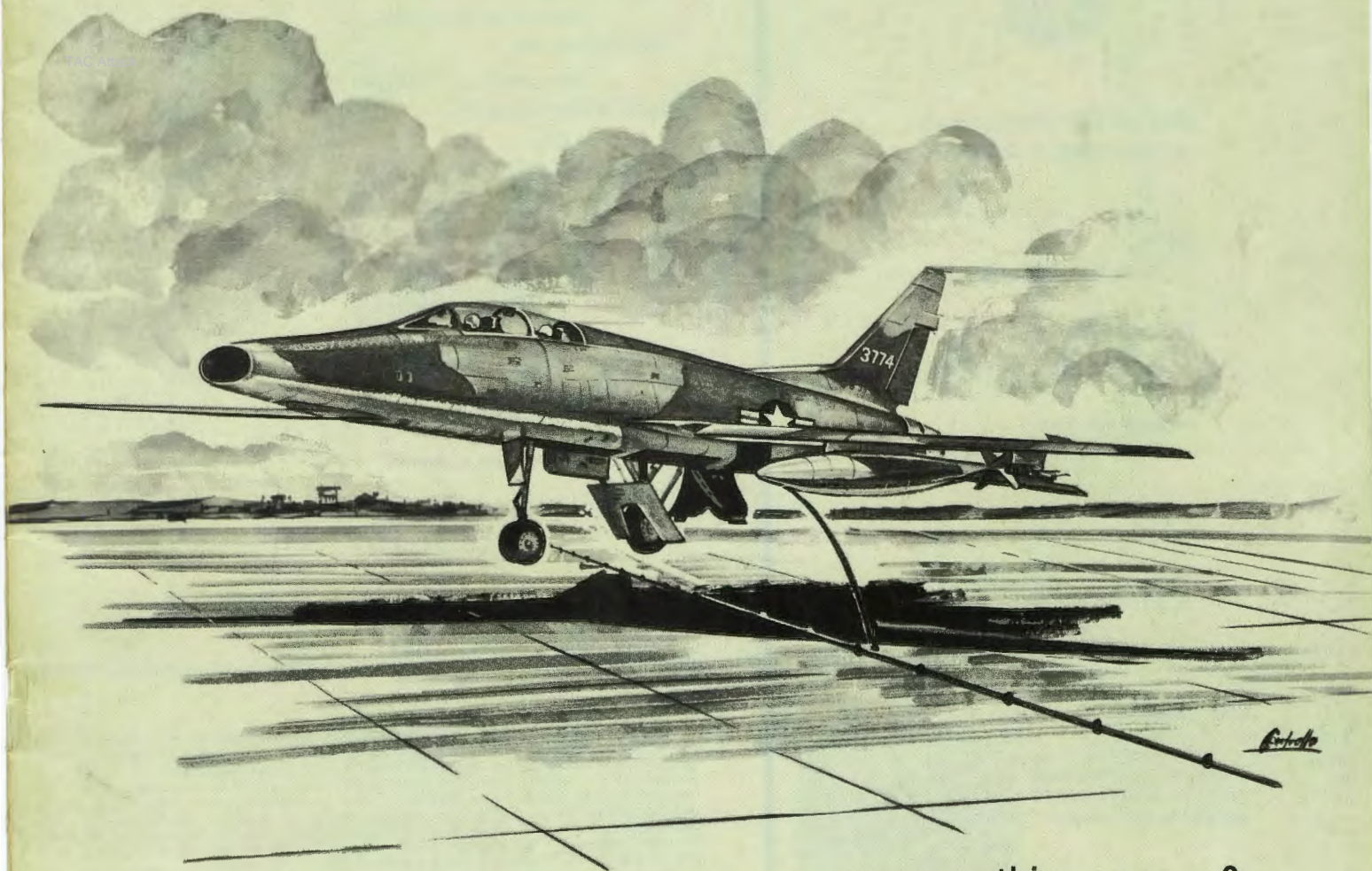


# TAC ATTACK

JULY 1966



even this....page 8

VOL. 6 NO. 7

# TAC ATTACK

for efficient tactical air power

JULY 1966

TACTICAL AIR COMMAND

COMMANDER  
GENERAL GABRIEL P. DISOSWAY

VICE COMMANDER  
LT GEN ALBERT P. CLARK

Published by the Chief of Safety  
COLONEL HOMER C. BOLES



CHIEF SAFETY EDUCATION DIV  
LT COL CARL E. PEARSON

editor

Capt John D. Shacklock

layout & production

SSGT James E. Fields

editorial assistant

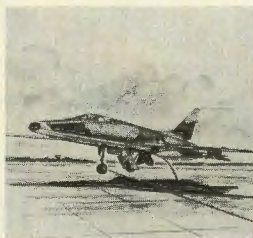
SSGT Richard D. Reid

HQ TAC Field Printing Plant  
Langley AFB, Va.

## THE COVER

Artist's concept of the  
successful F-100 approach  
and arrestment at Luke AFB  
by MSgt Cosmo Centrella.

... pg 8



## current interest

WOULD YOU BELIEVE	Pg 4
- Hercules happenings	
GIVE IT A GO	Pg 7
- C-130 hole chopper award	
F-100 APPROACH-END SUCCESS	Pg 8
- even under the worst conditions	
DO THE JOB CORRECTLY	Pg 12
- sound words from Danang	
THOSE MAGNIFICENT MEN	Pg 16
- and their airlift machines	
THE TACAN FIX	Pg 21
- when you're not really lost	
MORE ABOUT ABORTS	Pg 24
- a letter	
SORRY 'BOUT THAT	Pg 26
- for laffs	

## departments

Angle of ATTACK	3
A 2nd Look	14
Surveys of Places	20
Chock Talk	22
Recognition	28
Tac Tips	29

## TACRP 127-1

Articles, accident briefs, and associated material in this magazine are non-directive in nature. All suggestions and recommendations are intended to remain within the scope of existing directives. Information used to brief accidents and incidents does not identify the persons, places, or units involved and may not be construed as incriminating under Article 31 of the Uniform Code of Military Justice. Names, dates, and places used in conjunction with accident stories are fictitious. Air Force units are encouraged to republish the material contained herein; however, contents are not for public release. Written permission must be obtained from HQ TAC before material may be republished by other than Department of Defense organizations.

Contributions of articles, photos, and items of interest from personnel in the field are encouraged, as are comments and criticism. We reserve the right to edit all manuscripts for clarity and readability. Direct communication is authorized with: The Editor, TAC ATTACK, HQ TAC (OSEPA), Langley AFB, Va. 23365.

Distribution F, Controlled by OSEPA - TAC Publications Bulletin No. 22, dated 3 June 1966



# Angle of ATTACK

IT'S  
UP  
TO  
YOU

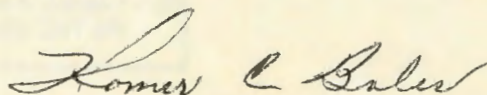
As I move into this new assignment as TAC Chief of Safety from command of a Tactical Fighter Wing, I find it increasingly evident that no single man, no single agency, can presume to be the only one responsible for accident prevention. The efforts we expend in conserving our resources must be the intelligent and purposeful efforts of everyone engaged in our mission . . . from the top to the bottom.

A unit commander must insist on the combined productive efforts of every man in his command to make that unit successful in its mission. Similarly, the administrator of a successful accident prevention program will emphasize the need for correct and intelligent performance by every man in the command.

