

DECEMBER 1962

TAC ATTACK



TAC Attack December 1962 Slick Age Shop



SLICK AGE SHOP

TAC ATTACK



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COVER PHOTO

A2C Ralph E. G. Mason took this fine photo of
F-100s at England AFB, La.

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*Pride in their port, defiance in their eye
I see the lords of humankind pass by*

-----Goldsmith

angle of attack



Colonel James K. Johnson
Chief
Office of Safety

"Pride goeth before a fall" so said the old poet in so many words. Intentionally or not, that can be taken two ways. That too much pride or that departed pride will result in a fall.

To my way of thinking the poet hit on target both times in one pass...and that's pretty good shooting.

I am reminded of a young Air Force officer who was fiercely proud of his ability to fly an airplane. This pride helped him become one of the aces back in World War II. Some years later, when faced with an almost impossible situation his pride wouldn't let him step over the side to abandon a perfectly good aircraft. He crashed trying to buck almost impossible odds.

The pride that had helped make him an effective combat pilot eventually overcame his good judgment and resulted in his fall.

On the other hand, there are pilots who are essentially without pride, who really don't care if they learn or not, who are content to just get by. Their pride has long since departed...and it will take but one swift emergency at low altitude to bring one of them crashing out of the sky, still numbly wondering what to do.

The same holds true for mechanics, GCA operators, weather men and other support personnel who are without pride. Only here, their slovenly work may cause someone else to fall... someone who does have pride and skill. This, incidentally, is what created the situation which trapped the young officer I first mentioned.

To succeed we must be skilled and rightly proud of our skill...yet we must temper that pride with the good judgment that induces us to stay alive to fight another day.

Chute the Works



BY COL. JAMES K. JOHNSON

Photos by C. V. Munkacsy
Norton Air Force Base

AT THE ANNUAL World Wide Safety Congress last summer, General Griffith told of his experience with Para Ventures, Inc. of California. While studying ways to reduce ejection fatalities, he and some of the other officers at the safety shop

at Norton went through a basic course in parachute management that included actual jumps. They were looking into this course to see if it would be worthwhile to the average fighter pilot.

After discussing the program, General Griffith invited me to

make a firsthand evaluation. Colonel Robertson from headquarters and I recently accepted this challenge, rather invitation.

Basically, the Para Venture course is training by doing. Which, at first glance, would seem little better than jumping from a crippled aircraft. There are significant differences. The pilot jumping from a crippled aircraft does so in completely uncontrolled conditions without being prepared either mentally or physically for the jump. He is in a learn-or-else situation.

In the Para Venture program, everything is carefully controlled even to an instructor going along on each jump to make certain everything goes according to plan. If you doubt that this instructor can do anything, you grossly underestimate the skills these professional jumpers have developed. They can maneuver around quite well, and even have some control over their rate of fall.



Classroom training included use of the quick release.

The program, as usual, started in the classroom where we w



Landing practice. Col Johnson taking the fall.

given a great deal of information about the parachutes and other equipment we would use.

This included a description of the various chutes and a brief rundown on a modification which will make the standard Air Force chute more controllable. The in-

structor also gave a parachute packing demonstration, showed us what causes chute malfunctions and told how to correct them.

Next, they put us in a chute harness and strung us up to demonstrate landing technique for forward and backward landings... how to land on rough terrain, in trees, snow or in water. As could be expected from this type course, we got wet on the water landing

and took our lumps on the others.

The Para Venture people firmly believe you learn by doing, so we soon found ourselves skidding across the ramp propelled by our open chute in the slipstream of a light aircraft. We either worked the quick release or wore out a good pair of pants.

We completed our ground school with lessons on what to do after the chute opens...how to



Demonstrating the proper way to leave the aircraft. Instructor is in approximate free fall position.

stop the standard Air Force chute from oscillating...how to make riser turns...how to release the survival kit.

Next came a briefing on the proper position for free fall, the tracking position they call it. Also, we were briefed how to make free fall turns and spins using arms or legs for control. In the tracking position, you spread your arms and legs and arch your back and whatever gyrations you've been going thru will dampen out until you are falling face down in stabilized flight. Pull one arm in, and that side will drop and you'll start a slow spin in that direction... put the arm back out and the spin stops.



Student attempts to open quick release using two hands to remove pressure and insure release. Leg position helps keep student face up.

With briefing and other training behind us, we were soon stepping out the door of a light plane 8000 feet over California, vaguely wondering how we happened to be there. In our helmet we had a small radio receiver,



Instructor, Bob Sinclair, and Jim Hall, Vice President of ParaVentures, give Col Robertson an equipment check prior to his first jump.

the instructor had the transmitter, but to make doubly sure that everything went smoothly, the instructor held onto the web of our chute harness as we jumped.



Safe on ground

The instructor told us how to position ourselves and let us experiment with various positions, finally advising us to pull the rip cord. Opening shock was a moderate jolt, a bit heavier than anticipated, but not painfully so.

From there on, an instructor on the ground radioed instructions to bring us in for a landing. The next day we made another jump, but this time we stepped over the side at 11,000 feet and shortly after we left the aircraft, the instructor turned us loose and let us do some spins and turns... no stalls or snap rolls. After opening our chute we steered for the spot.

The chute we were using is slotted in the rear, this gives it a forward speed of about six knots. With just a little effort you can maneuver to kill your drift, go crosswind or tack back and forth like a sail boat, and choose your landing area with reasonable accuracy.

This training should be quite useful in three ways. First it gives a pilot confidence in the chute and in his ability to use it. This should overcome any tendency for him to stay with a hopelessly crippled

aircraft until too low to escape. Without this training, a pilot reluctant to leave the known vironment of his aircraft and trust an unknown, his parachute.



They work better than drag chutes.

The second benefit comes from the free fall training. Escaping crewmen can actually be killed from centrifugal force built up by uncontrolled spinning or tumbling during a high altitude bailout. The tracking position will stop any tumbling or spinning once a man learns to use it.

Finally, when this training is combined with a modification to the service parachute, an ejecting pilot is capable of selecting his landing site within reasonable limits. This could be the difference between falling into icy water or touching down on land in many coastal bailouts.

the last letdown

Few aircraft have been committed to such world wide operation as the C-130 Air Force crews have flown it on missions from pole to pole and across all meridians. Almost without exception the C-130s and their crews have given a good account of themselves despite the fact that, quite often, crews have been forced to make instrument letdowns by dead reckoning over strange terrain, using unreliable flight facilities and coping with language barriers. Lady Luck has been against them on occasion, but thru skill and professional flying they have managed to successfully accomplish their missions. Occasionally there has been a failure . . . a mission ended with an accident and loss of life . . .

This is the story of one such failure. We tell it because we can learn more from our mistakes than from our successes.

The aircraft was cleared to the approach fix at FL 95 with no delay expected. The fix was on a hill some eight thousand feet above mean sea level. The pilot reported over the fix three minutes ahead of his ETA at FL 10 and requested headings for the holding pattern. These were given, and forty seconds after the original position report the pilot reported right turn over the holding fix. The controller instructed the pilot to continue on a heading to the transition fix, seven five zero zero feet, to intercept the ILS for an approach to runway 06. Report established.

The wreckage was found on the slope of a 7,350 foot hill and one and one half miles from the initial fix. The bird had been configured for the approach with gear down and partial flaps.

In retrospect we know this:

- * Field elevation at intended destination was 5327 feet.
- * Weather at time of arrival was 15 broken, 30 broken, visibility good.
- * Minimum holding altitude over the initial fix was flight level 95 and in this particular area of operation all flights operate with their altimeter on 29.92 when above 8,000 feet.
- * Initial approach beacon was located on an 8074 foot hill.
- * Pilot reported over initial fix 500 feet above his assigned flight level.
- * The accident brief did not indicate whether the pilot was given a current altimeter setting at the time received his approach clearance.
- * Approach and letdown charts for the terminal

area contained numerous errors and omissions.

* According to ICAO rules air traffic controllers do not have to insure that a proposed flight will maintain terrain clearance during departures, while enroute or during an approach.

But . . .

* Why did the pilot report over the fix at a higher than assigned attitude?

* Why did he ask for holding headings when he was advised that no delay was expected? Normally when there is no published holding pattern or holding instructions given, a pilot who is requested to hold should make standard patterns on his last inbound heading.

* Did the pilot interpret his last clearance to indicate that he should let down in the holding pattern to 7500 feet, or did he interpret it to mean he should descend to 7500 feet, pick up a heading to the transition fix (outer marker) and report when established on that heading?

* Did the controller mean for the pilot to intercept the ILS course, report established and then descend to 7500 ft? These procedures would have given him terrain clearance.

* Was the cause of the accident due to abrupt loss of control because of a materiel failure?

* Was the lack of a current altimeter setting a cause factor? Was it weather? Add the base of the lower broken deck of clouds at the field, plus the probable thickness of the cloud layer, to the field elevation (1500 + 500 + 5327 equal 7327 ft.). Compare this with the elevation where the wreckage was found - 7350 ft. The weather at that point could have been zero, zero.

* Was crew fatigue a factor? We don't know how long they had been up prior to the accident.

Some things to remember:

* Adequate crew conditioning is an absolute prerequisite for any mission.

* Crews should thoroughly study terrain, obstructions, facilities, weather and procedures before filing into strange fields.

* Ceilings at airdromes in mountainous terrain should be carefully considered. A 2000 ft ceiling over the field could be resting on the rocks a few miles away.

* Pilots should never accept a clearance that isn't absolutely crystal clear.

* The best of us sometimes make mistakes. The only way to avoid them is to study, drill and practice until we're better than the best.



BACK WHEN the weather was warmer a couple of TAC birdmen ran the obstacle course in a century F. The bird made good its line speed and accelerated to rotation speed just like any other healthy well fed bird. Right after the troop in the front cockpit eased the nose off, an explosion seemed to come from the aft section. Both pilots believed it to be an afterburner failure and the lad up front took the engine out of burner and reached for the jettison button.

Before he got to it, two more explosions forcefully shook the bird and RPM started unwinding. Changing procedures, the pilot in front stopcocked, deployed the drag chute, got on the binders, jettisoned the external load and hit the flaps to the up position.

Meanwhile the bird continued down what little runway remained and crossed the barrier, briefly engaged the web, then pressed on. The ride was so rough neither pilot could jettison the canopy, until the bird came to a battered halt.

Somewhere short of the barrier, the speedboards got extended . . . TAT would bet on old habit patterns . . . but the fact that they did is purely academic since the bird scooted across the net at over 150 knots and the thing is only guaranteed for 90 knots on the catch.

