pilot who escorted his buddy's aircraft after the engine quit and refused to restart. The flamed out bird turned toward a village after the pilot ejected, but the escort pilot was able to divert it into a plowed field. A professional bit of flying by anyone's standards. I assume he steered it by holding his wing tip in the tip vortices of the disabled bird...

Should you ever have an occasion to follow this lad's example, remember to pay some attention to flying your own aircraft. More than one troop has gotten too engrossed in watching an emergency and ended up behind the power curve with no place to go but in.

THE TAKEOFF LOOKED as normal as eggs for breakfast until the pilot retracted the gear. Then, the big dollar five settled on its ventral fin, both drop tanks, and finally, its fuselage. Still in afterburner, the brute slid the full length of the runway onto the overrun where it bounced into the air, rolled to the right and crashed.

Now that's what this tiger calls an unsuccessful launch. Strangely enough, I'm not going to shout at the pilot . . . he's dead, anyway. Instead, I'll take a mean narrow-minded look at the system.

"Now Junior, you gotta watch it with this bird. If you don't get the gear up early you'll exceed the gear limit speed . . ."

Have you heard that one before? They said it about the '86, the B-57, the '100, '104 and now that Pratt and Whitney finally succeeded in building an engine too powerful to weight down, they're saying it of one of Republic's creations. Leave us not take the advice quite so seriously. Increase the angle of attack a bit after liftoff and you gain time and altitude. If you find speed building too fast, use an even higher angle of attack . . . who says you have to hold her down to buzz the runway? By the way, this is not the first F-105 that settled back after the pilot retracted gear during takeoff. So for my dough, too quick is as bad as too slow.

BLUE FOUR COMPLETED five low angle strafing passes and a couple of skip bomb runs before making his first dive bomb delivery during an air-to-ground gunnery mission.

During the 4G recovery, his F-86H suddenly pitched up violently, blacking Blue Four out. He regained his vision with the bird climbing steeply. Control seemed normal, so he suspected a little excess speed caused the pitch-up. He stayed in the pattern and tried again.

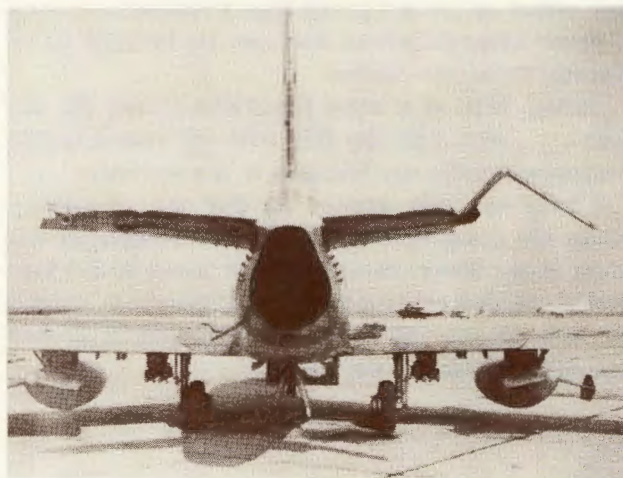
The next pitch-up wasn't quite as violent. So, according to the report, he stayed in the pattern to maintain spacing. On join-up Blue Leader advised Four that his tail section was damaged.

"Damaged" is an understatement. The outer half of the left stabilizer and elevator were kinked down about ten degrees, and a foot or so was missing. The outer half of the right stabilizer and elevator were bent up about 45 degrees, with the outer third bent downward a good 90 degrees. Sorta Z shaped. Rudder skin was torn and buckled . . .

All this havoc resulted from a near instantaneous overstress. The G meter pegged at plus ten on the first pullout. Actually, according to gun camera film

assessment, it was about 12. You see, the film indicated he pickled at 2800 foot slant range from a 49 degree dive. This put him at 1800 feet AGL when he started his recovery and he never got below 700 feet!! With 450 knots at the start of the recovery, it took over 12G to do this. Whew! And to think he came around for another go after going thru a cruncher like that!

The gun camera film indicated an 8G recovery from his second pass. But that ain't all. This insistent character made FOUR more dive bomb passes (one dry) and THREE rocket passes while he was "maintaining spacing." All of the last seven passes were from shallow dive angles using smooth pullouts.



Holy catfish! One look at that tail and you wonder how he got it to pull thru a pass at all, much less hang together. I don't know about the rest of you lads, but if I wracked up a horrendous overstress that pegged the G meter I'd tenderly nurse the machine home and pray nothing fell off enroute.

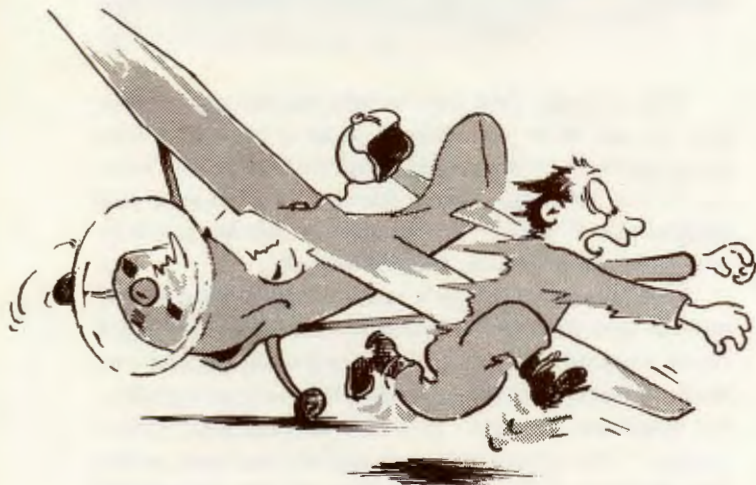
Incidentally, this guy's unit questioned the four G pullout specified in TAC Manual 55-86, stating that it takes a perfect recovery to pull out at the proper release altitude without exceeding four G or going below the minimum altitude. To which this cat sez, "Precisely." Few pilots will accomplish the ideal, so the diff between a four and a five or six G recovery serves as margin for error. Our files are full of aircraft bashed because someone didn't have enough room to recover from an ordnance pass. Proof enough that a comfortable margin is needed . . . and any pilot who plans to deliver ordnance a little lower or from a little steeper pass than the manual specifies is just flat throwing away his life insurance.

A T-BIRD ALMOST COLLIDED head-on with 3 F-4Ds . . . the IP in the aft seat sent in an OHR because he believed that the pilot he was evaluating placed too much emphasis on holding heading, altitude and airspeed, and wasn't paying enough attention to things going on outside the cockpit. His OHR was directed at the AFM 60-33 grading system.

Ideally, pilots flying VFR are supposed to look around, including heading, altitude and other instrument input into their crosscheck. In this manner they clear the area and fly accurately too. Unfortunately, most of us fall short of ideal. Recognizing this, we compromise . . . and it doesn't take an Einstein to calculate where a troop can accept a loss with the least effect on overall points. Yes sir, a complete zero on Area 32 (looking around) has far less effect on ye old grade than a few ones or twos in those assorted areas that can be brought up by literally flying the clocks.

Filing IFR at a hard altitude is not the answer . . . on a VFR day this does not insure traffic clearance despite any opinions to the contrary.

I have no quick answer for this one. Deemphasizing the grade criteria on altitude, heading et al, would make these checks a little more than a formality. Declaring Area 32 critical may help, but tell me, how do you tell when a man is looking around superbly, enough, or not enough?



THE LITTLE OLD BIRDDOG bird has a bad habit of trying to chase its own tail. In the process it generally ends up biting a hapless pilot. As a matter of interest, I have a whole drawer full of photos showing the little beast playing dead, trying to shake hands and doing other tricks. None of the birds in these

photos have US AIR FORCE or even ECHO OF MY SN written on the side, so I can't use them to illustrate this. That doesn't mean Air Force pilots are immune to bird dog bites. In fact, four have gone thru the cure to date.

The most recent gave his little machine the needle and found it starting a slow left turn as he raised the tail. Full rudder and aileron wouldn't correct the turn so he chopped power after it went about 25 degrees. Before he could get stopped, the right wheel hit a soft area and there went the right strut.

The 0-1E has treacherous ground handling characteristics. It has enough rudder to offset the effect of torque, but once a swerve has started, rudder alone isn't enough to hack the program . . . meaning that pilots must anticipate torque in order to stay on top of the situation.

It was no accident that the swerve started as this troop lifted the tail. Rotating creates a slight added tendency to swing left due to the gyroscopic effect of the propeller. But more important, the pilot loses tailwheel steering. If the pilot does not lead with a little extra rudder he'll soon find he will be asking for more rudder than he can get.

WILLY FOUR, climbing thru flight level 200 on a day-overwater deployment, noticed hypoxia symptoms . . . uneasiness, along with a mild woozy feeling in his stomach plus some confusion. He checked his oxygen system, went to 100 percent and felt better.

After reaching FL360 the symptoms returned several times. Each time, Willy went 100 percent. Finally he used pressure, but had trouble talking (which ain't at all unusual!). He notified his leader that he had problems. His leader escorted him back home at a much lower altitude, checked his reaction and vision using hand signals, then chased him thru a GCA approach and landing. Good head, lead.

Willy Four was still mildly confused even after the fly does got to him . . . why?

To start with, Willy, wearing thermal underwear, a summer flight suit, exposure suit liner and ventilating garment, stood by in the cockpit of his bird some 30 minutes waiting to start engines. After firing up the J-65, he had to hold brakes and run it at 90% for almost 15 minutes in order to burn out excess fuel. At liftoff he ran into jet wash . . . all this on his first over-water deployment.

All add up to a good solid case of hyperventilation . . . particularly when you note the cabin altitudes. His trouble started at a cabin altitude of

12,000 feet and the cabin altitude never exceeded 18,000. This in itself is one of your best clues to the difference between hyperventilation and hypoxia, since both have similar symptoms. So the cabin altimeter should be number three on your list of items-to-check when you get that all-ain't-right-with-the-world feeling.

It's a rare tiger who doesn't get overly excited from time to time, including ancient and tired types. And tell me, what will excite a fella more than thinking he's about to pass out while truing out at over 400 knots?