Safety officers alone do not prevent accidents. The operators, maintainers, planners, and support people in daily, intimate contact with the equipment we wish to conserve can make an operation efficient and safe. Safety officers and accident prevention programs can identify accident potentials and help to reduce hazards. You in the field can use their understanding and analysis of accident causes to reduce your exposure to accidents.

The TAC Office of Safety will give you all the constructive assistance it can from every source available. But every accident that does not occur in this command will have been prevented by the people who would have been involved in it.

It's up to you!



HOMER C. BOLES, Colonel, USAF  
Chief of Safety



---

# WOULD YOU BELIEVE

That a C-130 will spin?

That a C-119 can scrape its ventral fins on the runway during a 70 knot takeoff without a hand holding the control column?

That a generator can drive a C-130 engine at 12 per cent after the condition lever has been placed to feather?

That a C-119 shorted radio interference filter can induce a rough running engine?

That a U-17 can be flipped over by C-130 prop blast?

That a C-119 maintenance ladder will cause a major dent in a passengers cranium?

That tobacco barns are vulnerable to PLADS loads?

That wrecker crane cabs are not built to withstand heavy equipment platforms?

That the loss of a forward cargo door can knock out three engines on a C-130 and force a crash landing?

That coffee drains are responsible for stuck circuit breakers on 20 C-130A aircraft?

That C-130 and C-119 accidents are on the increase?

---

By - Captain Vincent C. Hughes, Jr.  
Hq TAC Office of Safety

**W**OULD YOU BELIEVE that all these events occurred within five weeks of each other? The commands and units will not be identified, but let's look at the details.



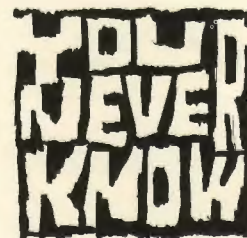
## SPINS:

While practicing a 100 per cent flap approach to a stall, the C-130 pilot made a normal recovery but ignored his airspeed. The aircraft entered a secondary stall. At this point the IP retarded throttles and

raised flaps as the aircraft fell off to the left. Now the Hercules was in a classic spin. The aircraft quickly entered a cloud layer where the IP's first spin recovery attempt was unsuccessful. After breaking out below the clouds, he recovered from the spin and leveled some 1300 feet above the terrain. WHEW!

Contributing to this pilot's predicament was the fact that he began the stall approach too close to the clouds and at less than 10,000 feet above the terrain. How many of you multi-engine drivers remember your spin recovery procedures from the old days? How many of you have forgotten that you must add power during stall recovery? How many didn't realize that when you raise flaps it increases your

stall speed, buries you deeper in the stall, and makes a spin very probable?



## A SHORTED RADIO INTERFERENCE FILTER:

A C-119 crew observed an rpm drop, rough running engine, and manifold pressure spread during ground operation. When engine specialists analyzed the engine they found the radio interference



filter had shorted internally. It prevented primary voltage build-up in the ignition circuit. You never know . . .



#### A MOTORIZED GENERATOR:

The C-130 crew scratched their heads after they placed number four condition lever in feather on the ground and the prop continued to turn. It held at 12 per cent with no indication of TIT or fuel flow. After they pulled the T handle the engine stopped. Come to find out, a generator control panel had failed allowing the generator to become motorized and turn the engine. Should this happen to you . . . outsmart the generator by turning it off. If this fails, shut off all DC power to the bus powering that generator.



#### SCRAPED VENTRAL FINS:

A surprised C-119 pilot

watched his aircraft lift off at 70 knots early one cold morning. You see . . . he had his left hand on the nose wheel steering and his right on the throttles. The co-pilot must have been admiring his technique because his hand wasn't on the controls either. Despite the amazingly low takeoff speed and steep liftoff attitude, the pilots pressed on with the mission after they discovered they could safely control the aircraft. We might never have heard of this one had the ventral fins on the booms not contacted the runway.

Naturally, the unit investigated every possible mechanical malfunction, but to no avail. They did discover that the C-119 will definitely attempt to fly at relatively low airspeed with the elevator trim set five to 10 degrees nose high. Need we belabor the point about check lists that state, "Trim Tabs - Neutral?" And must we repeat the bit in the flight handbook about, "Maintain directional control by steering with the nose gear until sufficient speed is attained for adequate rudder control?"

#### THE CASE OF THE CONKED CRANIUM:

A not-so-agile extra crew-member tried to climb down from the top litter in a C-119. In his sleepy stumbling he dislodged a maintenance ladder stowed in the aft cargo ceiling. Altho he caught one end, the other end struck one bridge player on the nose and forehead and another one on the arm. The first chap suffered cervical radiculitis, resulting in temporary loss of the use of his right arm. The moral of the story is . . . don't use the stowed ladder for support when climbing in or out of the top litters.



#### THE U-17 STORY:

Imagine the feelings of the VNAF student pilot who suddenly found his aircraft had been flipped over on its nose. He had tried to taxi his tiny single-engine trainer behind a C-130!

It seems the C-130 had been cleared to run up on a taxiway perpendicular to where the U-17 was told to hold short. The Hercules' prop wash spun the little bird around until its tail faced the big bird. With the lift created by the prop wash, it was a rapid case of "over she goes." Unfortunately, there was a certain lack of coordination about what the other feller was doing. The C-130 was on UHF and the U-17 on VHF. Sorry about that!

#### THE TOBACCO BARN:

After five successful deliveries, a PLADS bundle rolled out of the C-130 just after the six minute warning. It dented a tobacco barn. Seems the ramp was in the airdrop position and the loadmasters lost control of the bundle as they untied it. It rolled to the end of the aircraft, jumped the chocks, exited the aircraft, and took one chock with it. Turbulence assisted its departure.

Let's face it . . . the loadmasters weren't thinking too carefully about restraints while they were untying the load. Would you believe that the unit now closes



the ramp before each PLADS drop while they move the load to the rear of the aircraft?



#### THE MISSING CARGO DOOR:

A couple of years ago, a non-TAC Herky-bird lost a forward cargo door while cruising peacefully at 25,000 feet. A young airman was sucked thru the opening without a parachute, number two engine had to be shutdown, and the crew couldn't get hydraulic pressure to the nose gear. Structural damage was enough to place the mishap in the major accident category, but the bird is flying again. The pilot received a Well Done for his coolness and skill in handling the situation.

After this one we temporarily sealed the door until we had a permanent fix for it. Most of our TAC birds now have the fix, but some are still driving around with the temporary rig.

Recently (within the five weeks we're talking about) it happened again. When the forward cargo door blew out this time, it flew up over the aircraft and struck number three prop. It was followed out by all sorts of radio and electronic gear which smashed into numbers one and two props. The crew found they had: major structural damage, three windmilling, unfeatherable propellers (some of them partly in reverse), and the worst kind of control problems.

The good old Herky can roll with a lot of punches in the hands of a superior crew. This crew managed to crash land it in a wheat

field without loss of life. However, this time Old Herky won't fly again.

We know that two of the four eyebolts holding the door to the floor separated. The other two remained with the aircraft but slipped out of the door when the first two failed. An urgent safety of flight TCTO, requiring inspection of those aircraft without the permanent fix, should be in the field by the time you read this.



#### THE WRECKER CRANE:

A poor, old 1953 wrecker was sitting innocently on the south edge of the DZ, 500 yards at eight o'clock from the desired point of impact. It was normally used for platform hoisting and recovery. Along came a 3300 pound heavy equipment load and struck the all-weather cab over the crane controls. The load had been caught in "unsuspected low level, high velocity winds."

