

SEPTEMBER 1964

# TAC ATTACK



F-100  
*Tenth Anniversary*



# TAC ATTACK

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**First F-100 was delivered to TAC 27 Sep 1954**

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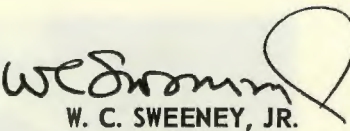
# Safety and NATIONAL SECURITY

Safety in the Tactical Air Command means a great deal more than may appear on the surface. I feel very deeply that safety is one of the most important single factors to our national security.

We are in the middle of a so-called cold war that has been going on for years. We are constantly being confronted by Communists around the world and whether or not this nation takes the actions it should when confronted by these aggressors rests upon decisions made by civilians in our government. This is as it should be. However, the decisions they make are guided in large part, by the confidence they have in the tools of counter aggression provided by the military.

Never before has tactical air power been in position to play such an important part in America's international affairs. The eyes of the nation are upon us, measuring and weighing our capability. How much credence is placed in our capability depends on our day to day performance. Our safety record is an easily grasped indication of our professionalism. If we display amateurism, if we are negligent in our actions, our civilian decision makers are going to lack confidence in us when the chips are down and the big decisions must be made.

This is why it is so vitally important that each of us consistently strives for the utmost in both competence and safety in every undertaking. Together we must form a tough, smooth working team . . . a team of professionals our leaders will trust and call upon with confidence.

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

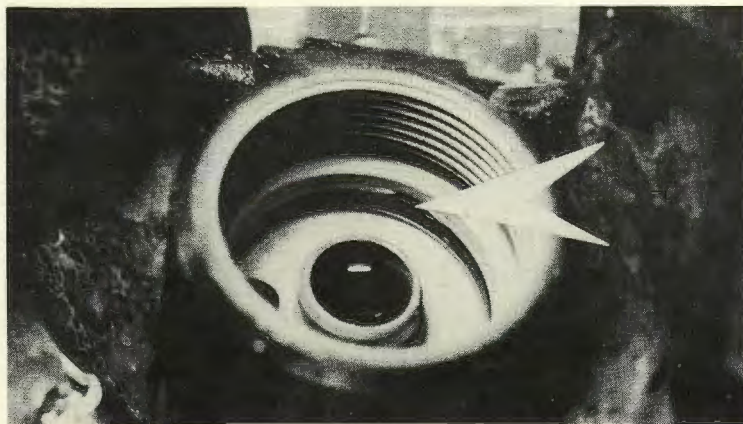


*Defense Secretary Robert McNamara, General Joseph W. Kelly, General Walter C. Sweeney, Jr., and General Lyman Lemnitzer, observe tactical air operations.*





The \$2,500,000 seal



**T**HE YOUNG WOMAN was about twenty, quite attractive, and had a figure that did justice to her faded blue jeans and well worn cotton shirt. She smiled at the two captains and prettily brushed back an unruly lock of hair. "I was in the kitchen

fixing supper and Mom was outside with the washing when I heard the plane go over. There were two loud bangs and Mother called me outside. I watched the plane go down right after the pilot bailed out.

"The tail was on fire and black

smoke was coming from it. The left wing seemed to crumble under the body, and it went down wavering and landed on its nose."

The taller of the two captains took his eyes off her long enough to glance at his notebook, "Thank you much. Ah, could you show me where the fire came from? I have a drawing of the aircraft."

Back in their car, the taller captain flipped thru his notebook, "I think we have enough statements, Mike. Shall we head back?"

Mike grunted agreement. "By the way, what about that left wing? Do you think she saw it crumble?"

"Who?"

"That good looking blonde... Freddie old boy, and if you hadn't been so busy looking you might have paid attention to what she was saying."

"I didn't notice you missing anything. But to answer your question, she must have imagined it. It doesn't add up to what we've seen of the wreckage and no one else saw a wing fail."

Mike concentrated on passing a truck load of alfalfa, "She pointed to the same spot that Capt Raden



did."

"On the fire? Yeah, so did almost everyone else."

"Not as nicely as she did; I thought you would come unglued."

Fred grinned, "This business do have its pleasurable moments. You know, she sure did things for that shirt."

"Good thing it isn't still summertime, she might not even have bothered to wear it."

Back at the safety office, Major Watkins listened to Fred's report. "So most of the witnesses heard an explosion and saw fire stream from the lower aft section. One man said the aircraft tumbled end over end while most reported it kinda came to a halt and then dove in. Well, we didn't learn much we didn't already know."

He went over the known facts. "Captain Raden put the bird into a 30 degree dive to try a radar dive check. When it didn't check out he pulled up, wings level, and heard an explosion in the aft section. Immediately, the stick came back into his lap and the bird pitched up into an accelerated stall. He was unable to control it and ejected after the aircraft started rolling over. After he was in his chute he saw the fire coming from the belly just aft of the wing root.

"The wreckage indicates the bird hit slightly nose high, left wing low, with little forward velocity. The left wing broke at impact and folded parallel to the airframe."

Fred looked at Mike and shrugged. "She must have seen it hit and confused the time element."

"Who?"

"One of the witnesses, sir. She reported seeing the left wing fold under before impact."

Major Watkins thought this over briefly, "Did anyone else?"

"No."

"Was she all there?" Watkins tapped a finger to his temple.

Mike raised an eyebrow. "In spades sir, in spades!"

"Well, she was wrong. The wing broke on impact. So far, everything we have points toward an explosion in the aft section between stations 635 and 675. There are only three things in an aircraft that can cause an explosion. JP-4, engine oil and hydraulic fluid. The oil system is out. It's too far forward of this area. Besides, we haven't come across anything to indicate an oil loss. That leaves fuel and hydraulic fluid...specifically, the climb vent line and the flight control systems and the lines leading to the speed brakes."

"Sounds like a good place to start. Did the experts make it in, sir?"

"Rog, just after you left. They are out at the scene right now."

The rest of the board members were in the safety office when Col Brown walked in. "Looks like we have it about wrapped up. Any new findings yesterday?"

"Yes sir," Major Watkins reported. "The lab report came in on that piece of stringer we found along the flight path. You know, the one from under the stabilator actuator. It had been heated to 1200 degrees or more. Also, the analysis of that gummy stuff covering the lower bay between stations 635 and 675 indicates it is a hydrocarbon, most probably hydraulic fluid."

Col Brown rubbed his hands, "That pretty well confirms it. The P2 filter leaked like a sieve when we put it under pressure with that improper teflon back-up in it. The fluid sprayed or was blown back into the unshielded part of the aft engine case and, poof! Up she went.

The engine is more than hot enough to ignite it."

One of the civilians shook his head, "I don't know, Colonel, How can we be sure that crash heat didn't shrink the teflon?"

Col Brown snorted, "The P-1 filter checked OK and it was subjected to the same heat. Besides, how could heat cause one of those bevels to slant the wrong way? No, that accident was set up by the knuckle head who put that filter together. I can't understand how anyone can be so obtuse as to miss a great big gap like that. Surely they realize the force behind 3000 pounds pressure and know that those back-up rings should come together at the splice. The guy who installed it probably didn't even glance at it." The Colonel clasped and unclasped his hands, frowning.

Major Watkins broke the silence, "That's not the only place on the airplane where a simple mistake can bring it down...If we could just convince everyone working with it that everything has to be done right...that almost right just won't hack the program."

"That goes for most of our birds," Col Brown remarked. "Can you imagine - two and a half million bucks shot just because someone couldn't be bothered to look at a two bit seal? They need someone like Freddie here. I understand he's right good at looking things over."

Fred looked puzzled, so the Colonel explained, "Don't look so innocent. I heard about your blonde witness. The Air Force needs more people like you. People who will look an airplane over with the same interest, enthusiasm and attention you gave that easy dressing blonde."





# TAT

TRADITIONALLY, most flying fish wrappers go into their annual harangue on winter hazards about this time of year. Not wanting to break a hallowed practice, this tired tiger moved under the air conditioner after turning the thermostat down toward the itty bitty numbers.

Yes Sir, gotta think winter ... on second thought, you troops could try a bit of this routine. Try to recall what problems developed last winter and check to see if you're ready for 'em ... re-read the winter flying section of your dash one ... make sure you have all your winter flight gear ... you've lived thru a few winters and should be familiar with the winter problems for your area and for your bird. The whole thing boils down to common sense, a little foresight, and making an effort to get ready ... don't most things?

TWO TAC T-BIRDMEN arrived at their bird only to find the crew chief working on the VOR. The crew chief said he'd be thru shortly, so the pilots completed their preflight, except for the nose compartment doors, then strapped in. The crew chief promised to button up when he finished.

You guessed it, the crew chief didn't secure the left nose compartment door and our heroes had a short but exciting flight. The report this tiger read remarked that a proper preflight would have prevented this one.

Then we have the F-100 troop who preflighted and got ready to launch from a base run by another command. Meanwhile, the transient alert people

came charging up with some extra drag chutes which they proceeded to stow in various places, like the ammo link bay.

Shortly after touchdown some of the pilot's personal gear dropped from the aircraft. He had stored it in the link bay. The bay door was gone and so was one spare chute. The transient alert types apparently didn't get the link bay door on right ... which is enough to get this tiger's fuse to smoldering.

However, what really put the meringue on the pie was the safety officer's action ... he rebriefed aircrews to insure all panels and doors are properly secured prior to flight.

It takes no great skill and cunning to button up a panel or close an armament bay door. If it did, maintenance people should be better qualified to do the job than pilots. A maintenance type who slaps a panel on any old which way either before or after the pilot has preflighted is a disgrace to his profession. Yes, pilots should check panels and doors when they preflight and there is no excuse for a pilot who overlooks anything that gross ... but ... a pilot can't check to see that the crew chief puts the saddleback on an F-100 after he starts it, or that armament men replace the gun bay doors correctly after they arm his bird out in the arming area and he can't very well check on the countless other critical operations performed deep in the innards of his bird. Have I made my point?

A T-BIRD MAN checked brakes on base and found 'em OK. However, when he tapped 'em right after touchdown, the right pedal went all the way to the floor without resistance. Ulp! He pushed the go handle forward, straightened the bird with rudder, and aborted the landing.

With crash equipment standing by, he made a minimum run approach and touched down on the first 300 feet, held the nose off and stopcocked. Using rudder for directional control, he took the MA-1A squarely on center at about 50 knots. Total cost of



the incident was 75 dollars worth of barrier webbing. TAT tips his old hard hat to Captain Theodore P. Burger of the 27th Tactical Fighter Wing for a good show.

Ted old man, I'd bet a brand new pair of GI flying gloves that you made up your mind to take it around long before you ever encountered this situation. I know I've had this same plan in mind should the brakes ever appear sick on the first application after landing.

A C-130 CREW from another command made a rather spectacular arrival at a high altitude skiway. The pilot became distracted during the approach and didn't put down full flaps. He used airspeed for a full flap approach but only half flaps.

When the bird started to sink rapidly, the pilot pulled the nose up and added power. The power correction was too little and too late while the pitch correction was too much. The C-130 struck hard enough to buckle and tear its fuselage.

Wonder what the co-pilot was doing during this approach?

I'm just a dumb fighter pilot, but seems to me that the co-pilot should kinda check and double check on his gallant leader . . . particularly since he's in the same bird with him and will view first hand the result of any such errors.

PRE-PLANNING IS GREAT, but sometimes it's hard to take everything into consideration. For instance, I knocked out a flight plan Monday afternoon and started for the West Coast Tuesday morning. Dim but early Wednesday, I checked notams for my refueling stop on the return haul and knocked out a clearance using the form 21A I'd filled out Monday.

Enroute I checked the letdown plate and found that I'd filed for Danview VOR and that this would take me into a downwind runway if the weather guesser had scribbled accurate surface winds onto my clearance. Humm - this wouldn't do. The GCA unit was notamed out.

I decided a TACAN ILS, using Splashville TACAN, would be the best approach and decided to request it when I asked for my enroute descent.

