SEPTEMBER 1962

TAC ATTACK

TACTICAL AIR COMMAND

SAGA OF BLUE TWO

TAC ATTACK

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COVER PHOTO

TAC F-100 RETURNS FROM TRAINING MISSION AT LUKE AFB

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Man is not the creature of circumstances,
Circumstances are the creatures of man.
Disraeli

General Donovan on Safety

Perhaps in our quest for reduced accident rates, we tend to look upon flying safety as a conscious crusade which must always be in the forethoughts of airmen. However, I believe our greatest safety may well be associated with survival instincts, pride in profession and pride in personal achievement and mission accomplishment.

Experience has convinced me that professionally motivated pilots, operating within the framework of rigid air discipline, rarely encounter circumstances which result in an accident. They are never corralled by a tragedy of errors.

Further, alert and determined aircrews continually evaluate their flight progress to insure that potentially unsafe conditions are recognized early and averted before the situation deteriorates to a point beyond safe recovery.

Methodically aggressive and reliable pilots do not continually operate on the edge of flight limitations and restrictions, published or otherwise, in the guise of enhancing proficiency. Rather, they consider such action synonymous with courting disaster and as dangerous as a willful violation. Following the checklist accurately presents no problem because intimate knowledge of their aircraft systems has convinced them of the necessity for proper sequence. But the real mark of professionalism in these pilots is their willingness to continually evaluate their own proficiency and limitations. They realize there is no such thing as a perfect flight and are extremely critical of their every action. Thus, they avoid creeping overconfidence and recognize a deterioration in proficiency that might result in disaster.

by the Numbers

"HARDSHIP TWO ONE, Washington Center," the voice on my radio sounded clear and close by. However, I was flying the fourth F-100 in Hardship flight and it wasn't my business to answer, so I listened for my leader.

He answered almost immediately, "Washington Center this is Hardship two one, go."

"Hardship two one, request you contact Norfolk approach on three six zero decimal six at this time. If unable, return this frequency and advise."

"Roger Washington, Norfolk approach on three six zero point six."

I glanced in the cockpit and manually set three into the window, then the six, straining to read the number in that tiny damn window. I rechecked my position in formation, and found I had drifted out too far. I corrected this while trying to set in zero but had to wait until the bird was stabilized before setting in the other six. "Manual tuning," I thought, "is a real fine deal for the troops on the ground but it can certainly be a chore when you're trying to fly on instruments, or wing. Add the two together like tonight . . . No sweat up here tho, I have almost 24,000 feet to recover from any unusual position I get in . . ."

"Four, check in!" My leader's voice. He sounds irritated. Oh well, I got the frequency right.

"Hardship two four, here."

"Norfolk Approach, Hardship two one, Langley zero four."

"Roger Hardship two one, Norfolk Approach, request you squawk one one."

The leader's bird drops slightly. The rest of us follow about a half second later. He answers, "Hardship two one, squawking three, one one."

"Hardship two one, Norfolk Approach, I have positive contact seven zero miles northwest of Langley VOR. Langley weather at zero two hundred zulu was two hundred broken four hundred overcast, one and a half miles in light rain. Current altimeter, two niner, eight niner."

"Roger approach, altimeter two nine eighty nine."

"Hardship two one, do you desire radar vector with a GCA handoff?"

"Will accept radar approach, Norfolk Approach. Advise I am a flight of four and will penetrate in two elements of two. Lead element will be Hardship two one, second element will be Hardship two

three."

"Roger, understand you will penetrate as Hardship two one and Hardship two three. Hardship two one turn left to three five zero, descend to one five thousand. Report leaving two zero thousand."

Several transmissions and a few turns later number three and I were cruising toward Langley at two thousand five hundred feet some distance behind the lead element. Norfolk Approach advises, "Hardship two three I have you one four miles due west of the Langley VOR. At this time contact Langley GCA on two niner zero decimal six. If unable, return this frequency and advise."

"Ouch," I thought, here we go with another channel change . . . letsee, two, JIKES! THAT WAS CLOSE! . . . I'm sure this new frequency setup is a pleasure to the air line troops—but it's going to be the death of old Hardship two four unless someone does something . . . letsee . . . now what was that frequency??"

Our account of Hardship two four and his near collision with his leader is fictitious, but the hazard we've portrayed is very, very real. It is a hazard that existed to a certain extent under the old system, but which has quadrupled now that the present UHF Discrete Frequency Assignment Plan is in operation.

Most TAC fighter pilots are very much aware of the problem. A few have submitted hazard reports, but by and large, most have been content to live with the hazard while someone else worked to correct it.

There have been two or three solutions suggested . . . the most desirable from a pilot's standpoint, would be to assign a single discrete frequency at altitude and pass the aircraft over to GCA on that frequency. Another solution would be to assign frequencies to approach control and GCA with three of the four basic numbers identical, then the recovering pilot would only have to change one digit.

This hazard will not be easily solved. Other interests are involved, such as the Airlines and FAA. Also a solution may require considerable rearranging of frequencies. For this reason, we need the materiel to build a fire that will light up the problem so all can see it as we know it to exist.

Two or three messages and hazard reports don't make much of a fire. How about some help?

Lessons Learned

"No Lessons Learned"

BY MAJ PAUL L. SMITH 839TH AIR DIVISION

It seems like a week since we've hit the pad
But the mission's still on tho the weather is bad.
If we just keep awake for a little bit more
We'll make it home yet – if the ceilings don't lower.

It was two days ago that they sounded the gong.
We got up at two and nothing went wrong.
Landed at dawn and then went to bed;
Up at high noon, got briefed and then fed.

We took to the blue with our few hours rest,
Flew through a front, landed our best.
Then off to the sack for a long winters nap
After something to eat and a glass from the tap.

But then something happened to add to our plight
And planes thundered in for half of the night.
A weather delay made the recips land late
And kept us from sleeping – it seemed to be fate.

We woke up at five and off to the ships.
An hour delay for inspection by VIPs.
And now here we are at the end of the run.
If we get on the ground, our mission is done.

But the crew didn't get back and the reasons were clear.
They dug up the ground just a few miles from here.
The ones who were searching came back awfully grim.
The whole sorry mission was out on a limb.

The records revealed that the planning was bad,
The crew rest facilities were awfully sad.
There also was weather and the losing of sleep
That put this plane down in a fractured, burned heap.

The dollars we lost just can't ring a bell
Compared to the crew that now rests so well.
But the missions go on and the planning's the same.
'No Lessons Learned' is the name of the game.

AS AN F-100 pilot turned base in a LABS pattern his machine continued to roll. As it got on its back it started down. The stick seemed to be stuck. The pilot disengaged the yaw damper without result. Moments later the stick broke free and control returned. The pilot wasted no time heading for home. However, he paused enroute to feed in some exaggerated control movement and found that the stick locked again for a short while. He then checked control at landing speed in the landing configuration and brought the machine in from a straight in.

A seven eights by 8-32 screw, two half-inch 8-32 screws and six washers were found near the left aileron control cable in the leading edge of the wing. A couple of nuts and some safety wire were in the same area in the right wing. Marks on the left cable indicate one of the loose screws was the source of the trouble.

The tramp metal apparently was left in the leading edge during the eighth periodic. Small pieces, but no small item to a pilot. TAT reckons its easier to pick up the pieces before releasing the bird for flight than it is after someone locates 'em the hard way!

TAT raises one questioning eyebrow on this troop's successful attempt to duplicate the malfunction. On the other hand, we're with him all the way on his check for control at landing speeds with all the garbage down and on his straight in approach. Incidentally, sudden control stoppages can often be successfully handled the way some people play international politics. Give a little, then try again! We used this technique one time when the elevator jammed on our F-86. It was back in the days when we were stupid enough to try for near max performance traffic patterns and we had just pitched out and hauled back . . . rather tried to haul back on the stick. A real quick forward jab on it released the foreign object and we continued with our pattern—considerably subdued, of course.

AS THE FIGHTER pulled out of the parking area on a practice scramble the crew chief noticed that it was drooling hydraulic fluid. He got hold of maintenance control and notified them. Maintenance control rang squadron operations and told them. Operations called the control tower but by then the bird was on departure control frequency and the tower's warning on guard channel came in garbled and on top of a departure control transmission—by the time they came thru clear he was airborne! The flight control system failed before he could get back home. Fortunately the the ejection came out better than the warning attempt.

Obviously, this was one hell of a time to follow channels. Apparently neither the crew chief or

maintenance control knew how to contact the control tower in an emergency. This is more understandable when you realize that the control tower generally has an unlisted telephone number and that most maintenance troops have little knowledge of the communications set up between operations, the control towers, etc.

Had a pilot noticed the discrepancy, or had this alert crew chief dashed into operations, they'd have called the tower direct or called base operations and had them call the tower on the squawk box . . . and a bird would have been saved.

A COUPLE of T-birders from another command found themselves surrounded by a loud silence after the bird's engine quit at night. Attempted airstarts failed to break the silence primarily because the airstart system was shorted. The pilots decided to dead stick the sick bird into a nearby airpatch but undershot, hit an approach light stanchion, and slid to a stop on fire. The aft pilot ejected (about 1000 feet too low, we'd say) and was killed. The bird was destroyed.