Damage was limited to a dent in the driver cab and enough damage to the crane cab that it had to be removed. Would you believe that due to the age of the vehicle another wrecker was already on order? By the way, the folks on the DZ are now parking all vehicles at least 50 yards off the DZ rather than along the perimeter. In the future one G-11A chute will be used for this platform instead of two G-12Ds. This lowers drop altitude 500 feet and reduces the effect of uncompensated drift.



#### COFFEE DRAINS:

During a QC check of a C-130A the inspectors found circuit breakers on the main DC power distribution box covered with coffee stains. They were running down the row of circuit breakers just to the right of the cockpit coffee container drain. When the inspectors checked further they found 10 of the circuit breakers in this row could not be actuated by hand or were extremely hard to actuate. They decided to look at the rest of their fleet and found the same condition on 20 other aircraft.

This could have resulted in serious damage to the aircraft since some of the circuit breakers would not have popped under an overload. It seems the coffee had corroded the contacts. The unit recommended that the flight deck water container bracket, holder, pan, and drain be removed from the cockpit. They no longer carry a container at this station. Other units take heed!

With this variety of mishaps occurring it's a good question whether Joe Bftsplk, Maxwell Smart, Snoopy, or the fairy godmother is having the most influence over our operations. It's hardly any wonder, though, that troop carrier accidents are on the increase.

WOULD YOU BELIEVE THAT?



By Lt Col R. J. Broughton, Jr  
Hq TAC (OSF)

# let's give it a GO



**S**o you're now a C-130 Flight Mechanic. Fine. Before you pass your Phase III upgrade check, we'd better take one last look at your training and personal equipment.

We won't bother to look at the shine on your boots, how you wear your dog tags, or similar important items. Let's take a close look at the equipment you will need only on those rare monthly oc-

casions when the landing gear breaks, bends, or balks. (For the record, the "tools" we discuss are used an average of once every 15 days in the TAC C-130 fleet).

First let's consider your survival kit stock of extra fuel. It may take as long as 2 1/2 hours to lower a wheel, so be sure your personal equipment includes about 10,000 pounds of fuel you can offer the pilot when the problem first rears its ugly head.

The next item we'll check is your cargo jettison check list. Don't lose this. And don't forget to think of how you'll apply it while your loadmaster is grossing out your bird. Sure as shootin' the stuck gear will be behind the biggest single piece of cargo.

Let's not forget your tool box. Remember your briefings on those items known officially as 463L equipment or Dual Rails. (We won't discuss the other names used on the flight line with proper introductory expletives) Well, you'll need all the proper tools to unbolt and remove these jewels. Remember you can't get to the gear or chain it down, until the rails are out of the way. And don't ask where you're going to put all those rails while you proceed with the gear problem. Maybe out on

the back porch would be okay.

You have passed your check so far. You have a hip pocket full of fuel, the jettison check list at hand, and your tool box is up to snuff.

Now go get your crash axe.

Let's see . . . how long since you checked it? Is it sharp? Ready for action? You'd better be sure, because this is the most used item of emergency equipment on the C-130.

Let me see your training record. Do you think three hours of chopping instructions was adequate? Are you skilled to the seven-level in hole chopping, or are you still OJT? If you aren't fully skilled, with a fully developed back swing and follow through, best you apply for some upgrade training. While you're at it, why not a dry run of the job (sans axe, if you don't mind) to fill some of those boring "long haul" hours? You may be riding a beast that's been operated on before when the time comes to go into your act. Are you prepared to cut through the scar tissue?

So now you have passed your check and feel fully qualified for the next emergency. Don't sit back and relax, all isn't done yet! Fact is, many of the failures that result in a routine landing gear emergency could have been prevented.

Give this a little thought and you'll see I'm right. Fatigue cracks progress slowly to the point of failure. Shuttle valves often stick and balk before they fail. A dirty gear fails quicker than a clean gear. Little things get to be big things in a hurry, so my advice is . . . Watch it! If you really try, you can keep from winning the TAC "Hole Chopper of the Month" award.

Let's give it a go, anyway.



---

Although we argue with his reasoning in trying to catch the BAK-9 while he was still airborne, and do not recommend this technique, the pilot in this incident proved beyond any reasonable doubt that the BAK-9/F-100 combination does work . . . even under the most extreme conditions . . . if you stay within the weight and speed capabilities of the equipment.

---

In April we featured an article by Major Andy Patten advocating the carrier-style arrested landing for disabled fighters. F-102s in Europe had pioneered the concept of arrested landings in the Air Force. With the introduction of the hook-equipped F-4C, we in TAC started to think seriously about the many advantages of this concept when landing gear hydraulic systems, or other components failed and the normal mile-and-a-half landing roll

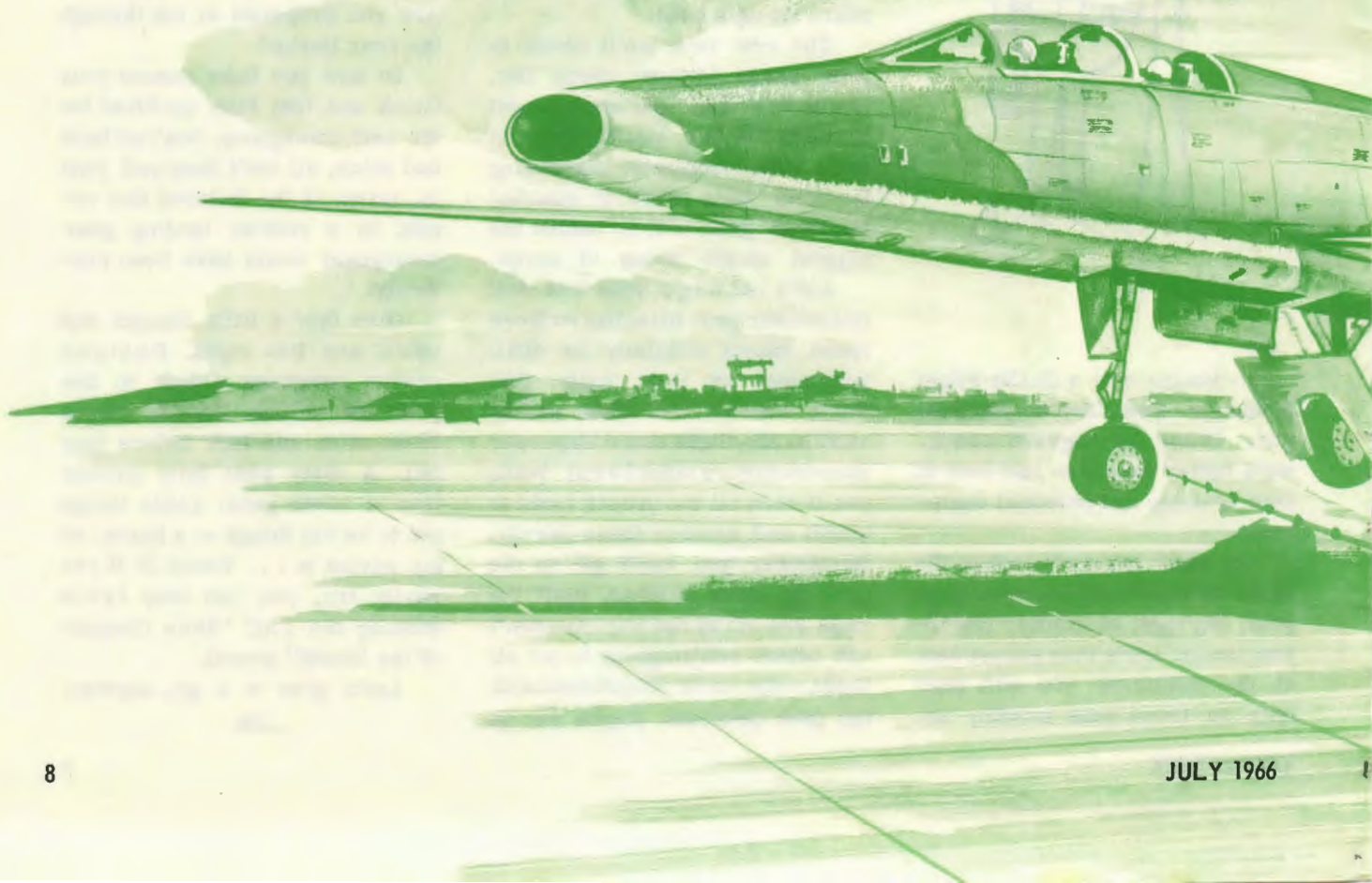
didn't look like a very happy prospect.