About ten minutes before I wanted to start downhill I called the hard working center operator, "Westown Center, TAT here, I'd like to start a descent to 18,000 about 50 miles east of Fixburg, to proceed to the Splashville 35 mile fix for a TACAN ILS to Splashville."

"Roger, understand."

Ten minutes later, about 50 east of Fixburg. "TAT, Westown center, contact Bleakheart Center on 251.9 at this time."

"Rog, TAT going 251.9."

I contacted Bleakheart and repeated my request for a descent to the 35 mile fix. It's a good thing I did, 'cause they seemed unaware of my intentions. In about three minutes they came back with a lower altitude and we departed 330 for 250. At 250 they handed us off to another sector. The sector controller had us ident and then asked our heading. I gave it to him. He proceeded to give us a 30 degree heading change, a lower altitude, and advised that he was vectoring us around traffic and would take us in to the OMNI.

I patiently repeated my request for a TACAN ILS. He said, "Rog."

We held his vectors, and at his request expedited our letdown to eventually end up at 3000 feet about 45 miles due north of the TACAN. He passed us over to approach control frequency, and I checked in.

"Read you five square. TAT, you are cleared present position to the Splashville VOR."

The Splashville VOR, not the Danview VOR . . . "How about my TACAN ILS?"

"Ah standby . . . ah turn right to 220 degrees to intercept the glideslope at 15 miles."

Eventually we got our TACAN ILS and recovered without strain . . . but somehow I couldn't reconcile all the needless radio yak yak with the current program to cut down on unnecessary chatter.

In retrospect, I should have used better planning and selected the proper fix for the forecast surface wind. By getting the forecast surface wind for the airpatch at the same time you pick up the winds aloft, a fella only has to study one or two let down plates instead of half a dozen . . . saves work as well as making things run smoother.

Also, I should have been more specific when I changed my let down fix from the Danview VOR to the Splashville TACAN . . . phrased it as a change of flight plan. By the way, it pays to listen to the man in the center when he speaks of destination radio fixes. Several times I've had 'em try to clear me to a beacon when my bird had no low frequency radio and I know of one accident where the involved pilot accepted a VOR fix for his let down when he had TACAN only. These people have a very demanding job and they can't always take everything into consideration. It is up to you to keep 'em informed of your capability or lack thereof.



AN OVERSEAS F-105 pilot found he couldn't actuate the finger release clamps to loosen the tie-down strap for his survival gear. His hands were numb with cold, the sea was rough and it was about all he could do to stay in the raft. He solved the problem with his knife.

Believe me, a good husky knife is about the handiest piece of survival gear you can name. I ask you, what other portable tool will let you jab your way out of a jammed canopy, hack away entangling lines, end the nonsense when a quick release proves impossible, permit you to build a shelter from materials



at hand, and even let you pry up the tab without risking a finger?

No life loving fighter pilot would be without one . . . and I don't mean one of those little double snap jobs. Double snap, you know, one snap when they open the other when the blade breaks.

At present, the PE and safety people are taking action to get a husky duty knife as an item of PE issue. We favor lugging it on a light belt around your mid section since this keeps it accessible regardless of poopey suits et al.

RIGHT AFTER a student type dropped the rollers on downwind, he noticed airspeed was decreasing. Doing the normal thing, he moved the go handle forward but found he couldn't hold speed even with it against the stop. He checked speed brakes and flaps to make sure they were still up, and turned onto final, rolling out with about 180 knots. He extended flaps and held the throttle against the stop as airspeed bled from 180 to 165 and finally to 155 over the threshold. Made it!

Back at the trim pad, the wrench and pliers set ran up the engine. They could only get 85 per cent with the throttle full forward. Switching to the emergency fuel system, they found it worked five square . . . proving that this student type could have saved himself a great deal of sweat by glancing at RPM and switching to the emergency fuel system when RPM told him the engine wasn't producing. Checking RPM should be a matter of habit . . . a pilot should know the ballpark RPM for every part of the traffic pattern as well as for cruise at various altitudes with various configurations. The only way to learn ballpark RPMs is to check 'em when you're learning the aircraft. Nuff said.

By the way, the Navy also equips their aircraft with two fuel control systems . . . a normal system and an ALTERNATE system. TAT likes this terminology. A fellow feels less reluctant about using an alternate system.

A COUPLE OF F-105 heroes were loafing along in an F at 14,500 feet when RPM dropped from 93 to 79 per cent, accompanied by a moderate vibration. The pilot automatically pushed the throttle forward but nothing happened. He then pulled it back to match existing RPM and selected emergency fuel. At this point, the aft seat pilot noted EGT near zero and fuel flow at around 1000 pounds per hour.

The engine responded smoothly. No warning lights came on and the ATM didn't even drop off the line. The pilot made a precautionary landing without further incident, switching back to the normal system after turning off the active. The engine ran OK on this system in idle, but he didn't try it at higher power.

TAT concurs with this lad's actions all the way . . . particularly since he resisted the temptation to make an engine run-up after getting safely on the ground.

At this writing, it looks like a main fuel control malfunction . . . and the critter is getting a TDR.

ON PREFLIGHT, oxygen quantity was about three and a half liters with everything working. On the after take-off check the Blue Two noticed he had about three liters with the blinker operating normally.

Shortly after making an in-flight refueling the pilot felt an uneasiness across his chest. He checked his oxygen equipment but didn't notice anything amiss. The leader climbed the flight to 41,000 with cabin altitude at 20,000 and Blue Two's chest discomfort seemed worse. He switched to 100 percent and found he couldn't breathe at all!



He took a closer look at the oxygen panel and noticed he had two and a half liters but zero pressure. He switched back to normal and called Blue leader, who descended the flight to 27,000 which gave a cabin altitude of 15,000. Big deal.

The pilot was at 20,000 cabin altitude for about five minutes and wasn't feeling too chipper when it came time to land . . . he blamed the firm arrival on impaired depth perception.

This troop got off cheap. I hope the rest of you will take his lesson to heart and always check quantity, pressure and blinker on LOX systems. True, the quantity gage doesn't goof up often, but . . . Incidentally, if this guy had been on my wing, I would have taken him on down below a cabin altitude of ten thousand even if it meant landing short. Why take chances?

ACCORDING TO THE MESSAGE traffic, both the F-4C and the T-38 frequently upset routine flights with false fire warning lights. Causes range from faulty connectors to bad elements. This is real sticky. Single engine landings increase the risk factor even in these adequately powered birds. Also, there is always a possibility one of the fool lights will be telling the truth and some brave soul ignores it. Mechanics can help stop some of this nonsense by giving the system tender loving care. That care must also be maintained anytime anyone works on other systems in the vicinity of the sensing probes. A bumped probe is all it takes to cause trouble.

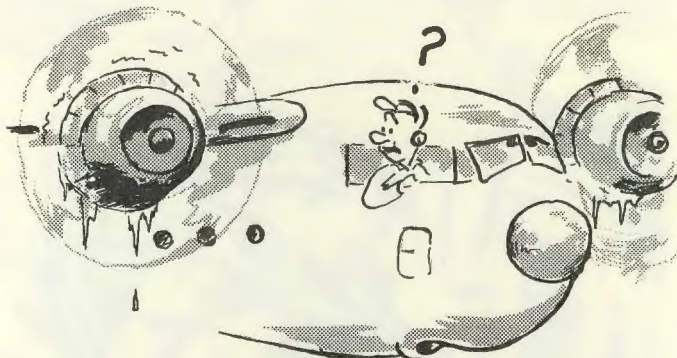
CRUISING AT FLIGHT LEVEL 370, a professional type noticed the oil pressure on his faithful J-57 fluctuating between ten and 60 psi. He very calmly reduced power then stopcocked it as oil pressure dropped to zero. Thru superior skill and cunning, he nursed his machine to a safe landing and the safety troops and maintenance experts gathered 'round to find out wha' happen.

It didn't take long. All the oil had drooled overboard because someone did not install the bearing seal properly when they worked on the engine. Dang good thing this engine was installed on a KC-135 . . .

WHEN AN F-105 PILOT deployed his drag chute at an overseas airpatch all he got was the pilot chute. The rest of the laundry stayed in the bag. The crew chief had routed the pilot chute bridle under and around the main chute risers which prevented deployment. The crew chief was promptly given rather

extensive personal instruction on how to install a drag chute . . . reminds me of locking the schoolhouse door after all the kids have escaped.

Face it supervisors, your biggest chore is making sure your people know how to do their job right before they are turned loose to do it.



EVER SINCE A COUPLE of TAC C-119s failed to fly with one fan feathered and the other going full bore, there has been much speculation on the effect fully opened cowl flaps had on these accidents. The answer is, "considerable." Not long ago a dollar nineteen crew came back from a cruise control mission grumbling in their whiskers because they couldn't get advertised airspeed from the handbook power settings. The unit hashed this one out and found the crew was keeping cowl flaps almost wide open in order to maintain cylinder head temperature at 170 degrees. For power settings below 70 per cent, 232 degrees C is max permissible and this 170 degree bit is on the super cautious side. A better compromise would result in higher temp and much less drag.

While digging into this area, the people in this unit found that many of their flight crews were leaving it up to the Flight Mechanic to set the cowl flaps in trail for takeoff and that some crews were trying to keep the temperature in the normal cruise range of 160 to 200 degrees during takeoff. They usually ended up with 'em full open. Max cylinder head temp for takeoff is 245 degrees and crews will do well to leave the cowl flaps in trail unless it looks like the temp will exceed this. That way, if trouble develops and they have to feather one, they won't be caught with their cowl flaps a flapping in the breeze.

Incidentally, the cylinder head temp limits are established to compensate for some areas of the engine running hotter than is indicated on the gage, so don't try to second guess the book.

—TAT—



# the EYES have it



**F**EW THINGS are more terrifying to a pilot than a mid-air collision. This is a justifiable fear. In the last year and a half, ten TAC aircraft have been involved in six mid-air collisions. These accidents also include a civilian light plane and a SAC KC-135. While no clear cut pattern of events lead to these mishaps, one fact remains constant . . . all happened in VFR conditions. In other words, all could have been prevented had one or both of the pilots seen the other aircraft in sufficient time to avoid it.

With the advent of high altitude, high speed flying, a great deal of information was passed out about mid-air collisions. You have un-

doubtedly seen posters that showed how two aircraft approaching at high Mach will eat the time needed to perceive, decide, and react. The end result of these figures is that you must see another aircraft a mile or more away if you are going to have a chance to miss him. This may have given many pilots a feeling of, "Why bother to look, by the time I can see him it will be too late, and who wants to die all tensed up." Nothing could be farther from the truth. A sharp eyed pilot can see a fighter at well over five miles and a big bird many more miles out . . . provided he is looking! Let's look at some factors that seem to be taking pilots' eyes away from

the sky and into the cockpit.

Many changes to FAA and Air Force flying rules have tended to create IFRitis - VFR on top is fast becoming extinct. In fact, except for low level navigation missions, VFR at any level is now the exception rather than the rule. Even in the clear, if a pilot is maintaining an assigned altitude, he tends to try and fly precise instruments. This means that most of the time he is monitoring the gages rather than clearing the area. At high altitudes, at least 1000 feet separation is planned between aircraft, and ground radar stations give frequent reports on traffic in the area. This lulls the pilot into thinking that as long as he flies perfect instruments, no one will hit him. This attitude fails to take some important facts into consideration.

First of all, radar just isn't that good. Without an operational transponder, radar skin paints on small aircraft are weak and vague. Controllers furnish traffic advisories when they have the time and it stands to reason that when traffic is heaviest, the hazard is highest, the controller is busiest and least able to call out bogies. Secondly, everyone in the air is not flying perfect gages, some can't and some won't. But even with everyone holding what they think is the right altitude, altimeter errors can combine to quickly eliminate a 1000 feet and there goes your clearance. In addition to these problems, there are such things as controller errors and on-course climbs and descents where you can figure on aircraft coming from above and below.

