

AUGUST 1963

TAC ATTACK



NEAT PE SHOP

TAC ATTACK



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Paratroopers prepare to embark on an Operation Swift Strike Mission.

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Angle of **Attack**

*Thus I steer my bark, and sail
On even keel, with gentle gale*

— Green



Colonel James K. Johnson
Chief, Office of Safety

Like most people living near the water, I was bitten by the boat bug this summer. Looking at some of the used bargains at the local docks, I found some that were sound and in excellent repair, others of about the same age that were run down and in poor condition. Occasionally, I'd find one that had rotten woodwork covered with a gleaming, fresh coat of paint.

They reminded me of various units . . . strong, healthy units supervised by people who constantly searched for problems and who took corrective action well before any of these problems reached a critical stage; other units where the supervisors reacted after the problems announced themselves as a failure, a mishap, or an accident. Sometimes these units tried to cover weak areas with corrective action that only touched the surface of the problem . . . the quick coat of paint . . . the safety program limited to posters, charts and eyewash.

Carrying this parallel a step further, a sudden rash of accidents is like a series of leaks in a boat . . . each occurs after a period of neglect. The wise commander and supervisor, like the wise boat owner, must hunt for problems and correct them before they develop. It is a difficult chore and demands full support from everyone on board.

short and



BY MAJ PAUL L. SMITH
839th AIR DIVISION

THE DUAL ROTORS of the broken banana stirred up a cloud of dust as it settled in beside the newly completed assault strip. As the air cleared, we could see the spectacular Columbia River gorge just a few miles to the north. This was the delivery site that our big birds would be operating into for exercise "Coulee Crest."

We stood in the midst of a plateau covered with scrub bush and weeds. On a level section, the Army engineers had carved a 3600 foot strip, 100 feet across,

and had begun to coat the surface with oil. Columns of dust rose from the edges as jeeps, trucks and dozers made their way up and down the area. We waded thru ankle deep silt as we crossed to the oiling operation. It was apparent that visibility would be something less than zero-zero when the boys used reverse on their landings. The Army engineers went into a huddle and decided that it would be necessary to water the edges of the strip several yards on each side of the oiled surface. This posed some-

what of a problem. The nearest water was several miles away. However, they rounded up some tankers and got with the program.

Our next question was whether this piece of real estate could withstand the impact from dozens of assault landings at weights more than 50 tons each. The engineers assured us that the *Soil* factor for this strip was 52, or four times the minimum recommended for the C-130. Casting a jaundiced eye on the surface, some of us allowed that it would cut rather severely after the first wave came in. This brought an immediate reaction from the engineers, so we tucked our oiled and dusted boots back in the infuriated palm tree and departed. Next day, the boss man personally took in the first load and came back all grins to report the strip was apparently in fine shape, albeit pretty dusty.

Sunday morning's dawn saw us leaping off in the first aircraft to observe the operation. The CCT had jumped in and was set up at Delta LZ. So were the fire trucks, ambulances and mobile hospital. There was even a USAF helicopter with a fire suppression bo-

standing by. Weather gave a large
t by dropping a half inch of
on the site the previous
evening to settle the dust beautifully. Our landing was uneventful and we disembarked with the jeeps and trailers to begin our day of observation.

We were pelted with mud as we ran out the rear....we had off-loaded with engines running.... and had just cleared our eyes when the next bird turned final and the stream began. Like clockwork they rolled in, every five minutes with as many as four on the ground at one time. Since we had only prepared an off-load area for three aircraft, things did get a little jammed. However, the flow went quite well and the last of the initial twelve birds departed on schedule. There was a 55-minute break before the next group came in, so off we went to look at the way.

Our suspicions were correct! CBR of 52 or not, the birds had really beaten up that strip. There were ruts up to 18 inches deep and some over 50 feet long. They did not occur at touchdown but at the point where the pilots had reversed. While the dozers, sand trucks, oilers and water tanks scurried out to repair the damage, we had a little session on aerodynamics with the engineers. They felt the pilots were using brakes immediately on touchdown but when we explained the principles of wing lift and what happens to it when a prop goes into reverse, they began to get the picture. We called back to the staging base and delayed the next lift until repairs could be completed. The Army really did a fine job of patching those holes. Meanwhile, we discussed different techniques and added since we had 3300 feet on the panel touchdown point we

would ask our pilots to delay using full reverse thrust for a second or two to see if it would spread the impact over a longer area. The next 12 landings supported our reasoning, as the wear and tear department had very little to do after the second wave departed.

However, pilot judgment now started entering the picture. In their attempts to delay reversing, some were waiting too long and having to use heavy braking to make the turn-off. In addition, the sun had come out and we were getting a good dusting on each landing. Visibility was becoming a problem for the pilots as well. So, a second revision was necessary. Back to normal reversing, using it for a little less time to prevent the dust swirl around the cockpit.

The third time around was uneventful except for a considerable repair job offset by a greater than normal time interval since the birds needed refueling. The last two sorties went well as the aircraft seemed to be packing the strip down as they landed. They still cut ruts, but no serious ones. At dusk, dog tired and hog dirty, we crawled on the last bird and went home.

Monday morning we went in on the first bird again. There had been a severe rainstorm the night before, and when we rolled out this time we left a deep rut which measured over 50 feet long. Obviously, the heavy rain had put our strip out of business. We picked up our operations and moved to the alternate airport, a small civilian job about 20 miles away. The remainder of the operation was uneventful.

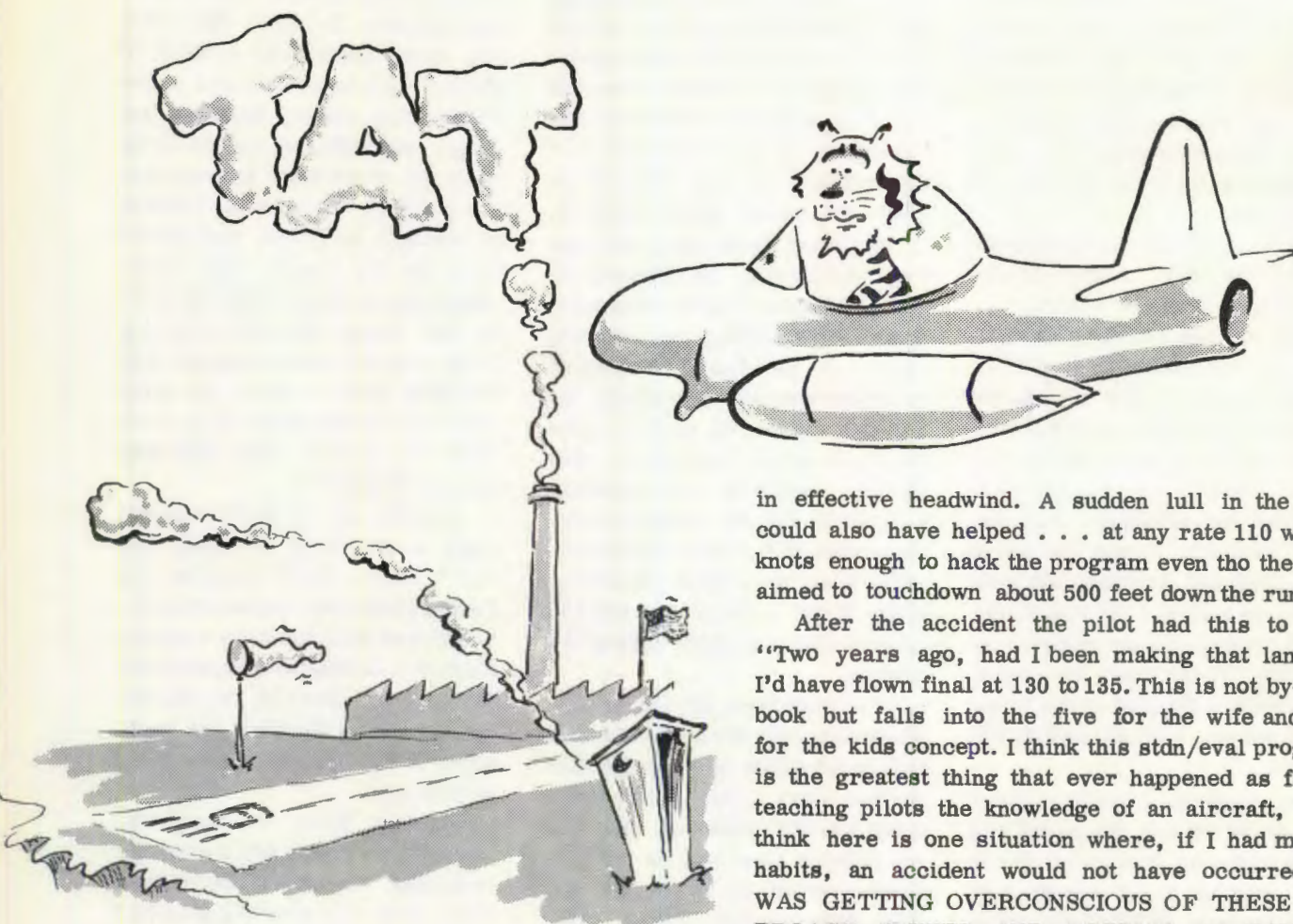
We learned a lot on this mission. To begin with, we took a squadron of line pilots to run it instead of a cream-of-the-crop

group of instructors. Left to their own devices, the boys did a fine job. Sure, there were a couple of sloppy approaches and a few harder than normal landings. But a full inspection of all the birds when we came back showed only one polished tail skid. No cracks, no breaks, no bends, just lots of work for the wash rack crew. Those planes were filthy. Secondly, we found that pre-planning loads with the Army pays off. For the first time in ages, no Army load was turned down. They knew what we could take and they brought it that way.

Thirdly, we found that our soil tests need some revising. The "52" factor didn't work on our runway. However, on the turn-off - a previous problem area - and the taxiways, it presented no problem. So, on static factors, the figures appear valid. We have the engineers doing some headscratching on this one.

Another thing, we found that reduced tire pressures materially increased the life of an assault strip. This was something we had known before but didn't use at the beginning of this mission because of load variance. It makes sense though, because of the increased tire surface available.

Finally, we took every safety precaution we could. The fact that we didn't need them is fortunate. We didn't even have one tireprint off the oiled surface. But, if we needed crash coverage it was there. And the crews knew it. These assault landings are a marginal operation at best. Hurtling into areas like we do with a 50-60-ton load is not the safest work in the world. We hope what we found will make the next mission a little safer. If so, we have completed the job we were sent out to do.