The tail hook would have helped, but it happens to be number seven on the abort procedure and these troops only got as far as step number five.

The explosions were caused by materiel failure in the engine itself and the abort was in the nick of time. The board, bless 'em, jumped on the BOLD-FACE procedures in the handbook stating that they

are too lengthy because of superfluous steps and that there are too many procedures in the BOLDFACE category. TAT agrees all the way, having been fighting a running battle on the subject for two or three years—without effect.

Let's haul out the dash one on the F and take a look at the red bordered pages. First, we find a step procedure for engine failure during takeoff, craft airborne. Then we find an eight step take out abort, followed by a ten step barrier engagement procedure. Picture, if you will, a pilot just at lift off concentrating on the business at hand . . . BOOM! All hell breaks loose . . . we expect him to correctly choose one of three procedures and accomplish between seven and ten separate steps in proper sequence.

The man has yet to be made who can do it! Just for kicks, we'll take each of these procedures and tear it up.

First, engine failure after lift off. The book says to try for an airstart, pull the throttle off, jettison external load, drop the gear, lower flaps, turn on the flight control hydraulic pump, jettison the canopy, lock the shoulder harness, turn off the engine master, cut the battery and deploy the drag chute at touchdown. Our first thought is that if we had time to do all this before touchdown, we'd have time to eject.

The pilot would have to pass the control stick from his right hand to his left and back two times, add a little time for hunting and memory jogging and the complete procedure adds up to over 16 seconds that's a heap of altitude the way an F-100 fa

Let's streamline it. First, we'd delete the hydraulic pump. The automatic changeover should work. If it doesn't, stick stiffing is the warning to changeover. Next, we'd delete canopy jettison . . . we wouldn't want the dirt in our face at a crucial time. If we hit hard enough to cause it to jam, there's always our knife. Next, the shoulder harness. It locks automatically on impact . . . next, the engine master and battery. Hardly anyone ever has time to get either of these and we'd accept the slight additional fire hazard and hope to catch 'em after the dust settled. Put 'em in small print.

Incidentally, we'd only try an airstart if the flameout was cool and quiet . . . This leaves, throttle off (which should almost be automatic) punch off external load, drop gear and flaps and deploy the chute at touchdown. Five items, easily memorized and more apt to be recalled under stress.

Now let's look at the abort and barrier engagement. These are quite similar, so we'll tear 'em up together. Abort calls for throttle back, drag chute, max braking, jettisoned load, engine master off, battery off and canopy jettisoned. Barrier engagement reads: throttle off, speed brakes up, engage steering, deploy chute, avoid locking wheel brakes, jettison external load, drop the hook, throttle off just before engagement, master switch and battery switch

First, to get rid of a decision, let's prepare the bird for a barrier engagement regardless. It won't hurt to do this even if no barrier exists. First, throttle to idle. Here we'd insert a note that pilots should thumb the speed brakes 'up' when they retard throttle. Idle is necessary since you need it for directional control . . . you'll do less damage staying on the runway even without a barrier. Next we'd drop the hook and deploy the chute. Engage steering and jettison the load would complete the BOLDFACE. After stopping, we'd cut the throttle, engine master and battery . . . then worry about the canopy. Actually, engaging steering could be deleted since it is automatic and normally done on landing. This would put us to five steps.

O.K. we have our neck out. If you agree with us, send in a form 25. If you disagree, write us an angry letter.

AS THE F-101 slammed to a halt it was briefly enveloped in flames. The pilot raised the ejection seat handles and scrambled out of the cockpit. He

got away with it this time . . . but 'tis a poor procedure since he could easily have triggered off the seat during exit. Worse, the habit pattern could rocket him to oblivion in one of the newer one-motion ejection systems. Drill yourself on the proper procedure and avoid a short trip to eternity.

SIX HERCS started home on a VFR corridor training mission flying at one minute intervals. On the second leg of the corridor home, the leader informed the formation that they were running into weather and directed them to descend from 2,500 to 2,000 feet . . . and a bit later, to 1,500 feet. He reported turning onto the third leg and then quit transmitting.

Number two, who was deputy leader, soon found he couldn't see well enough to stay VFR. Since he had lost radio contact with lead and had all of his marbles, he started a climb and told the rest of the formation to do likewise.

They found the leader next day, his aircraft scattered across the top of a heavily wooded hill, 1,445 feet above sea level.

There are no new lessons to be learned from this one. In fact, the basic hazard has haunted airmen from the day that some brave soul first got up from behind his desk to point an accusing finger at a scared pilot and yell, "I don't give a hop about the weather! The mail must get thru!"



In those days a pilot had a right to be scared . . . he only had three courses of action. Draw his pay, try to sneak thru underneath, or lower the level on a pint of bourbon so he could use the remaining liquid as a crude attitude instrument. With this technique he'd try to blunder his way over all hills before the effect wore off, he ran out of the liquid, or hit something solid.

We have better instruments now, so the choices are no longer of equal merit. Today, it is common knowledge that no smart pilot will press on into IFR conditions without first getting high enough to clear the rocks to concentrate on the clocks. **DON'T THINK FOR A MOMENT THAT THIS C-130 CREW WAS NOT AWARE OF THIS!** They were too experienced not to know that they should not try to fly VFR in IFR conditions!

Why did they do it then? Permit your old TAT to hazard a guess. We'd bet that this crew thought they'd be able to stay VFR and got fooled. It really doesn't matter what fooled 'em. It could have been a sudden rain shower, some thin scud that wasn't as thin as it looked or, that the weather deteriorated so gradually they didn't realize they could no longer see far enough ahead.

Regardless of the cause, the lesson is clear... any time you find yourself debating on whether or not you'll be able to stay VFR - take the hint, get an IFR clearance and go on the clocks...do as number two did and you'll never find yourself suddenly in over your head and dead.



SPOTTING THE RUNWAY during an automatic ILS, a hard working multi-fan pilot disengaged the auto pilot to earn his flight pay by lining up and landing the critter. It promptly pitched up. To keep from going back in the murk he reduced power and lowered the nose. None of Mr. Newton's laws have been repealed and he soon found himself going down. A shot of adrenalin, a burst of power, and some back stick all succeeded in partially arresting the fall... but he still plunked in short of the runway. Damage was slight.

The report we received didn't give any reason for the pitchup... but assuming this auto pilot didn't have an auto trim feature, someone cranked in trim

or someone failed to crank in trim after the auto pilot was turned on. That old "don't" on trim is a bird with George in control only holds true provided configuration and power remain reasonably unchanged.

TAT has an acid comment or two regarding this troop's technique. Assuming he was at the correct final approach speed when he started toward heaven, he should have added power instead of subtracting it. How much, if any, would depend on the degree of pitchup. A mild one could be corrected with stick alone, with the bird returning to glide path at slightly less than proper speed. The more abrupt the pitchup the more distance covered getting back to the normal glide path, the greater the speed loss would be, and the more power would be needed to make up for it. Also, if our old memory serves us right, added power will reduce the stalling speed on a fan van... a characteristic which might come in handy under these conditions.

More better would have been to trim for the configuration change... and to have a firm workman-like grip on the joy stick when kicking George off the line. Shucks, suppose it had pitched down!

Incidentally we were given a vertigo lecture when we went thru the instrument school recently... among other things they showed us a training film on the subject. The film gave a brief account of an F-104 pilot's unsuccessful encounter with one of the sensory illusions followed by a more happy encounter by two F-100 troops. Next, a young captain in a C-54 gives a dramatic account where his ever-hard-working copilot had to take over because the captain was unable to cope with the phenomena. He summed up his story by saying, "My first mistake was..."

At this point a wag in the audience finished the sentence for him with "... when I turned off George..." Don't let this be your problem.

A COUPLE of Gooney Birdmen made one of those silent let-downs about three and a half miles from home. Earlier in the day they had flown to a radar site on a routine supply mission. At the site they dip sticked the fuel remaining and found they had burned 270 gallons on the two hour trip in... that left 330 for the, sweat, two hour hop home.

An hour and a half after lift off, number two fuel pressure dropped and the engine lost power. At the time, it was operating on right aux and the gauge indicated 40 gallons.

They tried the boost pump - without effect - then feathered number two, suspecting a broken fuel line. From then on they ran number one from first one tank then the next... depending on which one had the most fuel. Meanwhile they drove right by a civilian airfield about 30 miles from home. They thought they could make it home, and home had better facilities plus a crash crew.



On final, they switched to the right aux and shortly forward were gliding. The pilot decided they were low to try for a restart and made a controlled crash landing on a road.

The report we read gave this crew thumbs-down for making an improper analysis of the fuel pressure and power loss, for mismanaging fuel and for not landing at the civil field.

They also mentioned the bum gage reading as a contributing cause... and warned pilots to beware, that gages are not fuel proof.

Tilting back our own hard hat, we have a few observations. The aircraft had 72 gallons on board when it slid to a halt. This was more than enough to bring it home. True, it is often prudent to land at the nearest airport when things are troubling you... but... this decision depends a lot on just how fancy that airport is. Seventy-two gallons should be good for about fifty miles or more... and he was only three and a half short.

So much for that. The report accused this pair of mismanaging fuel. TAT agrees. We didn't like the way they switched from tank to tank.

When you're in a situation like this you should completely use the fuel in first one tank, then another. The signal to switch tanks is when fuel pressure drops.

The tank you use last should be the one that receives the carburetor overflow.

Our next comment concerns the decision to feather number two... when a piston engine falters and loses power we usually switch tanks and then start trouble shooting...

Still, we can half way understand why they feathered. They believed they were losing fuel somewhere due to the higher than normal consumption and the fuel pressure drop confirmed this suspicion. This is one more instance where someone added what they thought was one and one, got two and took action. Only trouble, the first 'one' turned out to be a sloppily written seven.

We won't comment on the decision to hit the road instead of trying to nurse number one back to life because we don't know how much time they had available... still... the critters take holt in a hurry once you give 'em fuel.

GLANCING AT THE BILL\$ and \$end money letter\$ in our mail box reminds us that it'll soon be Christmas. Time to think of mistletoe, bright-eyed youngsters, gaily decorated trees and well filled stockings. It is also time for reflection... for considering the past year's accomplishments and mistakes... and for caution, to make certain we get home to the mistletoe, stockings and such. It's also time to take a gnawed stub of a pencil and make our annual list to Santa. First we'll ask the old elf to bring a complete year filled with forty hour work weeks to each and every one of our friends on the flight line. We'll ask him to supplement this with a large measure of skill and patience with just a dash of ingenuity so each task you do will go smoothly, correctly and by the book with no stubborn fittings or hidden problems. You can respond by keeping your torque wrenches and other precision gear calibrated and in use... and by faithfully following the good old T.O.