More aircraft are concentrated around airfields than in any other area, and here is perhaps the greatest potential for mid-air collisions. Many bases have established elab-



orate traffic pattern procedures that include IPs and pre IPs, each with an altitude and heading. These work out pretty well for pilots who know both the pattern and the area, but when a transient comes along who doesn't realize that the little red barn three miles north of the tower is check point alpha, things really fall apart. In really congested areas with several mili-

tary and civil airports, things get even worse. The hazard of having aircraft shooting GCAs on one frequency and VFR patterns on another will probably never be eliminated. This really gets grim when conventionals and jets start mixing up their patterns.

The solution to the mid-air collision problem is neither simple nor is it impossible. Staying

alert is the only sure answer. Every pilot should habitually scan all sides, high and low, for the speck that can rapidly turn into an oncoming aircraft. The benefits of this habit, both in peacetime and in combat, are obvious. As every primary flying instructor has screamed for years . . . "get that head on a swivel!!!"



**T**HE OLD SARGE got to his feet "Come in, come in. Here, let me get you a chair." He moved the visitor's chair over next to his desk. "Coffee? Cigar?"

Somewhat flustered, Tommy looked suspiciously at the older man. That worthy had time to pour coffee and sit down before Tommy's expression indicated the light had dawned. He grinned wickedly, "Ah, Sarge, I see I'm going first class. Where's the red carpet?"

"That comes later."

Tommy looked puzzled.

"When you pull your first bonehead stunt after I talk you into reupping."

The younger man grinned. "That's not the color of red I like, what makes you think I'll be bone-headed enough to reup? Shucks, I can get more money outside working a forty hour week and at the

same time I won't have to put up with all this guff we get in the military." Serious, he watched the Old Sarge for a reaction.

The Old Sarge had been an above average poker player in his younger days and an almost imperceptible frown was the only visible indication that he was disappointed. "I can't argue that, Tommy. Pay on the outside is pretty good, particularly if you figure our pay by the hour. I'm not going to figure it out for you . . . BUT, make sure you give the military a fair shake when you compare pay. I mean deal with actual pay, not the pay someone claims he is getting. Include your allowances and the tax difference. We both know that we can forget most of the so called fringe benefits . . . Shopping around, civilians can buy most items as cheap as we can.

"I can't promise you a pro-

motion if you reup because it is beyond me. You are a good mechanic and in time you'll make a good supervisor. I wouldn't have asked you in here otherwise. All I can do is rate you, let you compete with the rest and trust that you'll get a fair shake. I don't need a crystal ball to tell you that promotions are almost certain to improve. Too many old zebras are headed out to pasture the next few years. You, and hard workers like you, will move into their jobs and their stripes."

"I won't try to snow you with a lot of bull about security. You are a competent worker and will have no trouble holding down a job wherever you go . . . that is the only security you need.

"There is only one thing I can promise you and that is a lot of hard work, complete with TDYs and the rest of the military guff. In return, there is only one pay that goes beyond what I've already discussed . . . that is the satisfaction you get from knowing you are doing critical work and that the Air Force needs your help and will continue to need it for a long time to come." He grinned, "Now about that cigar . . . I seem to have mislaid it . . . but I'm sure I can find it before you finish taking the oath."



# CHOCK TALK



## BIG BLAST

Out in the exotic East a maintenance crew thought they had finished adjusting a prop and made ready to run up the engine. A couple of metal pallets were in back of the big bird, but since they weighed about 300 pounds each, the ground crew figured they'd stay put. Sure enough, they did. They ran the engine up to max power and the ground controller reported no problems.

This would end our little story, except the prop didn't check out and they had to shut down and make a minor adjustment, which called for another run up.

Before the engine reached full power one of the pallets got itchy feet and decided to travel. It sailed aft some 30 yards into a 3800 watt transformer. It paused just long enough to short out the transformer then careened another 20 yards before skidding to a halt in the middle of a service road.

The moral is quite obvious.

## INATTENTION

The dock chief and three airmen went out to the pre-dock parking ramp to tow an F-105 into the dock. The bird didn't have brakes, which means two of the airmen had to be ready to throw chocks under the wheels while it was towed. The airman on the right wheel planned to walk about three feet to the right of the wheel dragging his chock behind him. He got careless and the next thing he knew he was being dragged across the ramp by the aircraft.

He got too close to the wheel and the gear fairing

door struck the heel of his left shoe. This bent his foot forward with an inward twisting motion. He was thrown inboard of the wheel and the wheel rolled against his shoe. The shoe had a safety toe and the wheel pushed him across the ramp by his foot. Whew! His left ankle was badly broken and his ankle and foot deeply cut.

The accident happened about nine in the morning and ordinarily you wouldn't think that fatigue would be a factor. However, the airman was moonlighting and didn't hit the pad from his other job until around one thirty that morning. He was up and at 'em at a quarter 'til six. With only four hours rest it's no wonder he got tripped.

## BAD BRAKE

Returning from a test hop, an F-100 sport didn't get a chute and had to resort to the binders. Stopping was going normal until the bird slowed to about 100 knots, then the anti-skid started to cycle too much and the aircraft veered right. The pilot turned off anti-skid, corrected back to the middle of the runway, jettisoned the 275s and his center line pylon, then dropped the hook. He took the BAK-9 at about 60 knots.

A burred drag chute liner door pin fitting caused the clip to hang up and prevented chute deployment. The common arm side of the anti-skid switch had broken off and was only making intermittent contact with the normally open contact, arming the anti-skid system to shut off the brake control valve.



## F-100 INFLIGHT FIRE

Descending thru 16,000 feet, a TAC F-100 troop suddenly found himself staring eyeball to eyeball with an engine compartment fire light. He pulled the power back and the light went out. Meanwhile, he traded airspeed for altitude.

About five seconds went by while he considered the potential of this and studied the gages. Everything looked normal except the total fuel gage suddenly dropped. He declared an emergency and landed post haste. Whew!

The main fuel manifold had burned thru both the primary and secondary fuel tubes. This was THE OLD TYPE FUEL MANIFOLD which has been removed from service after being UR'd many times. Time change TO 2J-J-57-814 removed this item and it behooves maintenance sections to see that this TO is expedited. Consider what would have happened had this pilot been some minutes from the nearest airfield.

## THINKING SAFE

Safety is an attitude ... a way of looking at a job. TSgt Clarence E. Holmes, who works in the 363d Squadron at Shaw, was helping load bombs in the bomb bay of one of their birds ... a job that takes two men. Both have to stand on the lower part of the bomb rails since there is no other way to work. If it's raining, or if a fellow gets a little hydraulic fluid on his shoes, the rails soon get slippery.

Sgt Holmes could see that this was a risk ... an unnecessary risk. A slip would mean a fall and a fall could be quite serious since the bomb system and bomb bay doors are kept under 3000 psi hydraulic fluid during loading.

The answer: Get some abrasive paper such as is used on the aircraft walk ways and glue it onto the bomb rails. Good thinking, Sgt Holmes.

## F-105 STAB AUG

An F-105 pilot had his B-model drop one wing about 10 degrees when he engaged the auto pilot. It started to porpoise gently, but divergently, when he engaged altitude hold. As the porpoising increased in displacement and speed, he used emergency disconnect. Since he'd had no trouble with the stab-aug before turning on the auto pilot, he re-engaged it.

About five minutes later he felt a thump and a momentary stick transient. About 20 minutes passed and he felt another thump. This time the stick moved aft about two inches.

## TAC ATTACK

The pilot disengaged the stab-aug and aborted the mission. The difficulty was traced to a power actuator bolt that was too tight, the auto pilot follow up which had a half volt null, a bad course sync drive in section four and a bad relay in section two.

In addition the MA shifter sequence was out of tolerance ... more careful adjustment and maintenance are the cure ... its all in the TO, so follow the damn thing!



## PHOTO STORY

"We aborted the mission prior to start. As I was fix'n to leave the bird I noticed that the right hand quick release was unfastened. Checking, I saw what had happened. The flexible hose to the lap belt was looped against the quick release and acted as a finger to release the right hand side.

"The hose was the correct length, but could be repositioned to eliminate excess hose in the seat. A nominal length of 22 inches from the hose B-nut to the first clamp on the seat eliminates excess slack and still gives enough to adjust seat height and belt length."

## F-4 STATISTICAL ACCELEROMETER

Giannini and Maxon are supplying the statistical accelerometer in the F-4. The two are functionally interchangeable; however, each consists of two units. An indicator and a transducer and they must be matched. You can't make a Giannini transducer work with a Maxon indicator or vice versa. The wire bundle connecting the two is not interchangeable either. So if one unit of the instrument goes bad replace it with the same brand to keep from changing both units and the wire bundle.



# ETHICS for Prevention



**E**LLROD T. SOCKROLLER walked wearily into the pilot's lounge and flopped onto the couch.

"Good afternoon, sir. You sure do look nice in your Class A Blues. Handsome in fact."

"Knock it off, Clyde. Your ER isn't due for another four months. While you've been goofing off, I've been working."

"Of course, sir. What have you been doing?"

"Tyrone Truehart nailed me. I've been appointed as a pilot member on the wing accident investigating board and he's been briefing me on the details. It's a real bucket of worms, believe me."

Clyde Youngfellow had been flying Ellrod's wing for a few months and was amazed to see the puzzled look on his leader's face. "Capt Sockroller being pilot member shouldn't be any trouble for a man with your background."

Ellrod slipped out of his blouse

and settled back. "There's a lot more to this than meets the eye. Air Force used to put out some guidance on accident cause factors, but it didn't seem to do much good so they more or less threw it back into our hands. This sounds great, but it really isn't."

"How so?"

"They used to talk about inevitability. In other words, after you dug out all the facts, you decided exactly what made the accident inevitable. This seems pretty clear until you try to define inevitable, then it falls apart."

"Face it, Sockroller, when you come across a word with more than two syllables you fall apart," a voice chimed from the door.

"Well, if it isn't Hector McNasty and that sewing circle known as C flight. You guys all briefed on running off the taxiways and landing hard?"

"We heard that snow job you were handing out and just couldn't stay away. Clyde, here's the way

I see it, all an accident board does is find a new way to say 'pilot-error.'"

Ellrod reached for a cigarette before he remembered he had quit. Settling for a gum drop he leaned back and gazed at McNasty. "Still bucking for Clod of the Month I see. Mac, why don't you and the troops pull up a chair. Tyrone played inspiring music all afternoon and I've got some ideas I want to kick around."

"Go ahead, Ellrod," McNasty said as he sat down, "but I still think that the pilot is the last man in the cockpit, the last man at the scene of the crime and the deck is stacked against him all the way."

"Some will argue with you on that point, Mac . . . maybe there's something we can do about it. I know it's hard to see, but I think the working troops in the Air Force have the basic responsibility to say how things go. There are two factors that put the pilot in the hole. First, like you said, he's the last man in the cockpit. We have to dig deep to see why it seems normal to think that all accidents are pilot error unless something else can be proven. Take a look at a simple maintenance job. One man does the work, but before the aircraft is released, another man inspects it. If the worker makes a mistake and the inspector doesn't catch it, the inspector is just as guilty as the worker. Do you agree?"

Clyde nodded and looked at the others in the room. "That sounds fine, sir, but how does that touch us?"

"An inspector is really an accident preventor." Ellrod went on, "By failing to spot the mistake, he fails to prevent the accident and so he had to share the responsibility for causing it. A pilot is also an accident preventor. In fact, in a



lot of routine ways a pilot continually prevents accidents. Like last week, Clyde, when you had that utility failure. A real no-sweat problem, you just blew the gear down and landed. But, really, you prevented an accident. Sure, there's a procedure all written out for you to follow, yet the fact remains that you prevented a gear up landing. Suppose something goes wrong with the bird and there isn't any known cure. You may still be able to prevent the accident."

Hector McNasty stood up. "You mean you'd better prevent that accident, Ellrod. If you don't, you wear it hanging around your neck like an albatross."

