# TAC ATTACK

## DECEMBER 1966

#### for efficient tactical air power

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Season's Greetings from TAC ATTACK

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TAC ATTACK

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# Angle of ATTACK -

#### HOLIDAY FROM DANGER

As we approach the busiest weeks of our traditional year-end holiday period the threat of tragic and unnecessary loss from traffic accidents looms larger and larger. Several conditions combine to make this the most hazardous period of the year on the highway. More people throughout the control plan trips to be with friends or relatives. The highways are more crowded than usual. Daylight hours are short. Rapid changes in weather and general winter conditions make roads more hazardous.

But two prime factors account for most of the increase in traffic accidents during the year-end holidays. Late-night driving increases. Whether it is returning from a party a few blocks from home or pushing through to the end of a trip, too many of us press beyond normal endurance. And increased use of alcohol during this period inevitably mixes with driving...with the usual predictable results.

I firmly believe these two factors are more responsible for the holiday increase in highway danger than all other factors combined. We can eliminate much of the danger if we celebrate the season in a same frame of mind... if we don't try to cram too much living into our holidays.

Last year the people of TAC displayed the sane approach 1 am talking about. The Thanksgiving and Christmas periods passed without a highway fatality. We experienced only one traffic death during the New Year week end.

This year the war in Southeast Asia may increase our vulnerability to accidents. Many will use the Christmas holiday to visit with family before going overseas. Others will have just returned from combat...with much to celebrate. Those of us who remained in this country are under greater pressures than before, working longer hours. For almost all of us the urge to relax, forget the pressures...celebrate...will be stronger than a year ago.

This year we must be more aware of the dangers of holiday driving. We must be more alert during the high-hazard periods of bad weather, darkness, and late-night hours. We must be extra careful in our use of alcohol when we know we will drive home.

We know we can avoid the injury, death, and family tragedy.

Join me in a Holiday from Danger!

omes, C. Bales

HOMER C. BOLES, Colonel, USAF Chief of Safety



Although most of our attention is directed SEA-ward these days, our stateside units must be prepared to deploy to other, and sometimes very different, parts of the globe. This article was culled from two such...winter deployments to the northern cold of Norway. Phantom-type phlyers would do well to tuck this information away in the back of their minds... or the article itself in the bottom of a footlocker...for that day when all the jungle survival ideas and snake-bite remedies have to give away to parkas and bunny pants.

nformation on F-4C cold weather operations is still somewhat limited ... even in the F-4C Dash One. I'd like to pass on some of the things we in the 46th Tactical Fighter Squadron learned during two winter deployments to Norway. We have supplemented our day-to-day winter experience with information gained from the 389th Tactical Fighter Squadron deployment to Alaska in late 1965; the Climatic Laboratory at Eglin AFB; and the cold weather test program at Eielson AFB, Alaska.

The 46TFS deployment in February 1965 was the first in two categories: the first F-4C squadron to deploy overseas, and the first squadron to operate in a cold weather environment.

Our knowledge of cold weather operation in the F-4C at the time was limited to what, we learned from the cold weather tests at the Climatic Laboratory Hangar at Eglin, and the two birds at Eielson, Alaska. Combining experience, common sense, and a lot of preparation, we felt we were ready for anything. As a result, all the jocks, from the southern boys who couldn't even spell SNOW to some old ADC operators from above the Mason-Dixon line, admit that the Phantom II is a truly adaptable fighter in any environment.

FROZEN phantom

The briefings for this deployment were detailed and thorough. They had to cover all survival and operational data from the sunny climate of Florida, across the North Atlantic, to the rugged mountainous terrain of Norway. Donning our poopy suits, we departed for the non-stop trip leaving MacDill's 11,200 feet of runway at a balmy 88 degrees, and arriving in Norway on a snow covered 8800-foot runway at a somewhat cooler 22 degrees. Okay, let's take a look at operating the Phantom in a cold weather environment from preflight to shutdown.

#### Maintenance first:

Preparing the F-4C for the cold weather is important. Before leaving MacDill we tried to condition the Phantom for the trip by ensuring that all B-nuts and Jamby Capt Albert L. Page, Jr. 46TFS, MacDill AFB

nuts were properly torqued to prevent hydraulic leaks. We also checked to see that the wing fold area was packed to prevent fuel leaks.

Extra time on preflight by maintenance and pilots eliminated a lot of frustration caused by the cold weather, as well as possible materiel failure and aborts. Once in the cold country, we applied hot air to the cockpits, engine bays and static ports before flight to prevent instruments, microswitches, relays and valves from sticking. On each preflight we also ensured that the pneumatic bottles had been properly reserviced, and the nozzle shroud flaps were clear of ice deposits.

Most important of all is deicing. Proper deicing of the aircraft is mandatory. Here is an added tip for maintenance if they are going to tape the leading and trailing edge flaps to protect the boundary layer control system valves from freezing due to moisture. Our people used red tape (PPP-T-60 amend 3, type 3, class 1, Hampton Mfg. Co.) to prevent



moisture from forming in the system. Normally, it would not adhere to the wing surface when applied at below freezing temperatures. We felt that a definite requirement exists for wing covers to protect the BLC system and to save a lot of man-hours spent in snow removal and deicing the aircraft.

#### **Pilots:**

Preflight in cold weather is no different than at home in Florida except for the items above. Use caution climbing the ladder, and extreme caution entering the rear cockpit. The metal structure of the ramp you walk along is narrow and slippery, especially with any snow or ice on the soles of your boots. A ladder built specifically for the rear cockpit would be a definite safety factor.

Next, strapping in while wearing bulky winter flying clothing is difficult and somewhat restricts your movement in the cockpit. Some of our bigger pilots had a problem getting their leg restrainers (garters) hooked up because the straps were just barely long enough to reach. You bigger jocks may have trouble looking at some of the switches on the rear part of the consoles, and moving them at the same time. Therefore, cockpit familiarity is a must, and after you move a switch, check it visually. It's embarrassing to turn on the wing dump switch instead of putting the external tank switch to outboard, for example.

In temperatures below freezing, keep the oxygen mask well clear of your face until you are ready to hook it up ... to keep the inhalation valve from freezing. Also note that the oxygen mask connector hose to the "T" connector that remains in the aircraft may have a stiff O-ring after it's been cold soaked at zero degrees. It may be difficult to hook up. A small application of heat on preflight will relieve this problem.

After starting the engines at extremely low temperatures the engine oil pressure indication will become excessive. It could peg out as high as 100 psi. If this occurs, allow the oil to warm up and the oil pressure to drop below 50 psi before cycling the generator switches to GENERATORON. Insure that the generator out and bus tie open lights go out. We found it generally took 5 to 10 seconds for the oil pressure to drop below 50 psi. In a few instances the bus tie open light took 20 to 30 seconds to go out. The generator switch was recycled and no further problems.

In temperatures below minus 10 degrees we could expect extended warm up and gyrocompass times (10 to 15 min) for the Inertial Navigation System. And when the aircraft had been exposed to temperatures of minus 20 degrees or below for 12 hours or more, we learned to expect a four to five minute extension in warm up time. During the initial BIT checks, the Vc gap appeared at 0200 instead of 0300, and the mag current could be 0.2 to 0.3 units higher when first turned on. It would usually return to normal as equipment warmed up.