For all our flying friends, we'll ask him to bring a year's supply of uneventful flights, highlighted by perfectly timed take-offs, good winds, beautifully accurate bombs, tankers that work, and smooth landings.

For you hard working support people, we'll ask him to give others some appreciation for both your efforts and your problems and to fill your days with error-free worthwhile hours. With that, we'll get this in the mail and see what's under the mistletoe!

-TAT

TAC TIPS

tac tips

BUM STEER

A transport pilot was given descent instructions and directed to report crossing an intersection. Just prior to reaching the intersection he was told to turn right and descend to 3,000 feet. The aircraft was south of the station and because of high terrain and the fact that the ground was obscured by clouds, the pilot elected to remain at 4,000 feet, above the cloud deck. When asked by the pilot, the radar operator said that he was certain of the aircraft's position although he did admit that it was lost in ground clutter at the moment. To verify their position, the crew requested a practice DF steer. This steer was more than 40 degrees off the birdog bearing to the nearby range station. This discrepancy, coupled with the unusual radar vectors, prompted the crew to home to the range station, VFR on top, and start a new radar controlled approach. Better to be safe than sorry... This also proves the wisdom of cross-checking radar vectors and other such aids with your aircraft navigation equipment.

A WAG FOR WEATHER

Pilots, when you close your flight plan why not go a step or two further and give the weather forecaster a rundown on the weather you encountered. In addition to helping him, you will be helping the next pilot. Surface observations still have a number of blind areas and upper air observations aren't made too frequently. The forecaster can always use first hand information.

ALTITUDE YARDSTICK

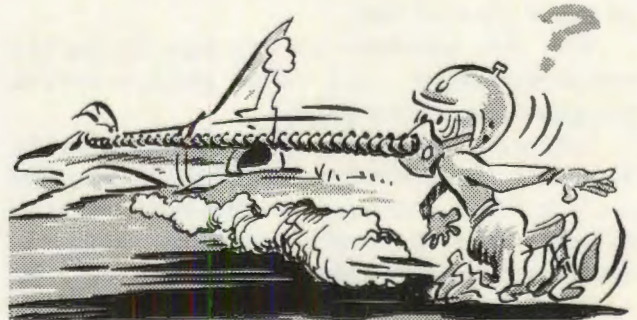
FAA is evaluating altitude interrogating transponders for their Air Traffic Control Radar Beacon System. The transponders are designed to identify an aircraft automatically and report its altitude in 100-foot increments when it is interrogated.

THRESHOLD IDENTIFIERS

Ever found the end of the runway elusive? Ever wonder if you're lined up with a four lane highway at night? Ever grope for the threshold on actual instruments? Ever circled a city on a clear night wondering where the airfield was? You should no longer be bothered by these problems at TAC bases.

Condenser discharge strobe-beacons have been installed at the four corners of most instrument runways. They have not been installed on the approach end of instrument runways with the 3000 foot approach light configuration, but are installed on the opposite end.

The lights shine down the final approach and unmistakably define the runway threshold... hence the name THRESHOLD IDENTIFIERS. On a clear night they can be seen for 60-70 miles. They cannot be mistaken for other lights because of their spacing, simultaneous flashing and high intensity.



KEEP IT ON

After making an intentional wheels-up landing on a foamed runway, the pilot, fearing fire, shut off his oxygen supply and loosened his mask.

Inhaling carbon monoxide, flames and hot smoke can be just as fatal as burns. A secure mask will protect your face and the oxygen supply can save your life. Don't unplug from the system until you are ready to run.

HOW FAR

A large number of pilots are erroneously reporting their DME equipment out of order. Apparently these reports are being made when they use VOR for navigation and a frequency paired, noncollocated (located some distance apart) TACAN for DME.

In some cases, pilots have reported that radials were out of tolerance or that radar positions were incorrect because the location of a VOR fix on the chart, or the radar position of the aircraft, did not agree with the DME.

The ident of a noncollocated TACAN and the ident of a frequency paired VOR are not synchronized. When a pilot suspects that his DME readout is in error he can turn up the volume on his VOR receiver. If the ident is garbled every 37-1/2 seconds, his receiver is picking up azimuth and distance information from two, separate, noncollocated aids and everything is working properly.

PHANTOM PILOTS

Recently the Navy warned all F4H pilots about stabilator sensitivity in the transonic region at low altitude, particularly when the bird has an aft CG and an inoperative stab aug.

Navy tests indicate the bird will have an undampened longitudinal oscillation if flown below 10,000 feet at speeds above 350 knots calibrated, with the stab aug off and a CG aft of 32.0 degrees MAC. Any abrupt stick movement, such as suddenly releasing back pressure from an accelerated maneuver, will start the bird to porpoising. The entire control system will move at around a half cycle per second. Turning loose of the stick doesn't help. In fact, the oscillation will increase. If you try to fight it, you're apt to get out of phase and induce a J.C. maneuver. The recommended cure is to hold the stick firmly in the trim position.

Because of this little hair raiser, Phantom pilots should stay within the airspeed limitations given in Section V of the handbook . . . and avoid unnecessarily abrupt stick movements.

Abrupt stick movement will cause grief in almost all of our more modern machinery. The longer fuselages needed to get high speeds make aircraft such as the T-38, F-105 and F-4 react a little slower than normal to back stick. Less patient pilots often add additional back stick just in time to have the aircraft react to the original application . . . over-control and a pilot induced oscillation generally result. You can't blame the bird for this.

TAC ATTACK

BOOM TROUBLE

The civilian populace aren't the only ones disturbed by sonic booms.

Consider the pilot of a transient C-47 who departed Wright-Patterson and 10 minutes later declared an emergency at an altitude of about 5,000 feet over southeast Dayton.

He reported an explosion so violent that it rocked the aircraft and made the flaps on his uniform "jump up and down." The pilot insisted there was something fundamentally wrong with his plane and was granted clearance to return.

An engine run-up disclosed no malfunctions and all instruments checked out normally. Minute examination of the plane from nose to tail revealed nothing amiss.



Only after a call to a Dayton newspaper confirmed a sonic boom in this area at precisely the time his "explosion" had taken place, did the flyer concede he had been the victim of a boom.

A similar report was also received from a B-52 pilot who excitedly told Operations his plane had hit either another aircraft or some other object. A complete investigation again revealed a sky-splitting sonic boom at the same instant the B-52 pilot reported the "collision."

CANOPY CAUTION

Pilots flying F-100's should know about the canopy warning system on the F-100F aircraft. It works a little differently than it does on the C and D models. Since it is not uncommon for the canopy-not-locked light to come on during flight, a caution note on page 1-68 of the F-100F Dash One says, "If canopy-not-locked warning lights come on during flight, do not actuate canopy switch, as this may cause canopy to leave airplane. A landing should be made as soon as possible after the canopy-not-locked lights come on."

PREFLIGHT

When someone mentions a preflight, many of us immediately think of the walk around inspection. However, when we stop to consider it, the aircraft doesn't fly the mission by itself. We go along with it and by all rights should be included in the preflight.

This has to be a self inspection . . . and for a change we can make it with or without a checklist. Personal equipment in shape? Knife, matches, boots, dog tags? More important, mentally ready? Know what is supposed to be accomplished on the flight and how to accomplish it? Confident? A 'no' to any of these questions calls for an abort.



FOOD FOR THOUGHT

At least one airline requires its pilots to stagger their eating hours. They don't want both pilots to be ill at the same time if the food happens to be bad. Another airline requires its pilots to eat food prepared at two different places for the same reason. Perhaps, for safety's sake, TAC transport crews should order different types of inflight lunches or stagger their mealtime. Make ours steak.

TAXIWAYS OR TULIPS

FAA has found the solution for a problem that has plagued many of us for quite a long time. You'll know what I mean if you've ever taxied around an airdrome at night trying to figure out where to turn among all the blue lights and still stay on the taxiway. They are installing small flush deck lights in the centerline of the taxiways. The lights are approximately five feet apart and run from the runway centerline to the ramp at each end of the runway. Snowplows won't damage them, and they'll shine thru any small amounts of snow the plows don't clear off.

KICK THE BOOM AND ZOOM

A test pilot at one of our bases found two cross discrepancies during his preflight . . . AFT. The aircraft had been test flown once by a different pilot. The throttle linkage was not safety wired, and the pitot boom tip was installed with the ports facing UP. The errors are bad enough, but for a test pilot to miss these items and fly the aircraft!!! Use those eye-balls on preflights!

TRANSFERRIN'

Here's a good idea for you troops who are being transferred. One of our number here in the office will soon be leaving for other parts. To get better acquainted with the new local area, he has placed a map of it under the glass on his desk. On the map he has drawn the heading and distance to all alternate bases in the area. In addition, he has gone a step further and 'flown' all the letdowns and approaches for each base in the new area using the local C-11 trainer. He plans a final trainer flight just before he leaves for his new assignment.



FLIGHT BOOTS

Tempted to hurry out to your flying machine without taking time to put on those heavy flying boots? Slow down. This could be the very flight you'll walk home without the aircraft. Have you tried to walk barefoot recently? After jumping off a ten-foot fence onto rough or frozen ground? Sounds kinda rough to this old-timer, so we'll wear our boots—how about you?

... a page from the past

... a page from the past By Capt. R. E. Bolstad

BY CAPT. R. E. BOLSTAD



CAPT NORM BATTAGLIA, one of the TAC Fighter Pilots at Myrtle Beach, returned from his latest rotational trip to Aviano with a copy of the 1919 counterpart to the Stars and Stripes. Dubbed "The Amoro News," it was established April 20, 1919 at Coblenz on the Rhine, Germany, and was published daily on Sunday for the American Army Occupation. The editor aptly stated its purpose, "If on the Rhine we must sit, then let us know at least what is going on outside of our own billets."

By changing the names and dates, the Amoro News could easily be mistaken for the The Stars and Stripes. It contained the same news about military units stationed overseas; "Auto accident kills two bucks" (World War I G.I.s); "Grenade goes off in Billets;" "YWCA show arrives" (Yesteryears U.S.O.). There was even a complete sports page headlining many of the teams we know today.

One front page article told about a Captain Alcock making a non-stop trans-Atlantic flight flying a Vickers Vimy. He covered the 1,880 odd miles in 16 hours and 27 minutes. The high speed of 117 MPH was partly due to

favorable winds.