A flame out landing is a tricky affair at best, requiring good judgment and no little skill. Attempting one at night . . . ulp . . . well, frankly you just don't have enough reference points to judge things by and it's no wonder these troops undershot.

The report we read didn't give full details on the cause of flame out and such, but the shorted airstart wiring indicates that this critical system had not been properly checked on previous inspections and to us that borders on criminal negligence.

LATEST MEMBER of TAT's rapid reaction club is the TAC hundred herder who had everything quietly in the green until touchdown on what was supposed to have been a routine recovery. Yup, the horn started to blow, the green light for the nose gear went out, mobile spotted the gear fairing doors coming open while the tower operator called to report the nose gear starting to retract. Meanwhile the J-57 was accelerating since our new member reacted to the first warning with a jab of his good left arm.

Getting airborne he recycled the gear, got a safe indication and landed without further incident. Now maintenance experts are busily pulling their hair out trying to find out what caused the malfunction . . . everything checked out OK thru 15 cycles or more.

When they solve that one, they're welcome to give this one a whirl. According to a T-bird pilot, he checked the gear handle down by jiggling it right after getting in the cockpit and again when he went thru his check list. However, shortly after hitting the start switch, with RPM climbing thru seven percent, the horn blew, the red light came on and the nose gear folded in that order.

The landing gear handle was again checked, and was found in the up detent. The override squat switch was out of adjustment, so the handle could be raised without depressing the manual override lever and the manual override lever in the rear cockpit was so stiff it would remain in the release position if moved there . . . But . . . how did the cotton pickin' handle get up?

OLE BLUE TWO wound up the rubber bands and let go with all gages on his RF-84F apparently reading in the green. He was just one knot above his minimum speed at the line check—the hog wuz a dog. When she reached the proper speed he pulled back the stick to rotate, only to have it move easily to the full back stop.

After many long seconds the nose lifted and the bird staggered off but seemed to be sinking back to terror firma. Blue two pickled the external tanks, grabbed some altitude and looked the

situation over.

That's when he noticed that the MA shifter was stuck in the one to one ratio. The bird had a Selsyn indicator instead of a light.

An honest lad, he admitted that he failed to catch it before starting to roll... and it isn't on the pre-takeoff check list. He figured it should be and TAT agrees—that is, until his other recommendation is an actuality and all Selsyn shifter indicators are replaced with warning lights.

This is one of those systems that works so well that a pilot starts taking it for granted...then when it goes out, his surprise helps add to the danger. A Selsyn isn't flashy enough to warn of the hazard. Warning lights are, and by their very nature, don't have to be individually listed on a check list.

OVER IN THE LAND of pizzas and pretty starlets a young Lt launched an F-86H. As they say out on the cape, 'twas AOK until shortly after lift off when a flock of small birds hove into view. It looked like they'd pass clear until at the last moment when they broke directly into his flight path.

The Lt noticed an immediate loss of thrust accompanied by severe engine vibration and loud whining complaints from the engine room. He reduced power to 80% and leveled the machine. However, with the gear up and flaps retracting, airspeed dropped from 170 to 150 knots. The Lt stopped the flaps at the half way point and shoved the throttle up to 90%. The unit vibrated too much, so he brought power back to 85% where he could just hold 250 feet and 150 knots.

He decided not to jettison tanks due to numerous houses in the vicinity and gingerly brought the aircraft around the air patch. He dropped the gear on final after the landing was assured.

Whew! He made out quite a bit better than the birds. They left their marks all over the underside and leading edge of the wing, while the birds themselves were wrapped around the wheels, gear doors, plastered in the wheel wells and onto all protrusions. Quite a few went up the engine intake. Over a hundred were left on the runway.

Incidentally, this troop came out a winner because he analyzed the situation, used his head and played his cards well. You won't find his procedures in the handbook, but can you quarrel with 'em?

"TAT," THE SHARP young captain said, "I think the one thing that loses troops more points on Stand Eval rides is trying to rush things. They'll get station passage on an enroute checkpoint, start a turn and begin transmitting all at the same time. Nine times out of ten, they'll make an error in addition, garble up their transmission or wander a few hundred feet off their altitude. The professional does one thing at a time, at his convenience. He makes his transmission maybe one or two minutes after crossing a fix . . . but he has his ETA correct and knows what he wants to say before he keys the mike."

There you be, and this captain oughta know, he gives the check rides.

IT WAS A COLD bitter morning on the wrong end of the world. Daylight was a good two hours away and it was time to get the mission rolling. The aircraft commander took one glance at the sleek aluminum machine gracefully poised on the icy ramp and turned to the pilot and airman who formed the rest of his crew. "I'll check weather and file our clearance while you preflight the old SOB," he said as he turned and strode toward the weather office.

Thirty minutes later the pilot and the engineer were crawling out of the burning wreckage of their

once proud machine unable to rescue the co-pilot.

What happened? Was it a control system failure? Dirt in a hydraulic actuator, or some similar malfunction?

Hardly. True, immediately after lift off, at about 50 feet, aileron control became ineffective and the pilot elected to abort. He retarded throttle and let the aircraft return to the runway. But, the trouble wasn't due to an aileron actuator malfunction, because gooney birds ain't equipped with fancy stuff like that and this was a gooney. It wasn't a busted cable either, because the system checked AOK after the smash.

The smash incidentally, was more severe than it should have been because the co-pilot, may he rest in peace, didn't like the pilot's decision to abort and he shoved the throttle forward and grabbed himself a handfull of wheel.

The gooney responded by jumping back into the air with its nose 'way high. It climbed about 150 feet before Sir Isaac's law took over. The left wing dropped, the pilot kicked it up with rudder and once again hauled off power. This time he crashed landed. Total flight time, three minutes.

"OK TAT," you say, "if it wasn't a control malfunction, what was it?"

Rather hard to believe, but it was wing icing! Both the co-pilot and crew chief noticed ice on the wing, but didn't think it was enough to cause any trouble . . . They violated the dash one and didn't have the bird deiced. Results were as indicated.

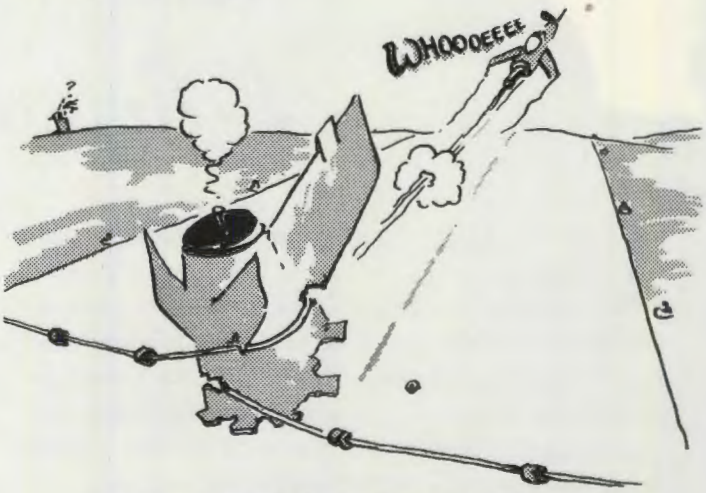
Back in the good old days TAT made his try to fly with an iced bird. Sure we'd heard all the talk about how a little ice could cause big trouble . . . but it was such a small amount we were certain the others had been referring to larger accumulations.

The air pasture was big and long and the abort was most successful. Best, we became a believer and have remained one ever since. Don't you try learning the hard way, too!

AN F-100 WENT straight in at an estimated 300 to 350 knots after both pilots ejected too low to survive. The board gave the engine a great deal of attention, and sent the fuel control for TDR altho RPM was estimated to be 80 - 85% on impact. The utility hydraulic pump checked O.K., according to the board, also fuel system, oxygen system, both generators and throttle linkage. After this warm up they got into a really pertinent area and checked out control linkages, actuators and control system hydraulic pumps. TAT couldn't help wonder why they wasted the AMA's time with the fuel control instead of putting them to work on the hydraulic actuators.

Almost every accident can be narrowed into certain possibilities just by using a little common sense and doing a little deducting from readily available facts. In this investigation the speed and attitude at impact almost ruled out power loss as a factor. A cursory look at the engine completely ruled it out. After it did, why check throttle linkage, fuel plumbing and such? Instead, spend this time on the more fertile area of possible control problems.

Who knows, the extra effort might have uncovered a flaw.



A STATESIDE birdman left part of his machine behind during a formation take-off. Seems his gallant leader lined up behind the BAK-6. On the roll, the leader's bird caused the barrier cable to flip and it caught his unlucky wingman's gear fairing door and ripped it off. There is a rather obvious cure for this sort of thing, TAT recommends you use it . . . and in this particular case, the devil with that old saw about runway behind you.