"Sit back down, Mac. Cool it for a minute. The accident board is supposed to figure out what the pilot can reasonably be expected to do. Back in the days of manual seat belts and parachutes, most pilots set 2,000 feet minimum as their ejection altitude. One day a troop in an '86 flamed out on an instrument approach at 2000 feet with everything hanging. He tried a couple of airstarts but it wouldn't light off and he dead stuck into a pea patch short of a suitable runway. He got beat up a little, but managed to turn in a 9.2 hundred yard dash with the chute bouncing off his backside. The accident board hotfooted it out to the scene and pulled everything apart trying to figure out how come the engine quit. Some brainy type found a bugged main fuel control so the first question they asked the guy was did he try the emergency fuel system. He said he had been too busy to think about it, so the board came on like Dick Tracy and said that since he didn't make an airstart when he could have, it was pilot error. This is a perfect example of a board blaming a pilot because he didn't prevent an acci-

dent."

"You don't have to dig in the past for examples," McNasty said. "It still works that way, doesn't it?"

"Sure it does, sometimes, but people are beginning to smarten up a little. Look at that '86 bash for a minute. The board was so intent on the formalities, on how the report looked, and on this 'what made it inevitable jazz,' that they forgot to do their job. There is only one reason for an accident investigation and that is to prevent future accidents. If that board had bothered to find out why the pilot didn't try the emergency fuel system, they would have been on the right track. The simple fact is that the situation was more than the pilot could handle, it was more demanding than the pilot could reasonably be expected to cope with. If that board had thought to ask 'why? WHY? WHY?' we would have had a gang start system in every aircraft 10 years ago."

"Sir, I see what you mean, but aren't you using that 20-20 hindsight you've told me about?" Clyde asked."

"Yeah, I guess I am," Ellrod replied. "However, I've an idea what the problem is. Whenever a bird bashes everybody thinks, although they may not say it, that the pilot must have goofed. In other words, whether we like it or not the pilot involved in an accident is always suspected. We kind of wonder if the pilot helped cause the accident. We sit around here and call ourselves professionals. That's the thing to be this season, but we forget all about being professional when it comes to ethics. We get our mouths in AB with our brains in idle and are the first to criticize another pilot. I guess the head shrinkers would figure we

subconsciously inflate our ego when we bad mouth another pilot. Actually, all we end up doing is making all pilots look like a bunch of ham-handed idiots."

"You're going pretty far out, Ellrod. No matter what we pilots do, we are never going to reach a high and untouchable status . . . particularly us fighter pilots. Some people feel we haven't progressed much above the kick the tire, light the fire, brief on Guard level, and you want them to respect our professional ability. You're dreaming!"

"Maybe I am, but I'm firmly convinced that we can do something about it. The thing to do is to act like professionals. When we are given a little responsibility and turned loose on a task, we have to make every extra effort to show that we can do the job properly. We can't run things in a slipshod manner just because we can get away with it. Another big thing is to respect one another. When a man is wearing these wings, he is a pilot. And, when a pilot is operationally ready in Tactical Air Command, it ought to mean that he has proven his ability and judgment. We don't have the right or the ability to question his every decision. I think every man in TAC would be better off if we adopted a code of ethics that recognized the professional ability and judgment of every fully qualified TAC aircrew. By acting as professionals at all times, we earn the right to be treated as professionals and open the door to doing some really positive accident preventing. Once all boards concentrate on finding out why a pilot was unable to cope with a situation, we'll see action designed to simplify the equipment instead of briefing everyone on the accident."

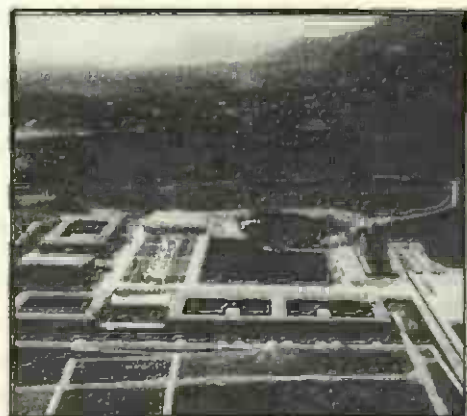


THIS MONTH THE ATTACK  
HIGHLIGHTS TAC'S  
RECONNAISSANCE FORCE.

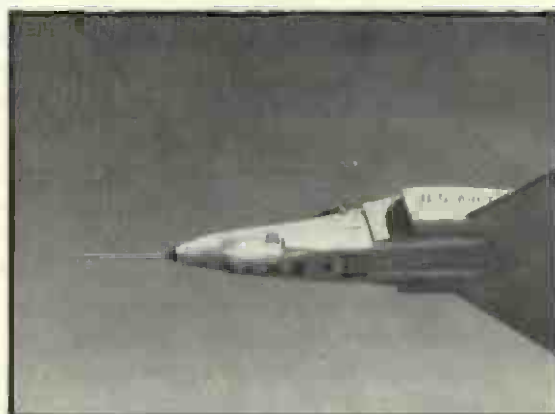


HORIZON to NOZIRON coverage using a panoramic camera mounted in an RF-101.

# TAC RECCE



Air Force Academy, Colorado Springs.

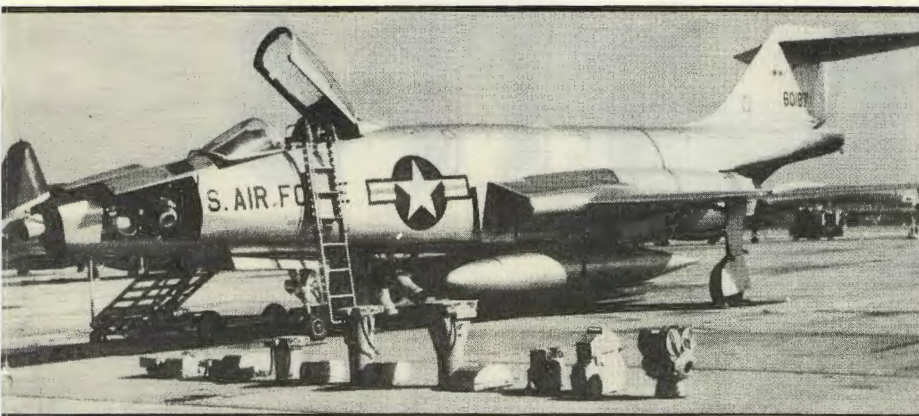


Joining TAC's Recce force

**S**INCE THE FALL of 1962, TAC's reconnaissance force is no longer an unknown quantity. But there are still many people in TAC who don't really know what tactical air reconnaissance is, how it's accomplished, or what and who do it.

A look at history shows that military leaders have always used the highest possible vantage point for reconnaissance. Balloons were used in the 1800s, and the first military use of aircraft was as a recce vehicle. It's interesting to note that the first fighters and bombers were modified recce birds and ever since then the reverse has been true. Thru World War Two and Korea, aerial reconnaissance became an increasingly

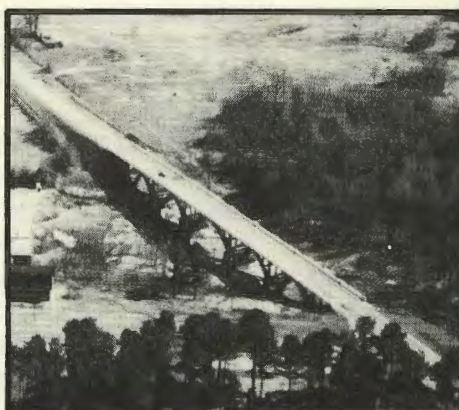




A variety of cameras and Recce's workhorse, the RF-101.



Today, the RF-4C.



Bridge size and construction details. Today's picture, tomorrow's target.

valuable weapon. Since, development of better equipment has pushed recce's operating limits from the deck to outer space. The division between tactical and strategic reconnaissance has lost its traditional meaning, and TAC has assumed the task of reconnoitering areas far beyond those labeled as tactical battle zones.

Many of the techniques used by fighter and reconnaissance birds are similar, but a couple of things set them apart. A fighter is almost always used against a known target where the pilot can plan the strike on the ground or is directed to it in the air. But the fact reconnaissance is needed often means that the recce pilot will be sent to a set of coordinates where someone

thinks there might be a target. This makes for a fierce navigation problem. Another problem is created by the need to be at an exact altitude above the target. If intelligence is going to be able to use the photos, they have to be able to measure objects on the ground using a definite scale that can only be determined by altitude. When the suspected target is an intersection of two dirt roads in a forest, things get pretty tough.

The hardware TAC recce units use is extremely varied. The RF-101 and RB-66 are in the inventory today, but training in the RF-4C has already started and the 66 will soon be phased out. TAC spans the entire spectrum of reconnaissance . . . day and night photo,

ECM, radar and radar scope photography, infra-red photo, and visual sightings with tape recorded backup. Under development now are better ways to both gather information and to pass it along to the user. Television is one answer and jettisonable film packs another. Improved air defense capabilities have made low level a primary method of penetration and to overcome the limited coverage of most cameras, panoramic cameras are being developed. Horizon to horizon coverage with a single camera is now possible at extremely low altitudes and high speeds.

Flying an unarmed aircraft over hostile countryside just doesn't appeal to many people. What does it take to be a good recce pilot? Naturally, recce requires all of the arts and skills that are needed to effectively fly any high performance aircraft. But recce requires something extra. This extra something is hard to define, but the following story sums it up.

\* A flight of two recce birds was making a high speed, low altitude pass over a hostile airfield. As they completed the pass, they passed thru heavy anti-aircraft fire.

"Did you see where that stuff came from, Two?"

"Negative."

"OK. I'll make another pass. You stay clear, and when they fire, you try to spot the guns."

The pilots and crewmembers of our tactical reconnaissance aircraft, and the men that support them, are a vital part of the total TAC effort. They have done their job effectively with minimum losses, and have lived up to the motto of aerial reconnaissance... Alone, unarmed and unafraid. Well done TAC recce.



# TAC TIPS

## SPATIAL DISORIENTATION

Recently, we asked you troops what to do about spatial disorientation . . . how to avoid it or how to cope with it. We were after special little tricks of the trade that the old, foxy fighter types might have developed to help stay alive.

The response was quite good and the advice was varied. It ranged all the way from: "Don't move your head and eyes at the same time" to; "Shake your head rapidly and yell."

To give you a better idea of the survey results we'll list the voting by precinct, so to speak; as well as we were able to define the precincts:

Precinct	Votes
Cross check and believe your gages . . .	18
Move your position in the formation to get rid of the basic problem . . . . .	7
Be careful about head movements . . . . .	7
Shake head rapidly to get a different perspective . . . . .	5
Try to relax and keep calm . . . . .	5
Have the leader call all turns . . . . .	5
Get on the gages early . . . . .	3

One area that received a reasonable number of votes was, "Check your attitude indicator and believe it." We take a dim view of that statement as it stands. The returns from a recent TAC request to report all MM-3 Attitude Indicator malfunctions uncovered 45 malfunctions in a six week period and none of them were accompanied by a warning flag. Now if you want to stake your life on one instrument, have at it. We in Safety don't trust any single instrument. Our idea of cross check is to seek at least one corroborating witness. For example, check the attitude indicator for pitch then verify the picture against the vertical velocity, altimeter and airspeed reading. A prime witness to a banked attitude is the heading indicator, yet strangely enough it didn't receive a

single vote but the turn indicator was mentioned twice. Judging by remarks from the survey and our accident history, it's just possible that some pilots have been giving lip service to cross checking and are depending too much on one not-so-dependable instrument.

Some of the best brains and experience in the Air Force took part in this survey but we particularly liked what the 366TFW, Holloman AFB, New Mexico, had to say on the subject. They said, "We can not really pinpoint any specific techniques or trick of the trade that will help prevent the onset or overcome various forms of disorientation. All pilots agree that these tried and proven axioms are the best: Anticipate disorientation, recognize and accept the fact that you will experience it. Keep calm, concentrate and be determined to overcome it."

Our final recommendation is simple . . . when flight conditions promote discombobulation, do like a shrewd legal eagle . . . cross examine each input and don't overlook any witnesses.