Most of us are dang well aware of hypoxia . . . we should be equally aware of hyperventilation and at least half-way expect it, respect it. Remember, go 100%, breathe at a slow deliberate pace and then check the blinker, system pressure and cabin altitude if you encounter hypoxia symptoms. If blinker pressure is OK and cabin altitude is below 20,000, you might ask yourself why the excitement.

I HAVE JUST FINISHED reviewing a Navy accident folder on a fatal F-4 accident. The folder contains a photo sequence showing the F-4's forward canopy start to open at the onset of a catapult launch. This is followed by views of the aircraft leaving the boat, climbing steeply and plunging into the water with the pilot's parachute billowing around the aft fuselage.

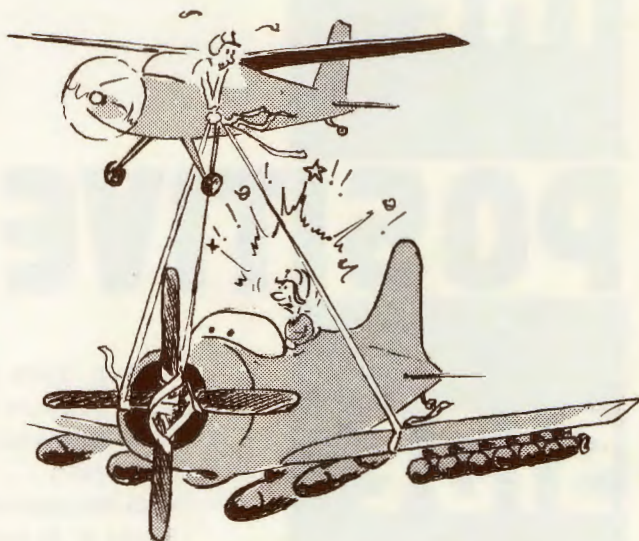
Apparently the pilot's seat was not properly locked when it was reinstalled following routine maintenance. During the cat launch, negative G caused the seat to raise enough to start part of the ejection sequence . . . canopy jettison, drogue chute deployment and the pilot's personnel chute. Resulting forces would hold the pilot helpless.

Altho few blue suiters will ever launch via cat shot, all F-4 types will encounter negative G from time to time and a loose seat will prove just as deadly. F-4 egress system specialists read, heed, and proceed to install that Martin Baker as if someone's life depended on it . . . it does.

RETURNING TO THE STATES from a deployment, a TAC F-100 pilot wrote up the stabilator trim on his bird and left it with the maintenance people at an enroute stop. A short time before he was scheduled to press on, he checked on the bird and found it wasn't ready . . . AOCp. Our unhappy hero then proceeded to do a little more writing in the form and squawked the engine for having a power hang-up.

TAC ATTACK

Hooo haw! It don't take a super suspicious mind like mine to see that this lad was afflicted with a bad case of Presshomeitis. By now, enough people will have jumped straight up and landed on him to cure him of it, so TAT ain't going to join in. But, I do want to warn the rest of you troops not to follow his example—ever. You have no idea how many high priced frowns were evoked by this incident. The name of the game is play it safe. Keep this in mind. Don't cheat, and you'll stand less chance of ever having to count your flares while you try to walk or paddle your way home.



THE FORWARD AIR CONTROLLER couldn't use smoke bombs 'cause the range was too dry for anything but dry runs. Instead, he tossed a roll of target marking paper out of his U-10 to flutter earthbound.

A couple of captains in the number two strike aircraft of a two ship flight made two passes under the marking paper. Pulling off the third, they hit the descending streamer head on. A few seconds later, their engine quit. The pilot put the mixture to full rich, turned on the boost pump and reduced throttle. The engine sputtered a few times but that was all. The pilot called lead and turned toward a nearby range. Lead read off the checklist for an engine failure as the pilot of the ill bird followed thru. No help. The pilot eventually made a neat belly landing resulting in MINOR damage to the aircraft. A tip of TAT's old hard hat to the pilot, Captain Quintin H. Evans, for a smooth professional job.

For you scientifically minded troops the, ah, target marker was plastered on the screen to the carburetor air scoop and blocked off air flow.

—TAT—

THE POSITIVE SIDE



A 434th C-119 crew demonstrate a pick-up.

IN THIS SAFETY magazine business I spend most of my time searching for ideas and material . . . preferably dealing with the positive side of safety. At times it is hard to convince the boss that I read all those magazines and stuff as part of this search.

He may have a point. My best

material usually doesn't come from all that reading. Instead, it comes from day to day contact with other people. Take last Monday. Colonel James B. Henson, of TAC Reserve Affairs, gave me a call to see if I'd be in the office Wednesday afternoon. Before I could check the flight schedule, he



Reserve aircrews meet same flying requirements as their counterparts in the regular forces.



434th crews get plenty of simulator drill

added the magic words, "I have Colonel John W. Hoff coming in and he should have a story for you on the 434th."

A story? Flying be blessed. "Yes, sir! I'll definitely be here." The 434th . . . oh yes, that's the reserve wing that has led the command on number of accident-free months. That story should be definitely on the positive side of safety. And it is. The story he brought is on page 15 of this issue. With it, he also brought Major B. M. Knowles, who is SEF for the 434th, and an interesting afternoon. We had no trouble getting these two enthusiastic men to talk about the 434th while we tried to learn a few of their secrets for

It isn't their facilities. Bakalar sports two 5,000 foot runways and is served by a low frequency beacon. However, you start to get an idea when Colonel Hoff goes on to say that they look on this as an advantage. "Keeps us on our toes," he explains. "We can't afford to get sloppy. We know we'll end up in the overrun if we do. We must use the low frequency beacon even with weather right down to minimums, where it stays a good deal of the winter. Making a TACAN or Omni approach at another base becomes easy just by comparison."

Ask for the reason behind the outstanding record of the 434th and they treat it like a hot potato and try to blame everyone else.



Major Ray West spark plugs 434th Safety Program.

"He uses this as a gimmick. Calls himself Old Hat."

I grinned, "Sounds like Old TAT."

"Right, and the same idea. His biggest asset is that he stays current with his safety program. He keeps things moving." Colonel Hoff flipped thru some posters made by pasting on newspaper clippings of items having a safety message and lettered with magic marker. Content was clever and to the point. "With his material, you want to check the safety board several times a day just to see what he's up to."

In his article Major West had mentioned excellent maintenance, so I asked about it. "Even before we had 66-1, our maintenance people were checking engine screens every seven days," the Colonel said. "Quality control is the best I have ever seen. They play everything straight by the book. They, too, make their decisions on the safe side. If an engine is doubtful, they change it."

"This is one reason the 434th has had exactly eight in-flight engine failures in the past SEVEN YEARS. We had three more that failed on takeoff before decision speed was reached—where they presented no problem. This



Much of the credit for the 434's fine record goes to maintenance. About 60 percent of the airmen have been in the service less than five years.

success.

The secret isn't manning per se. In fact, the 434th has ten C-119J recovery rigged aircraft (they helped snatch capsules out of that balmy Hawaiian air) in addition to the standard complement of 48, C-119Gs . . . yet, they have no maintenance augmentation.

They have the usual 12 officers serving as technicians who maintain continuity and keep things rolling for both the base and the wing.

"Excellent maintenance...the stdn/eval program . . . as indicated by Major West in his article . . . a hint of policy "We always try to make our decisions on the safe side."

He showed us some safety material the wing uses. "Major Ray West is our safety officer and he's quite a salesman. In fact that's his civilian job. He sells dictaphones. On base he sells safety." The Colonel held up an Army campaign hat with a propeller on the front.

should give you some indication of what we mean by quality maintenance. Other maintenance areas are just as good."

I asked, "What about engines from that overhaul facility...you know the one that put out so many poorly overhauled ones? Did you get any of those?"

"We sure did," Major Knowles answered with some feeling. "But maintenance caught them before they failed. Some never even made a flight. They put them on, ran them up, checked the screens and then changed engines. Twelve minutes TOC...time out of can. Others they changed right after the test hop."

"I have another good point here," Colonel Hoff interrupted. "As stdn/eval chief, Knowles works very closely with maintenance to check out mechanics who run up engines. He also watches our pilots to make sure they know and use recommended power settings for their cruise scheduling. Even on low levels, all of us set up the proper power for the cruise schedule just as soon as we level off. A small item, but it pays off."

"Our aircrews average 2700 hours flying time. About half of them entered service during the war years. Our airmen are younger. About 60 percent entered service within the last five years. They are a dedicated group, and must commute from all over the state of Indiana. Some even come from Ohio and Kentucky. We've had between 97 and 98% attendance at Summer camp during the past three years."

"Yes," Major Knowles added, "and they really live two lives. They hold down a full time civilian job and still manage to put in what amounts to full time duty with the military. Did you know that our reserve aircrews meet the same

flying requirements as your regular full-time troop carrier aircrews?

"They fly over 180 hours a year, take the same stdn/eval checks and go off on TDYs to places like Alaska and Hawaii. We even had three crews fly to India. They ended up circling the globe. The Colonel keeps them on their toes. He takes them down to the simulator and runs them thru engine-out procedures or other emergencies, stressing a different one each time. He also has some card games you might be interested in."

Colonel Hoff explained, "I carry several sets of cards that have emergency procedures on them. Each card has one step of the procedure on it with its number in the sequence printed on the back. I'll fan them out on a table top or the snack bar, and get a pilot to arrange them in the proper order. Then we'll turn them over one by one to see if he got them right. This helps keep me on my toes, too."

After awhile the Colonel left on other business. "He seems pretty sharp."

Knowles laughed. "He is. He's just about the best pilot we've got. He's not back there pushing, he's up front leading! When I went thru safety school at the University of Southern California, they told us you had most of your problems whipped if you could get the CO on your side. I didn't really believe them or realize how true this was until I was assigned to the 434th.

"I walked in and it was like having things handed to you on a silver platter...the boss was already safety oriented. No half-way stuff—he considers the safety implications of every decision he makes whether it be running the base or flying an airplane.



Col Hoff and Maj "OLD HAT" West in a 434th safety meeting.

"In our safety program Ray West furnishes the imagination and the boss furnishes the power. He sets the pace and makes sure everything that takes place does so with proper safeguards.