—TAT—

2 in 10

....A Reference for Winter

LOCAL TIME, 1530 hours on a winter day. The place, an airbase in the midwest. Snow covered the ground. The sky was overcast, visibility was six miles. A T-33 was turning base leg for landing on runway 35. At 1531, the T-33 was sliding to a halt, its nose gear sheared after the pilot had misjudged his approach and hit a snow bank just short of the threshold.

At 1541 hours on the same base, the same day, an F-100 slid to a halt on runway 31 with nose gear sheared and nose section buckled. The pilot had misjudged his approach and touched down short. Two identical accidents in just over ten minutes!

There was a time when both accidents would have been attributed to operator technique. In fact, if only one bird had been bashed the chances are that this is exactly how it would have been classified. However, with two pilots committing the same error, it doesn't take much analyzing to decide that other factors existed.

The snow. It destroyed clues a pilot normally uses to obtain distance and altitude information during landing. But the effect of snow on judgment isn't new. It has been encountered before and is readily counteracted with a little dye marker or a few evergreens or frangible markers stuck in strategic places. This, then, brings a third factor into focus. Supervision. One of the primary responsibilities of a supervisor is the responsibility to use his experience for searching out potential hazards and taking all practical corrective measures.

Considering the normal delay in obtaining supplies, now is the time to get ready for this year's snow season. We questioned the safety people at ADC knowing that their people had accumulated much first hand knowledge at their

northern air bases. They in turn had borrowed procedures from the Alaskan Air Command.

Here then, is the word from the experts. To offset the effect of snow, you will need to mark the runway threshold, indicate the runway centerline and provide a reference for altitude judgment.

Marking can be done with an alcohol, water and dye mixture. Sea marker is NOT effective as it doesn't show up very well. Instead, the experts recommend Fluorescent Special Dye Marker "C," pylon, air class 24, stock number 8500-NL. On snow, this comes out a purple hue that shows up quite well even tho it doesn't look very military.

Don't get stingy with the stuff. A pilot coming down final will be looking at your efforts from a flat angle. The threshold should be marked by two stripes about four feet wide a short distance apart sprayed on top of the snow across the approach end of the runway. Another 4-foot wide stripe crossing the runway at the 1000-foot point will serve as a touchdown target.

The centerline stripe needs to be about three feet wide and should you care to go first class, you can mark off the runway edges with stripes of green dye. (That's what the ADC people told us!)

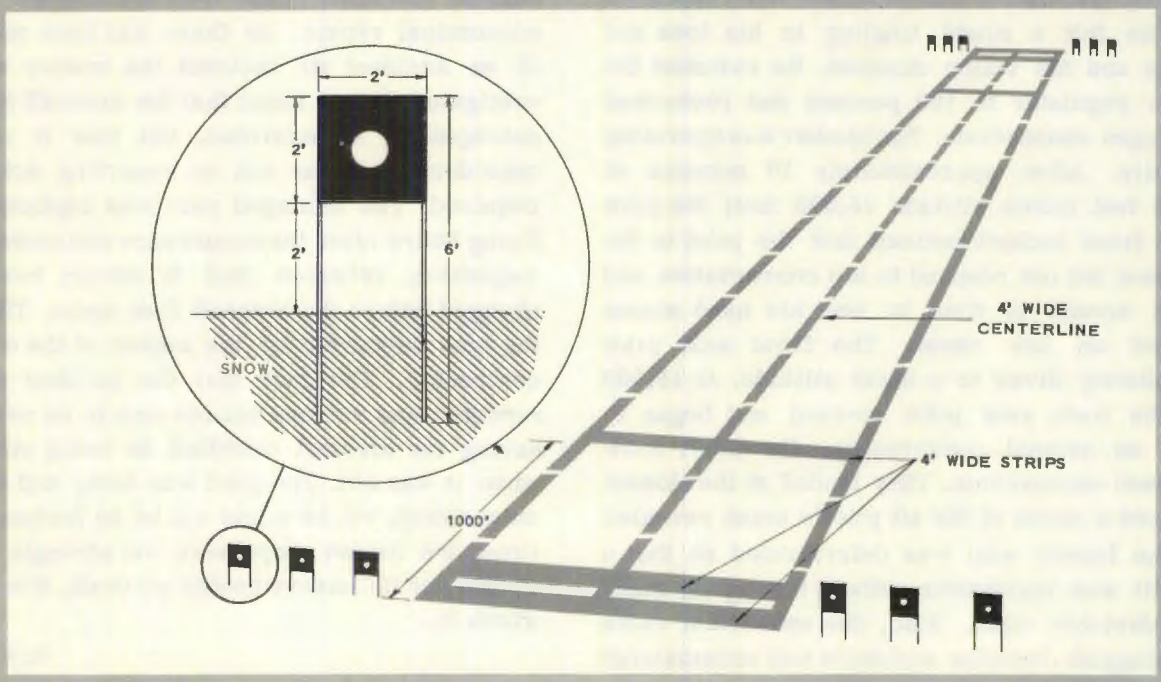
Frangible markers are needed to provide something tangible for depth perception. They are the most important assist, and the easiest to provide. They can be made from square pieces of black cotton cloth about two feet by two feet, tacked to two light bamboo poles or one by two sticks. These should be about six feet long. Cut a hole in the cloth to reduce its wind resistance. These markers can be kept rolled up and stored any place that's convenient.

After the snow comes, place three or four on each side of the runway going straight out from the runway threshold.

The bottom edge of the cloth should be about two feet above the snow. Incidentally, these markers will indicate the runway threshold even tho new snow covers the dye marker.

Altho the material for this snow marking system is readily obtained, and easily put to use, the people here at headquarters TAC plan on having ASD standardize and publish detailed instructions and stock lists.

Meanwhile, unless you live in a land that knows no snow, best start assembling material and briefing your people so you can avoid having one accident, let alone two in ten.



TAC TIPS

LIMITATIONS

All pilots should be advised not to tempt fate with human and machine limitations in order to set records, evoke awe or satisfy personal needs and desires.

The borders of these limitations are so undefined, according to the Navy's Approach magazine, that any pilot who skirts them can only be a part-time winner at best. No pilot is able to repeatedly stress the human body and machines to their limits without sometimes exceeding these limits and coming back a loser or not coming back at all.

UNCOMFORTABLE CONDITION

As a T-33 was climbing thru 25,000 feet, the pilot in the back seat loosened his oxygen mask one notch because it was uncomfortable. Moments later he felt a slight tingling in his toes and fingers and his vision dimmed. He switched the oxygen regulator to 100 percent and rechecked his oxygen connections. The blinker was operating normally. After approximately 10 minutes at 35,000 feet (cabin altitude 25,000 feet) the pilot in the front cockpit noticed that the pilot in the back seat did not respond to his conversation and turned around in time to see his head slump forward on his chest. The front seat pilot immediately dived to a lower altitude. At 15,000 feet the back seat pilot revived and began to carry on normal conversation. He didn't know he'd been unconscious. They landed at the closest base and a check of the aft pilot's mask revealed that the facelet seal was deteriorated so that a good fit was impossible without having the mask uncomfortably tight. Also, the exhalation valve was sluggish because moisture had accumulated around it.

After armchairing this bit we wonder why this troop, who apparently has been around aircraft for some time, hadn't noticed these discrepancies in his equipment and had them fixed. He normally flies century aircraft with a 5 psi differential (the T-bird has only a 2.75 psi differential), otherwise he would have passed out (or on?) earlier. It's also fairly obvious that the PE Section could have placed a little more emphasis on the care and condition of oxygen masks. But of course, this is a rare case and an exception to the rule . . . or is it?

Airscoop

LUCKY BREAK

During overhaul, a contractor reported that a certain aircraft part was damaged beyond economical repair. As there had been no report of an accident or incident the matter was investigated. It was found that the aircraft had been damaged on an exercise, but that it was not considered serious and no reporting action was required. The damaged part was replaced a few flying hours after the occurrence and a subsequent inspection revealed that it should have been changed before the aircraft flew again. This finding was supported by the report of the overhaul contractor. The fact that the incident was not reported was serious but not nearly as serious as having the aircraft certified as being airworthy when it was not. The pilot was lucky and escaped an accident, but he might not be so fortunate next time. We cannot emphasize too strongly that we should not fly unserviceable aircraft, it's just not worth it.

RCN Waveoff

SAFETY MANAGEMENT

Records show us that the majority of our accidents are the direct result of unsafe work practices.

To control this trend, we spend time and money to educate our people. We provide them with safety films, posters and other training aids. In spite of this effort, these people measure top management's interest in accident prevention by their own standards.

One of these standards is how promptly unsafe equipment or hazardous conditions are corrected. The attitude being that if management is not interested in providing a safe place to work, they can't be very interested in safety.

There is still another standard, one with more deep-rooted impressions, used by these people, one induced by how their supervisor reacts to the accident prevention program. Does he follow the safety rules when the pressure is on, or does he just pay lip service to satisfy the requirements of the boss?

These days everybody has a test to give the supervisor. Why not just one more? Only this time, the supervisor can test himself by answering:

* Have I ever tried to buy a few minutes with short-cuts, only to find that I paid for them with days of lost time?

* Have I ever hurried my men into taking chances?