THE RUNWAY was about 4000 feet long and nicely aligned with a rather stiff wind . . . 25 to 40 mph stiff. The approach-end featured an embankment some 20 to 30 feet deep. The aircraft was a C-119 piloted by a well-qualified, experienced captain . . . yet the big bird dropped into the lip of the embankment, slid down the runway and off into the grass scattering gear, clamshell doors, chunks of fuselage and one each loadmaster in its wake. No one was killed, but the loadmaster and a passenger were injured.

The pilot is a good head. In fact he is an IP and the local stdn/eval flight commander. His supervisors describe him as methodical, the type who conscientiously follows handbook procedures to the letter.

The pilot computed the approach speed as 108 knots and flew it at between 110 and 115 due to airspeed fluctuations. As you could guess, the embankment, or gully, caused a downdraft and a drop

in effective headwind. A sudden lull in the wind could also have helped . . . at any rate 110 wasn't knots enough to hack the program even tho the pilot aimed to touchdown about 500 feet down the runway.

After the accident the pilot had this to say, "Two years ago, had I been making that landing, I'd have flown final at 130 to 135. This is not by-the-book but falls into the five for the wife and five for the kids concept. I think this stdn/eval program is the greatest thing that ever happened as far as teaching pilots the knowledge of an aircraft, I think here is one situation where, if I had my old habits, an accident would not have occurred. I WAS GETTING OVERCONSCIOUS OF THESE APPROACH SPEEDS AND LETTING IT HAMPER MY JUDGMENT."

This young man said a mouthful . . . and this tiger is inclined to agree with him on both counts. The stdn/eval program is one of the better teaching devices, and, overemphasis on the handbook per se is a poor substitute for good judgment.

We hunted long and hard thru the C-119 handbook, but found not one word on adding speed to compensate for wind gusts. In this respect the book is weak.

Going strictly by the book, if this troop had been taking a stdn/eval check on this particular approach, he would have been in danger of losing points for letting his final speed reach 115 knots, which is seven knots over the recommended speed. Only an unbending knuckle head would have graded him down for excess speed (assuming he missed the gully and made the runway) while a knowledgeable check pilot would have certainly graded him down for using poor judgment and insufficient speed altitude for existing conditions.

Extra airspeed alone doesn't always hack a down-draft. A C-123 pilot found this out making an approach to an island airstrip. The wind was right down the runway at 20 to 25 knots and the terrain sloped down, short of the runway. He made a short-field approach, but kept the angle of attack on the fast side of the indicator because of gusts. The bird hit a down-draft just short of the runway and touched down in the overrun substantially damaging its main gear and fuselage.

Local light plane pilots were well familiar with the downdraft and habitually came in a little steeper than normal to compensate.

TAT will string along with the light plane pilots. A steeper approach isn't bothered as much by down-drafts as a dragged-in one. It also has other advantages. We don't favor a power-off approach, mind you, it's just that we don't like the flat dragged-in rascals, especially for a short field. If speed is kept high enough to compensate for gusts, the aircraft is going to float much further from a flat approach than from a normal one because the transition from descending flight to level flight will kill off some of the excess speed.

This may seem like hindsight - until you pause and think. The effect of wind is as old as flying.

A pilot worth his pay should, almost without conscious effort, read sign as he approaches an airfield. Smoke, Ma's wash on the line and other indications give him surface wind. Drift at traffic altitude, movement of cloud shadows, a column of smoke, show wind direction and velocity at levels above the ground and warn him of abrupt wind shear and such. There are other clues. A strong wind blowing across an embankment will always cause a downdraft of some degree, so will water or heavy vegetation on a hot sunny day.

The hotter and faster your machine, the less it is affected by such things . . . and the less time you get to look for sign, too. Still, the effect is there.

You won't find this info in the handbook . . . but that doesn't mean you ignore it and do not compensate. There are many, many items that are not in the handbook, and there are as many pitfalls to trap the pilot who thinks he is safe when he blindly follows the book to the letter. Flying is still partly an art. If it wasn't, the slip stick set would have been able to program all the necessary info on tape and would have replaced our high priced hides with computers!

Those of you who are afraid of losing a point two on stdn/eval checks listen closely. We have

found most evaluator types quite reasonable. If you need to alter a technique or speed for any good reason, tell the guy what you intend to do, why you intend to do it that way and then make sure you follow your plan.

If your reasoning is sound and you do not violate any established criteria or regulations, you are on firm ground.

AFTER TOO MANY years in the safety business, this tattered tiger has often encountered the after-effect of gethomeitis . . . but yesterday, we read of a case that tops all. Seems this troop managed to launch an RF-84F with less than complete success . . . he couldn't get the gear up.

In due time he brought the machine in for landing and soon found his brakes were inoperative. Using the emergency brakes (air bottle operated) he brought the beast to a safe halt on the runway. This is not always easy and, if he'd let well enough alone, we'd have tipped our old hard hat and said, "good show."

However, despite a perfectly good runway that paralleled the one he was blocking, this lad decided he'd best clear the active. He made his turnoff OK, and apparently decided things were going smoothly enough to go for broke, or, back to the ramp that is. He negotiated another 90 degree turn onto the parallel taxiway before the emergency brakes ran out of air. A drainage ditch brought him to a stop, at the expense of the nose gear.



The ad writer who dreamed up the phrase, "nothing rolls like a ball bearing," just ain't seen a heavy aircraft turned loose without brakes . . . keep that in mind should you have hydraulic system problems and get impatient waiting for your ride back to the ramp. OK?

A CIVILIAN TYPE throttle bender finished his landing by rolling down an embankment beyond the far end of the pasture. Glare and reflection from the setting sun caused the runway to look longer than it was . . . at least that's what he said.

Another civilian pilot came to grief because he apparently used the frequency of one VOR approach but flew headings and altitudes for another approach and hit a mountain.

He was a seasoned pilot and quite familiar with the area . . . perhaps to the point of being complacent.

SAM, THE SAFETY handball man, apparently got tired of sorting thru his paper pile and brought some of it over to add to the mounting mountain on this tattered one's desk "TAT," said he, "we've been hashing over the pro and con of using the barrier on the approach end for landing emergencies where directional control could become difficult. You know, landing with a blown tire, a brake failure, or gear problems."

Sounded interesting, so we did our best to look attentive. Instead of getting the usual verbal run-down, Sam thumped a nine-pound study of the subject on our desk and said, "Read this!" and promptly retreated. The study was published by the Aeronautical System Division of AFSC and had everyone's blessing.



We read it and can now pass for a genuine second-hand expert on catching the approach end barrier, so without further rambling we'll tell you what we learned.

First, in case you've wondered, an approach end engagement has two advantages. One, the barrier has a natural centering effect which helps keep a hooked bird on the runway. Two, if all the critter's rollers aren't rolling, it will reduce the length of the slide and cut down on the amount

of aluminum that's rubbed off.

Use an approach end engagement anytime have an emergency that might send you off side of the runway before you could roll into the normal barrier . . . PROVIDED your field has either a BAK-6 or BAK-9, and your bird has a hook that is strong enough to haul you to a stop at the speed and weight you'll have at touch-down . . . and IF there is room to touch down and get your nosewheel down before you snag the rascal.

The F-105 is about the only one of our birds that is likely to leave its hook at the cable and continue on its way. All birds are going to assume a three-point attitude shortly after they snag the cable. So this could smart if the nose was very high at engagement. The slip-stick types think this would be hardest on the F-105 and F-106. They didn't mention the one-oh-wonder, which isn't exactly noted for the strength of its nose gear either, and TAT can't guarantee it or any other type for you. To be safe, get the nose down before the catch.

The study recommended landing long into the far barrier if an approach-end engagement isn't feasible due to insufficient runway in front of the barrier or other factors. You'd certainly be committed to deep serious if you did this and happened to miss the thing.

Approach-end engagements will add to barrier wear and tear, particularly with the BAK-6 which is usually damaged by engagements faster than 165 knots. Seems the pendant and purchase cables on it tend to kink at the higher speeds.

A GOOD HEALTHY TIP of TAT's old hard hat to 1st Lt C. E. Hart of PACAF who successfully handled an emergency in an F-105 while TDY at Nellis. The throttle of the big bird stuck at full military and refused to budge, so Lt Hart headed for Edwards and climbed to 35,000 feet. When over Edwards, he slowed the aircraft and extended gear, flaps and speed brakes, then descended in a tight spiral to keep speed below gear and flap limits.

After setting up an appropriate final approach, he turned the fuel selector off and extended the ram air turbine. After the flamed-out bird touched down at 200 knots, he deployed the drag chute and soon brought it to a safe halt. Whew! A throttle quadrant failure caused the excitement, while straight skill and cunning kept it from being anything more.

—TAT—



SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators

Lt Col Baynes comes from Burna, Kentucky. He was commissioned a 2d Lt in the Army Air Corps back in February 1944 and has an extensive background in multi-engine equipment. He completed a WWII combat tour in B-17s flying out of Italy, then flew with ATC and MATS from April 1945 until 1947. He served tours in France, Germany, Hawaii and Guam. After completing Air Command and Staff College in 1958, he was assigned to TAC tankers. With over 11,000 flying hours, most of it in heavy transports and tankers, he was selected to become KB-50 pilot flight examiner and conventional aircraft branch chief for the 4450 Stdn/Eval Group when it originally formed in December 1960.



LT COL HUGH L. BAYNES
Chief, Conventional Stdn/Eval Division

GOOD SHOW

The 4450 SEG recently completed a comprehensive evaluation of the 4520 CCTW at Nellis AFB, Nevada. An over-all rating of excellent was the SEG verdict. This made the 4520 CCTW one of the few units ever awarded an excellent rating derived from an evaluation of all flying activities within the unit. A total of eighteen aircrews were given complete ground and flight checks. Eleven checks were scored as highly qualified and the remaining seven were and qualified. This left none in the conditionally qualified or unqualified areas.

A highlight of the evaluation visit was the tight unit organization and visit preparation by the 4520 Stdn/Eval Flight. Before the evaluation team arrived, members of the 4520 Stdn/Eval Flight effectively coordinated all anticipated activities with affected units and agencies. This coordination led to a well-defined evaluation program because everybody in both the operations and support areas knew what to expect, what they should do and when to do it.

The 4520's excellent rating was richly deserved and really warrants TAC's hearty congratulations.

GREEN LIGHT

Five-four-three-two-one, green light! These resounding words start the first paratrooper or initial pallet of heavy equipment toward the impact point. They highlight the most important part of the low level tactical troop carrier paradrop mission.

However, the troop carrier navigator must perform with professional skill and adhere to basic troop carrier procedures in order to make this moment successful.

During flight check, SEG examiners have observed that most unsuccessful attempts to achieve this spot-in-space at a specified time are not predominantly caused by poor navigation techniques, but by not following the basic troop carrier procedures and guidelines set forth in the AF and TAC manuals.