In an interview, the captain said, "We had a terrible journey. We scarcely saw the sun, moon or stars, and for hours at a time we could see nothing but fog. The weather was very dense and at times we had to descend within 300 feet of the sea. We hit a sleet storm and for four hours the machine was covered with a sheet of ice which added weight and made conditions very unpleasant. At another time the fog was so dense that my speed indicator did not work and the situation became alarming. The winds were favorable all the way and we encountered no unlooked-for conditions. We did not suffer from the cold and had plenty of coffee and ale to drink and sandwiches and chocolate to eat."

When asked about future possibilities, the captain said, "Our flight has shown that the non-stop trip is possible and practicable, but I think now that future flights should be made in a flying boat."

Captain Alcock's courageous flight was one of many that helped develop TAC's Composite Air Strike Force. Although TAC didn't follow the captain's suggestion to use flying boats, it has ironed out all of the other problems that he

encountered.

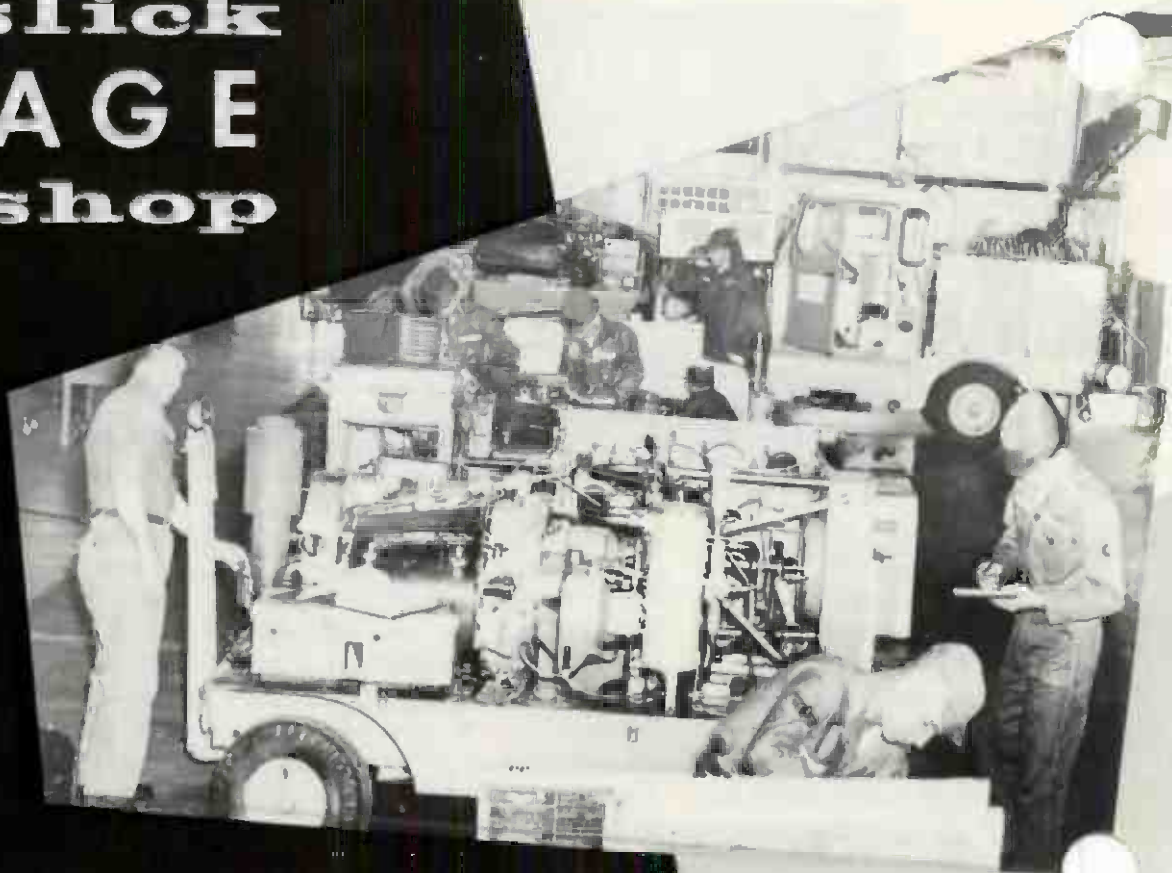
Captain Alcock's flight was quite a contrast to the most recent deployment of the 355th TFS. Pilots from the "Fighting Falcon" squadron flew their F-100 aircraft 4,453 statute miles in eight hours, at an average speed of 673.

The entire flight was completed above all weather and during daylight hours. Slightly different from Captain Alcock's 1919 crossing at 300 feet, mostly in weather conditions.

Just as Captain Alcock and others helped to mold our future in aviation, we are now doing the same. Almost every month, squadrons of tactical fighter pilots are flying across the Atlantic and Pacific Oceans. These flights provide crew training, and at the same time contribute to the security of our nation. Each crossing brings new discoveries which increase the efficiency and potential of our Composite Air Strike Force.

Maybe some future generation will pick up a copy of today's Stars and Stripes and compare our accomplishments in 20th century supersonic aircraft with those made in their own rocket ships or moon craft.

slick AGE shop



IT TAKES much more than food, fuel and flying machines to keep a modern Air Force unit in top fighting trim. We tend to take many of the necessary activities for granted and don't appreciate the impact they have unless they aren't being run properly.

Caring for our modern Aerospace Ground Equipment (AGE) is one such activity. Casual care of this equipment can have far reaching impact . . . and has been known to induce widespread electrical or hydraulic problems.

When we, here at TAC, conducted a recent safety survey at Shaw AFB, team members were very much impressed with the AGE shop in the 4411th Combat Crew Training Group. It is a clean, well run operation. The people obviously take pride in doing their work neatly and correctly. Conversely, the 4411th is proud of its AGE shop and sent us these photos to prove it.

We believe it is no accident that the 4411th has one of the cleanest accident records in TAC. A clean record requires, among other things, clean maintenance, and as these photos indicate, the 4411th AGE has the key to just that:





Keeping tab on equipment calibration, using a chart.



Dispatch section, conducted in accordance with AFM 66-1.



Equipment is inspected daily to insure that it is clean and that lines are capped.



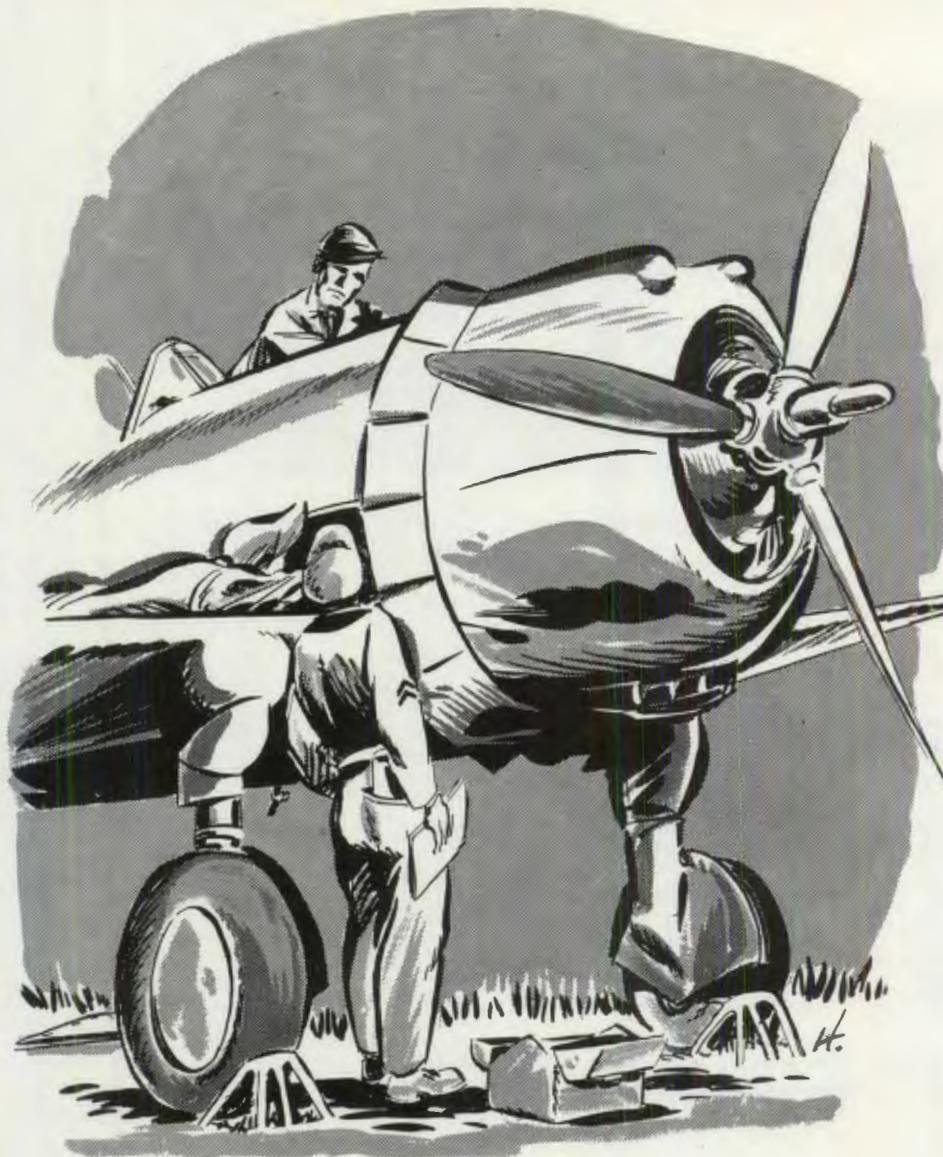
The area is kept clean, safety devices are worn and the work gets done faster and safer.



Personnel at work getting out-of-mission units back on the line.



Hydraulic units get their daily washing. This does much to reduce system contamination.



GOOD ENOUGH

---- for
trouble

BY CAPT. A. W. (SMOKEY) DEAN
HQ USAF

MY FIRST EXPERIENCE with flying safety is still vivid in my mind - after more years than I care to admit.

I was a student in the old Air Corps Technical School and had progressed to the practical stage, where they finally let you work on a sure enough, honest-to-God, flying type aircraft. I had run the usual course of PB-2As, B-10s, A-12s, P-6s, P-12s, etc., and had put up with such foolishness as cigarette paper between breaker points and other impossible type problems that my one and two stripe instructors could think up.