He is keenly interested in stdn/eval training, OJT, maintenance, you name it. This is just one reason the outfit has terrific esprit de corps.

Actually I don't know which is the best. The colonel, or the weekend warriors. I think they do an amazing job—their scores on the last SEG spot inspection were mostly in the seventies." He showed me the visit report. One or two were in the high sixties, the rest went from there into the 80s. "By the way," he added, "this year the Colonel got beat-out by one of the reservists. He's usually top dog on both the written and flight exam. This time he came in second, a close second."

Well, there you have my story behind the story...and the best approach to safety I've seen in a good many years.

Letters to the Editor



Dear TAT

Reference "No Room to Spare" in the November 1963 TAC ATTACK. I would like to point out a couple of errors that could lead to an accident. These concern the techniques described for landing the U-10.

Everything is O.K., until we get to the sentence stating "Power is used to control the sink rate." From that point on, the information in that paragraph is pretty misleading.

Power is used to control the airspeed, altitude and rate of sink on final approach. Bitter lessons learned in Special Air Warfare training and operations have taught us that a nose low final approach with an airspeed of from 55 to 70 mph (According to gross weight and wind conditions) is a far safer and better approach than the nose high, slow, throttle controlled approach described. At weights above 2800 pounds, when wind shear turbulence or gusty conditions are encountered, the aircraft will, many times sink to the ground from 10-15 feet in the air on a low airspeed final approach and there isn't enough power available to stop the sink. You're behind the power curve and you're going to hit hard, probably damaging aircraft and ego.

Regarding the statement that the U-10 won't stall regardless of how hard you try or what attitude you put it in. It's true, you don't get what most people think of as a stall (the shudder and shake and sharp drop of the nose), but don't try the fancy stuff close to the ground or you'll bite the dust.

And you say you can land in the length of your living room; WOW, I hope you have a big living room or lots of wind. It will land short, though, about 110 to 125 feet at weights below 2800 pounds, no wind.

Let's face it fellows, the U-10 is a great little airplane and we like it. It has a good STOL capability and is invaluable in SAW. Notice I said airplane, not chopper; it won't hover, except in a 40 knot wind, and you must have airspeed on final. It may not stall, but it'll sure drop fast and it won't land on a dime, but show me an airplane that will land shorter!

It's a darn good bird when you realize these things.

MAJOR JESSE B. STEPHENS
USAF Special Air Warfare Center
Hurlburt Field, Florida

Dear Steve

When Capt Tarrant took pen in hand, the recommended procedure was as he described. Meanwhile time marched on and some changes were made. Many

thanks for bringing all of us up to date. Incidentally, we understand that "nose low" is relative and that the actual approach attitude is about the same as the normal flight attitude.

TAT

Dear TAT

In the November 1963 issue of TAC ATTACK you published the Angle of Attack by Colonel James K. Johnson. I would like to call to your attention the misspelling of the word "furniture." You have it spelled "furmiture." Don't get me wrong, I was not looking for an error in the article, but this one was very obvious to the reader.

I am sure I can speak for all who read the TAC ATTACK, that we will miss Colonel Johnson's thoughts for the Angle of Attack.

We here think that the TAC Attack is a fine publication, so keep up the good work.

A3C John L. Shepherd
836th Air Division Operations
MacDill AFB, Fla.

Dear John

Apparently you weren't the only one who wasn't looking for errors when reading thru Colonel Johnson's Angle of Attack . . . "Furmiture" good grief . . . TAT, as chief proof reader, will take ten on that one.

Many thanks for your letter and comments. We miss Col Johnson's help, too!

TAT



ILLUSIVE TRAP

APPROACHING DESTINATION after a short haul in a T-bird, a well experienced old head from another command was given an enroute descent for a straight-in to runway 28. In the descent he was told that he was seven miles from final and acknowledged. He received another report at two and a half miles from final and descended to 2300 feet MSL. This put him under the overcast in broken conditions and he let down another thousand feet to get completely VFR. At this time he saw an airport about three miles away at about 2 o'clock. The runway was properly oriented to 28 and the bird dog needle was getting rather fidgety, so he re-reported the airport in sight.

Approach control told him to

contact the tower. He switched channels, reported on a wide base leg and was cleared to land. However, the tower advised that they didn't have him in sight.

"I'm over the end of the runway," old head replied, then chopped power to complete the landing about 300 feet beyond the threshold. With 490 gallons on board and a wet runway, he'd made his approach at 125 knots. On touchdown he retracted speed brakes and flaps and started braking. Moments later he could see he wouldn't get stopped on the wet runway. Too late to try a go-around, he made the best of a poor situation, jettisoned the tips and hit the sod overrun hard enough to polish off the gear.

Old head landed on a 3700 foot

strip about seven miles from his intended destination. On the surface this looks like a simple bone-head blunder. However, flying isn't quite as simple as it sometimes seems on the surface.

On every flight a pilot is required to assimilate a host of information which he evaluates and uses as a basis for his decisions. He gets this info from diverse places ranging from eyeball and earbone to tailbone.

From this it follows that a bad decision is due either to faulty evaluation or misleading input.

Experience is the iron that smoothes out errors in evaluation. Therefore, when an old head wraps one up, we'd do well to analyze his flight because chances are he based his decisions on loaded im-

put and the things that fooled him could very well trap someone else.

Old head received his first bit of misleading input from the controller when that worthy gave him distances from APPROACH instead of from the TOUCHDOWN POINT. Old head didn't notice the difference. Perhaps age and several thousand hours of listening to wind noise and poor radios affected his hearing. More likely, he didn't pay close enough attention to the transmission and assumed the distance was to the landing runway, which is the point most used as a distance reference during letdowns.

Phraseology plays an important part here. If the controller had said, "You will start your final approach in seven miles," I seriously doubt if this accident would have happened. Unfortunately, this first bit of misinformation was combined with a second bit of loaded input and that was the runway itself. It was 3700 feet long, but only 100 feet wide. The marking stripes were three feet wide and 40 feet long while standard marking stripes are six feet wide. The total effect was an illusion. The damn thing looked longer—yes, even bigger—than it actually was. Reduced visibility accentuated the effect.

Old head was trapped by an illusion, plus what the head shrinkers call expectation motivation. Illusions are common in the flying business because we have to rely heavily on visual cues. We've all noticed how an extremely wide runway, such as the one at MacDill, tends to appear much shorter than it actually is. Most of us have been fooled into leveling off high on one of these babies, too. This is because we get our cues from the size and shape of

the runway and the linear perspective . . . meaning the way the sides of the runway get progressively narrower the further down we look. We use this to tell how far out we are on final and to tell how much runway is left.

Have you ever been fooled by a hump in the runway? If the hump hides part of the runway, it gives the illusion that the runway ends on top of the hump. I know of a B-57 pilot who was fooled into sucking up the gear and sliding to a halt with about 4000 feet of good wet runway left on the opposite side of a hill.

A similar illusion is created by runway slope. If you are landing on a runway that slopes up toward the far end, you will have the illusion of a steeper than normal approach when on ILS or GCA. If left to your own VFR devices, you'll make a dragged-in approach . . . a good way to land short. This one can get even worse at night . . . and some throttle benders have landed as much as a mile short. Good clear night, too.

This brings up another pitfall. We often judge distance by how clearly we are able to see an object. This is why that good, clean, clear Western air fools smog-bound Yankees into starting their letdown too soon.

There are other illusions, such as the refraction error you get during heavy rain that gives the illusion of being higher than other objects at your level. This can be as much as 200 feet at 1 mile. False horizons are another, more common, illusion creator. One that helps produce vertigo. Incidentally, did you know that you are more apt to get vertigo while flying formation if you stack up or stack down? That's right. Keep level with lead and you'll have far fewer false sensations.

We mentioned expectation motivation. This is when you are mentally tuned to see certain stimuli and then react. Our T-bird head was tuned to see the runway to the extent that when he spotted it, he took it at face value as being the one he wanted to see.

Along this line, here is one we stole from an article by Lt Col James A. Talbot which appeared in the November MATS FLYER.



Count to five as you study the altimeter, then cover it with your hand. Did you note that the low altitude striping is not visible?

Don't peak. Now, you've been maintaining FL 330 and the pilot in back has called off 30,000 and 25,000 over the interphone. Suddenly approach control wants you to "ident" and report the altitude you're passing thru. You answer:

- a. Two thousand?
- b. Twelve thousand?
- c. Twenty thousand?
- d. Twenty thousand, two hundred?

Regardless of which answer you selected, recheck the photo. Did you choose one of the suggested answers? If you did, you have been a victim of "set"...and know how easily a pilot can get into trouble. The correct answer isn't listed and if you missed, it's because you expected it to be among those available.

Sneaky, no? Well, so are most illusions and false sensations.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

ACCIDENT FREE (MAJOR & MINOR)		
CONVENTIONAL		
ACTIVE	MONTHS	RESERVE
314 TCW	5	84 434 TCW
463 TCW	29	34 433 TCW

HIGH 7



Last 434th accident was this C-46 crash back in Nov 1956.

SEVEN YEARS WITHOUT AN ACCIDENT

High 7 By Maj Ray "Old Hat" West



IF YOU ARE a regular reader of TAC ATTACK, you've no doubt noticed an outfit, the 434th Troop Carrier Wing, at the top of the "Accident-Free" TAC TALLY for many months. This is my unit, the Air Force Reserve "Hoosier Wing" and we have just completed seven years of accident-free flying. My name is Old Hat and this is my version of High Seven.

You've heard of shock treatment being used in the medical profession...well, let me assure you, in the 434th we got the mes-

sage on a dark Sunday night in November, seven years ago when one of our C-46s crashed short of the runway on an instrument approach. This was our shock treatment. We feel the lessons learned from that accident have been a tremendous help in establishing the enviable flying safety record we hold now.

After the investigation, we all realized that although the board found pilot error, there were several compounding factors, all of which contributed to the acci-

dent. Let me relate some of these factors to our present flying program...

SUPERVISORY ERROR...the aircrew was permitted to make an extended flight to the West Coast and return over too short a period of time.