BLC valves will freeze up, so we quickly adopted a policy of not cycling the flaps until after 15 minutes of warm up time. This was to avoid shearing a rivet on the actuator rod or having the plunger-type BLC microswitch stick momentarily during flap extension, giving an erroneous flashing BLC malfunction light. We cycled the flaps in the maintenance check area just before taking the runway.

Any aircraft that you can fly still takes all the skill, cunning, and CAUTION you can muster to taxi it safely on snow and ice. SLOW is the answer. On a snow packed ramp it may require 5 to 10 percent above idle to keep the aircraft moving with minor braking. On icy ramps, idle can be too much and you must use a lot of braking.

Engine - Runups: On hard packed snow, the brakes will normally hold while you check one engine to approximately 95 percent. If it's ice, you probably won't get above 75 percent before the nose will cock the big bird to one side. We initiated takeoff roll from idle when the RCR was low (below 10), otherwise 85 percent was normal RPM before brake release.

**Inflight:** The only thing to think about here is whether or not you can use the face curtain for ejection. Because the winter flying clothing was so bulky, we felt we would have to use the lower ejection handle as our primary means for ejection.

Landing the Phantom II in any weather conditions, from a dry 10,000 plus runway to a short wet or snow and ice covered runway, is as advertised in the F-4 Dash One. The F-4 is built to fly an "on speed" final followed by a "slow speed" when ground effect takes over, followed by a firm touchdown. The stopping distances computed in the Dash One are based on this touchdown technique. Flaring the bird for a soft touchdown, or adding five knots for the wife and each kid, can easily buy you a ride into the barrier. The Dash One stresses deploying the drag chute immediately after touchdown and using full aft stick to provide aerodynamic braking. This shifts the aircraft weight to the main gear, and improves braking performance.

Now, let's look at braking and discuss the anti-skid system for a moment. If you haven't already discovered it, you will find the anti-skid system infinitely better

and wiser than the pilot ... and it will get you maximum performance stopping distance if given the proper chance. But the antiskid system can be deceptive. On a dry runway, or one that's slightly wet (puddles, etc.), you'll easily detect the anti-skid cycling. However, on a snow or ice covered runway, it is difficult to detect the cycling and therefore more important for you to see the rate at which the aircraft is slowing down. It appears to be uncomfortably slow at first. Don't be in a big hurry and jump to the conclusion that the anti-skid system has malfunctioned. If you disconnect it you have only your two size twelves to get you stopped safely. At approximately 75 knots and below you should definitely feel the anti-skid working for you. And barring a bonafide malfunction, it will do a tremendous job.

Even with some fairly good crosswinds, rudder or nosewheel steering will maintain excellent directional control on the runway. Although we've heard the RF model has experienced some fishtailing problems in a crosswind, we haven't heard of any in the F-4C.

The best guide to whether or not you should be able to stop the Phantom on the runway will be the RCR. Remember that the RCR can only approximate the stopping factor. Runway length versus stopping distance, operational commitments, and requirements should dictate the decision to land or divert under marginal conditions. If this is the case, don't forget to get the tailhook down early. If you stop in time, you can always raise it again.

An additional caution note, since I mentioned barriers, if any of the bases you use have a SAFE-BAR (Safeland Barrier) it will be a good idea to have the engineers check to see where the top cable is going to make contact on the top of your F-4. Our rough guess was that it would hit between the front and rear canopy on initial contact. We also don't have any information as to whether or not it would come through the canopy.

**Taxiing** back to the ramp after landing, we found we had to shut down one engine to keep the taxi speed down without riding the brakes all the way in. In some cases we kept the drag chute on until shutting down. Ramp facilities or operational requirements generally dictated this SOP.

General Information: One of the recommendations of the 1964 tests at Eielson was to raise the flaps as soon as possible after landing. This was to shut off the BLC air which otherwise caused loose snow to swirl and be drawn in through the aux air doors and pass along the engine. When this happens snow melts and deposits of ice form shortly after shutdown. The ice can cause the nozzle feedback housing to bind and possibly result in nozzle failure upon the next engine start. General Electric solved that problem by installing a moisture drain hole. Result: We had no problems in this area, and we followed the check list, raising the flaps after we cleared the runway.

The only major factor that comes out loud and clear on the Phantom II, is that it is a tremendous piece of machinery. It does the job as advertised. The 15th Tactical Fighter Wing's deployments to both the arctic cold and tropical environment of Southeast Asia with the F-4C have convinced us of its outstanding performance.

>

## reverse logic

by L/Col Carl E. Pearson Chief, Safety Education Hq TAC

he many-motor pilot turned final with Number One, Two, and Three throttles in his big mitt and rolled wings level. He made a fast power reduction with the same three throttles and started down final. Number Four had been acting up at high power settings, so the pilot and flight engineer agreed to leave it at reduced power. His power adjustments around the pattern had involved only the first three. He was happy to have Number Four pulling its own weight without barking at him. He put in a slight crab to counter the left crosswind on final ... his approach looked good all the way.

His touchdown was smooth, and with a self-satisfied grin, he closed Number One, Two, and Three throttles against the idle stops. After a moment's pause he came up and over the stops with One and Two...Number Three stayed in forward idle. Number Four throttle, his normal righthand reference point, remained in forward thrust, forgotten on landing by pilot, co-pilot, and flight engineer.

The swerve to the left had to



happen. Number One and Two were in reverse open range, Number Four in forward open. A left crosswind was weather vaning the big-tailed bird, and the co-pilot was applying full left aileron. The old girl responded the only way it could and headed for the boondocks in a circle left.

The surprised pilot reacted to the yaw quickly and confidently. Unwilling to accept the idea of a reversing error on his part, he yanked back on Number Two... increasing reverse thrust. He thought he was holding Number Three and that it would push the right wing back into line.

He wasn't and it didn't!

The bird reacted to this rude . . . and incorrect . . . recovery procedure the only way it knew. It tightened the circle left until it ran out of running room.

Number Four churned away for some time after the bash...reminding everybody of their neglect.

At a different location, some months later, another manymotor type rolled out on final in a practice three-engine approach. He simulated feathering Number Four prop and set final approach power on One, Two, and Three. Number Four pulled enough power to simulate the drag of a feathered prop.

After a good touchdown only slightly left of center, he closed One, Two, and Three. Without hesitating, he lifted One and Two throttles up and over the stops into reverse open range. The obedient bird swerved left and followed a short circle route a cross the boonies...nicking a prop in the process.

Through the multi-engine years, throttle orientation using sense of touch alone with one of the outboards out of its normal alignment has mousetrapped a lot of many-motored pilots. Gangthrottle handling techniques vary considerably among pilots. And the short-fingered, small-span hand has special problems. Most pilots feel the outside throttle as a point of departure and move from that reference point to the inboards. If Number Four is out of the normal closed position on touchdown, Number Three is his point of departure when he zeroes in on the inboards. Using his sense of touch alone. Three feels like Four and the old habit patterns take over from there ...

There are several safeguards available to the multi-engine pilot to avoid this variety of do-it-myself accident. As in bridge, one peek is worth any number of finesses! It doesn't have to be a game of blind-man's bluff at the moment you select throttles. A quick look saves much embarrassment later... and you can afford it!

Crew coordination . . . that hard to define and seemingly hard to obtain team effort in multiplace airplanes...will prevent reversing mistakes. Train and use the talent sitting up front with you. The co-pilot and flight engineer have saved the day for countless first pilots, aircraft commanders, or whatever you call them on your bird. It's part of their job to crosscheck your procedures.