There were four of us assigned to a real gung-ho, spit and shine type Corporal for the final three weeks of polish. We were given the job of installing a gun synchronizer on a P-36A. This doesn't sound like much, but if you've ever been involved with the scant few inches of clearance between the engine and firewall of a P-36, you know it's a chore to install anything. I, being the skinniest and with the longest arms, was picked to bolt this little jewel on the accessory drive pad. Well, to make a long story short, I got the four cap screws in place and

tightened down, but for the life of me I couldn't safety but three of them. After about 30 minutes and many frantic attempts - all the while flat on my back on the right wing, with my right arm augered into that accessory section like a snake - our learned instructor made the decision to let number four stay unsafetied. It was almost chow time anyhow, and the bird was scheduled to fly after lunch. This suited me, 'cause I'd already lost about half of the hide from my elbow to my shoulder.

So our Corporal dutifully got the Form 1 out and demonstrated how to make the proper entry for installing parts on flying machines. He handed me the pencil to enter my signature as the mechanic who made the installa-

tion - big deal.

A couple of hours later, a real friendly Captain came out to fly the bird. He glanced at the form, made small talk with Mr. Corporal, handed him his riding crop and hat, pulled on his helmet, inserted the cartridge and fired the shotgun starter. We pulled the chocks, waved him on his way, and proceeded to the grass to watch our boy leap.

That Curtiss Hawk really looked pretty as she broke ground with the gear folding and rotating into the wing. But about ten seconds later we were all on our feet as blue smoke enveloped the fuselage from the cowling to the empennage. The gear reappeared as a steep left turn was started and the fire trucks moved out to the runway. Our boy really racked it around tight and plunked her back on - bouncing a little, but not turning - thank God.

As he rolled to a stop and shut her down, we could see he had made the landing with the canopy open and his head out the side. He was covered with oil from the shoulders up. We hooked up the tug and towed him back to the ramp for a looksee.

About this time, the line chief took over and directed us to remove the cowling to find the source of all the oil that covered our Hawk (and the once friendly Captain) from stem to stern. It didn't take many minutes to find that unsafetied and loose bolt on the synchronizer pad and even fewer minutes to find my signature on the form. In less time than it takes to say it, a very teed-off, oil soaked Captain really landed on me with both feet. He didn't give me a chance to explain that the Corporal had instructed me to accomplish this bit of maintenance.

He stomped off finally - and I slunk off to the barracks, wishing I'd never been born.

Next morning at roll call, I was ordered to report to the Director of Training. At last, I was given a chance to explain my actions, then was dismissed and told to wait. I met Mr. Corporal coming in the door as I was going out - he didn't speak and that suited me - I wasn't in any mood for talking.

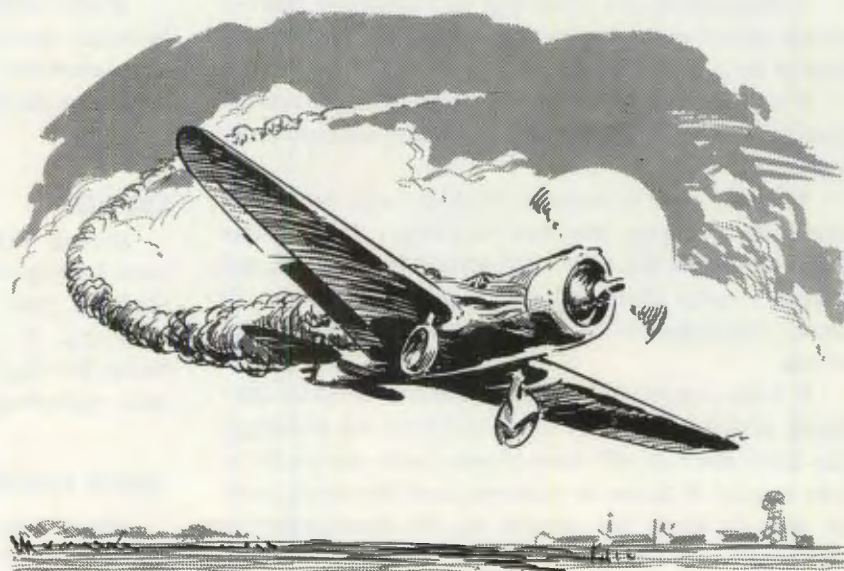
During my waiting - or should I say sweating - period, I had many thoughts. Washing out of school - after all those weeks I had to goof in the final phase - why was I born - he could have crashed - you know the type of thoughts, I'm sure.

Then the waiting was over - the door opened and I was called back in for the final word. I'll never forget those next few minutes. The Director of Training started off by telling me the need for quality maintenance - he gave me a short discussion on what takes place inside the cockpit of a fighter airplane on takeoff - he told me of the responsibility attached to placing my signature in an aircraft form - he gave me a

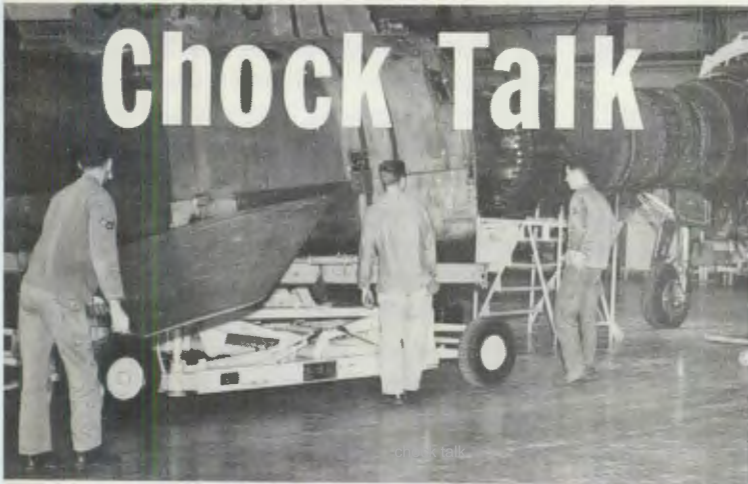
run-down on some past accidents - he really impressed me with the need for safety. He asked me a few more questions, like - Do you really want to be an aircraft mechanic? - Do you understand what I've been telling you? - Do you think you will ever again have any doubt on what quality maintenance consists of?

Apparently, I gave the right answers for he told me that I wasn't being washed out of school. The reason being that I was a student and that the purpose of my being in school was to learn something. Brother, I sure had learned something - the hard way! He didn't say so, but I kinda got the impression that the Corporal was the guy that really goofed. I never saw him around the flight line anymore and have always wondered what happened to him.

I finally finished school, but I knew, and have never forgotten, that I hadn't learned it all. I'd learned a lot about airplanes - and I had learned even more about safety. I'm still learning - and every chance I get, I try to pass on a little of what I've learned to the next guy.



Chock Talk



ATTENTION AEROSPACE REPORTERS

Aerospace Vehicle Status Reporting, RCS: 1-AF-A1 in its present form, has been with us since 1 January 62. Most reports have been accurate and have been received on time. This helps make TAC's reports to AFLC among the best they receive. However, a few units are still keeping us from reaching perfection.

You may be one of them, so read on and see if you are making any of the common errors we find:

- * There is no requirement to report data from tenant units of other commands to this headquarters. When their data is reported with data from TAC units, the chances for error increase greatly.

- * When the "as of" date is incorrect, the whole report must be reaccomplished.

- * Some units are reporting as squadrons instead of the parent unit. For example, the 839 OPSQ should report as 314 TCW.

- * Some units are reporting aircraft or missiles that are in assignment/status codes exempt from reporting.

- * Every once in a while, PCAM cards come thru that have not been punched correctly. All columns from 33-80 on the "K" card should be punched. All columns from 33-76 should be punched on the "J" card. Columns 77-80 should be left blank on "J" cards.

- * Late reporting causes the most trouble. Reports are due out NOT LATER THAN the 2nd work day after the "as of" date. There is no excuse for a late report. If there is a chance that the cards can't be sent on time, the report can be transmitted by message.

- * Some aircraft are shown as possessed in WL and WN codes with no maintenance status show blocks 1 through 0.

- * Some aircraft are shown as possessed in WJ code with no maintenance hours shown in block 9.

- * Occasionally, reports show aircraft possessed in CC, CA, TF codes with maintenance hours in block 9, Crash Damage, or block 0, Modi/Inst.

- * Some reports fail to show the number of hours that the aircraft are in basic postflight, or are awaiting maintenance or test flight. These aircraft are considered operationally ready and do not reduce the O/R rate.

- * There are some units, other than CCTS units, that are showing T-3 combat crew training flying time.

- * We also have ZI based units that are showing 0-1 and 0-7 flying hours. 0-1, combat time, can be shown only when authorized by USAF. ZI use of 0-7, combat support time, is prohibited.

- * Other units are reporting functional check flights in 0-4 and 0-5. FCFs are maintenance tests and should be reported only in 0-6. If an observer aircraft is used for the FCF, it too, should be reported in 0-6.

This list of common errors should help you prove the accuracy of your reports. Erroneous information, besides making your report invalid, can be detrimental, particularly when you consider that these reports are used as data for Congressional Committees, Bureau of the Budget, Department of Defense, basic planning and attrition factors, utilization and operating rates.

Every person responsible for this report should become thoroughly familiar with AFM 65-110, as supplemented. Only then can we hope to reach the Utopia of RCS: Perfect 1-AF-A1 reporting.

CSD VENTS

During their preflights, F-100 test pilots have been finding CSD caps on the D's and F's in the vent position. You crew chiefs should make certain the CSD cap is in the proper position if your bird is ready for flight . . . if you don't, you might find yourself replacing a constant speed drive—or worse.

TRUTH ABOUT TEFLON

Those rumors you may have read about 'some' dying after they smoked a Teflon contaminant.

cigarette were never confirmed. There have been documented fatalities attributed to any of the chlorinated hydrocarbon plastics. Extensive tests have proven that Teflon and similar plastics are completely nontoxic under most conditions. However, at temperatures above 400°F, they decompose into a gas and prolonged exposure to the fumes, or smoking cigarettes contaminated with the plastic dust, may cause polymer fume fever. This is not as serious as it sounds, you should recover fairly quickly. Best, is to follow normal industrial hygiene control measures and prevent this illness.

BY THE BOOK

Some outfits have been sending EUR exhibits or items for TDR direct to the contractor. In some cases they've even disassembled parts for do-it-yourself TDRs. This goofs up the system and delays corrective action since the appropriate AMA can't take action until they receive the info.

To be sure of prompt and proper results from EURs and TDRs, consult AFR 127-4 and T.O. 00-35D-54.

TENDER SKIN

An aircraft is a streamlined machine combining light weight with great strength. In many respects it is a rugged piece of equipment, in others it is delicate and literally thin skinned.