* Have I ignored or tolerated infractions of safety rules because I was too busy, or because I clung to the hope that nothing would happen this time?

* Have I ever given my men the impression that I regard safety as a nuisance?

If he can honestly answer "no" to all of the above questions, he is indeed an asset to the safety program. How do YOU stand?

—National Safety Council

ACCIDENT FREE FEE?

Although good safety records and good maintenance go hand-in-hand, Commanding Officers often have a moral choice of having their aircraft in the safest possible condition or of showing a good paper safety record. Common sense tells us that there is only one choice, yet some organizations try to avoid reporting accidents by using questionable maintenance procedures to keep serious mishaps out of the accident category. We aren't trying to increase the number of accidents reported, we've got enough of them now, but we are pushing the best possible operations and maintenance procedures.

LIQUID LOCK

Coffee is a reasonably good conductor of electricity and it's amazing how much damage a little of it spilled in the wrong place can do, provided one of those wrong places is in the cockpit of a modern aircraft. Therefore, if you fly in a machine big enough to enjoy this service, follow this rule. Serve liquids to the cockpit in paper cups no more than half full. If you want more you can get another cup; again, half full. Fighter pilots can enjoy full cups—at the snack bar.

STANDARD RULE

Flying personnel should not take medicine in any form without the flight surgeon's approval. Simple remedies obtainable without prescription, such as aspirin, antihistamines, cold tablets, cough medicine, laxatives, tranquilizers and the like may seriously impair the fine coordination and concentration required in flight. A standard rule for flying personnel should be: Take no pills or medicine unless they have been prescribed or approved by the flight surgeon.

BONUS BOX

A small survival kit has been designed to be installed on individual parachutes. The kit contains matches, fish hooks, line, fire starters, a small knife, needles, safety pins, band-aids, a water bag and a compass. The kit will be attached to the parachute and you won't be able to get at it until the chute is open. If you eject you'd want to do that anyway. Most personal equipment sections have ordered the kits and some units already have them installed.

BREAK A DATE WITH FATE

Once again we urge you to give yourself a fair chance when you have an inflight emergency. You can do this by immediately informing traffic control agencies of your difficulties so that they can take action to provide safer and more efficient control of other traffic. They can also alert the base crash rescue facilities so that they will be better prepared to handle the emergency when you do land. It is not always possible to give adequate advance notice, particularly if the emergency does not occur until you are in the traffic pattern. However, whenever possible declare your emergency when you make initial contact.

DOUBLE DATE

Two men in a one man life raft is not only possible, but useful when another person has to be picked up according to AFLC. If you are seated in a one man life raft, use the following procedure to pick-up an individual:

Paddle the foot end of your raft in position behind the person you are picking up.

With your knees bent, edge forward till both feet are set firmly in the foot end of the raft.

Remaining seated, lean forward until you can grasp the individual by his shoulder harness or under his arm pits.

Maintaining a firm grip, lean back and straighten your legs. The person picked up in this manner will slide over the foot end of the raft and end up lying in your lap with his head resting on your chest—with very little effort on your part.

NO MOD WITHOUT THE NOD

Regarding requests for more information about Colonel Holt's helmet spot light reported in TAC TIPS of the August TAC ATTACK. This modification has not been blessed by ASD or the USAF Surgeon and until it has been approved helmets should not be modified.

POSITIVE APPROACH

The most important duty of a Flight Safety Officer is to design and institute an efficient aircraft accident prevention program. To be effective, this program must prevent the first accident caused by a hazardous condition rather than preventing the second one. In other words, trouble areas must be anticipated. More important, once a potential hazard is recognized, positive command action must be taken to eliminate it. Accidents should never be accepted as an inevitable occurrences since a positive attitude coupled with the aggressive elimination of weaknesses, hazardous practices, inadequate training and poor supervision will certainly prevent them.

CROSSWIND TAKEOFFS

Avast you landlubbers! Now that the Air Force has adopted the F-4-H, we should investigate some take-off techniques our naval brethren have used while bouncing off the ends of their little boats.

Wing spoilers aid enormously in rate of roll, effectiveness of control and in lessening adverse yaw. But, using them on a crosswind take-off only helps you get further aligned into the wind. This was definitely brought home to an F-105 troop recently. He used 9000 feet of a 7900-foot runway attempting to correct for a crosswind with aileron and spoilers. Those big things standing up in the breeze will only aggravate the situation. The added drag will tend to weather-vane the aircraft even further.

Remember, use brake and rudder (F-105) and nose wheel steering (F-110) for directional control on a crosswind take-off. Leave the cotton picking ailerons alone!

FROZEN DILEMMA

"I HAD HEARD that the T-bird static ports would ice up, but really hadn't given it much thought until today." The muscular dark haired captain sipped from his freshly filled cup of coffee. "Funny, they weren't forecasting freezing rain . . . in fact, before I left the fix they gave me current weather as 2000 and four.

"We were in it solid all the way down and picked up the usual ice on the windscreen. Nothing serious . . ." He paused to drink some more coffee. "GCA picked us up and cleared us to 2500. We leveled at that altitude and at 190 knots, picked up the boards. We were getting more ice and I decided we would be better off under the clouds. I asked GCA if they could drop us down a bit. They said they could, and cleared us to 1500. At 1500 we were still in the soup and still picking up ice. GCA told us to descend to 1000 and since I had the gear down by then, I eased the stick forward and reduced power but got no indication of a descent. Nothing changed. Airspeed was steady on about 170 and the altimeter was on 1500!"

"I knew I was below 1500, but how far below? Even if I'd been expecting this to happen it would've been a shock.

"I increased power to 85% to halt the descent and the airspeed jumped to 200 knots. I used the attitude indicator to establish a climb . . . at least I hoped it would be a climb."

The Capt sat on the edge of his desk and finished off his coffee before continuing. "Right then I started breaking out under the stuff so let down further. We were just barely contact, but the closer we got to the field the better the weather. It wasn't long before the airspeed returned to normal and the altimeter came down to 700 feet. From there on, it was a normal approach. Strictly, no sweat.

"Really, thinking back, we didn't have too much of a problem. We had plenty of fuel and our alternate was quite good. I could've climbed back up and gone to my alternate . . . which is what I was starting to do about the time I broke out."

"You know, there's a warning in the dash-one in Section IX under 'ice and rain' which cautions about the possibility of pitot system icing . . . but it doesn't tell what to do. I'd say the best procedure would be to fly power settings and attitude and continue the approach if ceiling was a thousand feet or higher. If lower than that I'd go for my alternate . . . again using the attitude indicator and power settings. If in a corner I guess I'd finally break the glass on the altimeter and dump cabin pressure. The altimeter would be off and so would the airspeed . . . but given a little time and some help from GCA or ILS I know that I could determine my altitude. The airspeed, I'd want high, figuring the ice would increase stall speed and that taking the barrier would be justified under the circumstances."

He grinned and scratched his head. "You know, it wouldn't be a picnic, but by having a plan of action ready in advance and by staying cool, I think you could hack it. Were it to happen again, I'd read GCA in on my trouble early. That way they could get set up and be ready to give me altitude info before I reached a normal approach distance . . . that would be better than making a completely blind let down.

Sag

THE DAY STARTED pretty much the same as any other day, with a general briefing for all pilots at 0615. Outside, the temperature was in the low forties and high broken clouds promised little additional warmth from the late rising winter sun.

Shortly after the morning briefing two pilots started planning a flight. The younger of the two, a first lieutenant, wore an Air Force summer flight jacket over a summer flying suit. He was of average height, compact and solidly built, altho you would hardly notice this at a casual glance. He seemed to be observing the other, who was doing the actual flight planning. This pilot was similarly dressed except for major's leaves on jacket and cap.

No, this was not a junior officer being shown the finer points of the trade . . . It was a wing staff officer sweating thru a stan eval check.

It was almost noon when the major sighed heavily, clipped the hard wrought form 21a to his knee board, turned to the lieutenant and said, "Let's saddle up."

At 1326 the major and the lieutenant arrived in the target area for the weapons delivery portion of their mission. After completing LABS runs without incident they approached downwind for a skip bomb run. Here, the lieutenant noticed the needle

a of Blue Two

This is the story of an emergency that was handled too casually . . . a rescue that was too late . . . and a pilot's fight for survival. It is a story with a happy ending—only because the pilot involved believed in keeping himself physically fit, was an excellent swimmer and had a strong will to live.

on his fuel quantity gage swinging rapidly toward zero. He checked the forward tank. It read 1600 pounds. Everything else seemed normal, still . . . "Blue leader, my total fuel quantity gage indicates zero."

"Roger, let's rendezvous at the initial IP point."

The two pilots maneuvered into formation. The lieutenant started a slight climb and carrying about 87% power, continued to check instruments looking for another indication of trouble. It wasn't long in coming. Oil pressure dropped to 20 psi. He turned toward the nearest airfield and pressed the mike switch. "My oil pressure is at 20 psi, I have the lead and am heading for Virginia City Air Base."

"Roger Blue two, reduce power to 85%."