On 6 May 1966, Captain C. P. Bell of the 4514th Combat Crew Training Squadron, Luke Air Force Base, demonstrated for all to see that the arrested landing isn't restricted to birds that were originally designed for it. Captain Bell, with one main gear tucked stubbornly in the gear well, the other main and the nose gear extended, decided to take the approach end route to a safe landing.

It all started as an instructor pilot Stan Eval check ride that Captain Bell was to administer to Captain Paul Phillips in an F-100F. Captain Phillips briefed the air-to-ground mission. He would lead the flight of four from the back seat thru strafe, dive

# F-100

## APPROACH-END SUCCESS





bomb, and rocket deliveries. At the end of the mission, Captain Phillips would make a touch and go landing from the back seat while the rest of the flight would land.

All went as planned until that first traffic pattern. When Captain Phillips lowered the gear, Captain Bell saw that the left main gear did not show down. He called Major Al Hanneman in Luke's mobile control to confirm the position of his gear. Major Hanneman answered that the right main and nose gears were down, but the left main was still in the well. Captain Bell took the airplane around and quickly assessed his situation.

He had 1200 pounds of fuel in the aircraft with 800 pounds in the forward tank. That would be enough for about 20 minutes of fly-

ing at pattern altitude or two landing approaches. He attempted to raise his landing gear, but it wouldn't respond. Faced with only two out of three down, he tried to get the reluctant left gear to come down by using the emergency gear extension system... still no left gear.

As he pulled away from the airfield on his go-around, Captain Bell allowed his airspeed to build and pulled as much G as he could in an attempt to get the left gear to come out. It stayed in the well.

At about this time, Captain C. D. Henderson, an instructor pilot in the 4516th Combat Crew Training Squadron, was preparing to enter the landing pattern. Hearing the conversation on the radio about Captain Bell's gear prob-

lem, he broke off his approach and offered to look over the airplane.

When he joined Captain Bell, Captain Henderson confirmed that the right main and nose gear appeared down and locked, but the left main was still up. The door on the left gear was hanging partially open.

Captains Bell and Henderson and Major Hanneman discussed the tech order procedures for emergency gear extension as the two airplanes came around the pattern. When all procedures had been tried the left gear was still in the well... and the right main and the nose gear wouldn't retract!

Captain Bell realized that he was faced with three courses of action: eject; land on the two gear



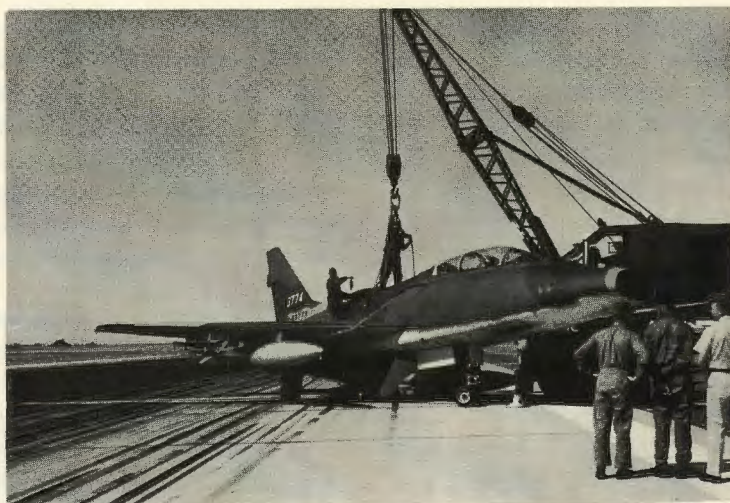


that he had extended; or try an approach end barrier engagement. Neither Captain Bell nor Captain Phillips was anxious to eject. It meant certain loss of the aircraft. Captain Bell had seen two other F-100s try to land with less than three gear... they had not been too successful.

As this was going thru his mind, Captain Bell heard Major Hanneman ask from mobile if he was going to attempt an approach end arrestment. That convinced him! At least someone else was thinking of it too! (Captain Bell later learned that Captain Mervyn Burns, a Marine officer assigned to the F-104 program at Luke who was assisting Major Hanneman in Mobile, had also read Major Patten's approach end arrestment article in TAC ATTACK and suggested this alternative to Major Hanneman.)

Both Captain Bell and Major Hanneman knew that they were deviating from the guidance published in the F-100 flight manual. Unfortunately, the Dash One had not caught up with the times... it still advocated the long, twisting, uncomfortable, and terribly hazardous slide down the runway (and often off into the weeds) when one gear will not extend. They evaluated their situation from their own experience, and pressed on with the landing.

The aircraft was carrying pylon tanks and MA-2 rocket launchers under the wings. Captain Bell decided to keep them to cushion the impact and minimize damage on the side without a landing gear. But he was concerned that the rocket rails on the outboard station might hook the cable and cause a disastrous swerve if the wing dropped. He decided to cross the overrun with minimum airspeed and try to engage the



Crane and sling raise F-100 until jock can be moved under left wing.

cable with his tail hook before his two wheels touched down. However, he was going to carry enough airspeed to allow full control of the airplane until he made a positive engagement.

As he came around on final, Captain Bell had 1000 pounds of fuel showing on the gages... enough for a safe go-around if the first engagement attempt was not successful. He lowered speed brakes and full flaps. They would stabilize the aircraft at low air-

speed and allow him to carry enough power for an immediate go-around if it became necessary. This was an untried maneuver and he wanted every out he could have going for him! Also, he knew that both the speed brakes and flaps would help cushion his touchdown if the gear that were down should collapse after barrier engagement.

By now the fire trucks, ambulance, and rescue helicopter were in place at the end of the run-



Close-up shows minor damage to rocket tubes.





Drop tank and rocket tubes held wing tip off runway.

way where the arrestment would take place. The MA-1A barrier had been disconnected. Time was critical. The fire trucks didn't have time to foam the runway without delaying Captain Bell's landing and depleting his fuel to a dangerous point. But Captain Bell reasoned that he didn't want foam anyway... he intended to use right brake and nose wheel steering to keep the aircraft straight. For this he needed a dry runway.