PILOT AND AIRCREW ERROR...too long a flight was planned for the total time period. The crew did not have adequate rest while at the west coast destination before the trip home. The crewmembers used poor judgment by trying to complete an extended



Superb maintenance helped place the 434th on top the TAC TALLY. Here, maintenance supervisors attend standardization and training meeting.



Col John W. Hoff, 434th Wing Commander

learned these lessons well. The flying safety program in our wing is a way of life for every member from the Wing Commander down. The perfect flying record established by the Hoosier Wing is particularly outstanding considering the fact that the 434th is a Reserve Unit and its members meet only one or two weekends each month and for 15 days during the annual summer encampment. All flying safety meetings and activities must be scheduled during these brief periods... and you can bet that flying safety is

flight in rather severe weather conditions... icing, rain, snow, low ceiling, etc. They had the well-known malady, get-home-itis. They also erred by not operating the aircraft de-icing systems properly.

We all recognize these factors as standard findings of many other aircraft accidents. Many fly safe articles have been written on each one.

Having logged over 78,000 hours of accident-free flying proves that 434th people have



Dedicated standardization is another key factor to the 434th wing record. Wing aircrews carefully plan a mission.

stressed at every opportunity.

Our tragedy seven years ago taught us that safety is everyone's responsibility...at every echelon of command. Each planned mission must be evaluated safety-wise before the flight is approved. We emphasize deciding the "safe" way. Every crew member realizes that his life and proper aircraft operation depends solely upon his knowledge of emergency procedures and his strict adherence to every safety regulation.

If Old Hat were asked how we arrived on the top of TAC TALLY, my answer would probably be; with superb maintenance and dedicated standardization. Of course there is more, but these are two of the most important ingredients

and are the very foundation of any flying safety program.

We consider our maintenance personnel the best in the business, with their stdn book, AFM 66-1, being the key to top aircraft maintenance. The stdn/eval program really highlights the low areas of crew performance so they can readily be worked out in the flying training program. Probably paying the biggest dividend is the emergency procedure part of stdn/eval. This knowledge has been with us on each flight...in fact, we don't even start without it.

Each year for the past several years, the 434th has joined regular TAC units to participate in the huge joint Army and Air Force

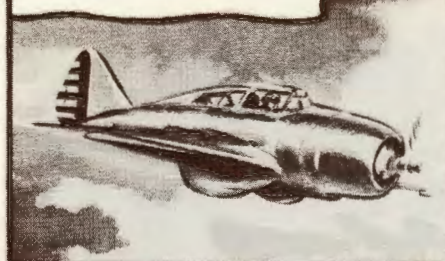
exercises in the Carolinas where they conduct simulated combat air operations in support of a mock war. Many of our accident-free hours have been flown during these exercises where simulated combat missions are flown under conditions as realistic as possible within the bounds of practicality and safety.

Our seven years of safe flying are high on the list of 434th accomplishments, but our commander, Colonel John W. Hoff, does not allow us to rest on our laurels...right now we are High Seven on the TAC TALLY...we plan to stay there...flying safety may be "old hat," but it's mighty important to keep it fresh.



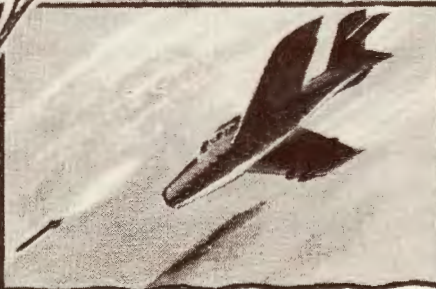
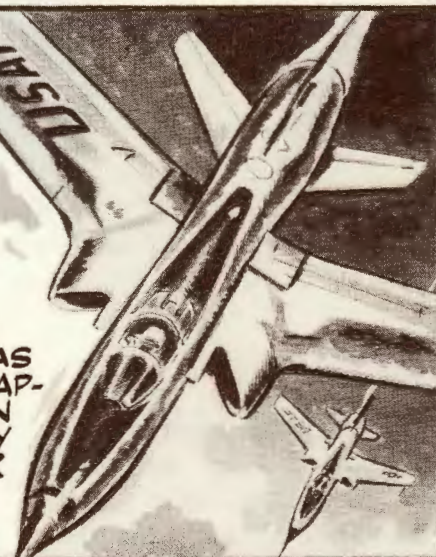
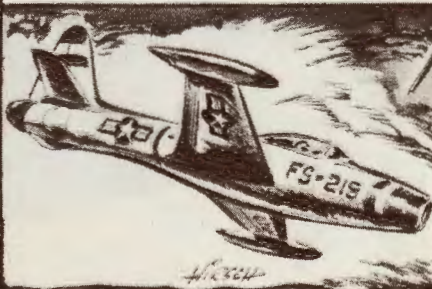
EVOLUTION

THE P-35, DESIGNED BY MAJ. ALEXANDER de SEVERSKY, SMASHED MANY SPEED RECORDS DURING THE LATE '30s, AND WAS THE FORERUNNER OF THE NOW LEGENDARY P-47



REPUBLIC F-105

SINCE THE FIRST PRODUCTION MODEL F-105B WAS DELIVERED IN 1958, THE CAPABILITY OF TAC HAS BEEN INCREASED CONSIDERABLY BY THIS ALLWEATHER SUPER SONIC ALL PURPOSE WEAPON!



MANY TAC PILOTS SAW ACTION BACK WHEN THE "THUNDERBOLT" WAS DUCKING IN LOW OVER THE HEDGEROWS OF FRANCE, AND WHEN THE F-84s WERE POUNDING SUPPLY LINES INTO INCHON AND SEOUL!



Ol Sarge

TOMMY NUDGED the airman third who was helping him remove the aft section of an F-100, then glanced at his watch. "Right on schedule. He's headed for our wise guy, too."

The airman third looked around. Sure enough, the Old Sarge was striding across the hangar toward an airman first talking with the man in the tool crib. "You think it's about that T-bird?"

"Think!" Tommy snorted, "I know. Look at the way he's walking."

"You're probably right. He sure looks like he means business. What will he do to Walt?"

"You watch. He won't raise his voice or act mad or do anything like that. He'll just quietly fill him in on the facts of life and make him want to crawl into the nearest drain hole."

By now the Old Sarge had reached his unsuspecting quarry. Tommy and his helper kept busy, but nevertheless were able to see the Old Sarge say something to Walt, point a finger at a Form 781 he was carrying, then nod toward the coffee machine. Walt seemed to be doing most of the talking as they walked toward it.

"He's telling him what all he did to trouble-shoot it." Tommy explained. "I imagine he's already started to think of things

he should've checked before signing it off. Gee whiz, inspected in accordance with the TO... is just a fancy way of saying ground checked OK."

"Yeah, you warned him alright. In fact you even told him when the Sarge would come to give him hell. If it weren't for that I might feel sorry for him. Look at him now."

Over by the coffee machine, the Old Sarge watched Walt unhappily study a grease smudge on the toe of one shoe. "Here's why I know something is wrong with that airplane. First, because the pilot came back and said it flamed out on him. Second, because he wrote it up in this form." The Old Sarge tapped the form with his forefinger. "That alone is enough to convince me. In this business we have to take the pilot at his word. If he reports a flameout, at the very least, something happened which made him think the engine quit. This pilot reported too many symptoms of a flameout for it to have been anything else. He was above 20 thousand when it happened, so you can be certain he

remembered to turn on the tips before takeoff if he hadn't it would have quit sooner than it did. He reported that the fuselage gage was reading full right after the flameout, so you know the tip tank float valve wasn't at fault. He didn't notice a low level light, either. You checked out the fuel gage float system and it wasn't hung up... obviously, this leaves an unsolved problem.

"Just because the engine ran OK on the normal system doesn't mean the problem has corrected itself. I want you to go over that airplane until you either find something or are willing to go up in it with the poorest pilot on this base. Is that understood?"

Walt nodded.

The Old Sarge's voice softened. "You might not find anything and after you've tried everything you can think of, give me a call. Then, I'll go thru my bag of tricks. That goes for any job. And in the future, either see me or Capt Green before you clear a bird as ground checked OK."

Walt paused to admire the late winter sunset, then throwing his shoulders back, opened the door to the Old Sarge's office. "I ah, just thought I'd drop by to, ah... well, dammit, you was right and I was wrong. We tried another runup and it quit on us. If flamed out right on the pad. We traced it down to the fuel control... and, well, I thought you oughta know I learnt my lesson. You know, the pilot's the customer and like my Uncle Sol says, 'The customer is always right.'"

QUESTION OF THE MONTH

Contents of all tool kits issued to mechanics are inventoried and inspected every:

- | | |
|--------------|--------------|
| a. 12 months | c. 6 months |
| b. 90 days | d. 24 months |

TAC TIPS

TAC TIPS

PRESS ON

Climbing thru 19,000 the safety observer in a T-33 suspected that he was having oxygen problems and asked the aft pilot, who was practicing instruments, if his oxygen system was okey. The observer then took off his gloves and checked his fingernails. They were blue, so he turned his oxygen to 100% and advised the other pilot. He is not sure what happened after that.

The aft pilot continued to climb. About two minutes after he leveled at FL 310, the observer failed to respond to a question. The aft pilot came out from under the hood and saw his companion slumped in his seat. The aft pilot declared an emergency, got center clearance to a lower altitude, and made a max rate descent. At 12,000 feet the safety observer regained consciousness and asked what happened.

A faulty inhalation valve on the safety observer's mask caused the problem . . . pressing on to higher altitude after the problem developed, turned it into an emergency. Pilots should know and respect their individual hypoxia symptoms, remembering that they must act early before hypoxia takes away their ability to make a proper decision.

FATAL PORPOISE

The launching crew positioned the sailplane on the runway centerline behind the tow ship. Once again the Air Force captain carefully checked the controls, then tested the release mechanism. Satisfied that everything was operating correctly he adjusted his goggles and signaled that he was ready.

Two months earlier the captain had checked out in a two place sailplane after three dual rides and a 12 minute solo flight, all on the same day. Now he was checking out in a single place Bowlus, a fairly high performance craft, noted for being a little touchy on tow. It had a tendency to porpoise.

The PT-23 towplane started down the runway, and the Bowlus soon outdistanced the launch crewmen

running alongside its wingtips. It lifted gracefully, then immediately started a series of slight porpoises which increased until the sailplane was climbing about 30 feet and diving to within five feet of the ground.