The lieutenant had already made the reduction. He switched inverters and cycled the power inverter switch. The oil pressure needle spun several times and came to rest at 44 psi. Fuel quantity reading settled on 4400 pounds. He advanced power to 90%, started a gradual climb and radioed, "I believe the electrical system is out."

"Try the number two inverter."

"Roger, that doesn't work either."

"Try the emergency tie-in."

"Roger." The lieutenant acknowledged altho he had already tried that, which was the reason he suspected the electrical system.

His analysis was correct but incomplete. The gage malfunctions apparently were being induced by a heat and vent leak directing hot air onto wiring bundles that contained wires leading to the oil gage and fuel quantity gage.

A moment or two later, the lieutenant noticed the oil pressure jump from around 44 to 60 psi. At the same time the major noticed a wisp of smoke trailing from the lieutenant's aircraft. The smoke increased, becoming dense and white. He radioed, "Blue two, old buddy you're on fire, eject!"

The lieutenant retarded the throttle and twisted around to look behind. White smoke was coming from beside the fuselage and he suddenly realized that the cockpit was quite hot. He looked back at the gages. Blue smoke made them hazy, but he could see that both oil pressure and fuel quantity were moving again . . . he heard the major

repeat his call, pulled back on the stick and reached for the ejection handles.

The neoprene utility hydraulic line goes thru the compartment where investigators believe the leak occurred (near 16th stage air extraction point). The smoke reported by both the major and the lieutenant was believed to have been from fluid escaping from this line after it burned thru. Following the accident, all aircraft in the wing were run up and checked for heat and vent leaks. Eleven were found with leaks of varying degrees. As TAT would say, "this check was precisely one accident too late."

The major saw the canopy go then looked down to see if they were flying over land or water. Land, good. He looked back at the lieutenant's aircraft, it started down. He followed it from about 8000 feet to 2500 feet before he realized that the lieutenant had already ejected. He turned back to see if he could find the parachute, switched to guard and made three transmissions but received no response from anyone. He switched his IFF to mode 3, 77 and manually selecting the frequency, contacted Virginia City approach control.

Squawking mode 3 code 77 is correct but incomplete. The major should have gone to emergency squawk as well. All stations paint this, while only air defense stations paint 3, 77.

He told them that his wingman had bailed out and that he was trying to locate the chute. After searching without success for about 25 minutes, he proceeded home.

Start of the search was further delayed because the initial contact was made with approach control and the major wasn't sure whether or not the lieutenant had ejected successfully. Also, it was some time before they realized that they were carrying the ball and got around to passing the necessary information to the search and rescue units. To avoid this, be specific when you transmit an emergency message. Had the major said, "Virginia City approach control, my wingman has either crashed or ejected! Request you alert rescue while I circle the area and attempt to locate his chute." This particular search would have started 15 minutes earlier!

Rescue people took over from there . . . but the lieutenant bailed out about 50 miles from Virginia City Air Base—50 miles is over 30 minutes drive by fast helicopter.

When the lieutenant ejected he rather expected a helicopter to arrive soon . . . and one would have if either he or the major had alerted the rescue people earlier. By tradition, the major flying as an escort to the aircraft in distress, should have initiated this call even tho the emergency didn't appear too severe at first. We dwell on this because it is one of the most common failings pilots have when they deal with rescue. They seem ashamed to admit that they are in trouble—even tho the trouble is not of their own making. Perhaps they are afraid someone will accuse them of crying "wolf" should the malfunction prove to be minor.

The canopy made a loud noise when it jettisoned and the lieutenant immediately positioned himself and triggered off the seat. He felt it shove him upward and the familiar cockpit suddenly disappeared. Very shortly he was jarred roughly by the opening chute and had to tip his helmet back in order to see again.

He looked up at the chute and found it good. For a long time he didn't seem to be descending and whiled away the time looking around. Directly below he could see a small town, canals and crossed highways. He noticed a lake just south of town and could see that he was drifting toward the lake. Water! He reached down and pulled the survival kit lanyard. It didn't move. He used both hands. The lanyard came off in his hand but the kit pack didn't open. He kicked downward on the pack itself and finally the dinghy broke loose, and dropped, inflated about ten feet below his feet. The survival

kit itself didn't separate. He kicked it again but it remained solidly in place.

At about 3000 feet he could tell that he would drift into the lake and inflated both sides of his life preserver and cautiously released the guard on the riser quick disconnect. He then tried to slip the chute, but couldn't tell whether or not he was successful.

A truck driver stopped on the highway, got out and stood by the front fender of his vehicle apparently watching the lieutenant as he dangled under his chute.

The lieutenant waved to him and shouted, but couldn't tell if the truck driver understood his plight. He looked down at the lake again and saw white caps. Then he hit. The force of the landing surprised him, but not as much as the water temperature. It was bitter cold and seemed to squeeze the very breath from him. He surfaced and actuated the quick release but the chute continued to pull him thru the rough water at a terrific clip.

He had to fight for air and was already shivering violently. He remembered the knife stowed on the right hand riser and fumbled for it. He couldn't find it.

"This won't do!" He thought, "Must climb the riser." He put his thoughts into action and after a struggle, got the chute collapsed. He released the risers and the chute immediately reinflated. By now, the lieutenant's hands were completely numb and he was tiring. Doggedly he reclimbed the risers, then threw himself bodily onto the offending canopy in order to sink it. It worked, but he now faced another hazard. He was tangled in the shroud lines. As he studied this trap, a helicopter flew directly over him at about 500 feet . . . much to his dismay the chopper continued on. "Still," the lieutenant thought, "they must be searching for me."

It is almost impossible to truly appreciate the difficulty the lieutenant was having, particularly if you have never been doused into bitter cold water—between 35 and 38 degrees, being whipped into three-foot white capped waves. Normal survival times under these conditions are absurdly short. But, not only was the lieutenant in good physical condition, he was a strong enough swimmer to qualify as a life guard and had held summer jobs in that position.

With hope for an early rescue he reached for a hunting knife he kept in this left G-suit pocket attached to his gear by a two-foot length of rawhide. It was in place.

This is one more case where a good knife with a fixed blade helped an airmen extract himself from a dangerous situation.

Using it, he chopped and hacked his way out of the offending risers, trying with all speed to get clear of the chute and into the raft. He had trouble boarding the raft because of the survival kit which was still attached to the chute harness and his helmet which had fallen off but was being held to the harness by the oxygen mask and hose. Somehow, after much struggling, he made it.

Once in the dinghy, with the survival kit on top, the lieutenant attempted to release the kit from the chute harness by the snap fasteners. But by then, all strength was gone from his fingers. He abandoned the attempt and looked the situation over. The submerged chute was still attached to the harness and acted as a sea anchor. He considered this and decided not to do anything about it since he was certain the truck driver had seen him and believed a boat

would soon be looking for him. "Better to stay put than drift," he thought.

The lieutenant couldn't open the survival pack because it malfunctioned. This is a critical condition and difficult to guard against. Survival equipment must be made reliable enough to work correctly in all climates and all conditions. Too often slide fastners that work easily on dry land become impossible to open after they are wet. We can help find these danger spots by using the equipment under less than ideal conditions during training sessions. All malfunctions, even apparently minor ones, should be conscientiously reported. As you can see, cold rough water can turn a minor irritant into a major catastrophe. For example, the lieutenant had no signal equipment because he couldn't get into the survival pack.

He looked at his watch. It was fogged up, but running. As near as he could tell it read 1400 hours. He had ejected at 1340.

The dinghy was filled with icy water. He tried bailing it out with his helmet only to have more pour in from the heavy waves. Aircraft flew over, but all were too high to see him. He waved the dinghy cover at them even tho it was about all he could do. Earlier he had tried to attach it to the raft to keep out the water, but his hands were far too cold to manipulate the fasteners, all he could do was clamp it between his wrists, and use his teeth to hold the rest of it.

After waiting and shivering about two hours, as near as he could tell from his watch, the lieutenant decided that if he was to be rescued he'd have to do it himself. Darkness was rapidly approaching. His feet were long since numb, and the constant shivering had sapped much of his strength. He seriously doubted if he could live thru the night. That left two courses of action. Cut loose and drift for the far shore, or swim back toward the highway just out of sight.

He decided on the highway since the traffic would mean help, which he knew he would need.

He cut himself loose from the chute and jumped in, angling into the waves. Holding to the raft with one arm, he swam with the other until tired, then changed sides. He continually ran into submerged tree stumps and trees sticking up from the bottom. He pushed off from these, gaining a few precious feet each time.

After what seemed an eternity he reached shallow water where he could touch bottom thru about two feet of muck. He continued working his way toward shore until certain that he would be able to wade instead of swim, then let the dinghy out about fifteen feet and held the lanyard with his teeth. Stumbling and struggling he walked about a mile and a half by his estimate . . . until he could see the highway. He remembered falling several times, also the larger waves would break over his head causing him to lose ground.

Each time he fell, he almost gave up but somehow forced himself to regain his footing and press on. As he got closer to shore, traffic started to halt on the highway and any minute he expected someone to come to his aid.