Few navigators are familiar enough with these manuals! Remember, they are written and published to use as guides; so, how about reading through them? Refresh your memory with the basic procedures, arrive at the release point on time, make all drops on the impact points, and receive qualified scores.

WATERMELON SEEDS

Last week we had our first watermelon of the season. As we were eating it, very carefully, my children asked how many seeds there are in a watermelon. This started a long discussion that ended without any firm conclusion. I guess the only way one could be sure is to cut open several watermelons and very painstakingly count each seed and finally determine an average number of seeds.

Since last November, there has been a similar watermelon problem regarding the fuel reserve required for an aircraft going from a point of departure to an eventual resting place. I'm sure that after slicing this question open you'll find as many answers as there are seeds. It is amazing that paragraph 32 of AFR 60-16 has so few slices and so many seeds. For instance, I find only four slices in it . . . lets dump that first slice on the table and look at it carefully. All aircraft will carry sufficient fuel to fly from takeoff point to preplanned altitude over destination plus 10 percent. Then, in this sentence, there appears an "or," and this little word makes a new sentence. All aircraft will carry sufficient fuel to fly from a takeoff point to a preplanned letdown fix serving destination and thence to an alternate, if one is required, plus 10 percent. In no case will the required fuel reserve

at destination or alternate, if one is required, be less than that needed for 20 minutes flight or more than that needed for 2 hours flight. Now again note the little word "or" in the last sentence. The rest of the first slice explains how to compute the amount of fuel required for a reserve.

Without looking into the other slices, let's just stick with this one slice and count the questions.

- * How much fuel must an aircraft have over destination under VFR conditions?

- * How much fuel must an aircraft have over destination under IFR conditions?

- * How much fuel must an aircraft have over an alternate, if one is required, under IFR conditions?

- * Can this fuel reserve be used enroute?

- * How much fuel would a plans man specify in an ops order?

- * Would he only require the fuel reserve required in paragraph 32?

- * What about any enroute fuel reserve? Is this also planned?

Now that this slice has been cut, we would like for you to count the number of "seeds" you can find in paragraph 32, AFR 60-16 and the new TAC Supplement. The only way we can really determine the number of seeds is to have several slices made of this same watermelon and count all of the seeds. Here is where you come in. We want you to sit down with your squadron family and do this. You are the people who run out to the aircraft and suddenly find that you do not have enough fuel to hack an assigned mission. We are sure that we have only counted a few of your questions, so put your questions and answers down on an AF Form 847 and submit your questions on this problem and we will help you obtain a full count (and an actual count) of the fuel reserve seeds. Once accomplished, we can have a TAC Supplement to AFR 60-16 which will answer all the questions of the fuel reserve requirement.

FLIGHT MANUAL COMMAND REVIEW PROGRAM

The flight manual or dash one is the heart of the USAF standardization program. Air Force Regulation 60-9 directs flight crewmembers to comply with the instructions contained in the appropriate flight manual and its authorized supplements during all aircraft operations. The flight manual instructions provide the best possible operating procedures under most circumstances; however, they cannot replace good judgment. Multiple emergencies, adverse weather or terrain, may make it necessary to modify procedures. The quotation from AFR 60

is clear and ungarbled and the present flight manual program has the same objective; clear and correct presentations in the flight manuals.

The current flight manual concept has made concrete strides in the last few years. The handbooks for most weapons systems are now technically accurate, operationally suitable, clearly written and current. This progress was achieved only through an aggressive program of mutual support between the Aeronautical Systems Division (ASD) of AFSC, the agency responsible for Flight Manuals, and the operating activities. To sustain the program within TAC, the Office of Stdn/Eval has primary responsibility.

As background, Military Specification MIL-M-7700A, dated 14 February 1963, gives the over-all guidance on the requirements and content for preparing flight manuals. Since all requirements cannot be given in the Mil Spec, ASD has adopted the use of 7700 NOTES to cover newly developed equipment, clarify specification requirements and standardize specific operating procedures.

Once a year, the flight manual manager from AFLC or AFSC convenes a command review for each operational aircraft. The using command, USAF, USAF IG, Instrument Pilot Instructor, airframe manufacturer, engine manufacturer, prime AMA, AF Flight Test Center, and the AF Special Weapons Center are required to participate.

Everyone is usually notified at least 60 days prior to the formal conference. In TAC, the pre-conference procedure is accomplished in three definite actions or phases.

- * Phase One. Organizations review the manual and all outstanding recommended changes (AF Form 847s) for the particular aircraft and prepare complete notes citing page, paragraph and recommended phraseology.

- * Phase Two. Selected personnel from the numbered Air Forces and the units concerned meet with 4450 Stdn/Eval personnel to establish and publish a consolidated TAC position. These recommendations are forwarded to the appropriate AMA or ASD 30 days before the scheduled flight manual command review so copies can be handed out to other conferees.

- * Phase Three. If it becomes necessary to establish, resolve or validate technical input to the manual, TAC representatives confer with the aircraft manufacturer to study the accuracy, validity or possibility of the recommended procedures.

- * Phase Four is the formal flight manual com-

mand review itself.

Incidentally, the AF Form 847 was conceived and produced by TAC to make it easier and faster for you to submit changes to the 4450 Stdn/Eval Group from anywhere in the chain of command. Although this form only applies to the TRI-COMMAND concept at present, ASD is considering making it Air Force wide.

As a reminder, SEF personnel should closely coordinate with safety and maintenance agencies to insure that 847s are submitted on those unsatisfactory reports, TCTOs, flight test reports and accident board recommendations which affect the flight manuals. For you F-100 pilots, some systems were not formally reviewed this past fiscal year because of funding problems. However, we continually monitor all systems used by the command and we are prepared to attend when the financial situation is resolved.

WAIVERS FOR FLIGHT CHECKS

AFM 60-1 and AFM 60-2 clearly outline the recurring flight check requirements with which all aircrew members must comply. At times, unusual circumstances prevent a crewmember from accomplishing all required checks during a given due period. In these cases, the authority for granting a waiver rests with the Deputy for Operations, TAC. Such requests are submitted through channels and the 4450th SEG reviews them and recommends action to the Deputy for Operations. In most cases justification is adequate, SEG does recommend approval, and waivers are granted.

Recently, however, we have received an excessive number of requests for waivers that do not have adequate justification. Reasons such as excessive TDY or nonavailability of aircraft are not considered valid excuses without detailed explanation . . . and SEG cannot recommend waivers in such cases. SEG will support any requests for waivers that are adequately justified.

One important fact some people tend to forget is that we all have at least 90 days to complete our required checks. It appears that too many of us wait until the last 30 days to concentrate on these requirements. If the scheduling section and the aircrew make sincere efforts to accomplish checks 30 to 90 days prior to the due date, instead of waiting until the last month, the need for waivers will be greatly reduced. SEG believes there is much room for improvement.



CROSSED SIGNALS

THE CAPTAIN sat erect on an old straight-back chair supporting his upper body by pressing downward against the chair seat with both arms. He sat close to the oil stove in the center of the room, with an old army blanket draped across his shoulders. Blood diluted with water was smeared across one side of his face and down his neck.

The chill from almost a half hour's swim in cold water had just about left and he was in that talkative mood that often follows moments of extreme stress. "I never did see you... I felt metal crunching then a hard impact that threw me to the left and forward. It really snapped my head down in the cockpit. Dirt and windblast blinded me and the bird yawed violently to the right... I was afraid I would hit someone else in the flight.

"When I could see again the aircraft had settled down in a medium right bank with the nose quite low. I tried to retard throttle but it wouldn't come back. I could move the stick slightly but there was no response. Right then I knew

I had to get out. I grabbed the arm rest, pressed the lock release and yanked up. The arm rests only came up a short way, then stopped. I yanked two or three more times. I was getting wind blast, and because there was no change I didn't think the canopy went... but I was afraid to put my hand up to check.

"I pulled the alternate canopy jettison handle then tried to find the seat trigger. I found it, but couldn't get a hold of it to pull.

"Without thinking twice, I hit the lap belt with my left hand while pushing up with my right, planning to go over the side. When my head hit the slipstream I was knocked back against the headrest and seat. I was pinned there. I found the stick

and kicked it. Nothing. I grabbed hold of something and pulled self back into the cockpit. Once I pulled on the right handle again. It didn't give, but it felt different. I felt for the trigger and it was where it should be. I threw back my head and as it hit the headrest, yanked the trigger. The seat fired.

"I still don't know where my left hand and both feet were at the time, but the rocket seat accelerated smoothly without a hard jolt... then I hit the wind blast and it was like running into a brick wall. My lap belt was undone and I separated from the seat at once. As I tumbled something hit me on the leg. I think it was the survival kit being torn off by the wind blast.

"I couldn't see and felt around and found what I thought was the arming lanyard and pulled a couple of hard pulls. Not being sure, I reached for the D ring, found it and twisted to make sure I had it. I don't remember pulling it. The thing I remembered was the opening shock hitting me almost as bad as the wind blast. I checked the chute and saw that one panel was torn out.

"I felt a warm liquid in my mask and found my nose was bleeding hard. The wind blast must have jammed the mike into it.

"I realized I was getting close to the ground and popped the LPU... both sides inflated normally. I tried to find the survival knife to use on the risers, but no luck. I took my helmet off and threw it down and started counting one-thousand one, one-thousand and, splash, I heard it hit. I grabbed the left riser and pulled down, hit the safety catch on the emergency release, pressed it and held it in place. As my feet hit I released it and threw the riser away.

"The lake was like glass &

There was no wind at all and shroud lines fell all around me. I started to unzip my G suit but noticed the change in temperature and zipped it back up. I got out the survival knife and cut shroud lines. The more I moved and cut the more tangled I got. I finally put the knife in my mouth, brought my knees up and put my head and shoulders under water and worked loose. It seemed like this took thirty minutes or more.

"Knowing I'd freeze in the water, I set out to swim for an island that seemed closer than shore. Stopping to rest, I heard someone yell. I did the same, then realizing they knew I was in the lake, I set out for shore. I lost all feeling from elbows and knees down. I slapped myself to stay awake and talked out loud to myself, saying I'd make it. That helicopter came over within 60

seconds but didn't spot me, then you came up with the boat . . ." He nodded toward two men listening quietly to him talk.

One spoke. "Yep, we'd found you sooner if you'd had a light or flares. We picked up the Lt here, fair quick. Would have gotten him quicker if his light had been red or some color so's we could tell it from the house lights on shore."

The captain turned toward the Lt, "What happened?"

"Well, we saw you blink your probe light off and on and figured something was wrong, then someone said you'd made a circle on your canopy with a light . . ."