As it pitched, the wings began to rock. Finally, the frail craft climbed abruptly almost a hundred feet then quickly reversed and dove into the ground. The captain was killed instantly, 3000 feet from where he had started his flight.

Altho the captain's checkout met all FAA requirements, by today's Air Force standards he had definitely limited experience in aircraft similar to the one that killed him. A little more time in the two place sailplane may have helped him cope with the even more nimble Bowlus.

Pilots must remember that there is a definite difference between flying heavy military aircraft and flying their light civilian cousins. Most civilian instructors place too much credit on military experience. They think military pilots are more capable than they may actually seem. On the other hand, you as a pilot, know when you are ready to solo an aircraft. If you are checking out in a civilian lightplane or in a sailplane, don't let anyone push you into soloing too fast. Instead, be a pro and play it safe.

TANDEM CHIEF

Now that some F-105Fs have started coming into the inventory, a word on some differences between the D and F. The second cockpit necessitated a take over system and an aft seat fire control system. You should read the dash one on both of them.

Fuel sequencing is different on the F. The forward tank empties when the aft tank has between 450 and 1250 pounds remaining.

The pullout panel of the toss bomb control panel is in the same location as in the D, but the four pots are backward. The IP bearing is at the front, the IP range is next, followed by IP altitude and target altitude.

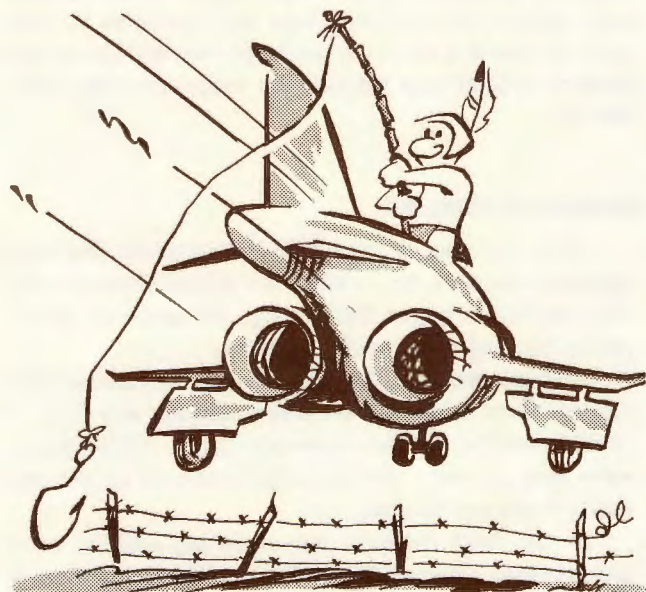
BRAKE BROKE

An F-105 sport extended the landing gear in an attempt to shut up the beeper after it and the warning light in the gear handle came on in flight. No help. The gear position circuit breaker was popped, but refused to reset. After getting someone to visually check the gear down, the pilot brought the bird in. Shortly after touchdown the left tire blew followed by the right. The left wheel never rotated during the landing, if you'll pardon the expression, roll.

Moisture and corrosion caused the right main gear forward uplock switch to short. This popped the circuit breaker and de-energized the anti-skid landing gear warning control. Pressure was trapped in the brake lines to complete the sequence.

If this troop had used the emergency gear extension, pressure to the anti-skid would have been relieved and the landing roll would have been less like Ty Cobb arriving at third.

On this subject, the people at Farmingdale warn that anytime the gear handle red light is on, anti-skid is inoperative . . . in addition, the anti-spin system may be energized with hydraulic pressure on the brake system. They recommend you react to the red light by having your gear checked down, pulling the anti-spin circuit breaker and pumping brake pedals over half travel several times before you make your landing.



EARLY ABORT

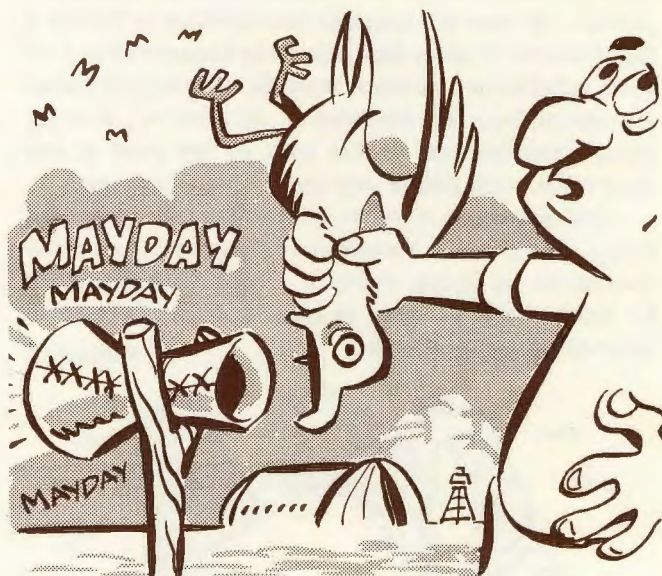
The Navy CROSSFEED warns F-4 pilots to drop the hook early if they have to abort a takeoff or need to take the BAK-9 for any other reason. It takes about four seconds for the hook to extend.

TAC ATTACK

APPROACH END MISS

An F-100F pilot from another command was unable to extend the right main gear, or get the other gear to retract. Eventually he attempted an approach end engagement. Touchdown was on centerline, but the aircraft settled on its right wing tip and tail section, then failed to hook the BAK-9. The pilot was not hurt.

A broken right main gear forward lock bellcrank caused the accident.



GONE GULLS

According to the morning paper, the Navy troops at Moffett finally routed the gulls that congregated around the runways. Where there used to be thousands, now there are only a hundred or so. The Navy did the deed by recording the call of a sea gull in distress then broadcasting it from a sound truck along the runways and taxiways each morning for a week.

Bird lovers who wonder what cruel means were used to make the recording can relax . . . turn a gull upside down and he'll squawk mayday loud and clear.

U-3 FLAP

A U-3A from another command was flying chase for a U-2 on GCA. With flaps and gear down, about a mile out at 800 feet, the bluebird suddenly pitched down and to the right. The pilot applied back wheel, added power to the right engine and retracted the flaps. The bluebird responded and was soon being inspected. The right flap bicycle chain had failed causing a split flap and the sudden gyration.

PATTERN FOR SAFETY

From an accident report: A pilot is a characteristically optimistic individual and must remain so if he is to have a future in the flying business. Nevertheless, some moderation of this trait must be made thru training so he will recognize his limits and the limitations of the machine. This training should not instill fear, but should temper the attitude of "it can't happen to me." In between these two extremes in attitude is the safe pilot. He has the training and courage to face risks when necessary, but more important, he has the courage and training to refuse a flight which is unnecessarily risky because of an aircraft malfunction or other factors. This type of training comes from all echelons . . . in addition, it takes some introspection on the part of the pilot to see where his weak points are and to remedy them.

This should be a never-ending process of mental flying safety which should run concurrently with the mechanics of flying safety . . . a process that must be firmly kept in mind as long as man continues to operate flying machines.

— CROSSFEED



COLOR ME GREEN

Many TAC crewmembers have long envied ADC and the Navy for their Indian Orange flying suits. The advantages of the orange suit over sage green seem great, but actually the color of flight suit never has been a really significant factor in a rescue. While there is no doubt that the orange suit can be seen more easily than the green, this may not always be to your advantage. A small news note might interest you. The University of Miami Marine Biology Department has recently discovered that sharks have color vision, and guess what color they can see best. You're right, Indian Orange!!!

Any volunteers for stdn/eval?

SMART BIRD

From a report. "Pilot experienced inability to move controls during rejoin. Aircraft avoided leader by forward stick pressure and left rudder which were slightly effective. After clear, all gages and controls rechecked okey. Cause undetermined."



000 HAW DEPT

As a civilian C-46 taxied toward the active, one of the officers here in the safety shop observed it come to a halt. The rear door popped open and one of the crewmen scurried to the rear, yanked off the rudder lock and hot footed back into the bird with it. The door closed and the C-46 waddled onto the active and ground majestically off into the early morning calm. Humm.

HYDRAULIC HOWLING

After hearing a loud grinding noise during a gunnery mission, an F-105 pilot noticed both P-1 and P-2 hydraulic gages fluctuating. He made an emergency landing at a nearby airstrip.

Another F-105 pilot heard a loud grinding noise during a low level. He retarded throttle and dumped pressurization but the noise continued. Utility pressure was normal. He jettisoned external stores and made a normal landing.

In the first incident the bomb bay control valve was leaking internally and this allowed the doors to creep open. The vibration accounted for the noise and pressure fluctuations. The second incident was caused by a failed flare joint on the pressure line to the bomb bay door. The hydraulic system drained and the utility pump cavitated.

Grnd/Explo

SAFETY

SAFETY SENSE

Melvin has been working long and hard for several weeks. He has been too busy to take his car in to get new tires, which it needs. Hurrying home after working late, he's dog tired, a tire blows and he loses control. To further compound things, this is his first experience with a blowout. Too bad it has to happen on the last day of his life.

According to Dr. Alfred L. Mosely of the Harvard Medical School, many casual factors, such as those that caught the late Mr. Melvin, often act together to cause an accident. This is usually the rule rather than the exception.