No one did. This rescue was strictly a do it yourself project. He released the dinghy after it finally dawned on him that it was holding him back. Relieved of this burden he finished his struggle to shore and the patiently waiting "rescuers." It was 1610, almost two and a half hours after he had ejected.

A good community relations project conducted by the Flight Safety Officer would have been helpful here. Many safety officers have well coordinated post accident plans into which they have integrated surrounding communities. For example, they make frequent radio and TV appearances and use other publicity media to educate the civilian population, showing them how they can assist after an aircraft accident. If all safety officers did this, almost every square foot of this country would be covered.

The lieutenant vaguely remembers a wild ride to a hospital in the back of a station wagon, but doesn't know how long it took. An hour and a half after being taken to the emergency room he quit shivering enough for the doc to get a thermometer in his mouth without breaking it. He was alert enough to recall that his body temperature was 96.

A tub of warm water followed, and he soon rebounded back to his normal healthy self . . . living testimony that it pays to stay in good condition.

THE 4450th STAND/EVAL GROUP was reorganized on the first of July and by now all the people are in place and working. As you recall Stand/Eval originally consisted of a group with headquarters at Langley AFB and two squadrons, one at Shaw AFB and the other at Waco. Under the new system, the two squadrons have been incorporated into the Group and the personnel moved to Langley.

The primary reason for the reorganization is because the 4450th SEG is now responsible for establishing operating procedures, techniques and tactics for all weapons systems in TAC, USAFE and PACAF. This should do much to increase the effectiveness of all three commands, and at the same time make it simpler to transfer aircrews or units back and forth within the commands.

In addition to establishing the standing operating procedures, techniques, and tactics, the 4450th SEG will also evaluate the effectiveness of these procedures and measure the degree of professional competence possessed by assigned aircrews of all three commands. Personnel of the 4450th will know just how well any unit or command can accomplish its EWO or corollary mission.

If all that seems to be quite a task, look further at the nuts and bolts of such a program. TAC's SEG must develop and amend the dash ones on each aircraft and at the same time establish all aircrew operating and procedures manuals, standardization manuals, along with forms and examinations. Another major function is conducting a Tri-command Standardization/Evaluation School. This will be at Langley AFB and is designed to teach flight evaluators from subordinate units, USAFE, and PACAF, the philosophy and mechanics of the standardization program. The statistical and analysis branch of the 4450th will collect, reduce, compute and analyze flight check data for all three commands.

This broad range of activities is handled by 89 rated officers and 41 airmen. They include specialists in each of TAC's assigned tactical and support aircraft.

Organizational breakdown of the 4450th includes a Command Section headed by Colonel T.D. Robertson, a Jet Division with fighter and reconnaissance branches, a Conventional Division, including tanker, troop carrier, twin engine tactical and support, and C-119 Evaluation branches. The jet and conventional divisions are primarily responsible for actual aircrew evaluation in the field. Flight handbooks, manuals, forms and related matters are processed by the standardization division while the tactical air command standardization/evaluation school is administered by the academic and presentations branch. An Operations Division controls Plans and Programs, Statistics and Analysis, and Administration.

TAC's policy calls for increased assignment stability among Stand/Eval personnel. This is producing a highly professional group of flight evaluators and Stand/Eval program administrators within the 4450th SEG.

The program designed and implemented by this relatively small unit is already paying large dividends by increasing the overall effectiveness of TAC and should provide equal benefits for USAFE and PACAF.

The oldtimers say: The discretion and judgment you use before you meet with trouble will provide the loophole for escape.

Letters to the Editor

Dear TAT

Being in a Century Series Tank Ferrying Squadron, I read TAC ATTACK from cover to cover every month, and you've finally done it. You published a letter in the August Issue from good old "No Gee's" Beach, and I'm compelled to answer.

The ability to fly an aircraft, expertly, to the limits of its designed performance envelope does not come automatically. Constant practice at high "G" maneuvering is the best life insurance a fighter pilot, and his country, have. Although there is no requirement to pull 6.5 G's on a 60-3 check, it is refreshing to find there are still pilots who spend a little time on every mission flying the aircraft at max performance.

ELWOOD Q. SOCKROLLER

Dear Elwood

We concur that you have to approach an aircraft's limits in order to learn what it can do . . . HOWEVER . . . No Gee's was speaking of a T-bird... a considerably different breed of cat than that overweight bomber you're flying. With the hundred you can wrack up seven with a flick of your wrist on a normal recovery from a dive bomb pass, but with the T, you have to WORK to get over 5-1/2. Pulling 6-1/2 on a T while practicing instruments seems ridiculous to us . . . not because we're getting old, but because the darned airplanes are! Incidentally, having been in a few tights, we concur with Col Johnson's comment in the angle of attack in that same issue. In essence he says you should know the bird and its limits but not continually practice right up to those limits . . .you can always get max from the bird when the chips are down.

TAT

Trip to Eternity

The road was straight, dry and in good condition, traffic was light since it was still fairly early in the morning. A small four-door sedan headed west, veered gradually over the center stripe, crossed the oncoming lane and went onto the far shoulder. The driver, one of TAC's Staff Sergeants woke up just in time to find his machine hurtle over the east wing wall of a small bridge. With his machine completely airborne, all he could do was watch it hurl itself into the far wall of the bridge.

At the time of the accident, the Sergeant had been on leave 23 hours and 20 minutes... BUT HE HAD SIGNED OUT 1300 MILES AWAY! Is it any wonder he fell asleep at the wheel?

The car was equipped with four seat belts, yet, neither the Sergeant, his wife nor their three children were wearing them. The Sergeant's wife and their children ended up in the hospital, the Sergeant in the morgue. Don't follow his example . . . Uncle Sam needs you now, more than ever before.

THE GOLD OAK leaves were bright, shiny, obviously new and the Old Sarge noticed them as soon as their owner walked into the office. "Congratulations MAJOR Lewis, Sir." He said, getting up to shake hands. As he did, Lt Green jumped to his feet and stood at rigid attention.

"At ease, at ease, lieutenant," Major Lewis chuckled, "Henceforth you can dispense with such formalities, at least on Sundays. Here, have a cigar."

"Yes sir! Thank you, sir," Green replied accepting the cigar. Altho it was licorice, he snuffed it speculatively. "Are these made by the people who sweep up that trash you and the Old Sarge smoke?" He asked suspiciously.

Lewis grinned, "Naw, I got 'em from that novelty shop on Grand Avenue. They're genuine Havana Salutes."

He fumbled in his pocket, producing a fresh pouch of Old Barnsmell and his stubby pipe. After filling the pipe he tossed the pouch to the Old Sarge. "Here, for you. I'll be danged if I'll give you a 15-cent cigar to cut into pipe fodder when I can get by for eight cents worth of wood shavings and horse hair."

"Thanks, I was hoping you'd remember how much I like mild tobacco. How's the new job?"

Lewis made himself comfortable in the visitor's chair and helped himself to some of the Old Sarge's matches. "Safe" he muttered while firing up, "Thanks to you maintenance people."

"I'm serious. As I see it, these birds spend 28 hours on the ground for every one they spend in the air. Your people work on 'em 63 manhours for every manhour us operators spend with 'em. For that reason your efforts have at least 40 times as much effect on our accident rate."

The Old Sarge cocked his head to one side and rubbed his lean jaw. "Not exactly." He countered, "We don't always do our part. When we don't, you or one of the other pilots is faced with an emergency. If you know your procedures, stay calm and have a little luck, it's an incident instead of an accident. We're still having an occasional incident, so you pilots are having to take an unnecessary risk."

"I can't argue with you on that. The fewer mistakes you maintenance people make, the fewer times us pilots must rely on our skill and cunning... But what I like about you guys is that you are never satisfied. You are always trying for perfection . . . and don't forget some of those incidents were caused by unexpected failure of the equipment."

The Old Sarge nodded, "Yes, but it is our business to find things before they fail. In your last flying safety meeting you mentioned an F-86 accident... the one where the wing broke where 86 wings have never broken before. I was discussing that with my cousin who's a plane captain in the Navy. He said that would never hoppen in their outfit because they take so many close look sees checking for corrosion damage." He grinned, "I told him it was because they wrecked 'em before they got old enough to fall apart, but he does have a point."

TWO BARS and a LEMON

One of these days I'm going to make that perfect flight. The old heads say it can't be done but I'm not quite convinced. They reason that flying is a complex art and deals with too many variables like wind and weather. They tell me to quit dreaming about making the perfect flight and concentrate on the business at hand.

I understand their reasoning to an extent. Our machines and equipment are quite complicated these days. They require numerous instructions for operation and care. Changes in requirements necessitate changes in procedures. I also realize that crowded airspace brings a need for rules, regulations and clearance procedures . . . otherwise there would be chaos. To keep up with all these changes is difficult to say the least. You know how it is. When you become well versed in certain procedures and then experience a couple of quick changes you're likely to have trouble sorting the new from the old, unless you make another check of the written word.

But, as a line pilot it's my job to stay on top of these things; I can get the most from the weapon entrusted to me.