To get the most strength from the least weight, its designers have used the exterior skin to help carry air and ground loads. But, they didn't add a single thousandth of an inch to the skin thickness to accommodate wear and tear.

For this reason, gouges, scratches and dents weaken the skin and cause it to crack. You can't polish them out without thinning the skin too much or cutting thru the outer corrosion resistant layer. All you can do is replace it where it has been weakened, or better, keep from gouging it up in the first place.

Remember, the skin is not just a cover for the aircraft's skelton or a housing for a bunch of gadgetry . . . it is an integral part of the machine that helps to make it strong and sure—don't whack away at the basic integrity of this machine . . . instead, treat it tender and keep it free from flaw.

F4H MURPHY

During a test flight, an F4H pilot engaged the stabilizer augments and almost lost control when

the aircraft yawed and rolled violently. He disengaged the stab aug and control response was normal.

Trouble shooters found that the ARI disengaged 5 degrees in the improper direction with stab aug engaged, altho signal voltages to the electrical connector at the integrated rudder power control cylinder were proper. They corrected the malfunction by replacing the control cylinder.

Reversed electrical connections to the servo control valve of the power control cylinder caused the malfunction.

F4H and F-4C mechanics should check surface control cylinders for proper functioning after assemblies have been overhauled.

FELS NAPHTHA

Gasoline just doesn't make a very good soap. If you wash with it too often it will remove the protective fat layer from your skin and lower your resistance to infection and other skin problems. Flushed skin, staggering gait, confusion, incoherence, disorientation and breathing difficulties are a few of the symptoms produced by gasoline absorbed through the skin or from prolonged breathing of gasoline fumes. Higher concentrations can cause more serious ailments such as muscular twitching, convulsions, delirium, unconsciousness or death. Why take a chance when we have products available that are 99⁹⁹/100% pure?

HOOKED NOT SNAGGED:

One of many projects the safety shop is currently ramrodding is a modification to the MA1A barrier system. This mod will make the tail hook pendant the primary arresting device and will use the MA1A as a back up. Our accident records here show that out of the last ten MA1A engagements, one aircraft was destroyed and six were substantially damaged. Nose gears collapsed on two more, while one escaped scot free. The tail hook has a much better record, running close to 100% damage free engagements.

QUESTION OF THE MONTH

Torque wrenches are normally calibrated every:

- | | |
|--------------|-------------|
| (a) 6 months | (c) 15 days |
| (b) 3 months | (d) 30 days |
-
-

STRESSED for SAFETY



BY MAJOR PAUL L. SMITH
839th AIR DIVISION

YOU SEE SOME organizations roll on year after year with no accidents and you wonder how they can do it when others can't. You hear plenty of excuses like 'those guys are flying an aluminum overcast with a built in safety box' or, 'fighters are bound to have accidents. You just can't stop them.' Or 'if you break it down into manhours flown, we are way ahead of those crowd killers.' Sure, it's an old argument and it will go on as long as slow joes and the Mach twos are using the same cloud area. But let's take a look behind the scenes.

It would seem from these arguments that the accident records should be stacked up with the transports at the top, followed by

bombers, recons, fighters and trainers. Yet the 1962 accident rate for TAC in July listed C-123s at a higher rate than F-104s and KB-50s at almost the same rate as F-100s. Before I get accused of partisan politics, let me hasten to add that the TAC C-130 rate in 1961 was higher than that for C-124s, C-123s, KB-50s, T-33s, or F-101s.

The question is, why? Some people might say, "That's the way the old Mercedes Benz." Maybe so. But when we increased the emphasis on standardization, the accident rates dropped. When commanders were required to answer personally for broken birds, the rates dropped. And when we established standards for aircraft operation and mission conduct, the rates dropped. This

has been true in other safety fields as well. A word, properly stressed by the commander also halted a good many malpractices and lowered rates in ground, nuclear and missile safety areas.

To me the most important factor in safety is support of the commander. You might say all commanders support safety! Yes, we are all against sin and for American Motherhood, but how much of it is simply lip service. Real command support is a hearty interest coupled with sufficient emphasis and backed up by prompt and decisive corrective action. Prevention is the thing that is important. When a safety officer or a supervisor sees a bad practice he usually can jump up and down and holler till doomsday . . . but an informed commander only needs to say a few words to change the situation. And it will stay that way. The Flying Safety Officer recommends corrective action. The commander directs it. Safety officers do not, cannot and should not attempt punitive action. Commanders can and do use punitive action to insure that the same mistakes are not made again.

Standardization has been an ugly word for a long time. Check pilots have been grouped with the mother-in-law category for years. It is unfortunate that some of them get to feel that they may as well play the game as long as they have the name. But happily, this type is not prevalent. The majority are people who actually try to help the aircrews. Few people know all there is to know about an aircraft. The rest of us need help and usually welcome it. The Stand/Eval types are among the best qualified people available, so why not use their expert knowledge to improve ours. Again,

rogram needs the commanders support. In TAC it gets command emphasis.

It takes a lot of educating to prevent accidents. Here is where the safety officer can shine. Accident and incident reports, safety of flight items, OHRs and other such items funnel through his office. If they just drop on through to the next echelon, he isn't doing his job. Instead he should study, evaluate and disseminate this information. With the right approach he can do wonders to educate aircrews. A C-119 accident may not appear valuable to a fighter outfit. But suppose it involves a fouled up weather penetration, poor judgment or inadequate flight planning. The

situation can apply just as well to the hot tails with a little editing. And the lessons learned by a T-33 pilot who fails to compute his landing roll and goes off the end of a wet runway are just as important to several other birdmen including some well known prop types. The point is, on your own base there is a wealth of information that can prevent accidents if you will just exert a little effort and use it.

Delving into maintenance can also open your eyes. How long has it been since you looked at maintenance manning? What happens when you lose a 7 or 9 level? Who is going to supervise the work? Seven and nine types. And who is going to train the new men? Same answer. We have had some

pretty severe losses in our maintenance areas throughout TAC. When 100 percent manning means 150 percent at the 3 and 5 level and 50 percent at the 7 and 9, quality suffers. Supervisors and inspectors are working 80 and 90 hours a week . . . an accident potential if I ever saw one. So now we have the personnel people in on the flying safety business? That's right. Safety is everybody's business. It takes the whole base complement, headed by the commander and advised by the safety officer to operate an efficient safety program.

If everybody does his job, it follows that safety really is no accident.

SELF CRITICISM

The Second Marine HOT DOPE SHEET asks, "Have you ever noticed that the more competent a man is the more willing he is to seek criticism and discuss the mistakes he's made . . . and that it is almost always the mediocre or below average man who has the thinnest skin?"

With that, here is what one of their more proficient chopper pilots had to say.

"The mission was to pick up two four star chiefs and some lesser stars from a remote section of beachline where they had been previously dropped to witness the firing of a new weapon. The route back to an inland military installation was over rugged, wooded and swamp terrain. The VIPs were strapped in and chomping at the bit since they were behind schedule on their inspection tour and were very anxious to make up for lost time. I checked mags and got a high drop with some popping. I leaned the mixture and tried to burn them out. The mag drop improved a little and the popping all but disappeared but the bird was still not altogether sound. Under other circumstances I would not have taken off. However, the backup aircraft had gone down and it would take an hour to get another to the scene, making

an already bad situation worse. I decided to chance it and took off over a coastal swamp area. Fortunately, the engine smoothed out. When the VIPs were dropped at their destination they were all smiles as they warmly thanked me for my services. More than likely they weren't aware of the unusual risk that had been taken merely to make up for lost time on a routine inspection tour. Had they been told what the situation was, they certainly would have advised to call another aircraft, despite the time loss involved. Soon after we moved out of ground effect and into forward flight, I looked down into that putrid steaming swamp and promptly got a sick feeling in the pit of my stomach . . . Right then I knew I had done the wrong thing. I've been faced with parallel situations since then and there wasn't the slightest hesitation - I played it cool by remaining on the deck.

Some are able to profit by hearing of someone else's mistakes. They resolve that if they find themselves in a tight situation with the chips down, they will play a cool hand. Others, however, seem to be psychologically incapable of learning any other way than by falling flat on their own face."

EXPERIENCE...

no protector

A LOOK AT a couple of accident reports released by the CAB proves that experience alone will not prevent accidents.

Take the case of the DC-6 crew who bashed into a hill 50 seconds after lift-off on a pre-dawn go. They first hit the trees to the right of an extended runway centerline 300 feet above the runway at an elevation of 580 feet. The aircraft burned and only the navigator and a few passengers survived. The weather was good and there was no evidence of materiel failure. The crew had just left a dispatch counter which had a large warning poster instructing pilots departing on the particular runway to avoid a right turn until after reaching 1000 feet. The information was also in current pubs that were available to the crew.

The first officer had logged over 6,000 hours. The captain had over 15,000 hours, with 700 hours on the gages and more than 6,000 hours of night time. He had been in and out of this airdrome three times in the past two years....

Then there's the DC-7 crew who left part of their wing flaps in the trees 4,000 feet from the runway while making an ASR approach. The first officer was flying until the captain took control and started to pull up just before

they struck the trees. They had to feather number two but managed to circle and make a visual landing on another runway. It was daytime and the weather was clear with visibility three miles in fog and smoke. Vis to the southeast was one mile and their approach was for runway 30. Minimums for this approach were 400 and one. The controller's instructions went like this:

"Drifting left of course, right to 305, two miles from end of runway, altitude should be 600 feet. Still left of course, right to 310. Considerably left of course, right to 315, further right to 320. Considerably left of course and one and a half miles from end of runway, approaching ASR minimums, you should have runway in sight at this time."

Woodchopping started 1,300 feet left of the runway extended center line and at 56 feet m.s.l. Published field elevation - 52 feet. A line of trees, slightly higher than the ones they hit, extended across the approach to the runway about 1,000 feet closer in. How close can you tease on a surveillance approach?

According to the crew, they saw portions of the airport shortly before they entered an area of dense smoke and fog at 600-700 feet with a 600 fpm descent. They did not cross-check their alti-

meters during the approach... in fact the captain didn't even look at his because he expected to be out any second. Neither the first officer nor the flight engineer could recall any altimeter readings.

The board found both altimeters within tolerances and a flight check of the approach radar, flown about three hours after the accident, proved it was working properly. The CAB determined the probable cause to be improper execution of an instrument approach.

"So what!" you say, "He's a civilian. They can goof and get off for free."

Tain't so, Mac. The company suspended the captain and first officer for 30 days. Later the FAA suspended the captain for 60 days and the first officer for 30. True, they didn't meet a court martial but a suspension like that could surely deplete one's stock. Wonder what they'd have done to 'em if the board had left out the word "probable"?