You're not doing a very good management job when you let all that flight experience go down the drain. Tell them what you intend to do and ask them to monitor you on the landing. You'll be amazed by their ability to help. And you'll realize why some airplanes require crew coordination to operate safely. Some years ago, the known limitations of one man's span of attention, control, and understanding, entered into the determination of the minimum crew needed to fly your bird. There is more than one man there because the job requires more than one man!

Throttle technique is important too. Smart multi-throttle benders close all throttles on landing...whether the engine and prop combination on the other end of the linkage is running or not. This gives your hand familiar ground from which to start picking and choosing your reverse selection. Number One and Number Four are where they belong... your choice of inboards will be correct. That is, if youstill insist on selecting throttles by the Braille system alone and feel you can't afford the time for a quick peek before reversing.

If, in spite of outstanding crew coordination and good throttle technique, you still end up with a swerve when you reverse ... don't go it alone and insist on inventing your own recovery technique. Believe and use your flight manual recovery procedures. You don't have time in that moment of truth to devise your own. Accept the experience and teachings of all those many-motor types who have traveled the same route ... in the same airplane ... before you. Lean on their experience. That flight manual represents a lot of blood, sweat, and tears.

There's no reason to add your own!





#### look out below!

Shortly after rolling into a left break over the runway, the Phantom jettisoned its left 370 gallon drop tank. Fearing that the right tank might soon follow its mate, the startled pilot quickly reversed his turn to avoid overflying the base housing area. However, conflicting traffic caused him to make a 360 on downwind before he could fit his right hand pattern into the flow of other traffic. Half way around the circle the right tank blew off!

The bird landed without further excitement and investigators went to work to find out what had caused the trouble. It wasn't long before they found the left outboard wing disconnect plug was burned. Seems moisture had accumulated in the plug the night before when maintenance was performed on it during a rain shower. To make matters worse, potting compound improperly applied to the plug didn't adhere properly to the wires...or the spaghetti covering them.

#### starfighter fire

After stopping for a before-takeoff check by maintenance, the F-104 pilot advanced power and started taxiing toward the runway. When he had gone about 1000 feet both fire warning lights lit up. He immediately glanced in the rear-view mirror and saw smoke coming from the right side of the rear fuselage. Twisting around, he saw flames coming from the same area. He made one call on the radio, stopcocked the engine, put in his seat pin, and went over the side. As he ran from the bird he saw flames still coming from the aft section.

By the time the crash crew arrived the fire had almost extinguished itself. It had damaged most of the wiring in the aft section, and caused possible damage to several components in that area.

Investigators found a hydraulic leak where the pressure inlet T-fitting connects to the auto pitch control actuator. The fitting had apparently been improperly installed. The teflon seal was not submerged into the head of the jam nut as it is supposed to be and five threads were showing above the jam nut. The volume of hydraulic fluid that leaked past the O-ring seal and the teflon seal exceeded the overflow capacity of the drain line and ran onto the engine just aft of the hot section. There it ignited.

#### gently, with feeling

After cruising at FL 235 for a short while, the T-39 crew felt a vibration and saw the number one engine oil pressure fluctuate. As they watched, it dropped to 40 psi and held steady. After they shut down the engine it windmilled satisfactorily at 15 percent. On inspection after landing they found oil pressure transmitter threads stripped and all the oil drained out of the system.

In their report, the investigators named maintenance error when the transmitter was installed. Magnesium engine gear case threads and steel oil pressure transmitter threads make exact torque values very critical.

#### lucky abort

The F-104 pilot ground aborted shortly after engine start because he had excessive air in the hydraulic system. After he shut down, the maintenance crew hooked up a hydraulic mule to the bird. When they started to move the stick to cycle the flight controls, it started to bind and finally would not move to the left!

When the maintenance team checked into it, they found the aileron bell crank was binding on the air pressure regulator line to the radar system. A clamp was missing from the air line. With the bell crank binding, it was impossible to move the ailerons.



#### screwloose

It didn't take the crew chief long to figure out why his bird looked strange as it taxied back after landing. The tanks and pylons were missing!

The pilot had taken the F-84 for an acro and simulated gunnery mission with two 450s hanging from the wings. Everything had gone routinely on the flight and he had no idea when the bathtubs left. Of course, investigators checked armament switches in the cockpit before the engine stopped turning, but the pylon jettison switches were still safety wired.

Further checking revealed the six inboard pylon squib bolts had fired, so they started to look at system wiring. When they pulled the panel in the cockpit that mounts the jettison switches, they found two washers and one 3/16 inch screw lying on the bottom of the cover. Burn marks on the switch terminals told the rest of the story.

#### overlooked

The F-101 pilot had completed all the items on his test flight card, so he descended to 4500 feet to burn fuel down to landing weight. He had about 450 knots in a slight climb, with boards out and one burner lit, when he heard a loud noise and the Voodoo started oscillating violently from side to side. He chopped power, reduced airspeed to 350, and regained control. When he checked over his bird, he saw part of a torn fairing hanging from the left main gear. The gear had fallen out of the well!

He returned to the field below 250 knots, lowered his gear over the runway, and mobile control confirmed that they all appeared to be down. He landed from a straight-in without any more trouble.

The technicians who checked into it found that the uplock mechanism had failed, most probably because the poppet valve in the gear down selector valve was missing. Seems the poppet valves were removed by a TCTO some time ago, but the tech order was later rescinded. For some reason, no one got around to replacing the poppet valve in this bird.

# A LOOK



ast month we featured an article about "The Sink Hole." It described the trouble you can encounter on final when you dive off altitude... and don't carry enough power during the roundout. Because the Phantom can land without flaring, we didn't point the article at the F-4 folks. But just as that issue went to press, we received an incident report...

The student phlyer and his instructor had completed their workout on the fourth transition mission and entered the pattern for a full stop landing. After bending his Phantom around a normal break, the student gained about 100 feet while the gear and flaps were going down. He held his altitude too long in the turn to final, and as he rolled out he was well above glide path. His airspeed was still up around 200 knots.

Reducing power on both engines to 76 percent, the student lowered his nose to get down to the glide path. His indexer lights were showing "fast," but airspeed was decreasing. As he approached the runway he raised the nose to decrease his rate of descent. The lights went thru "on-speed" to "slow" very rapidly. Noting 150 knots and a 1000 foot per minute descent, student and instructor simultaneously advanced the throttles. Vertical speed was 1500 feet per minute down and power was 100 percent on both engines when they landed. The report said: "Touchdown was firmer than usual..."

Although damage to the bird was very minor, it reflects more credit on the Phantom's designers than on these pilots. Beyond the obvious lack of understanding or concern about the power-drag-sink relationship <u>all</u> aircraft are involved in on final, a second look at this one reveals another problem well worth discussion.

The student had accumulated a grand total of six and one-half hours in the Phantom when this incident occurred...and that was all the flying he had done in the past 90 days! In this situation, any instructor pilot should be extra alert, extra careful. But...the student was a senior officer. The instructor was company grade!

We don't know what, if any, conversation passed between the cockpits while the bird traveled down final. We do know that whatever did transpire was not enough to keep the bird in front of the power curve...out of the trap...the sink hole! And we hope the rank in the front seat had nothing to with this instructor's too-little-too-late action.