The perfect flight then seems as elusive as the perfect day. Some start out wrong like a nick on the chin during the morning shave. Others may go perfectly until a toe is stubbed while crawling into the sack at night. The ARC 34 might go out

while taxiing to the runway or the landing might be somewhat less than smooth.

Let me tell you about one time when I thought I had that perfect flight in the bag.

I was scheduled as IP on an instrument training mission in the tandem model . A. Lt King was to ride the rear seat so he could practice chasing the crazy clocks. There was more than enough time for planning so to really get ahead of the game, I arranged to brief the afternoon before the flight and give a refresher briefing before take-off.

Walking to the aircraft I made a quick mental review of mission progress. I had covered everything. I'd even made sure to douse my cigarette (and field strip it) more than 50 feet from the ramp. But I was a little worried as I recalled a certain paragraph in the front of the dash one about permissible operations. It says the flight manual takes a positive approach, normally stating only what you can do, and that unusual operations or configurations are prohibited, unless specifically covered.

I had briefed on unusual attitudes . . . but by what authority could I place King in an unusual position? How unusual should the attitude be? I had always enjoyed saying "you've got it" in the last half of the second quarter of a barrel roll. That was fun, particularly if the other pilot played the game and kept his eyes closed until I gave him back control. Where was I supposed to give these maneuvers . . . in the instrument area or acrobatic area? The AF Form 8B requires grading this item but no publication specifically gives the how's and wherefore's.

But, everything isn't always in writing. I remember being thoroughly, completely and embarrassingly chewed out during a tour in the Training Command. The supervisor found out I was having my students check to make sure the fuel switch gangload bar would load all fuel switches during their warning light check. He advised me that if it wasn't in the checklist, it was absolutely not to be done. One of my students saved the day by asking special permission to fasten his seat belt before flight. That little item had been inadvertently left out of the checklist.

Oh well, nothing was going to spoil my flight. I'd use my own judgment on the unusual positions and stop expecting canned solutions for every eventuality.

At the aircraft Lt King checked the 781 and both cockpits. I made the walk-around strictly by the checklist numbers, overlooking nothing.

Engine start was normal. Lt King read the instrument checklist over the interphone as we taxied out. Everything was green-- AOK all the way and a beautiful day for a perfect flight.

Lt Williams, another pilot in the outfit, wanted to make a formation take-off, so he had been in on our briefing. He was to break off and fly a separate mission after gear and flaps were up.

Flight and engine instruments checked normal, Williams was in position and ready, so I released the brakes. Computed acceleration and take-off data were accurate and the aircraft left the ground right on schedule.

As gear and flaps retracted I settled comfortably in my seat and prepared to turn the controls over to Lt King for the climb out. Then, a short shot of adrenaline halted my creeping overconfidence.

"Salmon lead, you're trailing white smoke! I'll slide under and check it out." I recognized Lt Williams' voice.

He moved under my aircraft and said the smoke that had been coming from the drain area had ceased. This was not considered unusual. My instruments were in the green so I gave him the all clear to continue on his merry way. Nothing to sweat. Besides, what could go wrong with a flight that had been so well planned?

At about 19,000 feet I felt the beast falter slightly and then surge. Lt King automatically reduced power a bit and called, "Overtemp!"

"I have it," I said as I started a turn toward home. I glanced at the EGT in time to see it dropping through 700 degrees. Oil pressure was 45 psi and the compressor was stalling severely. I retarded the throttle further and the stalls ceased but the oil pressure dropped to zero.

Airspeed was dropping off so

I advanced the throttle while establishing a glide towards the field about 45 miles away.

There was no response from the throttle even in the full forward position so I retarded it, switched to the emergency fuel system and pushed it full forward again. Results were the same . . . RPM 65%, EGT 580 degrees, fuel flow 1200 lbs/hr. So back to the normal system and the same old panel scene. I finally had to admit that my perfect flight had turned into a bona fide emergency.

Disappointed but still dedicated I determined to handle the emergency in a perfect manner. Since the area below was unpopulated I dropped my tanks and traded excess weight for a little more gliding distance and time to act. To insure that I made no mistakes, I had Lt King read off the procedures for flameout and forced landing. Each step was methodically carried out. Because of the terrain, I arbitrarily selected 8000 as minimum ejection altitude. At 8200 I told Lt King to go and looked back just in time to see him shoot out. I followed a few seconds later. I felt no sensation during the ejection, but I did sense being forced from the seat by the butt snapper. My chute didn't open right away so I pulled the D-ring and the canopy blossomed nicely.

On the way down I removed my oxygen mask and found blood inside. Apparently, the parachute chest strap had snapped up and cut my chin.

The landing was mild. My helmet and visor saved my head and face when I rolled headlong into a thorny tree. I had a little trouble releasing my chute because my hands were like weak, man, the adrenaline was all gone! My survival kit was missing, so I had no bandage for the cut on my chin.

As I walked toward Lt King, I thought "This is a hell of a way for a perfect flight to end."

During the investigation several important items were uncovered. Investigators found that a joint in the engine oil system had come unsoldered. This starved one main bearing completely and was working on the others.

The recovered oil reservoir contained about 1/2 cup of oil and was free of foreign matter. Apparently the engine seized because of oil starvation. All of that nice, greasy, precious oil had been pumped overboard. How do you like that for being detoured by destiny?

Seriously speaking, the specialists working with the board came up with some interesting conclusions. The smoke or vapor that Lt Williams noted after take-off apparently had come from lost oil. In this type aircraft there is a change in direction of airflow in the engine compartment from take-off roll to climb speed. Initially there is a reverse airflow, then a null, then positive airflow. This transition depends on airspeed, power and aircraft attitude. It's possible that the null occurred about the time Lt Williams saw the smoke stop trailing. The oil most probably was still being lost but was trapped until positive airflow began, and then there was no one around to observe it.

Ahem, uh, ah they found a few other minor items, too. It seems that my seat belt wasn't properly fastened because the loose end of the shoulder harness wedged under the locking handle. This sabotaged the auto release. Another item, and you'll never believe this, was that I forgot to fasten my survival kit as required by step 4 of the Front Cockpit Interior Check. This was an item I'd always stressed during briefing. Also, the adjustable straps on both sides of my parachute had slipped considerably and what I thought was a perfect fit, left me with a scar on my chin. It would appear that my personal equipment check was slightly faulty. I wasn't alone. Sixteen out of 18 similar chutes checked had slipped to an abnormal position. The board recommended that the chutes be refitted to the crews and the side straps be sewn in place.

Not that it's any consolation but a few other people made mistakes too. For instance the first aid pack in Lt King's survival kit was in a container marked seasick pills.

Perhaps there is no clear cut moral to my story but I've learned for danged certain that it takes more than a pilot to make a perfect flight. It takes perfect maintenance and a perfect machine. If I keep trying, sooner or later I'll hit the jack pot.

Chock Talk

CARELESSNESS FOR AN F-84F

A hydraulic line broke in-flight and the fluid was pumped overboard. Fortunately it did not effect the flight controls and the gear could be lowered by the emergency system . . . so the pilot thought. Unfortunately the "B" nut on the nose gear emergency air line had been left disconnected by a careless mechanic and the nose gear failed to extend. Luckily only a minor accident occurred on landing.

The airplane was repaired and a one time inspection made of all emergency gear systems. Many maintenance men worked overtime because of one careless technician.

WHO ME?

There is a sign board near the entrance of an RCAF base that reads: "If you don't prevent an accident, who will?" This particular message is aimed at automobile drivers, however, it certainly applies to flying as well. We should not restrict it to pilots only in flight safety, but rather to everyone involved in the operation of aircraft . . . other aircrew, maintenance personnel and controllers. Aircraft accident prevention is everyone's business, and our part of the operation is as important as any other persons. It is only when we have all accepted this fact that we will have a truly safe and efficient organization.

F-100 DRAG CHUTES

The F-100 drag chute continues to be a problem with 40 failures reported during the month of June. But a fix may finally be on the way . . . ECP NA-F-100-564 proposes an electrically actuated system which should eliminate the most common difficulties now experienced. Four test kits have been ordered and testing is scheduled to start in January. If this system proves successful, the earliest we can expect production kits is July 1963.

In the meantime, every effort must be made to keep the present system operational.

HAWKSHAW

While accompanying the pilot on a walk-around inspection of his aircraft, the crew chief noticed a panel protruding slightly. He took it off to see why it was buckled, and discovered a bolt on the autopilot servo linkage installed upside down. It took a real mental heavyweight to force the panel on with the bolt sticking out, but the crew chief is to be commended for not accepting the panel as "just bent a little." He insisted upon removing it to see what the cause of the problem was. This is often the difference between a crew chief and a mechanic!

Nellis CQ Comments

J-65-7 ENGINE MODERNIZATION

To provide a more modern and reliable engine for TAC's F-84 aircraft, the Wright Aeronautical Division has been awarded a contract to bring the J-65-7C engine up to the new J-65-7D configuration. The contract provides for new blades in the 1st, 2d, 3d, 6th and 7th stages of the compressor; replacement of the 1st stage turbine blades with Inco 700; new center and rear main bearings; a steel compressor shaft; an improved center bearing support; a spring loaded throttle positioner and several lesser improvements. Modernization will begin in October and the first reworked engines will be available in December. The stock of spare engines will be reduced during the program to meet in work requirements.