"Circle? I made an X! I'd lost my radio and knew I couldn't complete a night refueling hookup without a radio. Maj Felipe briefed to make an X if we had to return to Homeplate with a failure that wasn't serious enough to warrant landing at the nearest base. I joined on his wing and gave him a

series of flashes with my pen light to let him know I had a radio failure but he didn't seem to see me, so I moved out, broke out the map light, flashed the probe and moved back in. I gave him a series of flashes with the map light and then drew an X . . ."

The Lt shook his head, "It must have looked like a circle, 'cause one of the other pilots called Major Felipe and told him you were making a circle and the Major told me to join on you and lead you back home.

"He asked you to flash your probe light if you heard him and when you didn't we knew that your receiver was out, too. I joined on your wing and rocked my wings twice before you saw me . . . at least I thought you saw me. I moved away and you started to follow . . ."



"I never saw you, even after we hit."

"That's what I found out. I reached down to change my position lights from bright flash to dim and steady, then looked back and you were still closing on me. I tried to take evasive action, but didn't have time."

"What happened then?"

"Near as I could tell your bird struck mine in the rear fuselage or tail and knocked mine inverted. It pitched violently out of control. The fire lights and other warning lights all came on so I pulled my

visor down, jettisoned the canopy, pulled the trigger and hit the slipstream with a jolt that was pretty severe. After I separated from the seat I tumbled end-over-end. The chute didn't open soon enough to suit me, so I pulled the D ring and, like you, got a hard opening shock but it didn't rip out any panels. On the way down I saw the lake and inflated my life preserver and broke out the dinghy. In the water I got in the dinghy and then heard some noise on shore and hollered. I heard you call and then these fellas came up with the boat.

"We looked for you about 20 minutes, then they took me back in and went back and found you . . . doggone it, I should have made certain you saw me. But I was certain at the time. By the way, how come you signaled Felipe? I

thought we were briefed to maintain element integrity.

"We were." The captain replied thoughtfully. "And I guess I should have joined on you, but at the time it seemed I should let the major know my intentions. I've been thinking about that X . . . I didn't turn the light off when I made it and . . . I made a sort of X and I guess that would look kinda like a circle. You can't win . . . but they sure could do a lot to improve radio-out signals, at least the night ones."



chock talk

F-4 PROBLEM AREAS

From a recent summary of Navy F-4 accidents:

- * Lost longitudinal control when the aft section overheated after the right engine access door came off in flight.

- * Aircraft ran off the runway after the nose gear cocked. A wire leading to the nose gear steering unit broke.

- * Nose gear outer cylinder split when the metering tube failed.

- * Here's one for pilots ... a double flameout! The pilot had the external fuel transfer switch in the wrong position.

- * A landing accident induced by a mixer valve failure and fogged windscreen.

- * The right hand engine fire warning light came on just before touchdown following an in-flight generator failure. The CSD had failed due to low oil.

- * Here's another that will sound familiar. A pilot lost control after flying about a minute and a half after an aft section fire burned thru hydraulic lines. The fire was caused by an afterburner pigtail spray-bar failure.

- * One main gear collapsed after the side brace broke at the gland nut.

- * Main gear resting against the drop tank ... another broken side brace.

- * Nose gear strut outer cylinder failed.

- * In flight engine fire caused by CSD breaking off at the attachment flange.

NO TANKS

TAC F-100 units are fast running out of 335-gallon drop tanks. We are the only user of the 335-gallon tank and for this reason only a limited number of the kits were bought. In addition, the follow-on buy of new tanks has bogged down due to legal disputes and rehabilitation of the contractor's equipment. Mean-

while, we continue to use and lose tanks. Deliberate drops, because of in-flight emergencies, or impending barrier engagements, account for most of these tanks. This is to be expected, and the number should decrease as more aircraft are processed through Project Highwire. Further decreases will come, if and when we get a more reliable drag chute system.

The most exasperating cause of lost tanks is the old bugaboo "inadvertent release." Several TOs and reams of correspondence have not completely eliminated this source, and it is one area, along with better drag chute maintenance, where each individual mechanic can help conserve these tanks.

An influx of PACAF F-100s, equipped with 480-gallon external tanks, has further aggravated the shortage. This transfer was not considered when the initial requirements were programmed. However, it would not have had a serious effect if the follow-on buy had gone as planned.

One hundred fifty kits for converting 275-gallon tanks to the 335-gallon configuration should have arrived by 15 July 63. SMAMA ordered these kits on emergency procurement to tide us over until new 335's are delivered. The new 335-gallon tank delivery has slipped again and is currently scheduled for 15 November 63. In the meantime—TAKE CARE OF THOSE TANKS!

BEE'S NEST

A MATS chopper crew got about ten miles out on a test hop to check an engine change when the new engine started to surge. Surging was accompanied by fuel flow fluctuation, so the crew shut down the engine and limped home on the remaining unit. Some bees had built a nest in the carburetor when it was in storage and no one caught it when the carb was installed on the new engine during build-up. Storage and build-up procedures obviously left quite a bit to chance.

NO-STRAIN DRAIN

The F-100 gets a fuel calibration check each periodic and the aircraft must be completely defueled to make the check. To do this, fuel must be drained from drain cocks and normally quite a bit gets spilled.

MSGT Austin N. Hoverman of the 354 OMS at Myrtle Beach got tired of having to wait for the fire department to hose down the area following this operation, so he designed and built some drain tubes to keep fuel from being spilled and blown onto the ramp.

He made each from a 33 inch piece of half inch aluminum tubing telescoping into a 33 inch piece of 5/8 tubing. He inserted a plastic funnel in the half inch tube so it would fit tightly around the aircraft drain. He slotted the upper end of the 5/8 tube and put a #22 Ideal clamp on it and completed the job by notching the other end of the 5/8 tube to let fuel run out with the tube pressed firmly against the bottom of the container.

The drain tubes are much like the oil drain cans used around filling stations, except they are not attached to a container and are held in place by extending them firmly between the aircraft and fuel container and tightening the clamp to hold them. To reduce the fire hazard still further, Sgt Hoverman used a GI can as a container for each drain, put a lid on each can and ran the tube thru a 3/4 inch hole cut in each lid.

For drains where the tubing assembly wasn't completely practical, Sgt Hoverman used a short length of half inch hose to make a flex fit between the funnel and upper end of the tube. He used condemned pilots' pressurization hose since it contains a coiled wire line to keep it from collapsing when bent.

JET PROPELLED

Believe it or not, it isn't unusual for gas cylinders to launch on short hectic flights. Few can match the one a CO₂ cylinder took. The particular CO₂ (non-flammable and nontoxic - ho hum) cylinder was being moved across a hanger without a protective cap. It fell and the valve broke off. The cylinder took off thru several aircraft wings, a concrete wall and into an assortment of equipment. In passing, it broke off several sprinkler heads and started a minor flood. Damage was more than half a million bucks! If a bottle isn't secured so it can't fall, it should be capped. Bottles should also be tied down in storage even tho capped.

TAC ATTACK

ANY SUGGESTIONS

Altho the military suggestion program is being emphasized from all levels, it's true potential has never been realized. This is because suggestions are often poorly prepared, or because the people who process suggestions don't evaluate them properly.

Suggestion originators and evaluators can both take some positive measures to improve the military suggestion system. For instance, the originator can check the files and the TOs to make certain his suggestion hasn't already been submitted . . . or that it isn't already part of our normal procedures.

By doing this, he'll save time and effort for himself and the evaluators . . . and will contribute to the quality of his suggestion.

If the suggestion modifies existing equipment, the evaluator should see that action is taken as per AFR 57-4. In short, the modification must be approved thru AFR 57-4 action before the suggestion board can approve it.

When it comes time to evaluate, perhaps the most important factor is answering the question: "Who shall do the evaluating?" If the wrong man attempts an evaluation, he can do more harm than good. It is imperative that the people running the suggestion program understand this and do everything possible to channel suggestions into the hands of qualified evaluators who have the time to adequately look into each suggestion.

Too often, suggestions are shunted aside in favor of other pressing business, to eventually end up receiving only cursory examination.

Time spent strengthening the military suggestion program will pay big dividends in the end. Supervisors will do well to insure that suggestions are given sufficient priority, and are routed thru knowledgeable people even tho it's easier said than done.

VIP SHIP

Former President Harry S. Truman's famous aircraft, "The Independence," was recently assigned to Tactical Air Command as C-118A, Serial Number 46-505. It will be based at MacDill Air Force Base, Florida, for use by CINCSTRIKE and staff.

QUESTION OF THE MONTH

A conversion factor is not required when a straight wrench adapter is used at the _____ degree position of a torque wrench.

- | | |
|--------|---------|
| (a) 15 | (c) 180 |
| (b) 90 | (d) 45 |

Neat P.E. Shop

PHOTOS BY A/2C JOHN ROSENOW
31 TACTICAL FIGHTER WING



Orderly and

FROM THE MOMENT you enter the door you are impressed with the neat and orderly appearance of the 31st Tactical Fighter Wing's Consolidated Personal Equipment Shop. It directly indicates the proficiency and pride of the personnel who work in the section.

Care and proper fitting of personal equipment is a vital part of an energetic flying safety program. The impact of less than perfect performance in this area can prove disastrous.

During a series of safety surveys, we checked many PE shops and none impressed us so favorably as this one. Everyone in the wing can certainly point to it with pride.



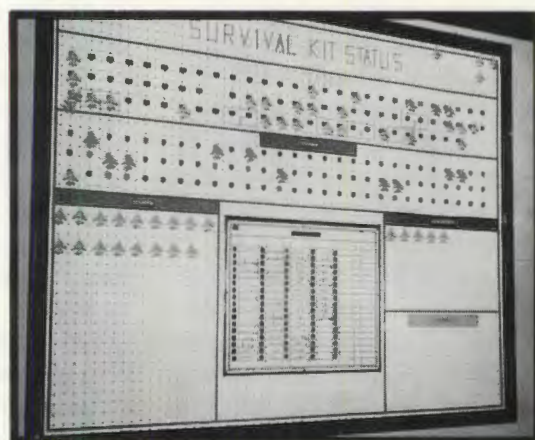
angement



Expert care for important items



Tender, loving care



Systematic Control



A checklist check of survival kits

Digger Digs Out

Cleaning out Lt Col Swensen's desk, we ran across this "Dear John" from Digger. Knowing Digger, there should be ample lessons to learn. By the way, these letters are based on actual accidents or incidents reported by TAC and other commands.

BLESS MY WOUNDED pride. I bent one of Sam's birds and now they're blaming me for poor judgment and all sorts of things.

I went up to Greentree in the back of a C-124 last month to pick up a T-bird. Man, what a trip! Six hours in the back of that flying dance hall. It was worth it tho, to get a solo flight . . . they're few and far between for us T-birders, as you know.

Must have been a little sleepy when I started to plan the flight home cause I asked the forecaster for winds at FL 250, then because of thunderstorms, filed my 175 for FL 310. Greentree is only 600 miles from home and I figured I could make it with plenty of fuel to spare.