Few, if any, of the senior officers we know fail

to recognize their limitations when they have not flown for some time, or when they are checking out in a new bird. They are more aware of the need for good solid instruction and guidance during the first few flights, perhaps, than those of us with less experience! And they often have a more varied flying background...which means more old procedures to unlearn as they get to know the new machine.

Because they recognize all this, they expect their instructors to correct them...take the controls if need be. And they respect the guy who plays straight with them!



The pilot didn't have a lot of jet time, but he was far enough into the transition program to be on a solo mission. About 40 minutes after takeoff he started to feel "woozie"... his thinking was getting fuzzy.

He went to 100 percent oxygen and started down toward the traffic pattern. But as he approached the field he began to feel better. Climbing back up to continue his mission, he again noticed the odd sensations as he passed 10,000 feet. Back to 100 percent and back to the field ... this time for a full stop landing. After the flight he reported "an alarming sense of well being during the landing."

Simple case of hypoxia, you say? A second look at this incident gives us cause for more than usual concern. This student's second attempt to complete his mission after he experienced hypoxia symptoms reveals more than misdirected enthusiasm. When he pressed thru the landing without telling anyone about his troubles, he showed that he wasn't aware of the seriousness of it all.

With many people in the command who are new to ... or getting reacquainted with ... high altitude operations, we must constantly remind them that hypoxia and hyperventilation (the symptoms are often similar) try to hide their own deadly presence. After going to 100 percent oxygen and slowing your rate of breathing at the first hint of a symptom, the next most important thing is to tell somebody about it.

You need outside help!

After a little airwork in their C-47, the student and his IP returned to the field for some landings. The instructor demonstrated one, and after taxi-back and takeoff, the student took control from the right seat. It was his first landing ... first transition mission. He had never flown a tail wheel before.

Base leg and final looked okay, but on touchdown he allowed the Goon to bounce and balloon ... as most of us will on our first Gooney Bird landing. A gusty crosswind weathervaned the bird and they all headed for the boondocks together. IP took control and started a go-around. It was right about there that the right wing tip touched the runway ...

A second look at this one brings back that old bug-a-boo about an instructor riding the controls. And there's only one way to approach the problem: He'd better ... at least until he's sure his student can handle the bird pretty well by himself. That's why he's sitting there at the controls! This is a true story.

by Maj David L. Elliott Nellis AFB, Nev.

It needs no introduction.



MICHAEL is two and one half ...

than a thermo-nuclear device. He can't even be still when he is asleep. He is either extremely happy or "crushed." His motto is: "Never walk anywhere when you can run," and he loves to go for rides in the car with his Mommy and Daddy.

Yesterday Michael almost lost the privilege of growing older. The incident was typical of every-day rushes... trying to get this done before that... everyone in a hurry. My wife said, "Honey, will you go to the Annex and get a loaf of bread? And take the boys with you, please." So I gathered up the boys and said, "Hop in the car."

I had to go back in the house to find out what I was supposed to pick up. I had already forgotten.

When I came back to the car both boys were in it but I did not see Kim, their little sister. I walked behind the car and looked, went back in the house, asked my wife if Kim was in the house. "Yes," she said, "Kim is in here with me," and I said, "OK." I got back in the car and instinctively yelled, "Sit down!"

I started the automobile, shifted into reverse, and started backing out of the driveway. I looked to the right, down Spring Street, to see if anyone was coming. It was clear so I turned my head, looked over my left shoulder down McCarran, and started backing out of the driveway.

When the boys got in the car, they brought their plastic sub-machine guns... the ones that sound like a real sub-machine gun. They had both been firing their guns in their Daddy's ear just before I pulled out on McCarran Street. I was looking over my shoulder when I heard a noise that sounded like one of the sub-machine guns had dropped to the floor. I continued backing, but for some reason I turned my head to the right and saw that the car door was open. The machine gun was lying on the ground.

I stopped and then discovered that my Number Two Son, Michael, was not in the car. I locked the brakes, shut off the engine in the middle of McCarran Street, ran around and looked under the car. About six inches directly behind the front wheel, lay a stunned and frightened Michael. I gathered him up, put him back in the car. Only then did I realize I had almost run over him.

I sat in the middle of McCarran Street, blocking both lanes of traffic, and began to shake.

Later, I asked myself how this happened.

Why did I stop? I don't know. I didn't stop because I was such an excellent driver or because I realized Michael had fallen out of the car.

Why did I look to the right? I don't know. Probably the sound of that plastic sub-machine gun hitting the pavement got my attention.

How did the door get open? Well, obviously it was never closed.

Why didn't I check it? Obviously I assumed it was closed.

Where was Michael when he fell out? Where Michael always would be ... hanging on the door.

Naturally, when I turned my wheels to the left as I was backing out, the centrifugal force of the automobile swinging to the right, opened the door and Number Two Son fell to the ground.

I'm like most other drivers. I know the kids should be sitting in the car... strapped in. I probably know it better than most people on the base; I'm one of the safety officers here. But when you get in a hurry you tolerate the nonsense of a two-year old who is so happy and bubbling ... with his curly hair dangling in front of his eyes. You know when you say, "Sit down and strap yourself in" that he is going to be "crushed." so you sometimes forget the formalities and proceed.

Now I have a new check before I pull out of the driveway. I now can account for all three kids as I did before. I check behind the car because the kids' motorpool is generally located directly behind my car. Now I also check all doors. And I check to make sure all passengers are firmly buckled in.

It will probably take a little education on the boys' part to realize that when they go riding with their Daddy or Mommy they are going to have to sit down. And that with seat belts wrapped firmly around their middles they are not going to be able to see over the door handle. They will probably be "crushed." But better to be "crushed" emotionally than



Don't drop your coffee cups, Guys...we're not looking for hangar Hemingways or supersonic Steinbecks or for Pulitzer prize candidates. What TAC ATTACK needs are simple discussions of ideas and problems which concern YOU. After all...it's your magazine! Only you know the active undercurrent of TAC's operations, the problems you encounter, and the solutions you reach.

You don't need to be a slipstick artist or an English major. All we ask is a fairly intelligible, chewed-pencil account of something you think will be important and interesting to others who are involved in tactical aviation.

So scribble down that idea that's been running around in your head all this time...give the rest of us the benefit of your good ideas! If you haven't seen a copy of the pamphlet "Writing for TAC AT-TACK," ask your safety officer for one. It will give you a few hints on getting started with your big adventure...getting your name in print! (And if the guy doesn't have a copy of the pamphlet, let us know. We'll send him some...right after we send you your personal copy!)

TAC ATTACK

### TAC TALLY 1 Jan - 31 Oct 1966

Some interesting points and comparisons are evident in a review of these charts. The marked increase of pilot error contributing cause factors within TAC during 1966 correlate to the decreased experience of our student input. Supervisory factor continues as a contributing cause in one fifth of our accidents. Personnel factors account for almost 60 percent of all primary accident causes. The large increase in maintenance factors again is directly related to the corresponding decrease in maintenance skill level assignment within the TAC units.

In contrast the ANG and AFRes experience in maintenance cause factors directly reflects the more stable situation within Reserve Forces maintenance complexes. However, materiel factor increases can be identified as a direct outgrowth of the increased age of equipment. Pilot factor as a contributing cause is harder to equate since experience within these units should be increasing annually. Perhaps a closer look at items such as complacency are in order. Complacency of course is a direct reflection on command control and supervision. Perhaps it could be more correctly assessed in the supervisory column.