Was complacency a factor in this accident? The captain had over 17,000 hours total with almost 7,000 in the DC-7. The first officer had over 12,000 hours with about 5,000 in the model. Both had years of experience flying into that airport.

This lucky crew lived through a close one and learned that minimums are established for a reason and it never pays to tease 'em by pressing too low.

Altho there are specific lessons to be learned from these mishaps, one general one stands out... You can't expect to get away with bending the rules just because you are more experienced than average.



WHOA UP a second, sir" the Old Sarge cautioned, "I don't want to throw cold water on anything, but I suggest you proceed real slow before you start making a part without having a blueprint on it."

Lt. Green brushed the snow off his overcoat with a cold reddened hand and hung it by the door. Frowning, he said, "Darn it Sarge, they don't seem to be able to find one . . . there doesn't seem to be much choice." He stood close to the heater, his face still bright from the cold.

The Old Sarge tilted his chair back and reached for his pouch of Barnsmell, grey eyes amused, Old Bill Williams said the same thing almost 20 years ago. You wouldn't know him sir, he was just a little bit before your time. He had this bird that was AOCP for an aileron push pull rod and he got tired of waiting. He had his boys build one up. The broken one was swaged from a tube . . . they reasoned it wasn't strong enough or it wouldn't have busted, so they machined one out of bar stock.

"It was too heavy, of course, and it didn't take long before all that weight bouncing around caused the end to crystalize and break off. In fact, it broke off just after lift off on the third flight. The pilot almost clobbered a hospital before he was able to jam in enough rudder to pick the wing up. The rod had caught on some structure and locked the aileron tight as a drum. The pilot was pretty sharp and got it back

on the ground - after a fashion - and then he lit into Old Bill."

Lt. Green started to speak, but the Old Sarge hadn't finished, "I know, that one was rather gross. But what I'm trying to say is, there are a lot of materials and processes available to a designer. If I remember my book learning, aluminum alloy can vary in tensile strength from 14,000 to 80,000 psi. Steel can vary from 55,000 to 300,000 depending on the type used and how it is heat treated.

"Without a drawing, we'd be working blind. We wouldn't know for certain if the part was designed for compression or tension . . . and when selecting a material we'd have to guess at such things as notch sensitivity, corrosion resistance, and weldability."

He paused to finish packing his pipe, watching the disappointment mirrored on the younger man's face. "I remember one fellow who hogged out a flap fitting to replace

one he thought was made from a casting. It turned out the original was a forging and the replacement never made it thru the first take-off . . . probably a good thing it didn't."

Lt. Green stared at the floor and made a gesture of resignation with his hands. Watching him, the Old Sarge struck a match and played the flame over the bowl of his pipe. "But" he puffed, "I seriously doubt if that part you have there is stressed anywhere near that close. Let me see it and I'll take it by the hobby shop and knock one out." He glanced out the window at the blowing snow and chuckled, "We'll have the top of that little car of yours fixed before Ole Santa gets here and that's for sure."

*Answer to question of the month:
30 days*

FOUR INGREDIENTS OF GOOD LUCK

- Ability -- this you have but it must be combined with other ingredients.
- Knowledge -- not just your own but that contained in the manuals, orders and directives.
- Meticulous Work -- made up of equal parts of ability and the knowledge of what and how to do it.
- Integrity -- that which makes the pilot preplan the flight, use the checklist and fly by the SOPs. It also makes the mechanic go to the book and look up the procedure even though he has done it many times before.

Some do.... Some don't



JIM, YOU KNOW that no two birds fly alike. You'll find one that's a real goin' Jessie and the next 'un off the assembly line will wag its tail and howl at the moon." The raw boned major rapped his knuckles across the thick brown folder and pushed it toward the edge of his desk, "I say that's what happened here, the guy had a dog."

Jim shook his head, "I don't agree, Carl . . ." He smiled at the other's quick frown, "Don't misread me. I'm not saying he could have saved the airplane . . . but . . . I am quite positive he lost any chance he may have had to save it when he failed to trade altitude for airspeed. Once he let his speed get below 125 knots, which was his computed single engine climb speed, he was headed for trouble . . . he was at 115 knots when he rolled out of the turn . . . then went downhill at that speed until he crash landed."

Carl ran one large hand over what was left of the hair on his head and drawled, "What about that turn into the dead engine?"

"You know me better than that Carl, besides I've flown off Frozen Fields . . . not in a C-119, but in other aircraft. I know that he was headed toward high ground if he

went straight, and there was more high ground to his right. He was at 500 feet with 129 knots when number one lost torque and started backfiring . . . even if he had one of your going Jessies it might have been close. He would have been in better shape if he could have turned right or still better off if he could have gone straight ahead like the handbook recommends. But he couldn't."

"Don't tell me you still cling to that old nonsense about never turning into a dead fan?" The drawl mirrored Carl's disbelief.

Jim's reply was positive, "I most certainly do when I'm near critical single engine speed! Ten knots or more above that speed and it doesn't matter. Next time you get a chance, do some single engine work near critical speed. It'll open your eyes. You'll find that once you get into a turn with the dead engine up, you'll need quite a bit less rudder and speed will pick up five or ten knots. With it down, you'll lose five or ten almost every time. The same holds true for level flight. The bird flies best carrying the dead engine high, with the machine in about a five degree bank. I'm a firm believer in practicing this

kind of stuff every time I get a local transition flight. I do it at a proper altitude of course."

"I'll buy the practice part," Carl replied, "In fact when I flew B-26's back in the reserve, I used to go thru that jazz on almost every flight. I cut the altitude I used for a single engine go-around from over a thousand feet down to less than 300." He raised one eyebrow. "You may have a point alright. Had this guy done a little more practice, he just might have handled things more efficiently."

Jim added, "Yes, because altho you probably never analyzed it, the reason you improved your B-26 go-arounds was thru more efficient air speed control coupled with less wasted time. However, like you said, we have no proof that he really could have gotten out of this tight spot.

The whole crew did do a creditable job crash landing it. You don't find just anybody who can set a C-119 down off base and still have everyone walk away."

"Now you're talking Jim. I noticed this troop gave his passengers a real good briefing on bailout and crash landing before take-off . . . showed 'em the proper position to get into for a crash and warned 'em to keep their mou-

closed before impact to save bits and pieces. That's a hell of a lot better briefing than most. This was one reason I figured the guy knew his onions. That kind of briefing just goes hand in hand with a professional pilot. One thing for sure, we'll never know if it could've been saved by anyone's heroic efforts. I ain't about to demonstrate it myself, even in a C-119 I've selected. So as far as I'm concerned, you can blame the maintenance troop who didn't get that valve clearance set right. That's what caused the exhaust rocker arm to break and the engine to poop out. Period, end of tale."

"Me too, Carl, but the reason

for my stand on the chance for a save was that well done nomination I put on your desk a day or two ago." Jim riffled thru the papers on the older man's desk. "It's here someplace. They had number two quit cold right after the gear started up. It was too late to abort without busting . . . Oh, here it is. See, here's what they said. 'For just a fraction of a second the Lt. considered setting the airplane back down on the remaining runway, then realized they were committed and had best single engine climb speed with the gear up. The Lt. told the co-pilot to feather number two. He went thru the procedure smoothly and quickly

while the Lt. concentrated on maintaining directional control and keeping at the computed best single engine climb speed.

Beyond the runway the overrun sloped up about three percent and there were trees at the end of the overrun. The book says the airplane will climb at max wet power with 63,500 pounds and 125 knots... and climb it did, much to the relief of everyone. After they gained 400 feet, they made a shallow turn and brought it back to the airfield.' These troops started 400 feet lower and made it. However, in their favor, they were 3,000 pounds lighter."

HIERO....What?

The young airman second studied the hieroglyphics on the scrap of paper he had found blowing across the ramp and thought, "This might be a coded message...better get it down to Security right away."

In a matter of minutes he was at Security Control handing the paper to the desk sergeant and explaining where he had found it. He waited patiently for the sergeant to read it and then grinned at the puzzled frown on the other's face. At least he wasn't the only one who was bewildered.

The sergeant studied the note again, still unable to decipher it. "Better call in the OSI," he said reaching for the phone.

It didn't take the Special Agent from OSI long to get there. Things had been rather dull and the possibility of some cloak and dagger

business really sparked his interest. When he glanced at the note, his eyes twinkled and the corners of his mouth turned up in a grin, soon followed by a mirthful laugh.

"Nothing to worry about here fellows. This is just a good example of some pilot's IFR shorthand. You see, when a pilot files a flight plan under instrument flight rules he must get clearance from Air Traffic Control before he can take off. They give him this clearance on the radio and he has to read it back word for word."

"To copy these clearances rapidly and accurately, a number of symbols and abbreviations have been developed. These are published in the Flight Information Manual."

"The pilot who wrote your

coded message knew his shorthand pretty well. Look, here's what it says. 'ATC clears 65925 to the Langley Field Airport from over Flat Rock VOR, direct to Pulaski VOR, J-37V to Raleigh Durham VOR, direct to the Franklin VOR direct Langley VOR to maintain flight level 350, left turn after takeoff and climb on Standard Instrument Departure, Langley Number One, cross the 45 degree radial of the Hopewell VOR at or above flight level 250, Contact Norfolk Center on frequency 379.1 after takeoff, squawking code 3 mode 56.'"

"The fellow who wrote this is a professional, but hardly one who would sabotage any of our equipment. Thanks for calling me anyway...I appreciate your interest and concern."

C-65925 TO LFI A FROM FAK Q, D PSK Q,
J-37V RDU Q, DFKN Q, D LFI Q, M-FL
350, SID LFI #1, +45° HPW Q @ FL
250, CTC NOR Δ 379.1 ATO M3-56

Letters to the Editor



Dear TAT

I am not a pilot but I am a guy that faces facts. After reading your column in the Oct ATTACK about the pilots who landed at the wrong airfield I agree, there is a moral to this and I think it goes as follows: No matter how accurate, experienced, or professional we become in our jobs, we're still only 'little human beings.' No matter how hard we fight it, 'Mother Nature' is going to have her course whether we like it or not. I cannot believe it is because we become relaxed or let our guard down either.

The 'bookies' only give so many odds on the fights and games, so goes for the auto drivers as well as airplane drivers. My belief is, there is only one supreme being who is mistake-proof so that still leaves us "little human beings." Am I right?

A1C B. G. Tharpe

Dear B. G.

We agree to a degree...to err is human—but considering the human and his activities, we sometimes wonder if creating the human was someone else's mistake as well! No matter, the biggest mistake of all is to quit striving for perfection.