Two miles out on final, Captain

Bell set up 170 knots and maintained his descent with power. He descended slowly until he was just above the overrun. Major Hanne-man, in mobile control, talked him down until his hook was touching the pavement. Captain Bell both felt and heard the hook contact the overrun. He had slowed his airplane to about 145 knots aiming for a touchdown at, or just past, the end of the runway where the barrier was located.

The right gear was about two



Forty-five minutes after landing the aircraft is ready to tow away.

inches above the runway when the hook caught the cable. The right main gear and then the nose wheel came down to the runway. As he felt the rapid and steady deceleration, Captain Bell felt the nose start drifting to the left. He automatically fed in right brake and nose wheel steering. As the bird slowed, the rocket launcher on the left wing contacted the runway. The rocket launcher and the left external fuel tank supported the wing of the aircraft. The wing tip and speed brakes didn't touch the runway as the F-100 came to a stop after turning only a few degrees from runway heading.

Captain Bell shut down the engine as the aircraft came to a full stop. The deceleration of the BAK-9 had been so rapid that he did not have time to stopcock the throttle before this. When his hook engaged the cable the throttle started forward. It took positive effort to hold it in idle.

Captain Bell and Captain Phillips dismounted from their practically unscathed bird. A crane that was already in position moved in and raised the aircraft. The left gear was pulled down and safetied, and the F-100 was towed from the runway. A quick look showed that a bolt missing from the left gear door bellcrank had prevented the left gear from extending.

Captain C. P. Bell and those who assisted him, in proving that it can be done, have written another important chapter in the history of fighter aviation. They did it in the same manner that other important advancements in our trade have been made:... with sound knowledge of their equipment, complete confidence in their own judgment, and the courage to carry thru once their decisions were made.



# DO THE JOB CORRECTLY

By Captain George H. Holbrook  
from SAFETY IN ACTION  
Danang AB, RVN

**D**uring a recent flight line inspection, I came across two helicopters that hadn't been grounded. As I stopped and took note of the situation, the sergeant in charge became aware of my presence and sauntered over. I didn't have to glance at the numerous stripes on his arm to know he was in the Super Sergeant category. His thinning crop of grey hair and his weather-worn countenance marked him as an old timer in the Air Force.

After we passed a few courte-

ous remarks, I got down to my reason for stopping. I asked the old Sarge why the choppers weren't grounded. "Sorry, Captain," he replied, "I just didn't tell the boys to ground them. We just got here and . . . well, last year when I was at this base, there weren't any safety people and we were pretty much on our own."

His reply momentarily stunned me into shocked silence. After pausing a moment to digest this extraordinary bit of information,

I reminded the sergeant that safety people were now stationed at this base and that all aircraft would be grounded. With all sincerity he said, "Yes, Sir. We'll ground them from now on. By the way, Captain, since I'm new on the base, I don't know how you operate. What do you want me to do here?"

After a few seconds, I shook off my surprise and stammered, "Do your job, Sarge, and do it right . . . just as you have been trained to do it." He sort of nodded his head "Yes" and went back to his aircraft. I left after making sure the birds were grounded.

Later, as I sat melting away in the oven facetiously titled Office, I thought back to this conversation and became irritated. The request for instructions on what I wanted him to do annoyed me. I couldn't believe that a sergeant with over twenty years service and with more stripes on his arm than a computer can count didn't know his job and had to ask for guidance. Upon further reflection I concluded that the old Sarge just hadn't realized that when he does his job as he has been trained to do it, using check lists and SOPs, he is doing the job safely. That led me to wonder how many other troops, especially those with fewer years in service, had failed to realize that adherence to regs, check lists, and the like, goes hand-in-hand with safety. Do you belong to this unfortunate group?

But the part of the conversation that irritated me most was concerned with the Sergeant's operations a year ago. No safety people were here then so he and his men were pretty much on their own. And from his statement it is easy to conclude that safety wasn't even considered.

So safety personnel have to be peering over your shoulder and



watching your every move to make you do the job correctly? If they do, brother, you are in bad shape.

Pride in your work should make you want to do the job properly. Your intelligence should tell you that rules, check lists, and other controls have been established to help you do the job correctly . . . to achieve maximum results with minimum risks. If you need close supervision at every step of the way to make you toe the mark, then the Air Force doesn't want you. It can't afford you. No business . . . and the Air Force is a big business . . . can afford to have one supervisor watching you all day long. The alternative, then, is to let you work without supervision . . . and cause a catastrophe . . . or replace you with a trustworthy individual. A smart business would do the latter.

This lack of pride in one's work, this unwillingness to discipline one's self and do the job properly is a poor and dangerous

attitude. It is particularly dangerous to the Air Force's efforts in Viet Nam because it quite often hides under the name of "war zone-itis."

"We are here to fight a war," so the argument goes, "so there is no time for this safety jazz. We have to get the job done." I'll be the first to admit that this is a war zone and that we must get the job done. But I'll also be the first to disagree that supervisory controls and safety practices must be relaxed or eliminated.

The Air Force has been in the business of fighting wars for over 50 years. And it has learned from bitter experience . . . several times over, in fact . . . that supervisory controls and safety practices are the only sure means of getting the job done. For example, in World War II we lost more aircraft in training accidents than to enemy action. During the Korean struggle the Air Force switched to the untamed tiger attitude among its new pilots and promptly littered the

countryside with mangled pieces of aluminum.

Here in Viet Nam we have learned bitter lessons. It is a tragic fact that Safety is too often ignored in operations ("Get that job done") until the bill for our neglect is rendered and we must pay the full price in precious lives and expensive equipment. Then, and only then, do we see the light and include safety as an important adjunct to our operations.

How many needless disasters must we suffer before we learn our lesson? I don't know. The answer lies with every man on the flight line, in the bomb dump, in operations, and in maintenance. If you do your job and faithfully follow all procedures and check lists, then the answer will be "None." If you want to do the job your way using your own home-made, unapproved procedures (and to hell with Safety), then let me know where you work. I don't want to be there when it all goes "B-O-O-M!"



## USAF MISSILE SAFETY AWARD

4510th CCTW Luke AFB, Arizona

4520th CCTW Nellis AFB, Nevada

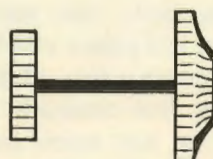
1965



# A

# 2ND LOOK

A 2nd Look



**A** depot that handles the engine starter for one of our newer birds recently reported that some of the broken starters returned to them for repair were really not broken. The rationale went something like this: The depot found there was "nothing basically wrong with the starters." They were "entirely serviceable" even tho the output shafts would rotate in only the ratcheting direction. The depot went on to explain that there is a close tolerance between the turbine rotor and the liner. It can fill with cartridge deposits "under static conditions where the starters have not been in use for a period of time and in the presence of moisture." This condition will prevent the gear train and turbine from rotating.

The depot instructed the field that: "Starters exhibiting no apparent failures other than the fact that the shafts will rotate in only one direction" should be run on a test stand. THEN, if the starter fails to rotate during the pneumatic cycle on the test stand, it should be returned to the depot.

A second look at this exercise in unlogic leaves you scratching your head. Although it would appear from their concern that the starters are supposed to rotate in both directions, they say there is nothing wrong...the units are "entirely serviceable" even tho the output shaft will turn in only one direction. Why, then, all the worry about running the starters

thru a test stand in an attempt to break them loose? Why return them to the depot when you can't get them to turn?

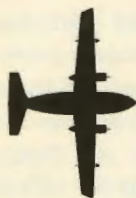
The close tolerance that can fill with cartridge deposits looks okay at first. Maybe it was designed that way. Besides, this only happens in the presence of moisture and when the starters have been static "for a period of time."