SUPERVISION

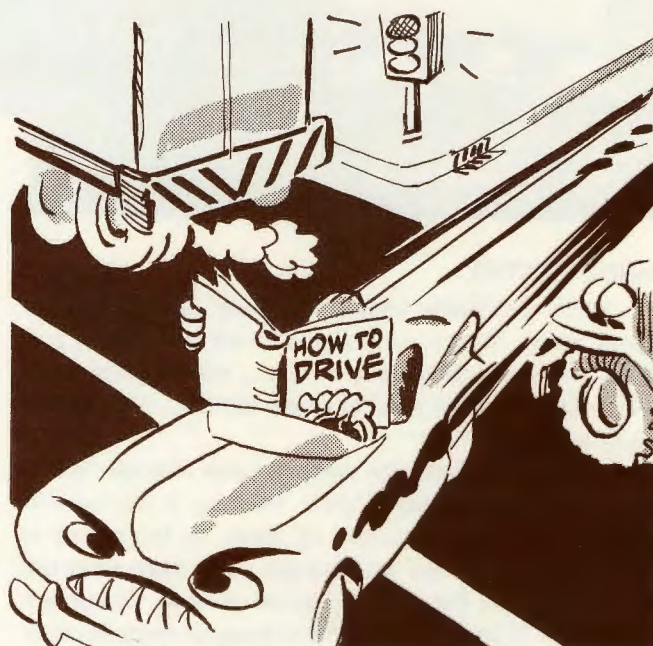
The laws of mathematics and mechanics are definite and may be applied to produce desired results or to control the performance of mechanical and structural arrangements. The laws of human nature are not so well established. A large number of accidents are chargeable to human error or failure and they seem to occur no matter how well we control physical hazards or establish safety standards and regulations.

Individuals have different attitudes, different personalities, and different reactions; they neither see alike, nor think alike. These characteristics seem to indicate that accident prevention efforts are hopeless, or at least largely ineffective.

Rational thinking leads to the opposite conclusion.

Observation of some of the world powers today reveals that the thoughts and actions of nations are molded by continued propaganda. Obviously man, as an individual or a group, is influenced and actuated by continuous exposure to an expounded doctrine. Applied to safety, a better word than propaganda is supervision. Every man should be given a thorough understanding of what is expected and required of him. He must be taught to be careful, not only for his own safety but also the safety of those with whom he associates. All personnel must be made to realize that only the things they do right will count toward helping them and their organizations achieve an efficient and safe job.

Safety is a supervisor's continuing responsibility. To do his job successfully, each supervisor must be aware of what may be expected of normal people. People want to feel that they are part of the team and to feel they are really wanted. People want to hear and use the words "we did it," and "we really goofed that one." People like their supervisors to be friendly, firm, and definite. They like to be called by name, and given a little of the supervisors time for a friendly talk. Are you a good supervisor?

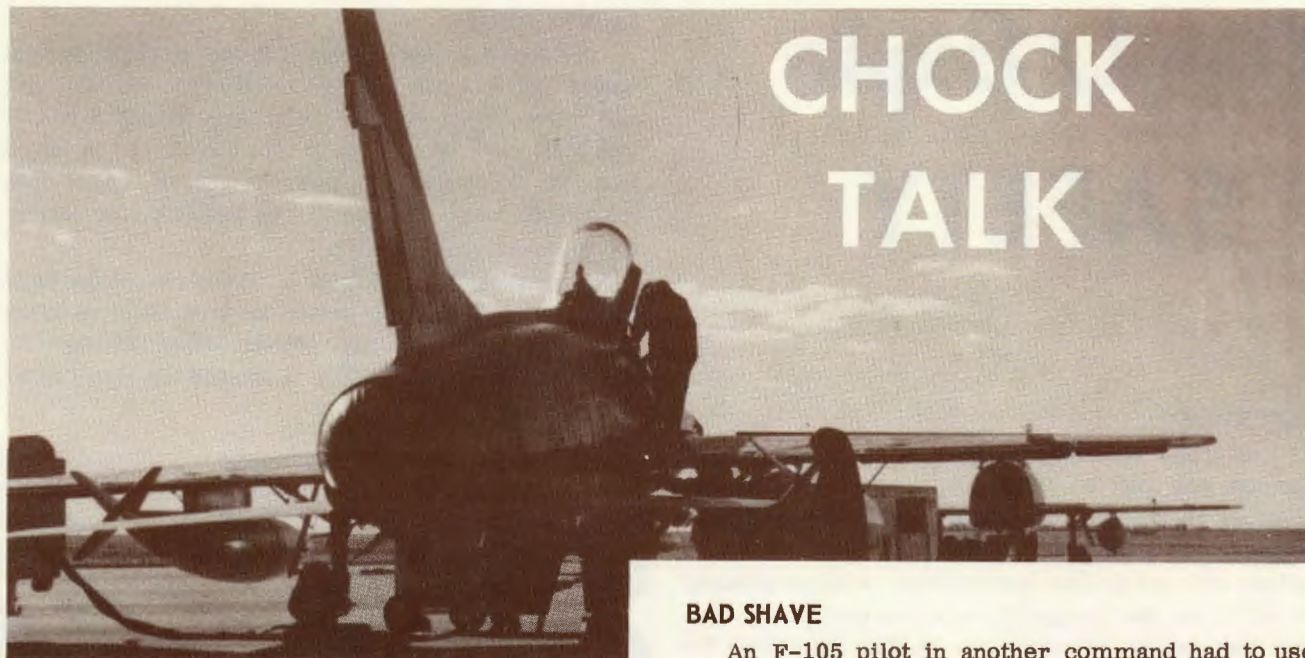


You can always expect an emergency to come up at the worst possible time; when time will be at a premium. You may be beyond the point of no return before you know it. However, if you have prepared for that last crucial moment, you may be able to avoid an accident.

Dr. Mosely thinks all drivers should be trained to make a proper panic stop, to cope with a sudden loss of brakes, and loss of power steering.

Drivers should also be trained on how to return to the highway after inadvertently going off onto the shoulder, to control a blowout, to read traffic signs under adverse conditions, control skids, and do many, many other things which they may possibly have to face in their driving careers.

This is an interesting and intelligent approach to a very real problem.



CHOCK TALK

NOISE FATIGUE

More accidents happen in noisy places than in quiet ones. Noise makes you tired and keeps you from being as sharp as normal... makes your work below par, causes you to make errors. Errors induce accidents.

A jet engine at idle power makes enough racket to permanently damage your hearing if you have to listen to it over a period of time. At full power it makes enough noise to damage your ears even though you only listen for a short period of time. Wear ear defenders if you work near operating jet engines; they will protect your ears, cut down on noise induced fatigue and may keep you from having an accident or causing one.

KEEP IT CLEAN

A flexible oxygen filler hose exploded as an airline mechanic was servicing an aircraft. He was equalizing pressure between the bottle being filled and the manifold and the explosion occurred just before he opened the larger bottle to fill the system. Apparently a smear of oil or grease got into the hose. Someone may have had grease on their hands when they made up the hose fittings... at any rate, when the oxygen hit the grease the egg hit the fan. You can't be too clean when you work with oxygen systems. Come to think of it, that holds true for hydraulic systems, engine oil systems, fuel systems, the ramp and almost anything else around aircraft.

BAD SHAVE

An F-105 pilot in another command had to use full right rudder to correct a yaw just after liftoff. He trimmed it out using full trim, then turned off stab aug and immediately found that he needed full left rudder. He retrimmed and made a normal landing sans stab aug.

When maintenance men removed the AF 16 panel to check the yaw series servo, they found metal shavings and hydraulic fluid in the pan under the servo. The shavings were from sheet metal work and a pressure test indicated no hydraulic leaks.

BEARING WASHER

An F-100 outfit was having a rash of main landing gear wheel bearing failures. They found the majority of wheels had defective bearing races. Trying to find out why, someone noticed washer (2W1-178-102-6) was missing from its normal position between brake and wheel. It seems the washers were sticking to the wheels and then ending up in the tire shop.

F-100 maintenance troops should check for these washers when they pull a wheel, then be sure to re-install them when they replace the wheel.

AIR CRAFT?

Much has been written on improper use of high pressure air; yet almost every year someone gets killed or hurt because they tried to inflate a tire using high pressure air. Small wonder the safety shop maintenance expert came back from a survey shaking his head and mumbling in his coffee about

seeing someone trying to inflate the tires on one of our better fighters by holding the end of a high pressure air hose over the valve stem.

FIRE IN THE HOLE

RCAF FLIGHT COMMENT told of a mechanic who removed the heater fuel pump in the hell hole of an RCAF C-54, then took a coffee break. When he touched the hatch frame on his return a small explosion occurred and flames immediately filled the compartment. He yelled "fire," grabbed an extinguisher and put out the flames.

Apparently the compartment filled with fumes during his coffee break and static electricity discharged from his hand as he touched the aircraft, setting off the fuel-air mixture.

This accident serves as a reminder that static electricity is always a danger when working near flammable materials. It also points out the need to vent enclosed compartments during maintenance.

AFTO FORMS 64

After supervisors placed a great deal of emphasis on getting aircraft deficiencies properly identified on incident and accident reports, the quality of these reports steadily improved. We could stand some of this emphasis and improvement in another equally important area . . . on the AFTO Form 64, Adequacy of Aircraft/Engine Quality, New Production and Depot Maintenance/Overhaul. And with a simple title like that, how can a man go wrong? Unfortunately, it is easy. Many an AFTO Form 64 falls on deaf ears because the discrepancy is not properly identified. The depots have a standard answer: "Suggest future reports regarding subject discrepancy be identified by part number and reference location in accordance with applicable TOs."

This lets the depot off the hook and leaves us holding the bag and the situation continues without being corrected.

Pinpoint the discrepancy when you fill out an AFTO Form 64. Use the TO number, its date, page number, paragraph number, figure, index and part number. When this isn't possible, describe the problem and have the photo lab back you up with a bunch of photographs.

Remember, the AFTO Form 64 is the only way we have to bug the depot when they give us sub-standard maintenance. It is to everyone's advantage to keep 'em on the ball.

TAC ATTACK

THE WORD

From a Navy safety bulletin: In this age of solid state electronics, semi-automatic checkout equipment and computerized maintenance management, we like to think our procedures are all sophisticated. But every now and then we are reminded that sophistication can be superficial...as witness this recent message:

"UH 2A/B FLEXIBLE COUPLING LUBRICATION OF

1. INVESTIGATION OF FAILURE P/N PD832-3 AND P/N PD854-2 FIG 56 ITEM 2 AND 24 REVEALED THAT THE FAILED COUPLINGS MAY HAVE HAD GREASE MEASURED FOR THEM AT LAST PERIODIC LUBRICATION USING A NAVY SOUP SPOON VICE THE REQUIRED TABLESPOON. THE NAVY SOUP SPOON HOLDS APPROXIMATELY 65 PERCENT AS MUCH AS A TABLESPOON.