It is apparent that we are barely holding the line in our regular units as far as rates go. ANG figures reflect this same trend, while AF Reserve rates are far above figures for the past few years. As critical as our situation is in terms of shortages of aircraft and aircrews we cannot afford to lose one more piece of hardware or one more aircrew. Our duty in the flight safety area is to insure that we do not.





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1966

Our man in maintenance...Squadron Leader Ron Slaunwhite...has come thru again with an informative article describing the decentralization of maintenance functions in TAC airlift forces. This is a follow-on to the two previous articles our friendly RCAF exchange type has written for us. If you missed them, take a peek at <u>Phase Inspection</u> in the June '66 issue, and <u>Squadron Maintenance</u> in the August '66 issue.

We learn a lot from him . . . and are sure you will!

## SQUADRON MAINTENANCE II ...reorganization of TAC troop carrier maintenance

#### by S/L Ronald G. Slaunwhite Hq TAC (DMEMMC)

ew experienced maintenance people have escaped the old familiar discussion over the pros and cons of centralized versus decentralized maintenance. In this article I will present a follow-on to the article on fighter and reconnaissance maintenance published in the August 1966 issue of TAC ATTACK. Now TAC has taken another step in the same direction by decentralizing the maintenance functions of TAC troop carrier wings.

The basic concept of this reorganization is to provide the troop carrier squadron commander with an inherent maintenance capability when he deploys, without going through an interim reorganization of his squadron structure every time.

Starting in October of this year the organizational maintenance squadrons (OMS) in troop carrier wings were dissolved and their resources and responsibilities were transferred to the troop carrier squadrons. In addition, elements of the Wing Chief of Maintenance, field maintenance squadrons (FMS), and Chief of Supply activities were reassigned to the tactical squadrons. Aircraft ownership and the responsibility for maintenance was transferred to the troop carrier squadrons. With the responsibility went personnel... a squadron maintenance officer and sufficient supervisors and Indians to accomplish the job.

Each troop carrier squadron will now perform normal troubleshooting, remove and replace, calibration, and minor repair of on-aircraft equipment. For instance, engine specialists will remove and replace engines; while engine teardown, repair, and buildup remain the responsibility of the field maintenance squadron. The functions performed by OMS in the past, such as preflight, postflight, servicing, and periodic or phase inspections will, of course. come under the troop carrier squadron's maintenance responsibilities. They will also accomplish TCTOs within their capability. The specialists necessary to perform these functions were transferred from the OMS and FMS.

In the reorganization the tactical squadrons acquired, and now maintain, non-powered aerospace ground equipment and 780 equipment, and they picked up responsibility for maintaining squadron personal equipment. Personal Equipment specialists were transferred from the host base Materiel Management Office (BEMO/EMO).

With personnel they gained from the Chief of Maintenance complex and the FMS, the tactical squadrons in most cases schedule their own aircraft. They also maintain a minimum planning capability which consists of job control, aircraft records, and materiel control.

The field maintenance squadron will retain most of its responsibility for heavy maintenance. Activities such as the precision measuring equipment lab (PMEL), structural repair, engine and propeller, wheel and tire, reclamation, fuel systems, and corrosion control will remain centralized. Additionally, the FMS will retain responsibility for powered ground equipment.

Field Maintenance shops will perform the fabrication and maintenance work normally accomplished in the shop areas. They will also provide specialist dispatch to the tactical squadrons to

AUTHORIZED PERSONNEL STRENGTH Average Troop Carrier Wing	
TOTAL WING STRENGTH	2509
TOTAL WING MAINT STRENGTH	1640
CHIEF OF MAINT COMPLEX	113
AVG TCSq MAINTENANCE STRENGTH	509
AVG TCSq AIRCREW OFFICER STRENGTH	144

accomodate overloads. In addition, FMS will support transient aircraft when appropriate.

The Wing Chief of Maintenance remains responsible for the overall effective management of the wing's maintenance resources and workloads. When the tactical squadrons are not in a deployed status, a consolidated aircraft records function operates at wing level. Records specialists are assigned to it from each of the tactical squadrons. Similarly, the Chief of Maintenance will provide central maintenance control, materiel control, quality control, and other support and analysis functions at the wing's home base.

Training responsibilities go with the personnel... in other words, each troop carrier squadron trains its own maintenance people and the field maintenance squadron and Chief of Maintenance complex train theirs.

A decentralized maintenance concept for troop carrier organizations was developed and tested during 1965 by the 313th Troop Carrier Wing at Forbes AFB, Kansas. Their experience showed that it afforded greater flexibility and a more rapid reaction capability during mobility situations. At present six TAC troop carrier wings are operating under the decentralized concept for a one-year period. The decision to continue decentralized operations will be made by Hq USAF after analyzing and evaluating TAC's report for the first year of operation.

#### CONCLUSIONS

We envision that this reorganization will produce increased maintenance efficiency and operational capability to accomplish TAC's mission. Maintenance morale and spirit should improve as the personnel identify with a smaller unit and competition evolves between like squadrons. This improved morale should also improve the retention rate for squadron maintenance personnel.



### TACTICAL AIR COMMAND UNIT ACHIEVEMENT AWARD

102 Tactical Fighter Group, Logan International Airport, Boston, Massachusetts

126 Air Refueling Group, Chicago-O'Hare International Airport, Illinois

927 Troop Carrier Group, Selfridge Air Force Base, Michigan

928 Troop Carrier Group, Chicago-O'Hare International Airport, Illinois

939 Troop Carrier Group, Portland International Airport, Oregon

# Surveys Of Places



n a recent safety survey we were checking the runway with the local safety officer when his vehicle almost suffered a blowout. About two hundred feet from the end of the runway was a bracket with a half-inch bolt, two inches long, sitting "bolt" upright. Having just landed my trusty Tbird on that same runway. I had visions of some J-C maneuvers that could have occurred had we taken that bolt through one of our tires. At the time we found this item, three aircraft were awaiting takeoff at that end. Had they hit the bolt they would have had an early abort.

This particular bracket is in the armament system of one of our birds. It has a locking device which, if checked, won't allow the bolt to work loose as this one did. Points up the need for closer inspection and line supervision, doesn't it?

At another base, we heard rumbles of a fairly loose car inspection system. One member of our team took a quarter down to the section responsible for issuing base stickers. After answering a few questions he was given a sticker authorizing him a year's driving privilege on base. Since his car was back at Langley, it obviously was not inspected.

Now imagine what kind of cars could be operated on that base. I say "could" because the system



was changed ... suddenly! How long has it been since you checked your registration procedures?

At still another base, a proficiency type got into this trusty steed to go cross-country. One write-up said no left console light. Since he wasn't planning any night flying, he didn't sweat it too much. He should have!! What the form did not tell him was that whoever worked on that light took a pair of wire cutters and smartly clipped off the bulb fitting and attachment. Then ... being an ingenious young feller, this "technician" further stuffed the unwrapped remnants of wire below the console cover. Located in this immediate vicinity was a part of the booster pump installation for the fuel system.

On leg one our headquarters type noticed that fuel wasn't feeding too well from one set of pumps. On leg two, about thirty miles from destination, his cockpit suddenly filled with heavy acrid smoke. He stopped the situation from getting any worse by slamming off battery and generator switches. He made it down okay ... albeit somewhat the worse for wear in the nervous system. Our hero is still searching for that original young man. He wishes to have a fatherly talk with him.