We do use these starters (and the airplanes they're installed in) in climates far more humid than the arid wastes of the Southwestern deserts. And from the fact that we're having trouble with them, it appears the static period that can cause trouble is something less than some of our normal down time. Must we exercise these starters more frequently than we do just starting airplanes? Did anyone predict the normal interval between starts for the designers?

Perhaps we, the operators, are not communicating effectively with the designers and fixers. Perhaps in our failure reports and deficiency reports we aren't telling them what we really want.

It is not enough to identify the piece of deficient equipment and just say, "It stinks!" Let's tell them...in enough detail to avoid any misunderstanding... exactly how the equipment is deficient, why it doesn't come up to our standards, and what we need from it to make it work for us.





This time it was a C-123 with an instructor pilot and several students aboard. They were practicing landings. On the third or fourth time around the pattern they came to an uncomfortably short stop on the runway with the gear still tucked securely in the wells.

Last time it was a T-bird. Practice landings... several of them... and the last one without any gear down to save wear and tear on the fuselage.

This pattern has been repeated so very many times, over so very many years, that when it happens again it hardly receives a second look. There's

nothing new and startling about it. Rather, it's old, but it should still be startling... to more than just the aircrew involved.

So let's take a second look at our preparations for a flight that will involve multiple landings. There is no question that one of the primary hazards we will encounter is concentration on landing technique to the exclusion of routine procedures. We can best combat this by mentally preparing for it... acknowledge the hazard and keep it in mind throughout the mission!

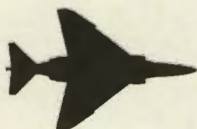


Two F-100C pilots were practicing confidence maneuvers in formation while on an aerial combat training mission. Both clean aircraft flamed out as they ascended through FL 350 in a 35 degree climb attitude, at 130 knots indicated airspeed, and with 90 to 92 per cent rpm. The lead pilot said he had two moderate compressor stalls, and then his bird flamed out. The wingman had one moderate compressor stall before flameout. The flameouts occurred within seconds of each other, and the formation was discontinued as each pilot performed an airstart. Lead got a successful airstart at about FL 270 and 250 knots IAS, and Two's relight was at FL 300 and 250 knots IAS. Both aircraft were started on the normal fuel control system without any difficulty, and they

returned home in formation and landed.

The compressor stalls, flameouts, and airstarts occurred pretty much as the flight manual says you can expect. The flameouts were most likely caused by the high fuel flow and the low air intake that resulted from poor pilot technique and judgment.

A second look at this incident makes us wonder if the flight leader was not already too confident. We don't know of any confidence maneuver that requires a 35 degree pitch attitude at FL 350 and 130 knots IAS or any reason to lead a wingman into that situation. This is the type maneuver that destroys confidence... confidence in the pilot's knowledge of his aircraft and flight manual, professional attitude, qualifications as a flight leader, and supervisors.



It was briefed as a formation acro flight. After some lazy eights and chandelles, the flight of two did two rolls to the left and collided during a roll to the right!

After another flight came off the range the lead pilot decided to practice pitch-outs and rejoins. In

the course of his 270-degree roll to a left break, his tail collided with number two's nose. One fatal, two major injury, one minor injury...

A second look at these performances makes you shudder!





# 516th at Dyess sets impressive record

The past year and a half has been a turbulent period of personnel turnover and increasing mission requirements for most units in Tactical Air Command. Every unit has felt the effects of change, shifting and adjusting procedures and routines to accommodate the increased loads.

In this intense atmosphere, the people of the 516th Troop Carrier Wing at Dyess Air Force Base, Texas, have maintained an enviable record of meeting all de-

mands while they held accidental losses to an absolute minimum. In calendar year 1965 the 516th flew over 37,000 accident-free hours. They were the only troop carrier wing to receive the USAF Flying Safety Award for 1965. As this article is being written, the wing is in its twenty-second month without a major aircraft accident.

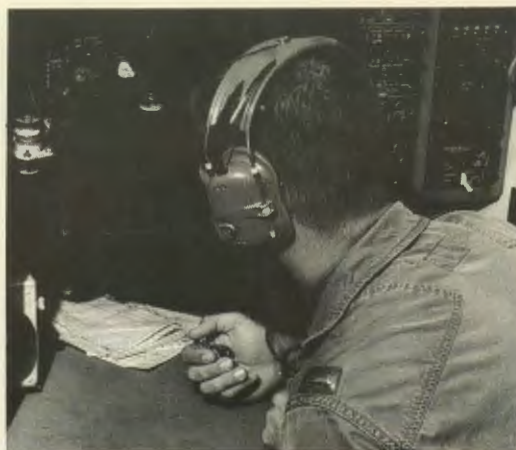
During this period the aircraft and crews of the 516th have operated in all parts of the globe... in fact, they have been to every



Colonel William G. Duncan, Commander of 516th TCW, emphasizes individual participation in accident prevention.



Colonel William G. Duncan, Commander of 516th TCW



Pilot, Navigator, Loadmaster, and Flight Mechanic ... all w



major continent... fulfilling a variety of missions that almost staggers the imagination. In addition, the wing has been training replacement C-130 crews since last November. To date 33 crews have been trained to combat ready status at Dyess. The pilots and flight mechanics complete Phase II training with the wing after graduating from C-130 training at Sewart AFB. Navigators and loadmasters go thru both Phases I and II with the 516th.

Last year the 516th flew over 13,000 hours in support of US forces in Vietnam. In addition to aerial delivery of combat paratroops and heavy equipment, the mission often involved POL, ammunition, medical supply, and food deliveries into advanced areas. Another important mission is air evacuation of wounded to hospital areas. Many of the missions were over hostile territory, with the aircrews subjected to enemy ground fire. The landing strips

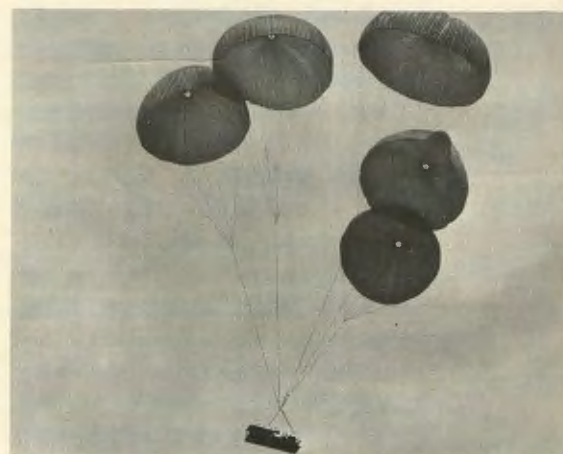
they used were often short, unimproved and hastily prepared. Crowded conditions, vehicle traffic on the airfields, taxi obstructions, and lack of traffic control or weather information added unusual hazards.

Late in the year one squadron from the 516th was transferred to Southeast Asia, leaving only two squadrons to carry the load from Dyess.

During the Dominican Republic crisis, the 516th flew more than

# THOSE MAGNIFICENT MEN AND THEIR AIRLIFT MACHINES

Those magnificent men and their airlift machines



work smoothly together to make accurate, on-time delivery.



2000 hours supporting the units of the Organization of American States and US forces there. The urgency of the mission meant long duty hours for the aircrews and crowded the one available landing strip at San Isidro Air Base with many aircraft.