## WEAPONS TIPS

The Cannon Fly Safe Newsletter published some tips on how flight commanders can stay ahead of things on close air support missions. Staying ahead is akin to staying alive, so we'll cheerfully rerun 'em for you.

\*When the FAC describes the targets, decide your ordnance delivery sequence.

\*After you spot the targets, look at the surrounding terrain to determine the most effective attack axis.

\*Decide on the number and direction of passes and let your wingmen know what you plan to do before you do it throughout the mission. This gives them time to space without sacrificing a good roll-in position and so on.



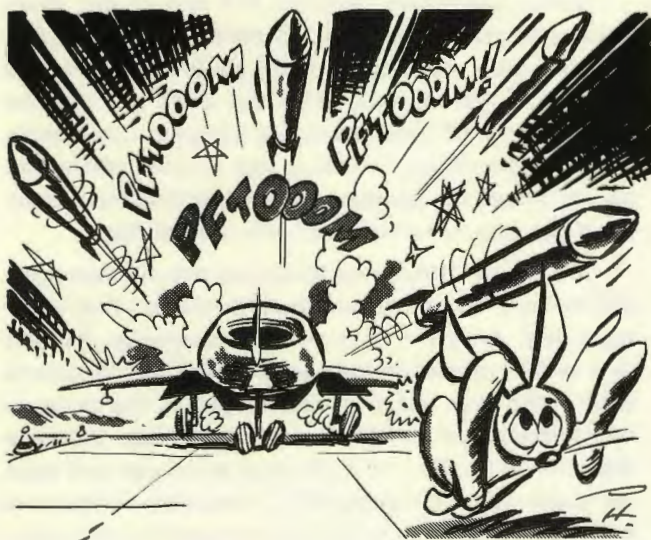
\*Make your first pass level and slightly above the minimum altitude to determine the base indicated altitude from which you can determine a minimum indicated roll-in altitude and release altitude for each type delivery. Give these altitudes to your wingman on the downwind leg for each pass.

\*Make simulated weapons delivery runs just as you would actual runs, keeping standard dive angles and release altitudes.

\*By necessity, close support patterns are irregular with varying directions of attack. This makes it doubly important to get a stabilized airspeed and altitude at some point on base leg. At this point you must ask, "Can I make a safe pass from this altitude, airspeed and range?" If so, press on. If the answer is "no," don't even roll in.

\*If tracking becomes difficult, do not let yourself become completely absorbed in trying to get lined up, but stay aware of your altitude, dive angle and airspeed. If at any point things fail to measure up to a normal pass, don't attempt to salvage but break it off.

\*The most important part of a good weapons delivery is the planning which leads to a proper, stabilized position on base leg. Achieve this, and a good pass is almost certain to follow.



## FIRE TWO

On a fire power demonstration a TAC troop hit the release button four times to fire his 2.75 rockets. The pair on the right hand launcher fired but the pair on the left launcher refused to go.

The pilot returned, using a hot rocket pattern. Just after he let the nose down on the landing roll, both rockets whooshed off the left launcher. One went

bounding down the left side of the runway while the other went right. Fortunately, neither hit anything of importance.

Apparently armament loaders didn't get the MA-2A rocket launcher to properly engage the grooves on the rocket motors. The experts say, "Be sure to keep opposed fins in the three and nine o'clock positions so the detent mechanism will go into the groove properly."

## ROUGH GO

Certain propeller rpm may cause your VOR Course Deviation Indicator to fluctuate as much as six degrees either side of center. Helicopter rotor speeds may also cause course disturbances. Slight changes in rpm setting will normally smooth out the roughness and provide for a steady indication. Best you check for this modulation phenomena before reporting a VOR station or your equipment unsatisfactory.



## HEAD SHAKER

The Flight Safety Foundation published a pilot's bulletin about a British Air Ministry study on vestibular sensations.

The study attempted to find out if a pilot can decrease disorientation by shaking his head. They found this works for six out of ten people, has no effect on four out of ten and makes matters worse for two out of ten.

The moral is to find out which group you are in before you try to get rid of a bad case of disorientation by shaking your head. The study also warns to be sure the bird is NOT turning or in angular motion when you try to realign your mental gyros with the aircraft instruments.



## TWO ALTITUDE STRUCTURE

A major change in US airways structure is due to take effect on 17 September. The intermediate structure is being abandoned and will be replaced by a two level system. Here is a basic outline of the new system.

The Low Altitude airways system will extend from the ground to 17,999 feet, and procedures will remain generally as they are now. The High Altitude Structure will now start at 18,000 and go to Flight Level 450. This will bring along a couple of changes. Altho they haven't been spelled out officially yet, the standard altimeter setting of 29.92 will be used at 18,000 and above. Flight Levels rather than feet will also be used above 18,000.

Contrary to previous information, the Positive Control Area will stay up at FL 240. Not all of the US is under a positive control but they are expanding these areas and they will eventually cover most of the country. The new system will leave a 6,000 foot slice of sky between 18 and 24 thousand in the high altitude structure that is not under positive control.

New charts are on the way and there may be some changes to 60-16. Fly safe types and ops officers, let's get the troops briefed on this stuff and avoid some possible goofs when the change becomes effective.

As FAA changes things over to the two level route structure you can expect a flurry of activity centered around NAV Aids. We understand the changeover will require many frequency and channel changes which will not take place on chart publication dates. Intended changes will be noted in the Flip Enroute charts that are effective for the period when the change will be made. So, check the Flip to keep from turning to the wrong channel or trying to raise a Nav Aid that has been shut down.

## TOPPLED GYROS

Early this year we had a couple of accidents that were apparently caused by disorientation. Since most of our troops are reasonably good instrument pilots these days, some of the troops had trouble swallowing the most probable cause of spatial disorientation. As a result, they asked F-100 units to report all attitude gyro failures as incidents.

Seven weeks after the request, the safety shop had over 45 incident reports on the MM-3. Of importance, in almost all of these reports, the warning flag refused to show its face. It's rather obvious that we have a much bigger problem than anyone suspected.

Right away, people started having conferences

trying to find a handle on the problem . . . at present several actions are in the mill. A QOR has been submitted to get a reliable and adequate warning system that will tell a pilot when the attitude gyro isn't to be trusted - instead of merely warning him that it isn't getting a proper supply of electricity. Don't hold your breath - this one will take time.

A technical assistance team was sent on a tour of TAC bases, looking into the maintenance of these instruments. The MM-3 is now given an inspection every 100 hours instead of every 200 . . . and the instrument technicians will be using a new analyzer to make these tests. The new analyzers are in place, but until recently the instrument people didn't have proper instructions on using it. This has been corrected.

We are also trying to get stand-by indicators installed so you can at least bring things to a quick vote when things are amiss.

The more stringent maintenance should produce an immediate improvement . . . regardless, play cagey and get in the habit of cross checking your basic instruments.

## CHUTE SPILLER

Water parachute landings are one of our most serious survival problems. Aircrews are being lost because they can't dump their chute canopy, or get tangled in the shroud lines and can't get into the dinghy. A lot of time and money has gone into efforts to get better canopy releases and to train pilots, but we still have the problem. Some positive thinking by the Navy may have come up with the solution.

The Naval Aerospace Recovery Facility has completed tests on a modification to the canopy that automatically dumps it in the water. Basically, the mod is a series of open pockets sewn around the parachute skirt. The open end is toward the apex of the chute so the pockets just lie there during descent. But once the chute is in the water, they act as scoops and spill the chute almost immediately. Tests showed that with winds from 18 to 28 knots, the average time for complete canopy collapse was 8.4 seconds.

Because of some minor differences in the Air Force parachute, ASD is going to make some additional tests on this idea, but from here it looks like this is the answer. TAC is going to try and get things expedited and maybe we'll see this change from test to reality soon.





# SEG NEWS

4450<sup>th</sup> Standardization Evaluation Gp.



**MSgt LIONEL R. HALE**  
**KB-50 and KC-97 FLIGHT ENGINEER**  
**EVALUATOR**

MSgt Hale was born in Calloway, Virginia, and entered the military service in November 1942 at Fort Lee, Va. He completed gunnery school at Fort Myers, Fla, and B-24 phase train-

ing at Scotts Bluff, Nebraska. Sgt Hale served in the European Theater of Operations from December 1943 until 21 July 1944 when his aircraft was shot down and he was taken prisoner. He escaped in April 1945, finally returned to the United States, and was discharged in November 1945. A career Air Force Man, Sgt Hale re-enlisted in June 1946 and until February 1954 served tours in Panama, Puerto Rico and Trinidad as a Crew Chief and Flight Engineer on B-17s, KB-50s and KB-29s. He was then transferred to Lincoln AFB, Nebraska, where he checked out in KC-97s and performed as flight engineer on this type aircraft until June 1960. For the next three years, Sgt Hale served at Selfridge AFB, Michigan, Lockbourne AFB, Ohio, and England AFB, La, flying KC-97s and KB-50s.

MSgt Hale is married to the former Gladys Wheeler of Roanoke, Va, and has three children—son Bruce and daughters Doris and Jill.

## C-119 COWL FLAP FLAPS

Three C-119s crash-landed during the last two years after their crews were unable to keep them flying with one engine feathered. In each case, the cowl flaps were left full open because the involved aircrews apparently didn't realize the detrimental effect this had on aircraft performance. With a heavily loaded C-119, cowl flap position can well be the difference between flying and making like an overgrown wheelbarrow.

The flight manual discusses cowl flap operation in Sections II, III and VII. Section VII notes that fully open cowl flaps create high drag which reduces the

load-carrying capability of the aircraft and requires above normal power to maintain desired cruise speed. Minimum cowl flap drag occurs when the cowl flaps are streamlined with the nacelle, or fully closed. Naturally, reducing the cowl flap opening increases aircraft performance, as drag is lessened, and every effort should be made to maintain a good balance between cylinder head temperatures and cowl flap settings. Section VII of the flight manual gives guidance, but here is the crux of the problem. Flight test data for all single engine data is based on closed cowl flaps on the bad engine with five and one-fourth inch gap on the C-119C and a three and a half inch gap on



the C-119G. Fully open, the gap on the C is six and a half inches and five inches on the G.

Test data indicates cylinder head temperature should be 250 degrees centigrade on the C with 260 degrees centigrade on the G. These cowl flap openings give adequate cooling to keep cylinder head temperatures below maximum permissible.

As you would expect, full open cowl flaps on the good engine give a somewhat larger drag value than was used when computing the flight manual data. The drag of fully opened cowl flaps on the C-119C is greater than the same configuration on the G. On the G model aircraft, the drag of cowl flaps in the fully open position on one engine is equal to the drag induced by removing the clam shell doors. On the C model, the drag of fully open cowl flaps is even greater.

Expressed another way, opening the cowl flaps on one engine would require a reduction in gross weight of approximately 2500-3500 pounds to achieve the same aircraft performance as could be expected with the cowl flaps closed. For one engine operation, this drag must either be reduced or be countered with additional thrust which is probably not available. One thing is essential . . . cowl flaps must be closed on the dead engine.

Let's go back to the flight manual statement which says every effort should be made to maintain a balance between cylinder head temperatures and cowl flap settings. Normal operation should pose no problem since desired and maximum temperature ranges are specified and the aircraft can be operated efficiently within these limits. Single engine operation, however, requires high power settings at low airspeeds which compounds engine cooling. Cylinder head temperatures should be expected to climb toward limiting values when operating at maximum power, even with cowl flaps open beyond the trail (or 3° open) position. It is never advisable to use less than trail on an engine operating at max power. Under certain circumstances during single engine operation, it may be advisable to position the cowl flaps between open and trail if airspeed and altitude demand a minimum drag configuration, i.e. shortly after a max gross takeoff when the aircraft must climb or crash. In this case, cylinder head temperatures may exceed the limits until the crew is able to reduce power or increase airspeed and engine cooling improves.

Exceeding temperature limits is very risky, although on two occasions, R-4360 engines on C-119s have operated at or above 300°C for brief periods without encountering detonation. The engine manu-

facturer states that such operation does not result in a significant loss of power until detonation occurs.