Trouble reared its ugly head when the omni didn't check out during preflight. I was anxious to get home and still had the bird-dog, so blasted off and started to climb on course.

The beacon at Fairfax came in loud and clear, but the #1 needle wouldn't home. I thought dead reckoning would put me pretty close, so pressed on and broke out on top just before my ETA at Fairfax. I gave departure a position report and turned toward Hoboken. There's no beacon there, or at Steadfast so it was strictly dead reckoning for the next two

legs. I used ETAs for my position reports. When I started on the fourth leg, I tuned in Apple Valley . . . the signal was weak and the needle a bit sluggish, but it eventually settled down to give me an on course indication.

I tried to give position reports, but couldn't contact anyone.

The number one needle swung at Apple Valley and I took up a course of 290 degrees for home. The signal for Homedrome beacon was good and the needle indicated on course. This leg was supposed to take about 40 minutes so I tried to make a couple of bearing checks along the way, but the old bird-dog was obstinate and I couldn't get anything but static. When I tuned in Homedrome again the needle was erratic and didn't swing on the ETA. It was VFR but I couldn't pick out anything on the ground. I flew on for about five minutes and tried to call approach control but couldn't raise them or anyone else. In the meantime, I tried to check my position using null procedures on Homedrome and Little Creek. They indicated that the station was 70° to my left so I switched back to Comp and the needle swung around indicating this was correct.

I flew on this heading for about 10 minutes trying all the time to contact someone. Finally, Jackson tower, my alternate, answered and

I asked for a DF steer. My luck was down again . . . DF was operative; however, GCI told tower they had me 110 miles west of Homedrome and about 100 miles Southwest of Jackson. Tower told me to orbit until GCA could pick me up and I got a heading shortly. I would have breathed easier, except I only had 30 gallons of fuel by then and 100 miles to go. To conserve fuel I throttled back to 90%.

The escort they sent intercepted me about the time I flamed out. It was darker than Hades and I still had 25 miles to go. Luckily I was still at 20,000 and knew that I could make Jackson if I could just find it. Yeah, I know the book doesn't recommend flameout landings at night, but I didn't have a hankering to land in the middle of the big drink—especially at night, so decided to attempt one.

I saw the field from about 19,000 and set up a flameout pattern. Thought I had it made no sweat, then on downwind, had trouble with the gear and lost the field for a minute. When I found it again, I knew it would be touch and go whether I made the runway—I lacked 1500 feet. No broken bones, but you can see old Queenie out in the Jackson salvage yard if you'd care to take a look.

Okay, so I didn't crank in the correct winds . . . they usually aren't accurate anyway and I thought I'd have better luck with my nav equipment. I know now that I should have turned back when the bird-dog didn't check out at Fairfax, especially since the flight would be on top or in the soup most of the way. Hindsight surely is easier than foresight!

I copied a heading for one of the longer DR legs from an old 21A. The board pointed out that it was five degrees off and the wind ma-

...worse. They really made a big of this . . . you'd think none of them had ever made a mistake. They even wrote me up for not setting up max endurance cruise at my ETA for Homedrome. Shucks, I reduced power to 90% when GCA started to vector me about 20 minutes after my ETA. Told 'em I was lost and squawked emergency about the same time I reduced power, too.

The board said I should have made an ambiguity check when I made the null checks over Home-

drome. I suppose they had a good reason . . . after the accident, investigators found that I had tuned in the wrong station. You guessed it—the same direction that the null and needle showed. They also pointed out that I should have been able to see the lights at Home-drome and when I couldn't, should have known my null indication was wrong.

Investigators found that the bird-dog was sick and brought out a couple of other extenuating circumstances, but they still tagged

me with the accident. Such is justice, huh?

The boss has grounded me and is sending me to instrument school every week until I get wind vectoring down pat. He also thinks that I need some instruction on how to tune the bird-dog. Stop by and give me a ride when you come this way again . . . otherwise I may never get airborne again.

As Ever,

Digger



OL' SARGE

Major Lewis grunted, "Caffeine in the coffee neutralizes all the tar and nicotine."

"Good theory, too," the Old Sarge added. "'Course we haven't decided which TV commercial we'll follow to get rid of the oily residue . . . speaking of oil, Major, did you hear what we found during our oil survey?"

"Oil survey?"

"Yes, sir, we've been keeping a running survey on engine oil consumption. We got to studying the consumption data and noticed two aircraft had an unusual record."

He handed Major Lewis his pouch of Old Barnsmell, "Those two birds would go around ten days without using a drop of oil then take 10 quarts."

Major Lewis whistled, "Sounds like two of your crew chiefs weren't following the checklist."

"They were following it all right . . . but somewhere along the line we hadn't made certain they

knew what to look for. They'd check and see oil flowing over the baffle, and thought the engine was properly serviced. As you know, that isn't enough. The oil has to puddle near the bottom of the filler neck or the level is low.

"That gave us a scare, and we're just now reviewing other items on the checklist to make sure everyone understands just what they are supposed to check for."

Lewis nodded, "Same old story; there always seems to be two percent who never get the word."

"Possibly, sir, but seems to me this is the main reason we have supervisors . . . to see that everyone does get the word."

Answer to question of the month:

90 degrees.

MAJOR LEWIS stood still a moment waiting for his eyes to adapt. "Gee whiz, it's dark in here after coming across all that concrete. How you guys see to work?"

The Old Sarge looked up from his desk and grinned. "We find it helps to take off our sunglasses . . . what brings you slumming, sir?"

"To be perfectly honest, I ran out of tobacco. Say, why don't you water your lawn? I've never seen grass quite so dead."

"We do water it," Captain Green replied, "but it don't do any good. You and the Old Sarge keep it asphyxiated with that garbage you burn in those pipes. I don't see how you keep from croaking yourselves."



THE ENGINE CREW dropped the left engine in about two and a half hours and by 1030 that morning they had started to install a replacement engine from the fly-away kit.

All work was done without a checklist and altho the TOs were available no one was referring to them very much, if at all. Along about 1800 hours, the installation was ready, so they pulled the big RF-101 out onto the ramp to give it a leak-check.

Normally, the leak-check would have been made at the run-up pad, but ice and snow on the taxiways made it too risky to tow the big machine to this area. Since it was after dark, the engine crew had the fire truck and a panel truck stand by with their lights on the bird while they used a flashlight to look for leaks.

It was a short look. As the

engine started, a leak developed in an elbow on the inlet side of the engine fuel pump. They replaced the seal with one from the fly-away kit, but the joint still leaked. Suspecting that the fitting was burred, they traded it with the fitting from the old engine. This time it checked OK, but a utility hydraulic line developed a leak at the bulkhead. The crew chief removed this line and the airman in charge of the engine crew reinstalled it and the leak did not reappear.

After running the engine about thirty minutes at military power, the crew shut it down and checked all B-nuts on the EPR line to see if they were causing an abnormally low EPR reading. All were made up securely, so the crew chief robbed the old engine and got a replacement line. This time the engine checked out and they called

it quits for the night. This was about 2200 hours.

Early the next morning a captain got a weather briefing, filed a tactical clearance and was briefed on what he had to do during the test hop for the engine change. While he was doing this, the maintenance people serviced the aircraft.

The captain carefully preflighted the aircraft, using a checklist, then fired up the left engine and taxied to the active. After performing an engine runup, he took the active, made a short AB run, and returned to the parking ramp where maintenance people made another leak-check. Satisfied, they buttoned up the bird and the captain taxied to the active.

During the test hop, which was accomplished above a 3000-foot broken cloud layer and 7000-foot overcast layer, all proceeded as

ally until the captain started his
tration from 36,000 feet,
at 70 miles out, with 5000
pounds of fuel remaining. De-
scending thru 20,000, the left
engine fuel flow dropped to zero
and the captain realized the engine
had flamed out. His first reaction
was to try an airstart. It was un-
successful. He was starting a
second airstart when he noticed
that the bird was losing fuel very
rapidly and that total fuel was now
about 2200 pounds. From 5000
pounds to 2200 pounds in two or
three minutes!

He stopcocked the left engine
and declared an emergency. Fuel
level continued to decrease at an
alarming rate, so the captain
broke off his penetration and head-
ed toward land. At 8000 feet the
right engine flamed out. The
captain very calmly glided to 5000
feet, trimmed the aircraft and
checked out. The ejection was
successful.

After the captain ejected, the
aircraft continued in a glide until
it touched down, tail low, on a
frozen lake. It skipped three
times, still in a nose high attitude,
then settled onto the engine bays
and slid to a stop.

Investigators were able to lo-
cate most of the fuel system com-
ponents altho the area just forward
of the engines was pretty badly
scrambled. They found the left
fuel shut-off valve open, altho it
should have closed when the throt-
tle was closed. The throttle shut-
off switch that controls this valve
was checked and found OK. Both
master switches were also off...
yet the pilot reported fuel being
lost after closing the throttle and
turning off the left engine master
switch. The fuel shut-off valve was
removed from the aircraft and
bench-checked. It refused to work.
It wasn't damaged in the crash and

was known to have worked at least
four times during the engine
change. This failure made it im-
possible for the captain to stop the
fuel from going overboard.

The investigating board calcu-
lated the rate of fuel loss, con-
sidered the sequence of events
that led to flameout of both en-
gines and decided that fuel could
only have been lost from an open
line somewhere between the main
engine pump and the connection
joining the right and left fuel sys-
tems. They found the left main
fuel manifold line beneath the en-
gine where it had been pulled
during the crash. The line was
dented and bent but held in positior
by the engine clamp. The aft end
of the main fuel manifold had
separated at the fuel pump. The
pump itself had broken off and was
located about 50 feet behind the
aircraft. All Marman clamps were
found except the clamp attaching
the left hand fuel pump inlet elbow
to the main fuel manifold...this
is the same elbow that gave the
engine crew trouble during the
leak-check.

A clamp of the proper size to
fit this joint was found between the
engines, about three feet aft of the
joint. This clamp was the only one
discovered in the wreckage that
was not in place or severely
damaged by impact or tearing. It
was also the only one without a
T-bolt or safety wire!

The board concluded that the
only way that this could have
happened was for the nut to have
backed-off the T-bolt allowing it
to fall out of the clamp assembly.

The airman in charge of in-
stalling this engine was positive he
used a torque wrench on this lock
nut...but isn't sure he used a
torque wrench on any other fuel
line fitting or engine fastening...
The crew chief, who signed off the

work, wasn't sure if a torque
wrench was used or not.

Like many maintenance oper-
ations, this engine change started
bright and early in the morning in
a reasonably comfortable hangar
and ended up out on the ramp—late
at night—in sub-freezing temper-
atures under the harsh shadowed
glare of vehicle lights and a hand-
held flashlight.