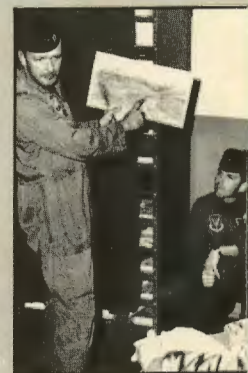
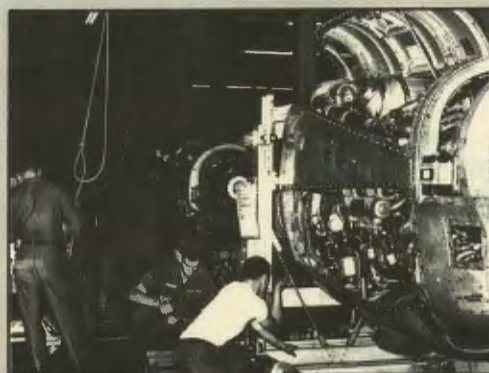
In their more normal activities, the wing participated in many training exercises, supporting US Army and Marine ground units as well as TAC fighter deployments throughout the world. The wing also maintained a detachment in Europe which participated in NATO missions with several European nations.

In addition to these missions, the 516th has regularly been tasked to perform special projects. During one operation in Alaska, they operated C-130s from frozen lake surfaces. Wing aircraft have supported the launch and recovery of Gemini missions 4 thru 9. The wing is evaluating C-130 flare drop procedures for night operations. For the past several months the 516th has provided the airlift support for the Thunderbirds, USAF's aerial demonstration team.

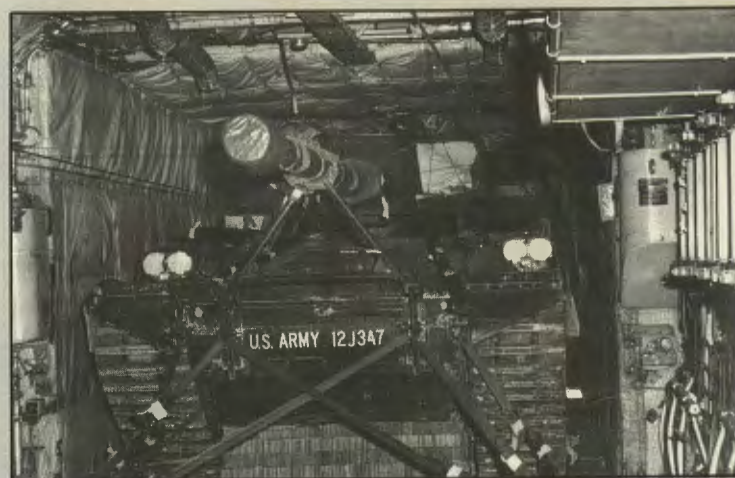
How does a troop carrier wing manage to fulfill such a varied and intense schedule under the handicaps of reduced strength, continuous personnel turnover, and reduced skill and experience levels? Strong leadership and emphasis on accident prevention by Colonel William G. Duncan, the Wing Commander, has been a prime factor in the 516th's accident-free record. Thru an aggressive Wing Executive Safety Council, he has influenced commanders, supervisors, and every individual in the wing to participate actively and conspicuously in a program of safe mission accomplishment.



From tropics to desert to arctic lakes,



Thorough briefings and meticulous maintenance



Huge Self Propelled Antitank is ready for delivery, strapped securely to its pallet.

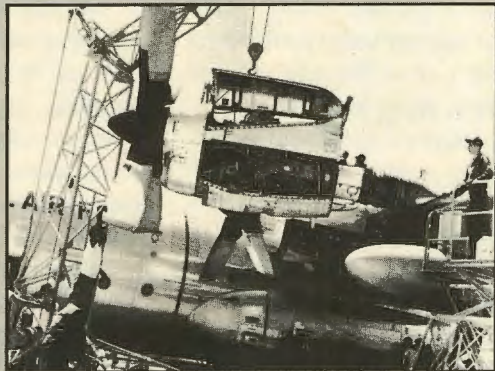




Dyess crews operate under all conditions.



...ance are part of 516th secret to success.



Hercules hulking in hangar hides hundreds of hands helping heal its hurts.

The 516th's enterprising accident prevention program was tailored by Captain Charles H. Van Diver, Wing Director of Safety, and Captain Larry See to reach every man in the outfit. Before he was transferred to Vietnam, "West Texas Charlie" Van Diver was one of the most widely known and respected men in the wing. He spread his infectious enthusiasm for a safe operation by wide and frequent personal contacts in every section of the wing. Captain Van Diver was named TAC Outstanding Flight Safety Officer for the period July thru December 1965.

Captains Larry See and Dick Peters are continuing the safety program in the same vein. They emphasize individual crew-member participation in their program and recognize the importance of each maintenance man's contribution to the wing effort. And they don't stop with flying safety. With Staff Sergeant C. V. Johnson ramrodding the ground safety program, the 516th was one of the first units in TAC to have seat belts installed in 100 per cent of their private vehicles. The wing also won the TAC Drive Safety Award for the first quarter of 1966.

It was no surprise when one member of the TAC Safety Survey team recently said in a report, "Command emphasis, officer and NCO supervision, airman and civilian support of the 516th accident prevention program have made it the most effective and outstanding observed by this surveyor in TAC within the past two and one-half years."

Well done, 516th...TAC is proud of you!



# Surveys of Places

By - Lt Col Paul L. Smith  
Chief, Safety Survey Division

**W**eather deteriorated on one of our surveys. A formation of aircraft went from VFR to IFR, then finally separated and climbed several thousand feet thru the overcast. Altho the area was crowded with civil air traffic, they pressed ahead without clearance change. All this was done with a Safety Survey Team member on the flight. (This is guaranteed to raise the team's eyebrows, temper, hair, and just about everything else except the unit's rating.)

At another base the explosives safety member of our team was walking the line when he got a whiff of very strong fuel fumes from a sewer grill. After check-

ing, we learned that the POL people had a procedure for draining water from a fuel storage tank into the sewer system and flushing it with a garden hose. This particular day someone goofed and drained off a considerable amount of fuel also. Now, about that airman who always flips his cigarette into a sewer grill...

An explosives member on another survey, was examining a munitions storage area with three other people. One of them started to lift a box when the bottom began to separate. Fortunately, one of the other individuals grabbed the bottom of the box and prevented some pretty potent explosives

from hitting the floor. The survey report later stated that four lives and several buildings would almost certainly have been lost, had the contents of that box fallen. This was a case of not having qualified personnel assigned.

During a survey visit to a newly constructed C-130 assault strip our team member was riding in the combat control jeep when it suddenly fell about two feet. Seems as though someone didn't do their homework on location of sewers. At 135,000 pounds a Hercules would probably have made quite an impression.