This again points to the need for extremely close inspection and supervision on the part of our line chiefs. Note: It could have been that this young man was in a hurry to come in from the cold. So check carefully when conditions out on the line are uncomfortable. You might save somebody real trouble.

On a barrier check at one unit we found two doughnuts side by side supporting the cable. The reason, we were told, was that the doughnuts were wearing out and one wouldn't support the cable. What they forgot was that two side by each (Vots der matter Cholly you dond shpeek da langvidge?) could cause the hook to miss the cable entirely.

A final note on the good ideas we pick up in the field. Normally we refrain from identifying bases in this column to avoid embarrassing anyone. However, when a good new thought comes up we believe credit should be given to the innovators. England Air Force Base has started a program we would like to see adopted TACwide. All two wheeled vehicles operate with their lights on! The initial result has been a sharp reduction in two wheeled accident rates! It used to be that motorists striking a motorbike or scooter almost always said, "I never saw him." Try the light bit. The little vehicles really stand out. And motorists give way when they should to the saddle seat types. Could be the start of a new cycle ... luck.

See you next month.

LT COL PAUL L. SMITH Chief, TAC Safety Survey Team

# Recognition

CREW CHIEF OF THE MONTH



Staff Sergeant Earl D. Cosper, 4th Tactical Fighter Wing, Seymour-Johnson Air Force Base, North Carolina, has been selected to receive the TAC Crew Chief Safety Award for the month of September 1966. Sergeant Cosper will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.

MAINTENANCE MAN OF THE MONTH



Airman First Class Lowell T. Seymour, 4500th Air Base Wing, Langley Air Force Base, Virginia, has been selected to receive the TAC Maintenance Man Safety Award for the month of November 1966. Airman Seymour will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



he weather was fine, and the mission a snap. Briefings went as scheduled, and the bird checked out on the ground.

The first part of the flight was strictly routine, Joe was up front doing the flying, and I was at my usual chores of radar, switches, etc., normally delegated to the guy riding the back seat.

The profile said "low level," and that's where we were ... 1500 feet AGL ... when the warning lights started playing pin ball machine. The bird pitched like a West Texas bronc and all hell broke loose!

I think I heard Joe say something like "get out," but I'm not sure. I can't recall seeing the eject light until just moments before a bigger and brighter light came on with a deafening roar.

Thinking back, I still don't know what happened, exactly.

Since Joe was flying, I'm not even sure what the bird felt like, or what it did. All I really remember is the eject light, the blinding flash, the roar, then nothing ... nothing at all.

Since that day I've met several guys in the same fix I'm in. We are all stationed together. We swap tales, and it is always the same. ''Joe'' saw a problem, made a decision, and ejected. Somehow, none of us got the word in time, if at all. There are a few who even recall asking ''what was that?'' or ''why ... what's wrong?'' when the front seater said ''eject,'' ''get out'' or something like that.

There are a few "Joes" in our group too. Their stories go more like "I kept waiting for my backseater to go, answering his whats and whys, until it was just too late to make everything work."

We took a vote the other day,

and came to some conclusions.

One was that things would have gone better, if a deal known as sequenced ejection ... so common in ancient T-birds and F-100Fs ... had been built into our more modern machines. If our seats had fired when "Joe" pulled the handle, we probably would have missed the blinding flash, the roar, and the nothing we all recall so well.

The other vote? That I be permitted to come back and tell you how we feel. If our first vote had been applied, we wouldn't be voting now. If it were applied soon, there would be less voting in the future.

Yes, I died that day, 'cause I didn't eject ... 'cause I didn't get the word ... 'cause our air machine lacked sequenced ejection.

So I'll get back to my floating and voting!

We read this story with tear filled eyes. For what seems like an eternity we have been pitching the life saving advantages of sequenced ejection. We use logic like single decision, time loss in intercom discussions, time loss in waiting, and the number who have failed to eject.

There are folks yet to agree, and there is a time requirement for any change. Or, what do we recommend in the interim?

• Solve the eject decision problem before takeoff.

• Agree who will go first, and on what signal. Remember the words like "let's get the hell out of here" could be misinterpreted. Loss of two or three valuable seconds may spell the difference.

• Know your equipment, and what it will do for you.

• Determine now not to become another statistic in the "too low, too late, or never" column.

DECEMBER 1966

Sideslip characteristics are normally good. However, a critical limit exists beyond which the maneuver may progress into uncontrolled flight. The out of control condition is severe.

## behind the green door

w, c'mon, Maje ... " Sideslip was almost pleading. "Are you really going to put me in that F on the late afternoon launch?"

Sideslip knew the flight would make him at least half an hour late at the club. On a Friday! And this wasn't just any old Friday night at the club. This was the big Christmas party! Everyone had been making plans for it. And Sideslip had some plans of his own ...!

"Don't get the idea I'm thrilled by this schedule, Slipper." The Ops Officer scowled at him. "You know I'll stay here until all you young fighter pilots have your feet back on the ground. That isn't my definition of happiness ... on a Friday afternoon. And don't ask me to tell you what my wife thinks of it!"

"You're telling me that you don't have any compassion ... You're going to go ahead and ruin

my whole Christmas, just because ...." Sideslip noticed the Ops Officer's expression start to change. "Okay, okay ... like I'd be glad to take it. Sir!"

The briefing took just as long as ever, even though it was a back seat instrument ride for the student. Or maybe that's why Sideslip couldn't find a way to hurry it. There was a lot to discuss before they went out to preflight the bird.

By the time they had the engine started, he realized they wouldn't get off the ground one minute early. They'd be lucky to release brakes on time.

As they taxied, Sideslip had his student read the before takeoff check list to him. Methodically, he went from step to step, trying to listen to what the other man was calling off to him ... trying not to get ahead of the check list.

Finally it was completed. The student copied the ATC and they received clearance to take the runway.

As he lined up with the white stripe, Sideslip unconsciously went through his own private, last minute check. Flaps-set. Boards-in, Lanyard-hooked. Canopy - light out. Stick left - left aileron up. Stick right - right aileron up. He stood on the brakes and ran up the power.

"Okay, Hank ... pull the bag over your head after we're airborne." He addressed the student in the back seat through his mask. "I'll watch the engine gages on the roll. You watch the flight instruments. Since we don't make hooded takeoffs. this is the closest you'll come to it ... until you have to bang the burner and pop up into it all by yourself some dark night."

His eyes made one last sweep



of the cockpit and he came off the brakes. Check the throttle against the stop...tighten the friction just a hair. One tap on the left brake and they were accelerating down the center line.

As he passed the two-thousand foot marker, Sideslip wondered how close his guess of twentythree hundred feet would be. And did he really line up three hundred feet from the end of the pavement? But the way this bird accelerated in the cold air...did it really matter?

Before he could worry any more about his line speed he was approaching rotation. Do it smoothly, he thought, give the student a look at what a pro would do on a dark and stormy night at Danang!

The left wing started to come up just as the main gear broke ground!

Sideslip had his hand on the gear handle, and making a decision that an abort was foolhardy at this stage, he raised the gear and then the flaps. He had to feed in more and more left stick.

"Hey, Hank ... we've got some kind of a ..." Sideslip was becoming really concerned. "You don't have your knee against the stick or something, do you?"

"N - No, Sideslip," the student was sounding just as upset. "If anything, I've been helping you on the left stick... what's the matter?"