Established procedures within the flight manual are sound, but they must be applied with judgment. And there are few more crucial requirements for judgment than when a C-119 aircrew is confronted with an engine failure immediately after a maximum gross takeoff. This is when the cowl flaps must be operated with finesse. Too large an opening on the good engine will give too much drag for continued flight, and too small an opening will cause the engine to fail.

Remember: Do not take off with cowl flaps open. Comply with the flight manual which specifies "trail" or 30 degrees open for some C models. This assures better take-off acceleration, increased initial rate of climb and puts you one jump ahead of the aircraft in case of engine failure.

Perform the entire engine failure checklist when an engine fails. If only the bold print items are performed, the cowl flaps and oil cooler flaps will not be

closed on the bad engine and the resulting drag will usually cause the aircraft to lose altitude. (The C-119C flight manual will be changed to include closing the cowl flap on the dead engine in the bold print items).

Do not attempt to maintain cylinder head temperatures well below limits if you need maximum power to hold your altitude when close to the ground. Closing the cowl flaps just 1 inch will improve the situation more than a little. However, do not ignore engine cooling to the point where you risk detonation. If engine temperatures are exceeded, attempt to get where you can increase airspeed and reduce power as quick as possible to return temperatures to normal.

## CRITICAL AREAS AND ITEMS

TAC Supplement 1 to AFM 60-2 has been rescinded. As a result, no areas and items in the TAC stdn/eval grading criteria are considered "critical." At present SEG does not intend to declare any area or item critical unless analysis indicates weaknesses that require increased emphasis. Examiners at unit level can hold the number of critical items/areas to a minimum by properly using the Summary of Standardization/Evaluation Checks, TAC Form 37, to discover weaknesses in their own unit. This item analysis will allow the unit to take timely corrective action at local level and negate the requirement for command emphasis.



## CROSSED FINGERS!

Recently, during a Stdn/Eval review panel meeting in one of our units, the discussion centered on proper landing and stopping techniques for wet runways. The secretary wasn't too experienced at this type meeting and as a result, here's how she transcribed her shorthand notes . . . "Question was brought up concerning: If you have less than no wind and you are running down a wet, slippery runway, land it the same as you would deploy the drag chute and the flaps are still down and at the same time you cannot have your nose gear up, then, at this time----follow the book, as if a crosswind."

Pilots who have trouble reading and understanding the Dash One should be thankful that it isn't written like this.

## STDN/EVAL FLIGHT EXAMINER'S COURSE

Swinging into the last half of 1964, SEG has scheduled eight sessions of the Stdn/Eval Flight Examiner's Course. While all stdn/eval flight examiners within TAC must attend the course within 3 months of their assignment as a flight examiner, the refresher course requirements have been extended to 2 years. In recent weeks many of you have suggested that we present the flight examiner's course on a recurring basis in the field for those people who, for one reason or another, find it difficult to attend the regularly scheduled classes. Due to the number of classes

scheduled and other commitments placed on SEG school personnel, this is not possible. While we cannot conduct the SEFE school at individual units, we will present the Commander's Orientation Course on a scheduled basis as time permits. The Commander's Orientation Course is a two and one-half hour presentation tailored expressly for supervisor and staff personnel. Paragraph 3-2e, TACM 60-2 lists attendance requirements for this course; commanders desiring the presentation are encouraged to submit their request at least 30 days in advance, to 4450th Standardization/Evaluation Group (SEG-OI).

The Stdn/Eval Flight Examiner's Course schedule for the remainder of 1964 is:

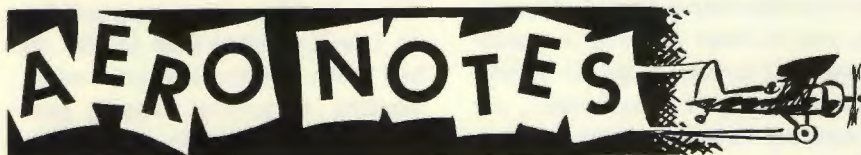
### CONVENTIONAL CLASSES

25 - 28 August 1964  
22 - 25 September 1964  
20 - 23 October 1964  
17 - 20 November 1964  
8 - 11 December 1964

### JET CLASSES

15 - 18 September 1964  
6 - 9 October 1964  
3 - 6 November 1964

Active duty units should request class spaces directly from TAC (DPOP-A-5); Reserve Forces units should obtain quotas from CONAC; ANG units should get their spaces through the National Guard Bureau. Spaces for air advisors assigned to TAC are requested through channels starting with the unit to which the individual is assigned for support.



DID YOU EVER wonder why spin recovery procedures for most swept wing birds call for aileron with the spin? First take a look at a spinning airplane . . . the bird is stalled out (high angle of attack). With stick into the spin, the aileron on the inside wing is up. But because of the high angle of attack, it is in separated, low energy airflow and has little or no effect. On the outside wing tho, the aileron is down and in the highest energy air meeting the aircraft. The down aileron creates

both lift and drag; however, as the wing is already at a high angle of attack the lifting effect is slight. The major force exerted by the aileron is drag which results in a yaw away from the spin. This yaw and whatever yaw that the rudder can create, stops the rotation (you hope) and you're left with nothing worse than a stalled airplane.

We normally think of aileron to control roll and roll only. But the drag, and therefore yaw, they create is also great. This yaw in-

creases with the angle of attack both because the rudder gets blanked out to some extent and because the lift generated by the aileron diminishes. In some birds the yaw from the aileron is so great it cannot be overcome by the rudder and the result can be loss of control. The aileron is almost 15 feet away from the center line of the aircraft so the force applied is greatly multiplied. In other aircraft the rudder is sufficient to overcome aileron induced yaw. In all birds, to get safe maximum performance during maneuvering flight and better, smoother handling at low speed, get those feet off the floor and on the rudders.



# CLEARED to LAND

By MR. JOHN W. HAFLEY ATC Consultant Hq TAC Comm Region



**"C**LEARED TO LAND," is the air traffic controller's final instruction to a pilot completing a mission. A lot of planning and performance have helped make it a successful mission. Centers, towers, RAPCONs, and GCAs have all furnished service, but none as close or highly coordinated as during departure and arrival. Here, traffic is most concentrated, and questions most often arise.

Pilots and controllers sometimes aren't too well satisfied with each other's performance or planning. The specifics often vary, but the usual difficulty revolves around a low aggravation level, or lack of intelligent communication and understanding.

Let's say you are number one for takeoff and the tower holds you for a goonie five miles out on final. You could easily be off before the landing aircraft is anywhere near the field boundary. Has your ag-

gravation level been approached? Have you wondered about the controller being over cautious?

Have you ever been given a radar pattern that's so big you think they're taking you on an around-the-world flight? Or maybe you've been irked by a round-about SID instead of the on-course climb-out you requested...or frequency changes during descent. That's a fertile complaint.

On the other hand, have you ever told the tower you wanted a low approach, then made a touch-and-go or even a full stop landing...or reported ten miles out on initial and then showed up in a minute and a half, or reported on a three mile initial as you arrived at the break? Now, the controller's aggravation level is being tempted!

The examples are many, but this much should set the stage. A successful flight requires the pilot and controller to work as a team. The pilot operates within his per-

sonal limits and the limits of his aircraft, nav aid and communications capabilities. The controller is faced with similar system, facility, and personal limitations.

Things don't always look the same from the cockpit as they do from the tower cab or on a radar scope. And neither team member sees, feels or experiences the outside influences facing the other. Take the departure example for instance. Many controllers handle more landings and departures every day than a pilot makes in a year. The controller's visualization of the situation is bound to be different. It is based on judgment and experience...and situations such as a T-39 or B-66 holding a minute or more on the runway before rolling, aborted takeoffs, and sudden emergencies. He's had things backfire when people didn't do like it seemed they should. He has seen separation slip away. Sending an arrival around, particularly a code five, doesn't win many friends. If the controller plays it a little extra safe, grin and bear it, there's usually a reason.

Controller training and upgrade training is continually in progress. Military controllers must often work abnormally long schedules and frequently rotate overseas or to other more critically manned facilities as often as 18 months and surely within 3 years. This means the military controller must adapt quickly to learn the details and idiosyncracies of the new area. His rating



and performance are closely examined and monitored by both-on-the-spot and airborne evaluators.

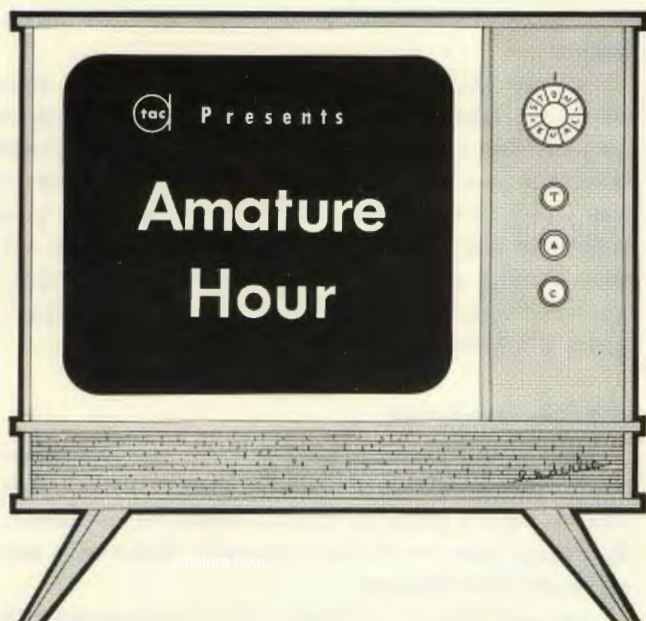
Similarly, today's Air Force pilot must adapt quickly to new and complex equipment, and retain and apply a volume of detailed information which often saturates his capacity. He must be ever alert to new techniques and procedures, both in the aircraft and in the air traffic control system, and he also is evaluated and checked closely

and regularly.

Pilots and controllers are in the boat together and teamwork is the password. So, lend a hand where you can...keep the chatter down and go along with the controller's planning unless he has really goofed on the dangerous side. If you have a real OHR, by all means send in a report. But if it is just a beef on an inconvenience, call the local AFCS Flight Facilities Officer. He'll be glad

to look into the incident and give you reasons. He can also improve the services along with team understanding.

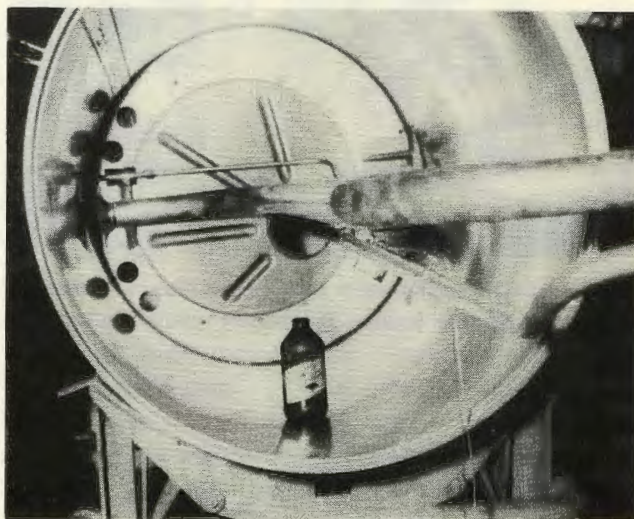
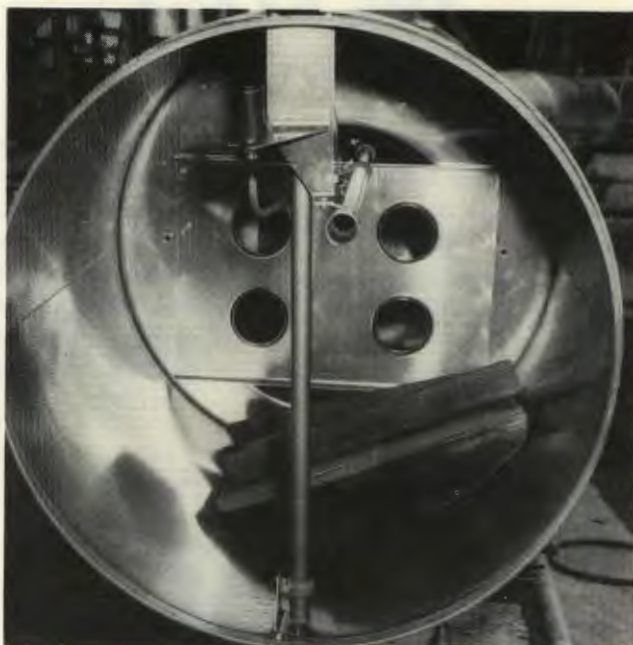
And, when you hear that "cleared to land" after a long flight, you'll have a deserved sense of pride in your accomplishments and the accomplishments of your controller teammates who did their level best in your behalf.