Under such conditions, these
maintenance men would be least
inclined to use a checklist, torque
wrenches and other such aids at
the very time they need them the
most—when they are tired, cold
and about to finish up. Smart
supervisors are aware of this fact,
and do everything possible to get
their men to slow down and work
with caution when they are most
tempted to hurry.

After reviewing this accident,
we are inclined to join with the
board and doubt that the airman
used a torque wrench on the par-
ticular lock nut. He may have used
one on it on one of the earlier
installations, but the final one...

This crew cut some other
corners besides not using check-
lists or fully using torque
wrenches...they did not depre-
serve the engine properly and did
not check fuel and oil strainers as
the dash six requires.

In retrospect, this accident
could be written off to a little hard
luck. If the fuel shut-off valve had
worked just one more time...or
had the clamp bolt held together
another five minutes, it would have
been nothing more than an inci-
dent. However, the record clearly
shows that most accidents are like
that. Anytime the people of a unit
cut too many corners or fail to use
all existing safeguards, it is only
a matter of time before their luck
runs out.

The following article has something in common with the A-1 and the F-4. We borrowed it from the Navy... from the APPROACH, that is. Like the two aircraft, it does the intended job in a workmanlike manner. The job? To refresh your memory on the dangers of hypoxia and hyper-ventilation.



Breath O₂ Life

MOST OF US in the flying game have, at some time or another, run into a situation where we have found ourselves suffering from a lack of oxygen.

Maybe it only happened in the physiological training unit where some guy spent all morning harping on the necessity of oxygen at altitude and then took your mask away from you at 30,000 feet in the chamber. At any rate we have all experienced hypoxia in some form. We've had the symptoms of hypoxia drilled into us over and over - we've become fingernail watchers of the highest order, but most of us realize that by the time the nail beds turn blue the brain is likely to react as though it had been soaking overnight in a bucket of Martinis.

Seeing as how the brain is the most active part of a man's body (this is a broad generalization), it gets in trouble at the first indication of hypoxia so that the blue fingernails may prompt only a mental note to see if Helena Rubinstein manufactures the same shade 'cause it sure would be nice

if you and the girl friend had matching fingernails.

Don't worry about getting too much oxygen while you're flying around. Lots of us have heard all sorts of hairy stories about oxygen poisoning, but at pressure less than one atmosphere. Oxygen is one good thing you can't get too much of. However, the way in which we get oxygen may foul us up. Naturally we get it by breathing, but it's not just an accident that we all breathe at about the same rate.

One of the primary factors controlling the rate of respiration is the amount of carbon dioxide that is dissolved in our blood. If we've been working hard, we breathe faster to get rid of the extra carbon dioxide our bodies are producing. On the other hand if we aren't very active, as, for example when we're asleep, there isn't very much carbon dioxide being produced so the rate of respiration drops off. Now, if for some reason we start to breathe rapidly without an increased amount of carbon dioxide being pro-

duced, we tend to lower the over-all carbon dioxide content of the body. This is what happens when we hyperventilate. The "where did everybody go" feeling we get, plus the tingling sensations in hands and feet, does not have anything to do with oxygen. It is strictly a result of lowered carbon dioxide content.

The respiratory center, which is located at the top of the spinal cord, initiates impulses to lungs to go through the motion of breathing. When the carbon dioxide content is lowered, the center attempts to slow down the respiration rate but it is not always successful. The lungs get more or less carried away with the program and keep on wheezing away . . . Once you've inhaled you don't want to do it again until you've exhaled. Finally the whole situation gets out of hand and the respiratory center steps in and plays the ace of trumps. It knocks you colder than a ptarmigan's feet.

The respiration ceases at this point in order to allow the carbon dioxide content of the blood to build back up to normal. However, with the cessation of respiration, the oxygen content of the blood drops. Finally, a couple of centers around the heart become alarmed about the low oxygen content of the blood and they send a messa-

to the lungs which in effect says, "Breathe you jackasses, before you all die." Respiration starts again and consciousness returns.

Unconsciousness at any time is an undesirable condition but particularly so in an F-105 at 40,000 feet. Ordinarily, consciousness returns in a short period of time and you hear music—your altimeter singing "Nearer My God

to Thee." Your airspeed indicator shows you still have a little distance between the needle and the mach indicator, but what you may not know is that the needle has lapped the Mach indicator twice!

If you experience strange sensations at altitude, take corrective steps for hypoxia first, i.e., switch to 100% and breathe slowly for 30 seconds. If you don't feel better

in 30 seconds then hold your breath as long as you can. If you were hyperventilating you should be able to hold it for a minute or more with no strain. If you rule out hypoxia and hyperventilation and you still feel rocky, start looking for some place to land. It could be carbon monoxide or other toxic fumes.

MR. KLEEN



Mr. Kleen

To prevent foreign object damage (FOD) to jet engines, the 4505th Air Refueling Wing's jet engine shop at Langley has combined known, tried and true methods with some new ideas.

Since misplaced tools are probably the greatest potential source of jet engine damage, the 4505th has placed greater emphasis on tight tool control. To permit a practical inventory, mechanics' kits have been reduced to a minimum standard group of 27 items. Tools are counted before and after maintenance and any missing items must be found before an engine is started.



Shop personnel have applied reflective tape to each tool, so that a flashlight inspection of a jet engine will reveal misplaced tools more readily.

However, a series of checklists, SOPs and briefing guides are the heart of the FOD prevention program. "All the gimmicks in the world will be of no value unless they are used, and used conscientiously," says 1st Lt Robert A Choulet, 4505th Propulsion Branch OIC. "It is the SOP that makes the system, and the supervisor that makes the system work."

TAC TIPS

PHANTOM FORCE

After a normal break, four fighter types lined up in sequence for final approach. About 50 feet above ground number two apparently lost control, hit short of the runway and slid to a halt. Damage?...major to pride; minor to person.

Those invisible forces, in the form of wing wash from the lead aircraft, caught the bird too close to the ground for the pilot to effect recovery. A little less show and a little more spacing would appear to be the answer.

KEEP INFORMED

Extract from the APPROACH: The traditional two percent who didn't get the word are still around. These days there isn't much humor in the situation they get into.

A good illustration is the pilot who wrapped up an A-1 during landing. He remarked that the only way to land the machine is three points in a near stall. This indicates he had little knowledge of the crosswind effect on the A-1 during landing, even though he was a qualified IP in the machine at one time. The pilots' manual on the A-1 mentions that crosswind landings are best made with the tail slightly high and with somewhat less than full flaps.

OUT OF PHASE

Most J-2 compass problems start when someone taxis before the compass has time to warm up. Normally, this takes about three minutes, and in the T-33, begins when the inverters are turned on shortly after the engine is started. An experienced pilot can accomplish the remaining checklist items in less than three minutes. Perhaps this is the reason J-2 problems seem to continually plague the T-33. Cure is simple. Slow down and stay in phase.

KNOW BET

"When carrying passengers," a pilot reported, "I always ask if they are familiar with their emergency equipment and bailout procedures. Usually everyone says their are, so I ask if they will bet their lives on it. This usually results in a more thorough briefing!"

SMALL BOMB

Carry kitchen matches as part of your personal survival gear? Have them in a water-tight container? Good! However, make sure the matches are packed tight or have something to keep the match head from striking the hard surface of the container.



There's a surprised looking pilot in this man's Air Force who didn't take either of these precautions. He had the match container in his flight suit pocket and bumped it into the edge of a desk. The match heads jolted against the container and exploded with sufficient force to send pieces of the container flying painfully in all directions.

SURVIVAL SENSE

Most of TAC's fighters are now equipped with ejection seats. This improvement has been long in coming and was preceded for years with great and glorious rumors and test reports. We in the USAF cast many green-eyed glances at other flying clubs that had "Zero Altitude Ejection Seats." Now we have them and we're deluged with movies and stories about the "Look Ma, No Altitude" procedure. Well, let's get back to reality for a minute.

Unless you are stupid enough to buzz, you don't spend more than about one minute per flight at low altitude and airspeed. Altho facts like this don't show up as statistics, ejections that are fatal because of insufficient altitude generally have one thing in common: The altitude when the emergency occurred was enough for ejection with any type seat, but the pilot squandered that altitude making his decision to go...too late.

The 100 feet or so we have gained through the rocket seat can be measured in fractions of a second if you're sitting in a flamed-out century bird. The rocket seat is great, but it is only an extension of ejection seat capabilities, not a cure for cancer, an increase in per diem, or a spot promotion to B/G. ^{re} zero altitude ejections from fighters are no sweat,

do they always use dummies in the movies? If we have a serious problem at low altitude and it takes you a few seconds to make up your mind, don't bother. Rocket seats give you about 100 feet and a possibility, but your ability to make a decision can give you 500 feet and a probability for survival. Survival is one of the nicest words I know, how about you?

SOUNDS OF BREAKING GLASS

Mr. Douglas' big Skyraider bird has a long history of stall and spin bashes. Most have been during the landing phase in units that favored slow speed approaches. Seems the big A has a rather abrupt stall...a stall that starts at the wing joint and rapidly spreads over the entire wing as the speed drops an additional two or three knots. Whew! Some pointers from the Navy to help keep us from learning the hard way:

- * Set RPM at 2600 during approach. Full low pitch will increase torque effect if you have to add power for a go-around. The engine should be adjusted to idle at 650 ± 50 RPM to keep the bird from float-
ing after power is chopped.

- * Don't bank too steeply during the turn to final.

TAC ATTACK

- * Make final at 110 percent of power-off stall speed...and don't pull power off above 25 feet.

- * During a waveoff, apply power smoothly and, at the same time, feed in rudder and aileron to counteract torque.

- * Stall speed in the turn to final is substantially higher than during level flight. If the aircraft normally stalls at 81 knots in one G-level flight, it will stall at 94 knots in a 40 degree bank, if you're holding altitude.



WASHOUT

The Coast Guard Safety Bulletin came up with a sobering observation on flying suits. As in the Air Force, their pilots usually throw flight suits in the family wash shortly after everyone seems to be keeping a respectful distance from the wearer. Also, they must make heroic efforts to get replacements when their suits start coming apart at the seams. All of us have overlooked the fact that these suits are treated with some sort of gunk to make them fire retardant and that three or four tours thru a washing machine removes the gunk. This was a painful discovery to a chopper crewmember who was involved in a crash. The arms and legs of his badly worn suit were scorched to a cinder while the other crewman's almost new suit was untouched even tho both crewmen were in the fire area an equal time. The troop wearing the old suit received much worse burns than the other.

Some firms will treat suits to restore the fire retardant stuff and altho we're not sure who will foot the bill, it sounds like a good precaution.