TAT

Dear TAT,

ATTACK for October 1962, Vol. 2 No. 10 under August Tally in TAC Tally shows the 314 Troop Carrier Wing charged with two (2) incidents. One of these was the premature releasing of a door bundle which we acknowledge as justly charged to us. The other can only be a blown tire associated with a feasibility program involving one of our C-130Bs, All American Engineering Corporation and a "pilot-in-command" from another command - AFFTC, ASC El Centro, California. Will you verify this, please?

CAPTAIN JAMES L. GARDNER, JR.
Flying Safety Officer
314 TCW, Sewart AFB

Dear Jim:

The incidents we charged you with are the two you mentioned. On this "charged" bit. Friend, you are going full speed in reverse. We encourage you

good people to report each and every item of interest. We could care less how many incidents you report—just as long as you take action, where possible, to correct 'em. We firmly believe a reasonable number of incidents per month indicates a good healthy reporting program. Are we forgiven?

TAT

Dear TAT

While we admire Elwood Q. Sockroller's (TAC Attack, Sep 62 on page 20) aggressive attitude, we must suggest that he hop over to his friendly Flight Surgeon's Office or meet him at the Stag Bar and have a little chat.

Trying not to be technical I would say that the more you "Gs" the worse off you are. "G" tolerance is dependent on the body's ability to prevent the blood from pooling in the legs and gut and keep it flowing in the head. The tension and anxiety which a new Stud has when pulling "Gs" for the first time causes the body to release adrenalin which increases his blood pressure, causes leg muscle contraction and, in effect, stops blood pooling. A "G-suit" does likewise.

However, as one becomes more familiar with "Gs" and therefore more relaxed, the natural portions (vessel and muscle contraction) are lost and we depend only on artificial aids and in effect lower the amount of "Gs" we can tolerate. The experts at SAM and many centrifuge controllers will tell you the same.

So, Elwood, lets be motivated but talk to the Flight Surgeon too. We're not here to ground 'em, instead, our real motto is "Keep 'em flying."

CHARLES SHEPTIN
Captain, USAF, MC
4510th USAF Hospital, Luke AFB

Dear Doc

A most interesting point. All these years we've blamed old age for causing our G-tolerance to decrease. You know, this old cat might have a little fight left in him yet, if scared bad enough. Thanx for the info... and look out Elwood!

TAT

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

MAJOR ACCIDENT RATE 1 JAN - 31 OCT		
TYPE	1962	1961
ALL	13.9	15.9
F-105	36.3	24.1
F-104	40.0	75.5
F-101	15.9	6.6
F-100	20.1	22.2
F-86	72.0	40.0
F-84	17.6	46.6
B-66	0	26.7
B-26	51.2	
B-39	0	
B-33	3.6	4.7
T-29	17.7	0
KB-50	9.7	6.6
C-130	0	7.7
C-124	0	0
C-123	14.2	6.2
C-47	5.3	0
U-10	69.9	

OCT TALLY GUARD AND RESERVE		
UNIT	MAJOR	MINOR
117 TRW	2	
107 TFW	1	
123 TRW		1

ACCIDENT FREE (MAJOR & MINOR)			
JET			
ACTIVE	MONTHS		ANG
4411 CCTW	9	15	122 TFW
363 TRW	8	15	113 TFW
CONVENTIONAL			
ACTIVE			RESERVE
4430 ATG	47	71	434 TCW
314 TCW	39	60	94 TCW

OCT TALLY ACTIVE UNITS		
UNIT	ACDNTS*	INCDTS
4 TFW		1
12 TFW		
15 TFW	1	1
27 TFW		21
31 TFW		5
354 TFW		10
355 TFW		
388 TFW		
401 TFW	1	18
474 TFW		6
479 TFW	4	6
363 TRW		2
4411 CCTW		2
4510 CCTW	1	27
4520 CCTW		4
64 TCW		
314 TCW		
463 TCW		
464 TCW	2	1
4505 ARW		2
1 ACG	1	3

*MAJOR & MINOR

TAC Tally

In OCTOBER the regulars destroyed three aircraft and substantially damaged five while reserve forces wrecked two and substantially damaged a third. In addition, the regulars had two minors while the reserves had one.

Here's the rundown. One F-104 pilot ejected after he couldn't get his flamed out engine to restart. Cause was a fuel system malfunction. Faulty design resulted in two F-104 main gear failures. One aircraft received major damage, the other minor. A short landing and two inch runway lip helped induce one to fail. Another F-104 received minor damage when the stick kicker actuated while the bird was on a tanker. The hose whipped off part of the probe and it hit the tail section. An F-100 pilot died when he apparently tried to salvage a late turn onto a skip bomb run. Another F-100 pilot ejected after a fuel system failure flamed out his engine. An F-84F pilot munched into trees on a skip bomb run. Inadequate briefing, only five hours in the bird and low total time point this one to supervision.

Two C-123s were involved in landing accidents. One will most likely be attributed to the airfield, the other to the pilot. He landed short and hit a three foot embankment. When 18 photo flash cartridges were dumped from an RB-26 while a maintenance technician was checking camera gear, they caught fire. No checklist and uncertain job knowledge... or, poor supervision.

An Air Guard pilot ejected from his RF-84F when it went out of control on autopilot. He couldn't disengage the thing. Another RF-84F was badly damaged when a hydraulic line broke and caused a fire during a maintenance ground runup. A Guard F-86H pilot was killed trying to get an air start after his engine flamed out at low altitude. We don't know how many tries he made, but he tried so many. An RB-57 received minor damage after an overheated brake set one wheel on fire. That's the crop, let's try to avoid repeats.

RECOGNITION



**CREW CHIEF
OF THE MONTH**



**MAINTENANCE MAN
OF THE MONTH**



Technical Sergeant Dean M. Ferris of the 4505th Air Refueling Wing, Langley Air Force Base, Virginia has been selected as the Tactical Air Command Crew Chief of the Month. Sergeant Ferris has an exceptional knowledge of aircraft maintenance and has an unusual ability to apply information from technical orders and other publications directly to his job. His aircraft is always ready for scheduled flights and has a very low abort rate. He always displays a great deal of initiative and consistently exerts maximum effort to increase his capability as a crew chief. Sergeant Ferris recently received a Tactical Air Command Award for maintaining an outstanding set of Aircraft Historical Records, and for his superior performance, was selected in his Wing as Crew Chief of the Quarter for June, July and August 1962.

For his outstanding performance as a crew chief in the Propulsion Branch Hot Section, Staff Sergeant Carlos Moreno of the 479th Tactical Fighter Wing, George Air Force Base, California has been selected as the Tactical Air Command Maintenance Man of the Month. Sergeant Moreno recently performed duty as the work center supervisor in the absence of the NCOIC. Only 20% of the work center personnel were skilled so he instituted an effective OJT program which vastly improved the section. On three occasions, Sergeant Moreno discovered cracks in J79 engine transfer gear boxes. These cracks, which were apparent only to a highly qualified technician, could have caused engine failure. As a result of his discovery, the prime depot found a defect in the casting which is now being corrected. On another occasion, Sergeant Moreno prevented possible engine damage when he found foreign objects in the front gear box clevis of an engine scheduled for test run. Sergeant Moreno's ability, character and performance certainly qualify him for recognition.



PILOT OF DISTINCTION

Captain Howard A. Davis of the 20th Tactical Reconnaissance Squadron, Shaw AFB, South Carolina has been selected as the Tactical Air Command Pilot of Distinction. Ten minutes after Captain Davis took off in an F-101, the master

caution light came on and the telelight panel indicated a hydraulic malfunction. The utility hydraulic pressure dropped to 1500 psi, stabilized momentarily, then dropped to zero. Captain Davis began planning for an emergency landing that would have to be made without speed brakes or wing flaps, and with emergency brakes. After burning out fuel, he lowered the landing gear with the emergency system and flew his final approach at 195 knots because of the no-flap condition. Captain Davis landed the aircraft 250 feet down the runway, deployed the drag chute, and raised the nose for maximum aerodynamic braking. At 100 knots he lowered the nose to the runway and tried applying the emergency brakes. They didn't work so he shut down the left engine to reduce thrust. When he realized that the aircraft was not slowing sufficiently he shut down the remaining engine. The aircraft rolled to a stop on the runway a few feet short of the barrier. Captain Davis, through excellent technique, professional skill and calm judgment, prevented a major aircraft accident.

AIRCREW ACHIEVEMENT AWARD

A C-130 crew from the 773rd Troop Carrier Squadron, Sewart AFB, Tennessee, has been selected for the Tactical Air Command Aircrew Achievement Award for the period ending 30 October 1962.

Shortly after the pilot, Captain Jerry F. Bonin, gave the signal to retract gear, co-pilot 1st Lt. Richard L. Trombly reported an unsafe nose gear. The gear was re-cycled without effecting the nose gear. With both main gear down, SSgt Morris D. Patrick, the flight engineer, attempted to handcrank the nose gear down in accordance with the handbook procedures. The gear refused to budge. Sgt Patrick then entered the crawl space under the flight deck, and removed the four by seven inch inspection plate on the aft end of the nose wheel well. He observed that the hydraulic actuator had broken loose from the retracting mechanism and that part of it was keeping the gear about six inches from the fully extended position.

He had A2C James W. Lindsey, the scanner, relay this information to the pilot. Capt. Bonin tried to shake the gear loose, but was not successful. Sgt Patrick then took a 20 inch screw driver and working by feel, was eventually able to move the broken actuator arm and free the

gear so it could fall into place. A normal no brakes landing was then accomplished, pins installed and the aircraft towed from the runway.

Ingenuity, knowledge of the aircraft, and professional flying resulted in a routine landing instead of an accident. Capt. Bonin, Lt. Trombly, 1st Lt. George E. Kenetick, the navigator; SSgt Patrick and A2C Lindsey are to be congratulated for this professional performance.

SHARP SAFETY OFFICERS

We are happy to recognize and congratulate three Safety Officers from Tactical Air Command for their outstanding scholastic achievement while attending class 63-1 of the USAF Flight Safety Officer's Course at the University of Southern California. They are Captain Charles W. Bradley, Cannon Air Force Base, New Mexico; Captain Keith C. Kuester, Shaw Air Force Base, South Carolina; and Captain Ellis C. Vander Pyl, Myrtle Beach Air Force Base, South Carolina. All received straight A averages for their class work at the school.

HAPPY NEW YEAR!



YOU are the **KEY** in '63.....

PERSONNEL ERROR CONTRIBUTES TO MOST ACCIDENTS!