"Don't ask me! Right when we broke ground, this thing started rolling to the right." Sideslip knew they were in trouble. "Pop your hood, Hank, and keep helping me on that left stick... I don't dare use any more rudder!"

By the time the bird had reached 300 knots they were in a right turn and couldn't level the wings. Sideslip came out of burner and e as ed back the throttle. As they leveled at 6000 feet, with airspeed dropping below 300 knots, Sideslip found he was relaxing his left stick pressure and the bird was holding wings level.

"Tower... Ah, Sideslip One," the Slip was reluctant to declare an emergency, but he knew that he couldn't continue the flight. "We're experiencing some kind of control problems here... ah... may have to make a precautionary landing... like pretty soon!"

"Roger, Sideslip One... are you declaring an emergency?" "No, Tower... this is Sideslip... I'm heading toward the drop area. May have to drop our tanks and come back in. Will advise." Then, into his mask with the mike button released, his voice began to reveal the true concern in his mind. "Lookit, Hank... I've got all the AFCS switches off ... stab aug, and like that. And the circuit breaker's out. Now, watch ... as we increase speed... see? Feel the roll?"

"Sideslip, Tower... we have an aircraft on GCA final. If he can be of any assistance to you, we can break him off and have him join with you."

"Yeah, uh . . . like rog, Tower!" Sideslip thoughthe might have a flap or a gear hanging. "Have him come up here and look us over. We'll be descending to 2500 feet and heading toward the tank drop."

They had just dropped their tanks and started a turn back toward the field... still holding a cautious 240 knots... when the other bird called that he had them in sight and could join if they held the turn a couple of seconds. Sideslip waited until he saw the bird moving in. He told him to stand off while they tried cycling the gear and flaps.

"Everything looks correct and proper to me, Slipper," Ned Nieuguye's familiar voice reported. "But wait a minute...I'm moving in behind you... in trail. Hold still..."

Sideslip smiled in his mask. Whatinell do you think I'm trying to do up here? But Ned's voice interrupted his moment of relaxation.

"Slipper... you said you had a bad roll to the left...?"

"No, Ned, to the right," Sideslip answered. "Holding almost full left stick. Why... do you see something back there?" "Yeah, Slip... both your ailerons are sticking up in the wind!"

Sideslip quickly cranked himself around in the cockpit. Sure enough, both ailerons were up! In short order he determined that his right aileron was stuck full up. The left one moved when he moved the stick.

à.

With gear and flaps down...at 10,000 feet... Sideslip found he could control the airplane down to about 210 knots and still have some semblance of control. He asked for a GCA straight-in and declared an emergency. The high-speed final and touchdown were exciting for Sideslip, and an education for his student, but they managed to stop before the barrier.

The Ops Officer had been listening to the radio back in the squadron. When he heard Ned's transmission about the ailerons, he jumped from his chair, ran to the squadron vehicle, and headed for Maintenance Control. By the time Sideslip had landed, the major had rounded up the Chief of Maintenance... who had rounded up the Quality Control officer. That worthy, after listening to a run-down on Sideslip's troubles, headed for the records section.

Sideslip didn't need a taxi director... he could tell where to park by the crowd that had assembled on the ramp. Before he had the engine shut down and his helmet off, most of them were crowded under the right wing. As he finished cleaning up the cockpit he saw them leave the wing and start around the nose of the airplane.

"Good show, Sideslip!" The Wing Commander was the first one up the ladder. "That high speed on final had me worried for a while, but you handled it like a pro."

Sideslip acknowledged the Old Man's compliment with an embarrassed nod as he unbuckled and started to stand up.

When they were all standing on the ramp the Quality Control officer and the Chief of Maintenance approached them with unhappy faces.

"Colonel," the Chief of Maintenance was unsure just how to start, "it looks like the aileron power control cylinder is disconnected from the control rod. I don't know when..."

"Pardon me, Sir," the Quality Control captain interrupted, "we just went through the records. That cylinder was to be changed during phase inspection a couple of days ago. But they found that we didn't have the correct part on hand. I'm going to check farther into this, but right now, it looks like somebody started to remove it and stopped for some reason. When they learned they didn't have the right part they just buttoned up the panel."

"Was there no entry in the forms to show a flight control had been disconnected?" The Chief of Maintenance was beginning to understand how it happened. "No red cross entry... no inspection ... no test flight." He straightened up and fired a salute to the Wing Commander as he turned away. "T'll get into this and give you a full report in the morning, Sir."

"Well, Slipper," the Ops Officer jammed the gear shift into low. "Do you think you'll get to the club on time?"

"Oh! ... yes, we can bug right off." Sideslip had almost forgotten about the club. "I just can't get over it, Major... how something like that can get through all the checks and inspections maintenance is supposed to make. It scares me!"

"There's something else scaring me right now, Sideslip." The Ops Officer sounded very serious. "What kind of a story are we going to give the Old Man when he calls you and me behind the green door? I expect it won't be more than half an hour. And he'll want to know what kind of a flight control check my IPs make before takeoff!"



1 JULY - 30 September 1966 4442 CCTW, Sewart AFB, Tennessee 27 TFW, Cannon AFB, New Mexico

DRIVE SAFE AWARD

The two units had a zero rate and the highest exposure for the quarter.

TAC ATTACK

TACTICAL AIR COMMAND



AIRCREW ACHIEVEMENT AWARD

Captain Alva G. Rowland and Master Sergeant Geoffrey D. Gustin, 1st Air Commando Wing, England Air Force Base, Louisiana, have been selected to receive the TAC Aircrew Achievement Award for the period ending 30 September 1966.

Upon landing gear extension at the end of a functional check flight in a B-26K aircraft, Captain Rowland and Sergeant Gustin found that their nose gear indicated unsafe. Captain Rowland climbed to 3000 feet and recycled the gear. The doors opened each time but the nose gear remained up and locked. When he attempted to lower the gear with the emergency system the nose gear uplock release cable snapped.

After a radio discussion with hydraulic specialists on the ground, Sergeant Gustin decided to cut a hole in the right side of the center console to reach the nose gear. He removed the co-pilot's control column and, working in a very awkward position, cut through the console panel with a fire axe. He still could not reach the uplock. However, while Captain Rowland moved the gear handle to various positions, Sergeant Gustin noticed that the nose gear moved slightly in the uplock. He finally broke it loose by reaching beneath the wheel and twisting the strut. The nose gear locked down and they landed without further incident.

The calm and resourceful approach to an unusual emergency which Captain Rowland and Master Sergeant Gustin displayed, and their skill and knowledge in correcting their problem merit their selection for the TAC Aircrew Achievement Award.

# TAC TIPS

#### EXPLOSIVE DECOMPRESSION

The Hercules crew settled down to a quiet cruise at FL 200. A sudden, loud noise announced the loss of all cabin pressure. The crew donned their oxygen masks during the pilot's emergency descent to 10,000 feet. They searched throughout the plane for the pressure leak, but could not locate the point of failure.

After landing, the crew discovered the center section of their Doppler radome missing. When they checked, they discovered several radomes cracked on other Herkeys. A study is under way to determine the cause of this explosive decompression hazard.