The safety troops from Mobile sent us this collection of photos showing some of the stuff they've found in some of the F-105 drop tanks they've been working on. Most of it appears to have been left in the tanks when they were built.

Admittedly, you troops can't do much about unconcerned litteridiots who can't tell the difference between a garbage can and a fuel tank section...but, these photos do point out a very important point. Chances are only two or three people in that tank plant are causing this problem. They apparently could not care less...else they would care more!

Things like this make me wonder how many aircraft clobber each year because someone is not concerned. A man can be highly skilled, have superior intelligence and be loaded with knowledge, but if he is not concerned, if he could not care less, then he ain't worth a damn around airplanes. We are in that kind of business.





# GROUND SAFETY NOTES

ground safety notes

## HOT STARTS

An airman third was helping a friend start his heap. While his friend cranked the engine, the airman took a plastic container and poured raw gas into the carburetor throat. A first lieutenant saw what the airman was doing and hollered. Too late, the engine backfired and PHUTOOM! The airman third had a handful of fire which soon spread to his face after the plastic container exploded ... first and second degree burns to hands and face.



Two and a half weeks later at another airbase, an airman first was having trouble starting his car. He got another airman to crank it over while he primed it by pouring gas down the - you guessed it - carburetor throat. He used a glass jar and escaped with first and second degree burns on both hands and arms. Once again, a backfire touched it off.

Three days later another airman first at another

airbase was helping his super - a tech - start an MA-2 by pouring gas down the, sigh, carburetor air intake. When the unit backfired, it coughed up burning fuel and sprayed the airman first. He was taken to the base hospital with burns on his arms, hands and chest.

I'm fairly certain some of you readers have started engines this way without getting into trouble ... BUT YOU CAN'T BE LUCKY FOREVER, so don't tempt fate.

By the way, holding a piece of metal or other flat object over the carburetor intake while someone cranks the engine will do a quicker, safer job of priming a balky engine if your fuel pump ain't shot. If it is shot, you aren't going to get much of a start anyway.

Incidentally, an airman first got a broken chin bone and one ear half torn off in another type of accident that sometimes happens under the old shade tree. His car fell off a pair of jack stands while he was trying to install a muffler. The jack stands (one under the left front bumper, the other under the left rear frame) started sinking into the soft blacktop where he was working. He tried to get out, but didn't make it before the car fell.

## OFF THE SHOULDER

One of the ground safety experts was telling me how much trouble we are having with small cars. The fatality rate is twice as high in small car accidents. By small cars he means compacts, sport cars and all those little jobbers.

As you'd expect, anytime a small car tangles with one of the standard chunks of Detroit iron, the little guy comes out second best. Altho this accounts for part of the problem, it isn't the whole of it. No sir, the majority were killed in single car accidents ... you know, accidents where the driver loses control on a curve or after getting off onto the shoulder of the road and either rolls his machine or wraps it around some fixed object, like a tree, pole, bridge or cow.

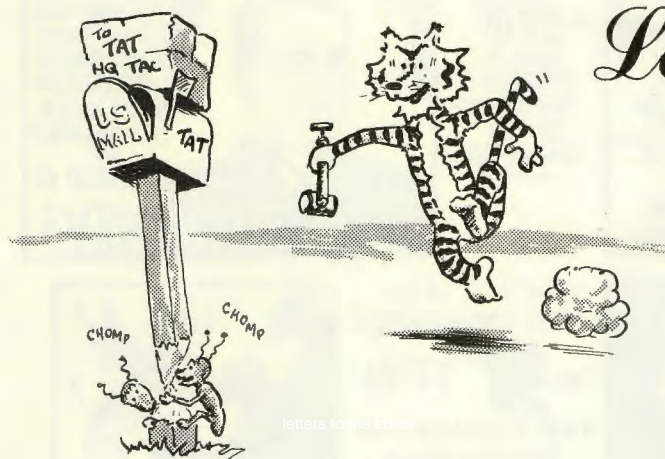
Why? The size of the car, in most cases, has nothing to do with this. The trouble seems to come from old habits. Most of us learned to drive in a standard machine ... a machine with a high steering ratio. The steering ratio on small cars is much lower. A flick of the wrist will take a compact clear across the road, but hardly budge a standard car. In an emergency, old habits take over and the sports car driver oversteers himself into trouble.

I have no quick solution ... I drive a compact myself and believe I have learned to cope with it.



If you choose to get acquainted with your own car,

choose yourself a good spot where the highway is straight and level, the shoulder wide and unobstructed. Find a place where there is a definite lip between shoulder and road and make your tests when there is no traffic. Start out slow, about 20 or 25, and quit when you start having the least bit of trouble controlling the car, or when you reach normal driving speed. If control becomes difficult, hold the car straight and take your foot off the gas then steer it back onto the road after it has slowed. This is still the best cure for an off the highway emergency IF the shoulder is unobstructed, but in an actual emergency you can't always have this luxury.



Reference your comments in the July ATTACK about substandard transient quarters. I'm a little confused as to just what commanders can authorize their troops to find quarters offbase. I frequently am designated "Mission Commander" for a section of several birds. Can I have my troops move into a motel?

*"Dear Ever"*

TAT

## TAC ATTACK

## Letters to the Editor

I feel sure that you will have received several letters from C-130 pilots on the error in my article, "TLC For Safety."

Looking back at my original draft, I can see that somewhere there was some slippage on which engines were feathered. However, for your edification, if you lose Nr. 3 and Nr. 1, you do not lose the utility hydraulic system on a C-130 B or E. The first engine to be feathered should have read Nr. 2. I would be interested in knowing how many of our 130 pilots caught the error. Thanks again for printing the article.

Sincerely

LT COL PAUL L. SMITH  
Hq 839th Air Div.  
Sewart AFB, Tenn.

Dear Paul

*I plead guilty...while proofing I noticed that altho the copy said the co-pilot pulled the fire handle on two, the photo showed him reaching for three. To avoid a minor error I made a major one.*

*Sorry I threw a curve into your fine article and promise to watch the slippage in the future. "Slippage"...that's a new word for it. Thanks for being kind to stupid old editors.*

TAT

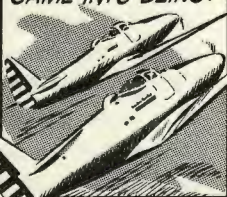




**31<sup>ST</sup>**  
TACTICAL  
FIGHTER  
WING

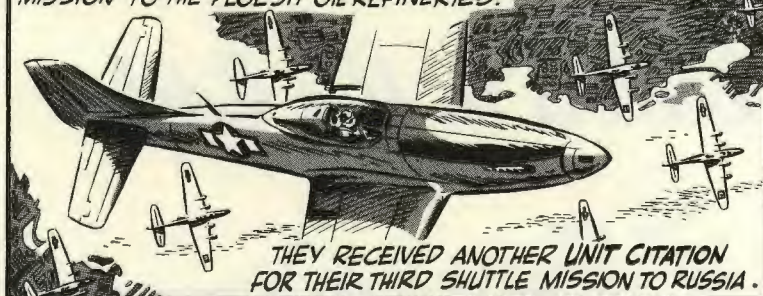
HOMESTEAD  
AFB,  
FLORIDA

ON 1 FEB. 1940,  
THE 31<sup>ST</sup> PURSUIT  
GROUP, FORMED  
IN PART FROM THE  
FAMED W.W. I  
1<sup>ST</sup> PURSUIT GROUP,  
CAME INTO BEING.



THE 31<sup>ST</sup> ENTERED COMBAT IN AUG. '42, FLYING  
"SPITFIRES" WITH THE 8<sup>TH</sup> A.F. AND SAW ACTION OVER  
EUROPE, THE MEDITERRANEAN AND NORTH AFRICA.

FLYING P-51 "MUSTANGS" IN 1944, THE 31<sup>ST</sup> WON ITS FIRST  
DISTINGUISHED UNIT CITATION. WHILE ON A BOMBER ESCORT  
MISSION TO THE PLOESTI OIL REFINERIES.



THEY RECEIVED ANOTHER UNIT CITATION  
FOR THEIR THIRD SHUTTLE MISSION TO RUSSIA.

THE 31<sup>ST</sup>  
ESTABLISHED  
AN ENVIABLE  
RECORD  
OF **570**  
ENEMY  
AIRCRAFT  
DESTROYED  
BY THE  
END OF THE  
WAR!



AMONG ITS  
POSTWAR  
ACTIVITIES,  
THIS UNIT  
PIONEERED  
LONG RANGE  
OVERWATER  
JET DEPLOY-  
MENT WHILE  
COMMANDED  
BY  
COL. DAVID C.

**SCHILLING**

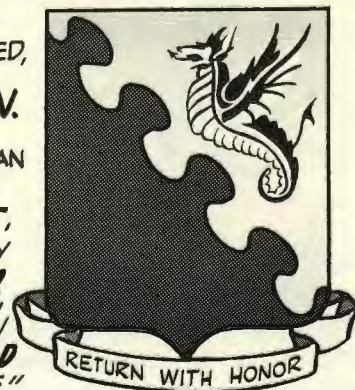
OUTSTANDING AMONG THESE  
OPERATIONS WAS "FOX PETER ONE"  
- A RECORDBREAKING TRANSOCEANIC  
MASS FLIGHT FROM TURNER AFB, GA.  
TO YAKOTE AFB, JAPAN.



JULY  
4-17  
1952

FOR THIS THE WING RECEIVED THE  
FIRST USAF OUTSTANDING UNIT AWARD!

SINCE IT WAS  
FIRST ORGANIZED,  
THE **31<sup>ST</sup>** T.F.W.  
HAS REMAINED AN  
OUTSTANDING  
TACTICAL UNIT,  
COMMANDED BY  
COL. F.A. NICHOLS.  
THE WING IS NOW  
FLYING THE F-100D  
"SUPER SABRE"



## Flight Safety Awards

Occasionally someone asks why the safety section doesn't award plaques to the people selected as Pilot of Distinction, etc. Since July of 1963, each person selected for the Pilot of Distinction, Air Crew Achievement, Crew Chief of the Month and Maintenance Man of the Month awards has received a small silver case engraved with their name and the award. We selected silver cases for these awards because they are functional, decorative and at the same time are an excellent and tasteful way of displaying

achievements of this nature. Plaques and certificates are nice, but working aircrews and maintenance men have no office wall on which to hang a plaque. On the other hand, everyone, single or married, has a place and use for a silver case. They can put one on top of the dresser to hold their brass and collar buttons or on the center of the dining room table to hold anything from peanuts to money . . . so unless the majority insist on a plaque, we will continue this program.





PILOT OF  
DISTINCTION

Captain Joe B. Dishongh of the 366th Tactical Fighter Wing, Holloman AFB, New Mexico, has been selected as the Tactical Air Command Pilot of Distinction.

Shortly after taking off from Holloman AFB, Captain Dishongh's wingman advised him that fuel was streaming from the underside of his F-84F. Capt Dishongh turned toward the field and notified the command post of his problem. Approximately 18 miles from the base at 10,000 feet, the engine started losing power and Capt Dishongh activated the emergency fuel system and airstart ignition. However, the RPM continued to unwind to 50 per cent. Captain Dishongh retained the aircraft's external 450 gallon tanks until he was well clear of the city of Alamogordo and the base housing area. He then jettisoned the tanks and successfully completed a landing at Holloman AFB.