2. RECOMMEND ALL UH 2A/B MAINTENANCE ACTIVITIES BE CAUTIONED TO USE PROPER MEASURE."

THE WORKMAN'S PRAYER

Dear Lord, give me a supervisor that understands

One who looks at me as an honest man,

One who knows that I've got feeling and pride.

And joys and troubles that go side by side.

For a man like that I'll work all day,

By deed and act I'll earn my pay.

The clocks no problem, the wage no sin,

Show me the work and let me begin.

But Lord, give me a supervisor that understands.

A good sound thinker, a man of plans.

Not a genius, nay not so,

But a man who can smile and say hello.

For him I'll work, I'll sweat and strain

I'll conquer the task regardless of pain.

If he shows he cares, if he trusts me too,

I'll not let him down, I'll see him through.

But Lord, I'm a worker, a common man,

Please Lord, give me a supervisor that understands.

Answer to Question of the Month

6 months

When you don't know - ASK.



SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators



**MAJOR WILLIAM B. RAGON – CHIEF, JET
DIVISION OPERATIONS**

Major William B. Ragon was born in Alberta, Canada. He entered the service in 1943 and graduated from single engine flying school at Foster Field, Texas, in February 1945. He instructed at Foster Field, Texas, and Williams Field, Arizona, until late 1946 when he elected

to revert to inactive status. He remained active in reserve flying and checked out in F-80s in 1949. Major Ragon was recalled to active duty and assigned to Williams Field, Arizona, in 1951 where he performed instructor duties until transferred to Korea in early 1954. He returned from Korea as a member of the 474 FBG which was being transferred to Clovis, New Mexico. Major Ragon was a member of the 474 FBG Special Weapons Gunnery Team in 1956. The team was equipped with the F-86H. He won overall high individual honors in the 9th AF competition and second place overall high individual honors in the USAF competition. Duties at Cannon AFB included Flight Commander, Operations Officer and Squadron Commander. He was Commander of the 478 TFS when the unit converted from F-86Hs to F-100s. Major Ragon attended Command and Staff College from September 1959 to June 1960 at Maxwell AFB, Alabama. Upon graduation, he was transferred to the 401 TFW at England AFB, Louisiana, where he was Operations Officer of the 613 TFS. He remained in this position until transferred to SEG in February 1962. Major Ragon's flying experience has all been in single engine aircraft to include: P-40s, P-47s, P-51s, F-80s, F-86s and F-100s.

WHAT HAS THE AF FORM 847 ACCOMPLISHED?

AF Form 847, "Recommended Changes to Flight Manuals or Standardization/Evaluation Manuals" is designed to allow timely submission, through stdn/eval channels, of recommended changes to these manuals and associated publications.

You may ask, "Just what has been accomplished with the AF Form 847 since it seems to be a phrase that receives constant drum beating?"

The SEG Jet Division has received over 800 AF Form 847s which have resulted in some 600 definite changes in manuals, checklists and directives. The conventional division has received 948 for a combined total of 1748 in the past twelve months.

These AF Form 847s were the direct cause of a top level meeting with the Air Force Logistics Command which is ultimately responsible for all technical publications. The people at AFLC were extremely happy that we had taken the time and effort to accurately document these shortcomings and bring them to their attention. As a result of this conference, positive actions are being taken to insure that command reviews are held at least annually on each aircraft flight manual. Improved administrative procedures are being implemented by AFLC to decrease the time interval on revisions to flight manuals. To help us do our job better within TAC, we are publishing a supplement to AFR 60-9 explaining the preparations which must be accomplished within the command.

The AF Form 847 was specifically developed so individuals could submit changes in the most simple form to insure flight safety, standardization and mission accomplishment. Each AF Form 847 must be forwarded to the major command SEG for final approval or disapproval. There have been instances when subordinate commands have indicated non-concurrence and returned 847s to the originators. It is their prerogative to indicate non-concurrence but the 847 must be sent forward. For complete information, refer to AFM 60-2, Section E. It is true that "the squeaking wheel gets the grease," but don't forget, that "wheel" must bear its share of the load or it will be discarded in favor of a new one!

TEN PERCENT (OR MORE) DON'T GET THE WORD

Numerous queries come in each month from units who have failed to receive necessary standardization/evaluation publications. Most of these failures have been attributed to lack of knowledge of the publica-

tions distribution system, or in simpler terms, some SEFs did not get the word on how to order publications.

Let's review the system, and see why it is or isn't working for you. The basic publication establishing the system is AFM 5-4, which among other things, requires each base to designate a publications distribution officer (PDO) to "plan, organize, and operate a central publications and forms distribution function" To help the PDO to do his job, Headquarters USAF and each Major Command publishes a weekly "Publications Bulletin" (PB). These bulletins consist of seven sections:

- * Section I provides information of special interest to PDOs.

- * Section II lists those publications which are being printed and for which requirements are already on file.

- * Section III provides a cumulative listing of publications that are out of stock and under revision.

- * Section IV list forms declared obsolete since the date of the last PB.

- * Section V lists those publications initially distributed by the Distribution Center since the date of the last PB.

- * Section VI lists new and revised items announced to PDOs as available only on requisition.

- * Section VII lists publications being written for which functional distribution requirements are necessary. It gives a synopsis of the contents of each publication and establishes deadlines for submitting requirements.

When the PDO receives the PBs, he extracts Section VI and VII and routes them to all using activities to find out if any requirement exists for the publications announced. This may surprise you—but the PDO doesn't determine requirements—he merely consolidates those received from the units he serves! If the using activity has a requirement, an AF Form 124A will be prepared in accordance with AFM 5-4 and returned to the PDO. The PDO will consolidate and forward requirements to the appropriate distribution center.

Since both Air Force and TAC Std/Eval publications in the 55 and 60 series are distributed under FUNCTIONAL distribution, you will not receive them automatically, but must establish your requirements for them when they are announced in the PB. If you haven't been getting the PB, check with your PDO. Most of our TAC standardization/evaluation publications were announced in TAC PBs Number 9, 27 February 1963, and Number 35, 28 August 1963.

STANDARDIZATION IN VIET NAM

Are the operational procedures and techniques developed by TAC really usable or practical in actual combat situations?

Is there a need for standardization in a hostile environment?

Affirmative answers to these questions have been brought back by a team from the Special Air Warfare Branch of SEG, which has just returned from a 60 day visit to Viet Nam; Major Charles A. Riley, Team Chief and C-46/C-47 pilot along with Captain Thomas C. Blake, Jr., C-46/C-47/B-26 navigator filled crew slots for the 1st Air Commando Squadron while



Captain Robert E. Tarrant, T-28/B-26 pilot, operated from a fighter base.

The trip was an excellent opportunity to evaluate, under actual combat support conditions, the operational procedures manuals which were written for the Special Air Warfare Center. TAC 55 series manuals are being used by all units in Viet Nam having similar aircraft. PACAF SEG has supplemented these to further tailor them to the theatre.



The aircrews over there feel that a reference for standardized operating procedures is essential to the mission. Although flyers are gathered from all commands throughout the Air Force, their training and checkout is in accordance with a set of standardized manuals. The fact that these same manuals are used

by both the ZI and overseas command helps to accelerate the theater orientation check-out so that aircrews can function fully as combat ready in a minimum of time. The aircrews welcome a guide to the best way for flying the aircraft.



As one man so aptly put it, "The occupational hazard of dodging bullets over the largest active firing range in the world is great enough. We can't afford any guesswork about the best way to fly the few airplanes we have."

IMPROVEMENTS

In line with our philosophy that standardization is not stagnation, the jet fighter division now has a branch which is primarily responsible for the standardization element of our program. This will improve the interchange and dissemination of information and eliminate the problem of having all pilots current in a particular weapons system on TDY at the same time. One man should always be present with the most current information on any aircraft.

The evaluation branch flight examiners will form the basic teams for SEG visits and spend a good deal of time at the various units flying and staying current on related problems. Further, we are introducing a new policy during formal SEG visits; that of augmenting our SEG teams with an SEF member from a unit in the field; his participation requires the blessing of his wing commander. This concept has been used on two visits and proved most valuable in that: The visiting examiner becomes more familiar with the details of a SEG visit, which will benefit his own wing. He is also given an opportunity to see first hand how a similar unit functions and can exchange ideas, etc., on the spot. Everyone profits from this crossfeed of experience and information, and after all, isn't that the name of the game?

CREW CHIEF OF THE MONTH



SSgt Marvin Watkins of the 4511th Organization Maintenance Squadron at Luke AFB, Arizona, is selected to be the Tactical Air Command Crew Chief of the Month.

Sergeant Watkins was purposely assigned to an F-100C that was experiencing a high abort rate. Shortly afterward, he accompanied the aircraft through a periodic. After returning to the section, it flew 29 consecutive missions without a write-up or malfunction.

Sergeant Watkins willingly assists others to enable his section to do its work expeditiously. His ability to trouble shoot hydraulic, electrical and instrument systems, and to repair them quickly has prevented numerous aborts. He inspects and checks all work performed by specialists and does not settle for less than perfection. He is conservative but actually draws attention to himself because of the outstanding example he sets.

Sergeant Watkin's unselfish attitude and conscientious work more than qualify him as Crew Chief of the Month.

MAINTENANCE MAN OF THE MONTH



SSgt Robert D. Spanier, 4520th Combat Crew Training Wing, Nellis AFB, Nevada, is selected as Tactical Air Command Maintenance Man of the Month.

As a member of the 4520 Munition Maintenance Squadron, Sgt Spanier does typically outstanding work. He is a skilled technician with high personal integrity and he invariably sets an example for others to follow.

During the past year, Sgt Spanier modified 12 T-33s to carry the B37K1 bomb rack, redesigned a yoke for the LAU-10 rocket launcher which is now in use Air Force wide, and modified the Type III pylon to achieve a smoke capability. He represented the wing at F-100 and F-86 munitions loading checklist conferences, supervised the Zuni Rocket project and assisted in other special projects and bomb loading tests.

He also helped McConnell AFB form and organize their initial munitions loading standardization crew.

Sgt Spanier is truly one of the best of the best and readily qualifies as Maintenance Man of the Month.