#### FUEL PROBLEM ?

by Capt Vincent C. Hughes TAC OSF

Getting fuel to the engine from tanks with 115/145 in them is still a problem for C-119 drivers. After getting every indication of fuel starvation recently, a Boxcar pilot placed the booster pump to emergency, the mixture rich, and carburetor heat cold. He accomplished the single engine procedures up to, but not including engine shutdown. He then moved the fuel selector to inboard tanks and sent the flight mechanic below for a visual inspection. At this point, the co-pilot, unaware that the fuel selector position had been changed, switched back to the outboard tank. The engine quit!

They shut down the engine and made an uneventful single engine landing.

Investigators found the outboard tank empty although the gauge indicated 2200 pounds. Both outboard gages had read 4000 pounds at takeoff, although the right tank contained only 1800 pounds.

Sure, the quantity gage malfunctioned. But so did the crew! The flight mechanic failed to visually check the fuel in the tanks in accordance with the flight handbook. Crew coordination broke down when the co-pilot switched back to the empty tank. Needless to say, the unit ordered a one-time inspection of all fuel quantity gages. And now they dip all their tanks after servicing to make certain the gage quantities agree with the actual amount of fuel in the tanks.

#### **KEEP IT CLEAN**

He had encountered some negative G during the course of the mission and noticed that his check list had floated around the cockpit a bit while he was hanging in the straps. When he opened the canopy after landing, the pilot heard the right engine pop loudly and noticed the EGT go to 900 degrees.

After a hasty shutdown, he learned that a highaltitude enroute chart had blown out of the cockpit as he opened the canopy ... it very effectively cut off airflow to the engine when it lodged against the face of the compressor.

Nothing like keeping the office neat and clean if you're going to turn it upside down and shake it out now and then.

#### STICK WITH IT

The. 0-1 student had two-plus-fifteen in the bird. As he flared for his first 30-degree flap landing, the aircraft ahead of him called that he was aborting his touch and go.

Instructor told Student to go around. When Student opened the throttle, the bird(dog) rolled to the right. Not until the wingtip and mainwheel had touched the runway did Instructor take the controls and abort the go.

At this stage of training, you'd think the instructor could have given his student a little more of a chance by sticking closer to the controls.



#### **BRIEFING??**

The C-130 was engaged in an Army support exercise, withdrawing troops and equipment from a landing zone. The aircraft was loaded in about five minutes. Since they had an additional 20 minutes ground time, the instructor decided to rotate crew positions and used the rest of the time to brief his students on procedures and tactics.

On takeoff, the student pilot over-rotated and scraped the tailskid on the runway. After they were airborne they flew thru some Signal Corps power lines which wrapped around the main gear doors and caused some sheet metal damage. Still struggling for altitude, the bird went on to scrape a power pole, which dented and ruptured the fuselage.

They had taken off without flaps!

#### CABLE CAUTION

On a navigational cross country, the Hundred herder had programmed an enroute stop at a base with an 8000 foot runway. On final he set himself up for touchdown 300 to 500 feet down the runway. He rolled across the BAK-type barrier cable just after his main gear touched.

It wasn't until postflight that he realized the cable had bounced, damaging his tailskid and the aspirator skin. His flight leader decided the aircraft could be flown, but on the return trip the pilot found he didn't have enough thrust to maintain a normal climb schedule. When Lead looked him over, he learned that his eyelids were not fully closed.

After a precautionary landing at a nearby base, the pilot learned that damage to his F-100 consisted of: tailskid cylinder broken and damaged beyond repair; structural damage to the trailing edge of the tailskid well; lower aspirator skin and structure damaged; afterburner drain line required replacement.

The unit involved rebriefed its pilots on the con-

flict between the F-100 in landing attitude and approach-end tailhook barriers. They were instructed to land beyond the cable whenever conditions permit.

#### THE SINK HOLE

The unit was operating their F-100s from an unfamiliar field while their home runway was being repaired. After a night refueling mission, one of the pilots felt his tailskid and afterburner scrape the overrun as he attempted to land. He managed to get the bird back in the air and came around for a successful landing on the runway.

Besides being unfamiliar, the runway did not have approach lights. But these are little more than extenuating circumstances. No matter how you look at it, this pilot found himself short of thrust and long on sink... accounting for that very tail-low, nosehigh attitude and the touchdown 600 feet short of the runway.

#### SUN TROUBLE

A pilot in another command had just hooked up on a late afternoon tanker mission. With the flight heading about 240, the sun was right in his eyes. He quickly lost sight of the tanker when fuel spray covered his windshield. Although he immediately tried an normal disconnect ... and then one in manual ... he was unable to get loose before he had drifted down to the lower limit and the boomer called for a breakaway. When the two aircraft finally did separate, the receiver came away with the boom nozzle sticking out of his receptacle.

A heading change <u>before</u> the receiver pilot became blinded by the sun's glare could have saved everybody a lot of embarrassment.

#### LOOSE LOAD

Descending into the traffic pattern, the C-123 driver ran into moderate to severe turbulence. Everything that wasn't strapped down... cargo, chain box, and assorted gear... moved up, down, and around the Provider. The sturdy bird survived without structural damage, but the loadmaster suffered a minor cut in the melee. Since their forecast that morning had included the possibility of some turbulence, the rough ride didn't come as a complete surprise to the crew. But with that kind of warning the loadmaster should have been very sure everything was cinched down tight. And you'd think the aircraft commander would be interested enough to see that it was!

# lefters ..... Believe it or not, the WHY is being

#### to the editor

Reference your article, "Dammit! Get Out," September 1966. I quote the following, "A fighter pilot doesn't hesitate to leave an airplane that is mechanically unsound. But let him suspect that he failed in some way... and he'll kill himself in a futile effort to save the airplane."

All very true, however, I suggest you devote time and energy toward answering the more important question of, <u>WHY?</u> Just possibly it might be that the excessive heat generated on some tailsections in past accidents might have something to do with the answer.

Hhmmmmmmmmm!

**Fighter Pilot** 

sked daily. Few who are not directly involved ever realize the time, effort, and energy expended attempting to pin down the elusive WHY after every accident that happens.

About the overheated aft sections. We acknowledge and regret that such things occasionally occur... and hope they remain in the past, not the future.

-Ed.

#### \* \* \* \* \* \*

Reference TAC ATTACK article "Dammit! Get Out!" (Sept 66) I read the article with interest, especially the table concerning ejections.

Using your statistics and discounting the undetermined, I arrived at the following pilot-errors percentages:

	Acci- dents	Pilot Errors	Per- centage	s
All Accidents	154	59	38	
Pilot survived	92	17	18	
Pilot dead	62	42	68	
Maybe Geor	de is r	ight "w	henever	a

guy gets himself into a bad situation through his own fault, he'll kill himself trying to keep from breaking the airplane." However, we all know everytime somebody breaks a "rule" he doesn't crash, but everybody who crashes breaking a rule is assigned pilot error. A review of your accidents would probably indicate that a posthumous pilot has never (1) had a mechanical failure in an unauthorized maneuver, (2) lost his flight control on final or in a target recovery, or (3) been assigned anything but vertigo on night stall/spins.

I appreciate that George's article is an attempt to "bring 'em back alive," but maybe it would do more good in the long run, at least in the case of dead pilots, if the article's title was "Dammit! Get Out and Investigate It!" It's hard to believe dead pilots are almost four times as guilty as those around to defend themselves.

Personal opinion of -

LCDR R. Carson Accident Investigator Naval Aviation Safety Center Naval Air Station, Norfolk, Va.

We respect your personal opinion, Sir... and reserve the right to disagree.





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