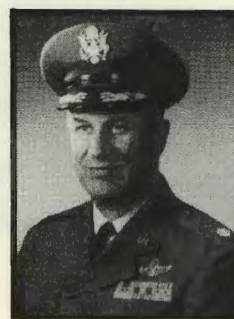
Investigation revealed that the main engine fuel line had become disconnected. This allowed only a small amount of fuel to reach the engine.

Thru outstanding knowledge of the glide distance and sink rate of his aircraft, Capt Dishongh was able to effect a safe landing and save the Air Force a combat capable aircraft.

TAC ATTACK

# WELL DONE

OUTSTANDING  
FLIGHT  
SAFETY OFFICER



Lieutenant Colonel Ray West, Jr., of the 434th Troop Carrier Wing, Bakalar Air Force Base, Indiana, has been selected as the Tactical Air Command Outstanding Flight Safety Officer for the six month period ending 30 June 1964.

Lieutenant Colonel West has helped the 434th Troop Carrier Wing attain an enviable flight safety record. With an accident free period that extends more than seven years and six months, the unit has logged more than 84,000 flying hours. The 434th Troop Carrier Wing was awarded the USAF Flight Safety Award for both 1961 and 1963.

Although Lieutenant Colonel West is a ready reservist and unable to personally supervise the flight safety programs on a daily basis, he conscientiously reviews the projected flying schedule to insure adequate guidelines and leadership are effected during his absence. During unit training assemblies he visits each subordinate unit to assure flight safety is receiving adequate emphasis at all levels of operation.

Lieutenant Colonel West is a combat ready aircraft commander and as such monitors every phase of unit training and operation. He has notably used unit display boards to get information to all personnel and produces a monthly flight safety publication to further insure the widest possible dissemination of safety material.

Well done Lieutenant Colonel West . . . keep up the fine work.

Awards for Outstanding Maintenance of Aerospace Vehicle Historical Records for the month of June

A1C EDWARD B. THORNTON  
354TFW MYRTLE BEACH AFB, S. C.

TSGT JAMES J. CAMPBELL  
463TCW, Langley AFB, Va.

TSGT CRAWFORD L. CHAPMAN  
4434ATS, Randolph AFB, Tex.

A1C EDWARD B. THORNTON  
354TFW Myrtle Beach AFB, S. C.





## MAINTENANCE MAN OF THE MONTH



## CREW CHIEF OF THE MONTH

# R e c o g n i t i o n

Technical Sergeant Lester G. Peterson of the 4440 Aircraft Delivery Group has been selected as the Tactical Air Command Crew Chief of the Month for August.

As crew chief of a KB-50J Sergeant Peterson demonstrated outstanding ingenuity and perseverance in his efforts to keep his aircraft flying. This effort paid off with a perfect record of no aborts and no late take-offs during June.

A highly motivated professional, Sergeant Peterson enthusiastically helps crew chiefs maintain their aircraft to the end that the entire unit benefits. He is both willing and able to assist and instruct less experienced personnel in proper maintenance procedures and techniques. Always setting an outstanding example of proper military bearing and appearance, Sergeant Peterson's outstanding achievements and ability and his enthusiastic efforts to accomplish the mission qualify him as Crew Chief of the month. Well done.

Technical Sergeant Warren T. Baize of the 4512th Organizational Maintenance Squadron, Luke Air Force Base, Arizona, has been selected as the Tactical Air Command Maintenance Man of the Month for August.

Sergeant Baize is responsible for the supervision of maintenance performed on 18 F-100Ds. Through his intensive efforts the in-commission status of these aircraft is continually above 85 per cent and aborts are unheard of. In a recent three month period Sergeant Baize's aircraft averaged 59 flying hours apiece. His determination and outstanding guidance have welded his unit into a superb maintenance team.

Sergeant Baize's superior knowledge of both AFM 66-1 and TO 00-20A-1 has enabled him to increase the effectiveness of the unit and his ability to pass this knowledge to his subordinates through OJT has resulted in 100 per cent upgrading of all tested personnel. Proven ability as a manager qualifies Sergeant Baize, not only as a supervisor, but as a source of mature opinion and good judgment in all matters pertaining to maintenance and insures a difficult mission effectively accomplished.

The following TAC personnel were awarded the Air Medal for meritorious achievement while participating in aerial flights:

Captain Richard A. Fleitz  
 Captain Ted K. Case  
 Captain Earl H. Richmond  
 Captain Robert A. Jandt  
 Captain Gregor J. Schwinghammer  
 Captain Robert P. Terbet  
 Captain Thurlow H. Ralph  
 Captain Jerry L. Proctor  
 Captain French C. Brown, Jr.  
 Captain Bartholow Park, Jr.  
 Captain Richard M. Sanders  
 Captain George W. Oliver  
 Captain John R. Gilchrist  
 Captain William D. Castleman

Captain Thomas M. Madison  
 Captain Lawrence W. See  
 1st Lt John T. Cox  
 1st Lt David A. Hennessey  
 TSGT Thomas P. Walker  
 SSGT William F. Mahoney, Jr.  
 1st Lt Henry J. Clement  
 1st Lt Denis J. Cole  
 1st Lt Roy N. McCann  
 TSGT Glen C. Anderton  
 SSGT Jose D. A. Gallegos, Jr.  
 SSGT Bobby E. Gambrell  
 A1C Duane H. Meadows



# TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

## JUL TALLY

UNIT	MAJOR	MINOR
27TFW	1	
355TFW	1	
4510CCTW	1	
102TFW	1	
131TFW	1	
143ACG	1	
463TCW		1

## ACCIDENT FREE

MAJOR & MINOR

### JET

ACTIVE	MONTHS		ANG
12TFW	14	18	121 TFW
27TFW	9	15	140 TFW

### CONVENTIONAL

ACTIVE			RESERVE
4500ABW	37	92	434 TCW
464TCW	15	53	435 TCW

## MAJOR ACDNT RATE

TYPE	1964*	1963
ALL	11.6	10.3
F-4	6.2	0
F-105	34.8	23.5
F-104	15.0	33.2
F-101	34.4	13.9
F-100	17.9	12.8
F-86	0	0
F-84	25.1	22.9
B-66	0	0
B-26	128.5	8.6
T-39	0	0
T-33	0	1.6
T-29	0	0
KB-50	0	4.1
C-130	1.1	1.0
C-123	7.2	4.6
C-47	0	0
U-10	41.5	11.6
T-28	0	37.2

July brought a slight reduction in accidents, but nine fatalities marred the picture.

A KC-135 and an F-105 collided during rendezvous for refueling killing all four in the tanker as well as the F-105 pilot. Two U-10B pilots were killed when their aircraft crashed near a beach on a night mission and an RF-101 pilot died when his aircraft crashed out of a thunderstorm after he entered it on a low level nav mission. The engine quit while an F-86H was turning base leg for landing. The pilot ejected, but the seat belt initiator didn't work and he was killed.

Non fatal accidents were led by two F-100s that landed short of the runway... can this be the start of a trend? Another F-100 was lost when apparently hit by a ricochet on a ground strafe pass. The pilot ejected successfully.

A C-130B picked up minor damage to the underside of its fuselage during an assault landing.

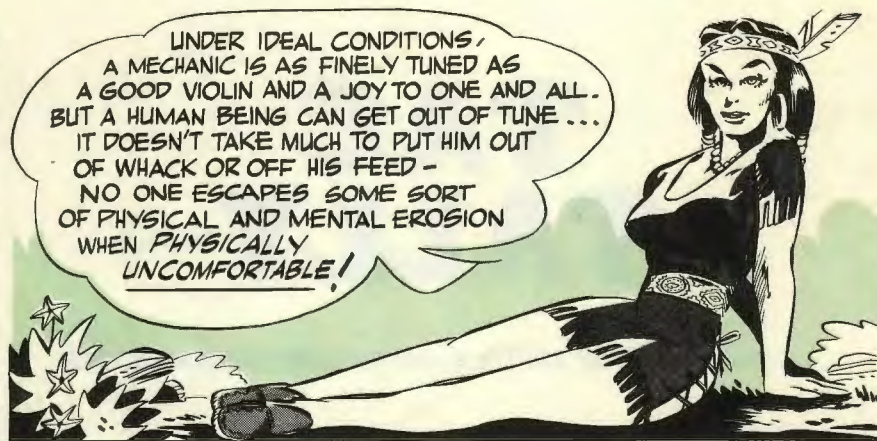
\* 1 JAN - 31 JUL 1964





**PERSONAL DISCOMFORT**  
IS ONE OF THE BIG PROBLEMS  
OF THE MEN TRYING TO GET A  
JOB WELL DONE!

UNDER IDEAL CONDITIONS,  
A MECHANIC IS AS FINELY TUNED AS  
A GOOD VIOLIN AND A JOY TO ONE AND ALL.  
BUT A HUMAN BEING CAN GET OUT OF TUNE ...  
IT DOESN'T TAKE MUCH TO PUT HIM OUT  
OF WHACK OR OFF HIS FEED -  
NO ONE ESCAPES SOME SORT  
OF PHYSICAL AND MENTAL EROSION  
WHEN PHYSICALLY  
UNCOMFORTABLE!



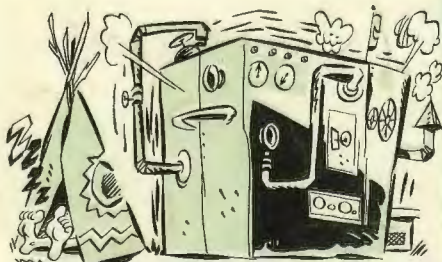
WHEN IT COMES TO COMFORT,  
**NOISE** IS THE **NUMBER ONE ENEMY**  
AROUND THE AIRDROME - IT CAUSES  
FATIGUE AND CARELESSNESS!



MOST PEOPLE NOW REALIZE THAT  
**HIGH FREQUENCY JET ENGINE NOISE**  
WILL EVENTUALLY DEAFEN THEM -  
UNLESS THEY USE **EAR PROTECTORS.**



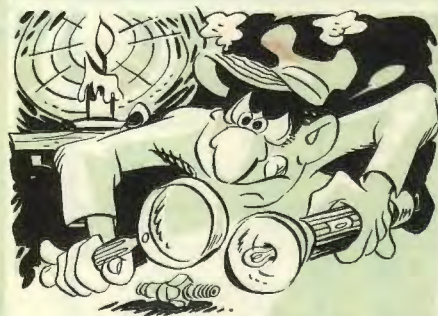
BUT THERE  
ARE MANY OTHER  
AREAS, SUCH AS  
HANGARS AND  
SHOPS WHERE  
WORKING CON-  
DITIONS COULD  
BE IMPROVED -  
FOR  
EXAMPLE ...



... BY RUNNING **POWER UNITS** AND  
**COMPRESSORS** OUTSIDE OF THE  
BUILDING WHENEVER POSSIBLE, AND  
TAKING OTHER ACTIONS TO IMPROVE  
AND INCREASE **WORKING EFFICIENCY.**



... KEEPING **HANGAR DOORS**  
AND **ENTRANCES** CLOSED IN THE  
WINTER TO KEEP THE HEAT IN!



... MAKING SURE YOU HAVE **SUF-  
FICIENT LIGHTING** IS ALSO VERY  
IMPORTANT FOR **GOOD MAINTENANCE.**



WITH COLD WEATHER COMING ON,  
PROPER **VENTILATION** OF ACID  
FUMES, PAINT SPRAY AND EXHAUST  
GASES IS AN IMPORTANT ITEM!



COMFORT IS  
AN IMPORTANT  
FACTOR TO  
EFFICIENCY ...  
ELIMINATE  
NEEDLESS  
SAFETY  
HAZARDS -  
SO LET'S  
IMPROVE OUR  
WORKING  
CONDITIONS  
!



- BUT DON'T  
**OVERDO IT!**