50TH CLAMBAKE

Officers of the 50th TFW are holding their annual reunion at Las Vegas 4 thru 6 Oct. Check Maj Oakley Allen, 4524 CCTS, Nellis if you need wings. Chuck Yeager is guest speaker.

IN FORM ATION



THE AFM 66-1 MANHOUR reporting and maintenance data collection systems have probably been cussed and discussed in more detail than any other subject in the Air Force. Regardless, we still have difficulties with these systems that should have been eliminated long ago. To insure a better understanding, we will discuss the more common troubles, give their cause and then outline corrective action.

The first and foremost requirement for both manhour and maintenance data reporting is ACCURACY! Accuracy does not mean you manipulate data reporting to make it look good. It does mean that each and every technician must do his utmost to accurately record all data. We are the first to agree that thumbing thru the dash 06 work unit code manual to obtain the necessary information for coding each AFTO 200 series form is a laborious, time-consuming task that cuts into coffee breaks and is distasteful in other ways. Be that as it may, the AFM 66-1 manhour and maintenance data systems are here to stay and will remain an integral

part of the maintenance task until a better and simpler way is developed . . . and those of you who long for the forms of the World War II era will have to get with the system and forget about the irretrievable past!

We all know that there are many ways to cheat on the system. But, when an individual does cheat on either the AFTO 200 series or the AF Form 1457, he usually ends up cheating himself or his immediate supervisor.

For instance, some of you use cheater sheets in an attempt to juggle your books and make the manhours you report under the manhour reporting system balance with those reported under your maintenance data collection system. Most supervisors have done this at one time or another, thinking they had to meet the established reporting goals in order to avoid trouble. But, these are nothing more than management goals and are not intended to be reporting goals (which can be attained with a sharp pencil.)

Manpower is one of the most critical resources provided you as a maintenance manager. Without this asset you would be helpless, no matter how outstanding you are as an administrator or supervisor. The AFM 66-1 data systems give you information which points out where your management is weak, or where you are not utilizing your work force effectively. This is particularly true at base level. So, information

from the system shows you where to take corrective action. Juggling the books is not necessary and has never been necessary to meet the established management goals of this command. We can easily detect such manipulation by making a quick review of data or during a staff visit. The answer is to properly manage personnel resources and not manipulate the data in order to get a good picture!

At many bases of this command we have noticed that productive manhours reported on AFTO 200 series forms consistently exceed the actual manhours expended on the job. This is a widespread deficiency. It has been reported that fictitious AFTO 200 series forms have sometimes been initiated to take credit for direct manhour expenditures which were not expended on the job. This is system cheating of the highest order and is indefensible! The TAC manpower validation team made a study of some 100 jobs and found that over 80 percent listed more manhours on the AFTO 200 series forms than were actually spent on the job. This discrepancy is quite simple to pick up just looking thru the command data for a particular weapon system. Direct and indirect manhours per flying hour on a particular weapon system often vary as much as 100 percent between bases. Obviously, climatic conditions, facilities and skills do not have this much effect on manhours expended per fly-

hour. Management plays an important role, but the factual documentation of manhours expended on each job has the greatest impact on this data.

The number of direct manhours expended during periodic maintenance on identical weapon systems also gives a good indication of reporting accuracy. Direct manhours for periodic inspection of TAC F-100 aircraft vary from a low of 392 to a ridiculous high of 1412 even though the inspection technique, type and model aircraft are the same. Since this is on a monthly average basis, the fact that different numbered inspections are involved cannot be considered of great importance. Inflated logging of direct manhours on AFTO 200 series forms and inadequate management cause this unsatisfactory condition.

Another common problem is maintenance data that does not agree with the actual maintenance performed on the aircraft. The AFLC error analysis listings reflect when-discovered, how-malfunctioned and action-taken codes that can't be identified with maintenance performed. Usually this is caused by a maintenance technician who does not take the time or trouble to locate the proper codes in the work unit code manual. Making entries from memory is a short cut that is no more than cheating on the system. Take a look at the number of codes in each work unit code manual and you can easily see that no one's memory will ever fill the bill. To get factual data, you or your men must use work unit code manuals.

We have found instances where standard manhours were reported for routine, recurring tasks without regard for the actual manhours spent on the job. Again,

this is cheating. Job standards developed for a particular job are primarily to assist the planner or scheduler to determine the time normally required for each task. All of us in the maintenance business are well aware that no job is so simple or repetitive that it will always take the standard number of manhours. When standard manhour expenditures are pre-printed on AFTO 200 series forms, our maintenance data can no longer be considered valid!

It is a common practice to complete exception time cards at the end of the work shift. Or, even worse, some people have filled cards out at the beginning of the work shift! In either deviation, it is simple to balance the direct manhours shown available with the manhours expended in direct labor, but this is not the purpose of the exception time accounting system. An exception card should be made out immediately after the exception occurs. Then the manhour reporting system will permit the work center and branch level supervisors to determine the availability of their labor force and take any necessary realignment action. Further, the proper use of labor code 01.1 (direct labor, awaiting work) will become increasingly important to base level maintenance management. Part of the TAC manpower validation concept is based on valid reporting of labor code 01.1. If this data is not factually reported, your maintenance organization stands to lose manpower spaces during the validation team studies.

The goal of the TAC validation project is to develop dynamic manpower standards for each maintenance organization. These will be used to authorize manpower spaces to support actual workloads. The data reported, as

verified by on-the-spot study of work habits and manpower utilization, will be the basis for future unit manning document changes. Inaccurate data will induce inaccurate manning. The responsibility rests on you, the maintenance technicians, supervisors and managers. Even now, the manhour and maintenance data you report is being used by the TAC staff to make manpower authorization adjustments. In the event your data is so obviously inflated that it is unusable, the TAC staff must use their best judgment to determine your manpower authorizations. A word to the wise should be sufficient!

Summarizing, those of you in top management must believe in, emphasize, and sell the merits of the data collection systems to everyone in your organization. The gray hair set must admit that this is the Air Force system of today . . . a system that gives maintenance and material management more information than was obtainable through any system used in the past. Think about the routine unsatisfactory reports your quality control section dispatched last year and compare them with the routine URs of the 1957 era. These reports have practically been eliminated through the AFM 66-1 maintenance data collection system. Think of the amount of work it took to justify a few extra maintenance personnel. Now, with existing AFM 66-1 data supplementing the AFM 26-1 manpower criteria, we can determine and justify manning requirements throughout the Air Force. It was through just such data that TAC received the additional maintenance manning spaces which become effective during the 2d Quarter of FY 64. Even the least

enthusiastic supporter of AFM 66-1 cannot deny that this system did obtain additional manpower spaces for TAC maintenance activities.

As managers and supervisors, you must insure that your people record factual data on exception time cards and maintenance documents even if the truth hurts. Manhour figures must not be

manipulated merely to attain an established management goal. If anything is manipulated, let it be improved management of your resources and not juggling of data. Do not subordinate accuracy in the desire to look good. TACL 121-1, Special Subject for Inspection - AFM 66-1, Manhour and Maintenance Data Collection System Reporting Accuracy, is valid

until 28 August 63. It behooves each maintenance manager, supervisor and technician to search his soul and determine how his maintenance activity stands. While searching, remember that inaccurate manhour and maintenance data will adversely affect your future manpower and materiel support.

Letters to the Editor

Dear TAT

Super Service on page 23 in the May ATTACK was of considerable interest to us since we recently completed a deployment exercise to Ramey AFB, P. R. and utilized a SAC KC-135 for air-to-air refueling on the return leg.

Our outbound leg was non-stop utilizing KC-97's from the 126th AR Wing, Illinois ANG, and original plans specified a refueling stop at Homestead AFB on the return leg. However, with the offer of a properly configured KC-135 (drogue adapter equipped) for the return trip, our plan was amended to utilize this tanker.

Amended plans specified that the first of the 10 probe equipped RF-84F receiver aircraft would hook-up 45 minutes after take-off with approximately 6000# of fuel on board at FL 285 at 255 KIAS. This proved to be difficult with such a heavy fuel load and, out of three attempts by three separate aircraft, only one was successful. The successful aircraft had approximately 5500# of fuel on board on contact with the tanker, but had insufficient power to hang on after the total fuel load exceeded 8000#.

Altitude was reduced to FL 245 and airspeed to 240 KI. All ten receivers were successful in refueling at this speed and altitude, although some difficulty was encountered maintaining tanker contact after receiver fuel load passed the 8000# mark.

We agree that "refueling the hog from the KC-135 is about the greatest thing since night baseball," and our limited experience indicates no major problems are involved. Our conclusions were:

Probe equipped RF-84F aircraft can be successfully refueled by KC-135 tankers equipped with the drogue adapter



at an altitude of approximately 25,000 ft. and 240 KIAS.

The altitude can be raised, possibly as high as 30,000 ft., if receiver aircraft have no more than 3000# of fuel at contact and take on no more than approximately 4000# of fuel.

The receiver/tanker ratio should be held at 4 to 1 (and no more than 6 to 1) to minimize the time interval from first to last receiver contact.

LT COL DAVID P. WHITESIDE
Commander, 117th TRG
Sumpter Smith ANG Base
Birmingham, Ala.

Dear Col -

Many thanks for your comments . . . your observations should help other F-84 units plan ahead.

TAT

GRND/EXPL SAFETY

BUMPS AWAY!

People are funny about some things, and at times they make you wonder. Take the way they bump into things and get hurt on the job, in the street, in the woods, in boats and cars. Look how many slam cars into large objects, like trains. In Africa rhinos are always running into trains, too, but they have a reputation for stupidity.

If you want to stay on your feet, look to your footing. But that isn't all there is to it. You also need to look where you're going. Take the two cross-eyed men who bumped into each other. One said, "Why don't you look where you're going?"

The other replied, "Why don't you go where you're looking?"

Both of these guys had an excuse for bumping, but what excuse has a straight-eyed guy?

You're walking close behind someone who stops without warning and you run into him. On the street or in a store this sort of thing is squared by mutual apologies. In a workshop it may be more serious. One of you may fall into a machine or be carrying something heavy enough to squash the foot it falls on.

What was wrong? You were following too close and not paying attention to the fellow ahead. The same thing can happen to you in a car. Sure, the fellow in front should have signaled, but the law says, and rightly, that if you did the bumping you're mostly at fault. You should have stayed far enough behind to give yourself time to stop. Perhaps you weren't paying close enough attention . . . either way, you're in the wrong, afoot or driving.

Then we have people who run into something that isn't moving. Usually this happens because someone doesn't look where he's going. Something attracts his attention. A beautiful blond, maybe. If he were smart, he'd stop so he could give her his full attention. Of course someone else might run into him from behind because of watching her too . . . it wouldn't be you, would it?