QUALITY AT WORK

It has been said that playing a piano by ear may sound nice after a fashion, but it's not very professional. Too often maintenance personnel play by ear. Although individual judgment plays a big part in trouble-shooting, installation of components, adjustments, inspections and functional testing must be accomplished with the greatest of care and exactness. Always take the time to look up correct procedures in the T.O. Be a professional, don't play by ear.

KB-50 TEARDOWN

Hayes International Corporation has completed a nondestructive teardown of a TAC KB-50, and has reassembled the aircraft. Their engineering analysis report concerning the over-all condition of the airframe and engines was completed and distributed approximately 15 August 1962.

WHY?

After takeoff from a touch-and-go landing an aircraft assumed a nose-high attitude and stalled at about 150 feet. The pilot couldn't recover and it crashed, killing all aboard.

Investigators found that the down elevator cable was not connected. The cable eye had apparently not been reconnected properly after being disconnected during maintenance.

F-105 INTEGRITY ANALYSIS

An integrity analysis of a TAC F-105B and F-105D aircraft is now in progress. The shakedown was initiated when these aircraft reached 600 hours of operating time.

An analysis of this nature assists in determining service life potential by pinpointing equipment deficiencies in the electrical, fuel and hydraulic systems; and other problem areas such as tube chafing and wing attaching point cracking.

C-47 WING MODIFICATION

AFLC is finalizing plans for removing and modifying the wings of all TAC C-47 aircraft. New attaching angle and doublers are to be installed on the center and outer wings and internal wing structures repaired as necessary.

Aircraft scheduled for depot rework will be modified during Minimum Essential Depot Level Modification (MEDLAM). Contract field teams will complete the mod on all others.

C-130 SMOOTHER LANDINGS

During Operation Howze Board, C-130B aircraft operating off unprepared strips at Eglin and Pope had trouble with the nose strut oleo bottoming during maximum performance landings. To remedy the problem the .500 orifice in the nose strut of all aircraft participating in the operation was changed to a .300 orifice. This proved very satisfactory and plans are being made to modify all other C-130A and B aircraft with the smaller orifice.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

JULY TALLY
ACTIVE UNITS

UNIT	ACDNTS*	INCDTS
4 TFW		1
27 TFW		11
31 TFW		6
108 TFW	1	1
113 TFW		12
121 TFW		1
122 TFW		1
131 TFW		2
354 TFW		15
401 TFW		14
474 TFW	1	4
479 TFW		9
117 TRW		2
363 TRW		6
4411 CCTW		
4510 CCTW	3	34
4520 CCTW		14
64 TCW		1
314 TCW		
435 TCW		
442 TCW		
463 TCW		
464 TCW	1	1
4505 ARW	1	2
1 ACG	1	

*MAJOR & MINOR

JULY TALLY
GUARD AND RESERVE

UNIT	MAJOR	MINOR
452 TCW	1	
123 TRW		1

MAJOR ACCIDENT RATE
1 JAN – 31 JULY

TYPE	1962	1961
ALL	13.6	14.5
F-105	42.4	22.7
F-104	9.6	72.9
F-101	22.2	9.6
F-100	17.6	17.3
F-86	96.1	21.3
F-84	20.8	54.0
B-66	0	29.0
T-39	0	
T-33	5.0	4.4
KB-50	15.7	9.3
C-123	14.1	5.8
C-124	0	0
C-130	0	11.4

ACCIDENT FREE
(MAJOR & MINOR)

JET			
ACTIVE	MONTHS		ANG
31 TFW	9	44	123 TRW
401 TFW	9	12	107 TFW
CONVENTIONAL			
ACTIVE			RESERVE
4430 ATG	44	68	434 TCW
314 TCW	36	57	94 TCW

RECOGNITION

CREW CHIEF OF THE MONTH

Technical Sergeant Wilbur E. Anderson of the 4520th Combat Crew Training Wing, Nellis AFB, Nevada, has been selected as the Tactical Air Command Crew Chief of the Month for his superior performance. He consistently maintains his F-100 aircraft in a state of readiness. In May his aircraft flew 66 hours and was ready for 33 out of 34 scheduled sorties. His F-100 was the most effective in the wing for this period with a rating of 972 out of a possible 1000. Such reliability clearly reflects Sergeant Anderson's dependability, integrity and devotion to duty.

OUTSTANDING FLIGHT SAFETY OFFICER

For the excellent aircraft accident prevention program conducted in the 314th Troop Carrier Wing, Sewart AFB, Tennessee, Captain William M. Bailey, Jr., has been selected as the Tactical Air Command Outstanding Flight Safety Officer for the six months period ending 31 Jul 62.

During his assignment as Flight Safety Officer, the wing has flown over 50,000 hours without experiencing an aircraft accident. This represents more than 20,000 sorties to airlift 100,000,000 tons of cargo and 200,000 passengers.

Captain Bailey carefully monitors and reviews mission planning to insure that safety is given every consideration. He has participated as a pilot in several of the Wing's worldwide operations to determine whether additional safety practices are required.

The 314th Troop Carrier Wing received a USAF Flight Safety Award Plaque for each of the last two award periods which further attests to the effectiveness of Captain Bailey's Flight Safety Program.

MAINTENANCE MAN OF THE MONTH

For his outstanding performance as NCOIC of the Engine Support Section, 479 Tactical Fighter Wing, George Air Force Base, California, Technical Sergeant James W. Prines has been selected as the Tactical Air Command Maintenance Man of the Month. Sergeant Prines' section primarily supports the attached Air Defense Squadron and Base Flight. However, after meeting his own section's requirements, he volunteered to assist the J-79 engine section in overcoming a tremendous backlog of work caused by two technical orders. Sergeant Prines suggested and implemented a system which reduced the time for complying with one of the technical orders by 50%. This represented a saving of approximately 5000 man hours. On another occasion, during teardown of a J-75-17 engine, he discovered that the number three bearing outer race was rotating in its journal. This discrepancy could have caused failure of the main bearing and subsequent disintegration of the engine. He immediately submitted a critical safety hazard UR and monitored its processing to insure that higher echelon maintenance personnel were aware of this condition on a relatively low time engine.

PILOT OF DISTINCTION

First Lieutenant James E. Lapine of the 307th Tactical Fighter Squadron, Homestead AFB, Florida, has been selected as the Tactical Air Command Pilot of Distinction. Lt. Lapine was leading a flight of two F-100D aircraft on a combination ACM and instrument training mission. At 8000 feet during the climb out, Lt. Lapine noticed that the oil pressure had dropped to 35 psi. He quickly reduced power and started a turn back to the base. At this time his wingman reported that oil was coming out of the gang plug on the bottom of the aircraft. Lt. Lapine realized that a serious emergency was developing and that he must land as soon as possible. He was not over a clear area and could not jettison the drop tanks immediately, so he turned them off and used internal fuel to insure that the aircraft would be as light as possible for landing, when the tanks were eventually jettisoned. He dropped the tanks as he approached the base. The oil pressure dropped to zero as he entered a simulated flame out pattern, but he was able to make a successful landing before the engine froze. Lt. Lapine shut the engine down immediately after landing and maintenance personnel found that the oil tank drain plug had come apart which allowed all engine oil to drain out. The rapid and decisive action taken by Lt. Lapine most probably prevented an aircraft accident and certainly makes him a Pilot of Distinction.


Princess ANN ON SURVIVAL
EVER WONDER WHAT FLYBOY DO WHEN IRON BIRD GO KAFLOOM AND HIM SHOOT'UM OUT IN GUNPOWDER CHAIR OVER BIG POND ?
Hirsch 9-62
SURVIVAL EQUIPMENT IS WORN BY THE AIRMAN TO ENABLE HIM TO LIVE THROUGH ANY EMERGENCY AFTER ABANDONING HIS AIRCRAFT!
PROPER SURVIVAL TRAINING WILL TEACH THE AIRMAN TO EXIST ON GAME, WILDLIFE AND NATURAL RESOURCES!
BEAT IT!
SEE, HE FORGOT HIS SHARK REPELLANT!
CRACKLE SNAP POP
GIT 'IM
CHOMP CHOMP
IT IS MANDATORY THAT PERSONAL EQUIPMENT BE MAINTAINED IN PERFECT OPERATING CONDITION!... IT IS ALSO NECESSARY TO KNOW HOW TO USE IT!
HISSSSSSSSS
HISSSSSS
CHECK INSPECTION DATE BEFORE FLIGHT
SURVIVAL KITS SHOULD BE EQUIPPED FOR THE TERRITORY OVER WHICH THE MISSION IS FLOWN!
AND REMEMBER ... UNSATISFACTORY OR DEFECTIVE EQUIPMENT SHOULD BE UR'D!
MAYBE GOOD IDEA CHECK'UM CANOE AND SEND'UM IN UR SOMETIME!