RECOGNITION

Recognition Pilot of Distinction

Pilot of Distinction



Captain Daryl G. Hubbard of the 615th Tactical Fighter Squadron, England Air Force Base, Louisiana, has been selected as the Tactical Air Command Pilot of Distinction.

After dropping off a tanker 700 miles east of Hickam, Captain Hubbard was unable to retract wing flaps from the refueling position of 20 degrees down. Attempts to cycle the flaps, pull circuit breakers and take other corrective measures finally resulted in a full flap configuration. As a result, Captain Hubbard had to proceed to Hickam at 180 knots indicated, and was just able to maintain 10,000 feet at full military. Enroute, Captain Hubbard was able to drain all remaining fuel from the two KB-50s which escorted him back to Hickam and then rendezvous with a third tanker about 200 miles east of the field to obtain an additional 3000 pounds of fuel. This permitted him to successfully reach Hickam.

Captain Hubbard's skilled actions during this emergency easily qualify him as Pilot of Distinction.

Cannon AFB, NM
478TFS 524TFS
481TFS 832CSG
522TFS

Dyess AFB, Tex
17TCS 345TCS
18TCS 346TCS

Eglin AFB, Fla
602FCS 4420CSG
605ACS

England AFB, La
612TFS 622ARS
613TFS 401CSS

George AFB, Calif
354TFS 469TFS
357TFS 434TFS
421TFS 831CSG

Holloman AFB, NM
389TFS 391TFS
390TFS

Homestead AFB, Fla
306TFS 309TFS

Langley AFB, Va
772TCS 774TCS
773TCS 4500 OS

Luke AFB, Ariz
4516CCTS 4454CCTS

MacDill AFB, Fla
45TFS 836CSG

McConnell AFB, Kan
560TFS 563TFS
561TFS 388CSG
562TFS

Myrtle Beach AFB, SC
355TFS 354CSG

Pope AFB, NC
309TCS 775TCS
347TCS 777TCS
464CSG

Seymour Johnson AFB, SC
335TFS 4CSG

Sewart AFB, Tenn
18TCS 62TCS
50TCS 321TCS
61TCS 839CSG

Shaw AFB, SC
9TRS 837CSG
20TRS

431ARS, Biggs AFB, Tex
4432ATS, Chanute AFB, Ill
4433ATS, Dobbins AFB, Ga.
4434ATS, Randolph AFB, Tex
4435ATS, Hamilton AFB, Calif
108TFG, McGuire AFB, NJ
113TFG, Andrews AFB, Wash DC
121TFG, Lockbourne AFB, Ohio
122TFG, Baer Field, Ind
131TFG, Robertson ANG Base, Mo.
140TFG, Buckley ANG, Colo
174TFG, Hancock Field, NY
179TFG, Mansfield MAP, Ohio
181TFG, Hulman Field, Ind
183TFG, Capital MAP, Ill
185TFG, Iowa ANG Base, Iowa
192TFG, Byrd Field, Va.
126ARG, O'Hare IAP, Ill
128ARG, Mitchell Field, Wisc
160ARG, Clinton County AFB, Ohio
123TRG, Standiford Field, Ky
127TRG, Detroit-Wayne MAP, Mich
152TRG, Reno MAP, Nev
186TRG, Key Field, Miss
188TRG, Ft Smith MAP, Ark
189TRG, Little Rock AFB, Ark
191TRG, Detroit-Wayne MAP, Mich
129ACG, Hayward MAP, Calif
130ACG, Kanawha Aprt, W Va
135ACG, Martin Aprt, Md
143ACG, T F Green Aprt, RI
901TCG, L G Hanscom Field, Mass
903TCG, McGuire AFB, NJ

904TCG, Stewart AFB, NY
906TCG, Clinton County AFB, Ohio
907TCG, Clinton County AFB, Ohio
908TCG, Bates Field, Ala
910TCG, Youngstown MAP, Ohio
912TCG, US NAS, Willow Grove, Pa
913TCG, US NAS, Willow Grove, Pa
914TCG, Niagara Falls MAP, NY
915TCG, Homestead AFB, Fla
918TCG, Dobbins AFB, Ga
919TCG, Memphis MAP, Tenn
920TCG, Memphis MAP, Tenn
921TCG, Kelly AFB, Tex
923TCG, Carswell AFB, Tex
924TCG, Ellington AFB, Tex
925TCG, Ellington AFB, Tex
926TCG, Alvin Callender Field, La
927TCG, Selfridge AFB, Mich
928TCG, O'Hare IAP, Ill
929TCG, Davis Field, Okla
930TCG, Bakalar AFB, Ind
931TCG, Bakalar AFB, Ind
932TCG, Scott AFB, Ill
933TCG, Gen Billy Mitchell Fld, Wisc
934TCG, Minneapolis-St Paul Aprt, Minn
938TCG, Hamilton AFB, Calif
939TCG, Portland IAP, Ore
940TCG, McClellan AFB, Calif
941TCG, Paine Field, Wash
942TCG, March AFB, Calif
943TCG, March AFB, Calif
944TCG, March AFB, Calif
945TCG, Hill AFB, Utah



Accident Free in '63

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

MAJOR ACCIDENT RATE 1 JAN - 31 DEC		
TYPE	1963	1962
ALL	10.3	12.3
F-4	0	
F-105	23.5	32.8
F-104	33.3	40.2
F-101	13.7	20.1
F-100	12.7	17.4
F-86	0	61.7
F-84	22.8	17.6
B-66	0	0
B-26	8.6	17.2
T-39	0	0
T-33	1.6	3.0
T-29	0	15.2
KB-50	4.1	7.6
C-130	1.9	1.4
C-123	4.6	11.7
C-47	0	4.4
U-10	11.7	46.3
T-28	37.6	0

DEC TALLY GUARD AND RESERVE		
UNIT	MAJOR	MINOR

ACCIDENT FREE (MAJOR & MINOR)			
JET			
ACTIVE	MONTHS		ANG
355 TFW	15	11	131 TFW
388 TFW	15	11	121 TFW
CONVENTIONAL			
ACTIVE			RESERVE
314 TCW	53	85	434 TCW
463 TCW	30	35	435 TCW

DEC TALLY ACTIVE UNITS		
UNIT	ACDNTS*	INCDTS
4 TFW		3
12 TFW		1
15 TFW		2
27 TFW		10
31 TFW		9
354 TFW	1	8
355 TFW		12
388 TFW		11
401 TFW		17
474 TFW		11
479 TFW		20
TARC		1
4510 CCTW	1	29
4520 CCTW		13
516 TCW		1
4500 ABW		3
4443 CCTS	1	
464 TCW		1
4411 CCTG		4
4442 CCTS		1
SAWC	3	2
363 TRW		8
463TCW		1
831 AD		1
366 TFW		6
836 AD		5

*MAJOR AND MINOR

December was a perfect month for the reserve forces, for the third time in 1963 they came thru a month with zero accidents. However, the regulars suffered five major accidents and one minor. There were two fatalities.

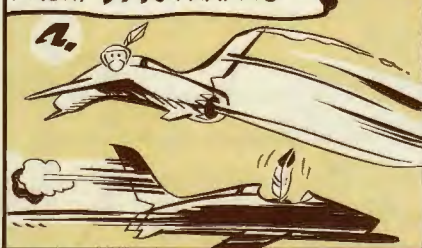
An F-100D pilot, who was number two in a three ship night GCA, left the formation during turn to final and crashed into the ocean. The cause was not determined. A T-28 target aircraft spun in from 4000 feet for no apparent reason. The pilot bailed out too late. An F-104G flamed out shortly after takeoff. The pilot attempted two airtasks then ejected at 3000 feet but fractured his spine on landing. Cause of the accident . . . material failure. A T-33 pilot descended too low on a simulated napalm run while looking for the target. The aircraft's right wing struck a tree, for major damage. A safe landing was accomplished at home base. An F-100C pilot, number two in a flight of four, noted unsafe gear and fire warning indications shortly after takeoff. He was advised to eject and did so successfully. This one is still under investigation.

Minor damage occurred after an A-1E ingested target marking paper during a simulated strafing pass. The paper blocked the carburetor screen and the engine quit. A successful gear up landing was made on the range.

There are no trends in this analysis, but we've had better months.



DON'T OVERCONCENTRATE ON INSTRUMENTS IN VFR WEATHER. REMEMBER, AN IFR CLEARANCE DOES NOT INSURE SEPARATION FROM VFR TRAFFIC



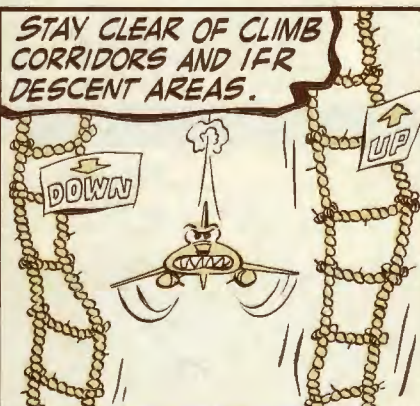
MONITOR THE RADIO AND KEEP TABS ON OTHER TRAFFIC!



BE PARTICULARLY ALERT WHEN MAKING PRACTICE PRECAUTIONARY LANDINGS



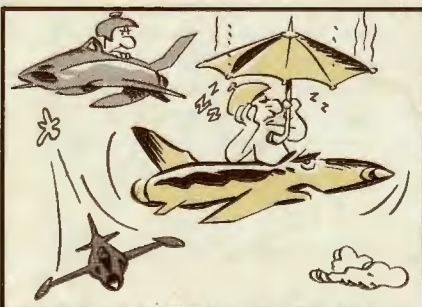
REDUCE SPEED BEFORE ENTERING CONGESTED AREAS.



STAY CLEAR OF CLIMB CORRIDORS AND IFR DESCENT AREAS.



AVOID 360° SPACING TURNS WHEN OPERATING AROUND THE TRAFFIC PATTERN - IF YOU HAVE FUEL, MAKE ANOTHER APPROACH AND REENTER.



DO NOT MAKE PROLONGED DESCENTS OR PROLONGED STEEP TURNS WHICH KEEP YOU FROM SEEING OTHER TRAFFIC.



BOWINNING!



SOMETIME MID-AIR COLLISION CAN RUIN 'UM WHOLE DAY!