TAC ATTACK

COOLED OFF

It was a hot mid-summer day and a young air policeman decided to take a drive in an air police pickup truck to cool off. Altho he lacked a government driver's permit and permission, this apparently didn't bother him. However, swerving off the narrow hardtop road into loose sand at an estimated 70 mph did bother him. He reacted by slamming on the brakes and lost steering control when all four wheels locked. The pickup crossed the road sideways onto the opposite shoulder where it first flipped end over end, then rolled. This should have cooled him for good, but he was lucky and escaped with lacerations, abrasions . . . and a special courts-martial.

PINNED FOR SAFETY

Most safety pins are used to prevent exposure of some sort. For instance, aircraft safety pins prevent exposure to accidents. You'll find most of these pins protect against explosive accidents . . . blown canopies, fired seats, jettisoned pylons and so on.

A simple and, you'd think, effective system. Yet, so far this year, we have had five accidents with these systems which wouldn't have happened had the pins been in.

'Way back behind the missing pin are factors such as not following checklists and not knowing enough about the specific system. It takes continuous instruction, guidance, official persuasion, and sometimes disciplinary action to correct these factors. All of this can be summed up in one word, supervision.

Ground Safety Recognition

NATIONAL SAFETY COUNCIL AWARDS

The National Safety Council has selected Tactical Air Command and the 832d Air Division, Cannon AFB, to receive the AWARD OF HONOR. In addition, the following TAC units received the AWARD OF MERIT:

354TFW, Myrtle Beach AFB, South Carolina
464TFW, Pope AFB, North Carolina
831AD, George AFB, California
4500AFB, Langley AFB, Virginia
401TFW, England AFB, Louisiana



**CREW CHIEF
OF THE MONTH**



Airman First Class Cleo Davis of the 516th Troop Carrier Wing, Dyess Air Force Base, Texas, has been selected as the Tactical Air Command Crew Chief of the Month. Thru consistently superior maintenance, Airman Davis has been able to establish an unusually high in-commission record with his aircraft. His positive approach to problems presented by frequent periods of excessively heavy maintenance and accelerated periodic inspections can best be described by the "we can hack it" attitude of his crew. Thru devotion to duty and professional competence, Airman Davis has maintained his C-130 aircraft at the optimum level of airworthiness in the best tradition of the Air Force.

RECOGNITION

**MAINTENANCE MAN
OF THE MONTH**



For devotion to duty and outstanding performance, Technical Sergeant Leonard F. Goike of the 479th Tactical Fighter Wing, George Air Force Base, California, is selected as the Tactical Air Command Maintenance Man of the Month. As NCOIC of the Engine Conditioning Section, he has consistently participated in the Management Improvement Program. Several of his suggestions have been adopted and have led to considerable savings for the Air Force.

On one occasion, Sergeant Goike noticed an F-104 about to take off with an apparent afterburner nozzle malfunction. He immediately called the tower and requested them to advise the pilot of the suspected trouble. The pilot aborted the mission and inspectors found several nozzle actuators had broken loose from their mounts. This would have caused loss of engine oil and subsequent failure of the J-79 engine.

Sergeant Goike's alert, timely and aggressive action most probably averted an aircraft accident... and indicates his personal interest in all phases of the mission.

*Pilot of
Distinction*



Captain Charles B. Hoskins of the 4510th Combat Crew Training Wing, Luke Air Force Base, Arizona, has been selected as the Tactical

cal Air Command Pilot of Distinction.

Shortly after lift-off, the left inner cylinder assembly and wheel of Captain Hoskins' F-100D fell off. His aircraft was configured with 335 gallon tanks, a dart and dart reel assembly. He proceeded to the range and jettisoned all stores, except for the tanks which he retained to minimize damage on landing. After his fuel load decreased to normal landing weight, he pulled the emergency gear extension lanyard and then retracted the main gear. This left the nose gear extended. He deployed his drag chute at exactly the right moment prior to touchdown and landed on the nose gear and external tanks with minor damage.

Through his thorough knowledge and flying skill, Captain Hoskins saved a valuable combat aircraft.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

JUN TALLY ACTIVE UNITS		
UNIT	ACDNTS*	INCDTS
4 TFW	1	10
12 TFW		7
15 TFW		
27 TFW	1	6
31 TFW		4
354 TFW	1	7
355 TFW		8
388 TFW		4
401 TFW		6
474 TFW		12
479 TFW		5
TARC		8
4510 CCTW	1	20
4520 CCTW		19
516 TCW		
314 TCW		1
463 TCW		1
464 TCW	1	1
4505 ARW		1
4442 CCTS		2
SAWC	1	
4500 ABW		
4453 CCTS		3
831 CSG		
4435 ATS		

MAJOR ACCIDENT RATE 1 JAN - 31 JUN		
TYPE	1963	1962
ALL	13.7	13.9
F-105	48.8	42.4
F-104	45.0	11.8
F-101	29.4	26.2
F-100	14.3	18.4
F-86	0	84.0
F-84	35.0	16.8
B-44	0	0
B-26	13.1	0
T-39	0	0
T-33	0	2.9
T-29	0	0
KB-50	0	18.6
C-130	0	0
C-123	3.6	16.6
C-47	0	0
U-10	22.4	0
T-28	29.6	0

JUN TALLY GUARD AND RESERVE		
UNIT	MAJOR	MINOR
459 TCW	1	
777 TRW	1	

ACCIDENT FREE (MAJOR & MINOR)			
JET			
ACTIVE	MONTHS		ANG
355 TFW	10	6	108 TFW
388 TFW	8	22	102 TFW
CONVENTIONAL			
ACTIVE			RESERVE
314 TCW	47	79	434 TCW
463 TCW	25	30	435 TCW

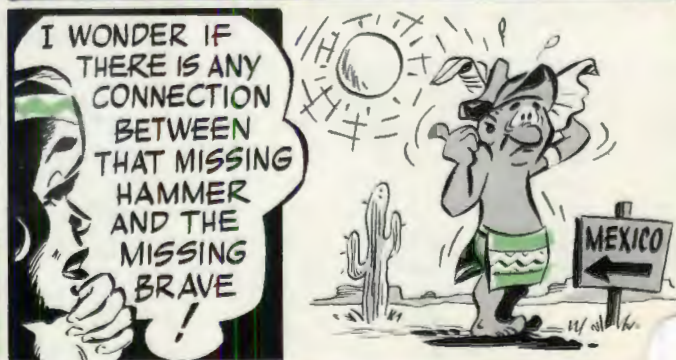
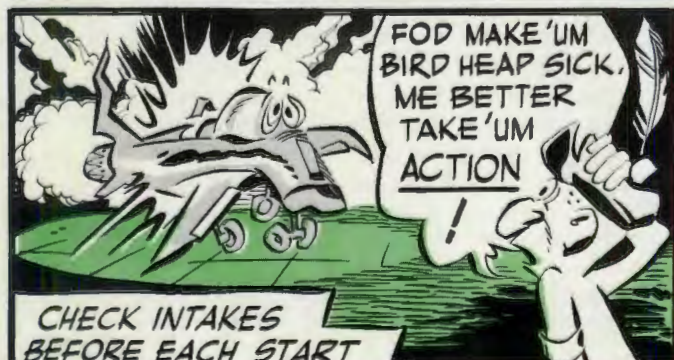
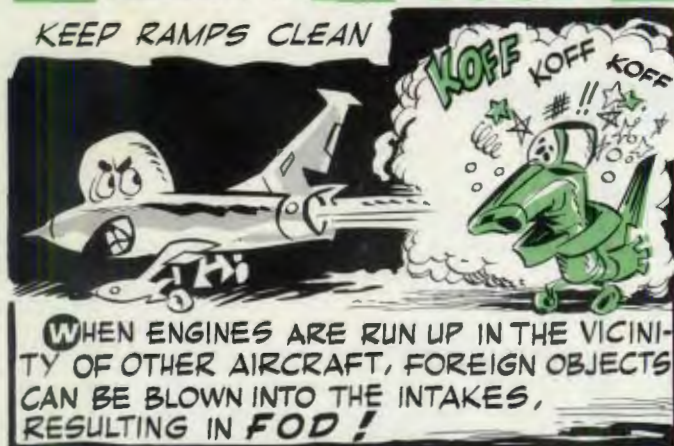
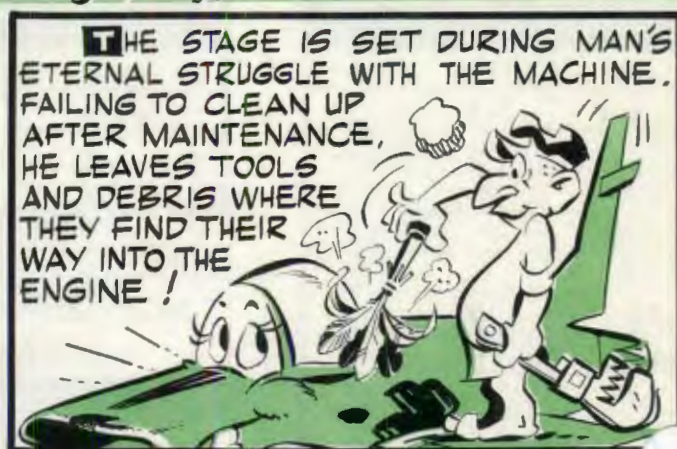
*MAJOR AND MINOR

The month of June was quite an improvement over the previous two months. Regular Forces led the list with four major accidents, two minors and one fatality. The Reserve and Air National Guard experienced one major accident each. The Guard had one fatality.

An F-105 pilot reached for the drag chute handle after touchdown but raised the gear instead. After having been recalled due to weather, the pilot of an F-100D approached the runway high and long. Mobile advised him to take it around. On the go, he entered a heavy rain shower and either lost control or became disoriented. The aircraft clipped the boundary fence and crashed about one mile from the runway. The gear on a C-119 retracted on the runway after the system shorted out due to a fire induced by one engine. An RF-84F crashed on takeoff. The report of investigation had not been received at press time. A B-26 lost both inboard pylon adapters, droptanks and fairing on a ferry flight thru moderate turbulence. Landing in a crosswind, a U-10 pilot added rudder to correct for right drift. The tailwheel costered 360° and the right gear collapsed.

Now for the minors . . . An F-100D received ricochet damage on a rocket pass and a C-123B suffered a cracked stabilizer spar recovering from an inadvertent spin. The student pilot used improper stall recovery technique and the IP waited too long to take over.

Although the rate for the month was down appreciably, the percentage of pilot and supervisory factors involved was high . . . this is an area that can be readily corrected.



FOD IS NOT LIMITED TO ENGINES. TIRES ARE ALSO VULNERABLE AND A TIRE FAILURE CAN COMPLETELY WRECK AN AIRCRAFT!