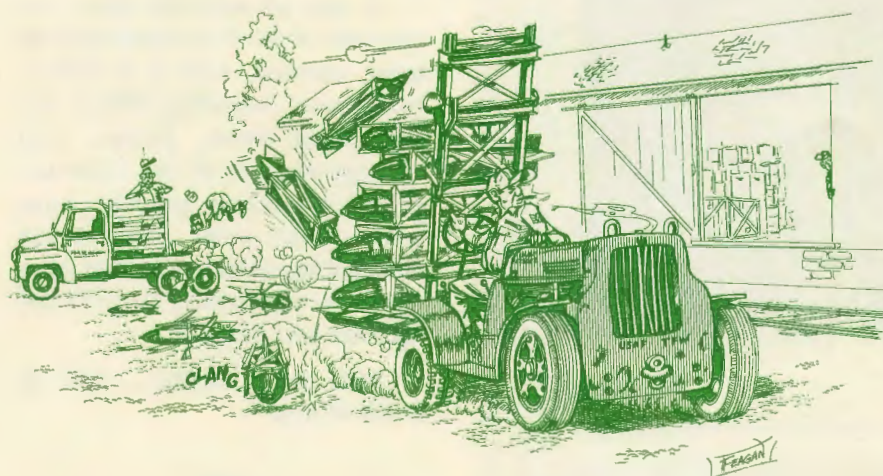
Then there was the young fellow whose Form 13 showed quite a driving record. He had five speeding offenses of more than 70 mph in 35 mile speed zones, one drunken driving violation, and several lesser infractions. Actions taken...none. A case of the information not being made available to the proper people.

Then there was the General Medical Officer who said he had not been briefed on the Human Reliability Program. As a result, he had not been checking the dependents' records that were marked with the little red triangle.

This year we are watching flight line operations for house-keeping, FOD programs, smoking near aircraft, and quality of line maintenance. With reduced experience levels in almost all units, this is accident potential plus.

The same goes for missile assembly and flight line explosives problems. But don't wait for us to point them out. Get with your problems now and save us some writing. See you next month.

Surveys of places



S. O. P.





How to Find Yourself in a Squat  
Bomber When You're Not Really  
Lost

# the Tacan Fix

By Capt Thomas C. Hopkins  
APO San Francisco 96233

**M**any an F-105 jock has pressed off into the blue on a navigation mission, hoping and praying that his doppler would stay in close enough to keep him from getting lost. Normally you select several visual fixes to up-date your doppler, and the really sharp troop might even pick out a radar fix point. But when you can't find the visual fix point or the weather socks in, you and I become that certain per cent that can't find the target. When this happens we have to make a choice between dead reckoning and doppler, and usually end up leaning toward the doppler and completely lousing up the time and distance we know we should follow.

Now modern science has given us the answer to wandering dopplers. This is an ingenious device called the TACAN station. Through certain mystic powers it is able to tell you the exact bearing and distance to the station. All you need do is dial this information into the doppler navigation system, and you can once again know where you are going. You may not find this worth the effort if you are just traveling from TACAN to TACAN, but you're letting yourself down if you don't up-date the doppler whenever possible.

It's always nice to be able to have TACAN bearing and DME information when you break lock or the station goes off the air. You can have this information if you have the TACAN coordinates in a doppler destination by selecting doppler on the instrument selector switch. And if you're not going to a destination with a TACAN station, you will be able to navigate accurately using the doppler navigation system the same way you use TACAN now.

Sounds pretty nice, doesn't it? Even though you know how to VIP FIX and RIP FIX\*, nobody bothered to tell you about the switch for TACAN FIX. And they haven't put this modification in your airplane yet. Never mind, because with a little dexterity and concentration on your part you can obtain the same results using the procedures for Manual Fix. Here's how! You have selected a TACAN station, set the coordinates in one of the doppler destinations, and are driving merrily on your way with the instrument selector switch on TAC. You decide to select DOPPLER and find that the needle doesn't point the same place and the DME is not reading what it should. So you decide to up-date the doppler.

- Observe the TACAN bearing and DME, then place the function-switch to FIX.

- Go back to DOPPLER on the instrument selector switch and, at your leisure, use the coordinate slew switches to change your present position so that the doppler bearing and DME read the same as your TACAN did at the time of FIX. Your coordinate display switch must be in the PRES position.

- Function-switch - NORM.

All you have to do immediately is select FIX at the time you note the TACAN bearing and DME. You can then travel as far as 102.4 minutes of latitude and longitude while you are fixing the doppler.

It is normally easier to match the bearing pointer first and then keep it lined up while changing the DME. This is especially true if you fixed on a cardinal heading from the TACAN. In this case, after lining up the needle on the cardinal heading, the DME can be increased or decreased without causing a change in the bearing pointer.

When you are not on a cardinal heading it will take varying ratios of latitude and longitude change to keep the bearing pointer lined up while correcting the DME. This ratio will change as your distance from the equator is changed, and is best learned by experience.

So now that you know all about it, let's give it a try. After you've done it a few times you'll find yourself running both slew switches at the same time and saying, "Why haven't I done this before?"

---

\* Terms used and understood by F-105 pilots, having to do with doppler operation.

---





## CHOCK TALK

chock talk

### trim tab trouble

During preflight, the KC-97 driver checked elevator and rudder trim for full travel without difficulty but stalled out on the aileron trim wheel. He reached one increment without strain, but felt considerable resistance at one-third full travel.

When the maintenance troops scanned trim cables and control surfaces they found no obstructions so they went to work pulling inspection panels. They found a rag about thirty inches long tangled around the right aileron trim tab drum. The trim cable was forced out of the drum grooves and jammed against phenolic guide blocks. Quality control took a close, if belated, look and found no damage.

We have all heard of repairing discrepancies with a rag wrench, but this is ridiculous!

### soaked squash chute

The runway was wet.

The F-105 had 5500 pounds of fuel.

The drag chute failed.

The anti-skid was inoperative.

The right tire blew.

Fortunately, the pilot was able to stay on the runway and avoid damage to his bird.

Investigators found the drag chute had frozen during flight because it got wet in the aircraft before takeoff. The drag chute compartment in this bird doesn't have much of reputation for being leak-proof. Rather, it is known to be the other way . . . and last time we saw the unit concerned with this particular incident, they didn't install drag chutes during rainy weather until the pilot arrived at the airplane.

### yeeooooow!

It was all like a bad dream . . . the Phantomphlyer was climbing away from the gunnery range at 92 per cent, when both engines started surging. Both fuel flow gages fluctuated 1000 to 2000 pph, the EGTs fluctuated 100 to 150 degrees, and the exhaust nozzles made large pulsating movements. That wasn't enough, just before the engine surges, the phlyer had watched his airspeed bounce from 300 to 150 knots and back, the altimeter fluctuate 1000 to 2000 feet, and the vertical speed dance between 3000 fpm climb and 3000 fpm descent. Like the only thing in the cockpit that wasn't moving was the clock . . . it was written up as broken and on back order.

When he reduced both throttles to below 85 per cent, the surges and fluctuations became . . . "less prominent."

He got it on the ground.

Investigators found both rear nozzle feedback cables and one front nozzle feedback cable badly worn . . . suspicion is they were improperly lubricated.

### bigger hammer

The F-105 pilot landed a little long and a little fast. When his drag chute failed to deploy, he lowered his hook and rolled across the BAK-9 barrier at about 60 knots. The stop was smooth . . . no damage to barrier or aircraft. Five minutes later the base reclamation people had removed the airplane, repositioned the barrier, and reopened the runway.

When maintenance troops checked into the drag chute system, they found the handle had moved to the deploy position but the door had not opened. A



bent cam follower in the door release mechanism was the culprit.

Not satisfied, the investigators asked why the cam follower was bent. They got their answer when they learned the machine used to compress drag chutes during packing had been broken for several days. This was actually the third case of a bent cam follower in three days. And the chutes in each instance had been packed without benefit of the compressing machine. This couldn't be coincidence, so they compared a compressed chute with an uncompressed one and found the latter to be three quarters of an inch thicker. It required the crew chief to use greater than normal force when he closes the door. It also requires a heavier pull on the drag chute handle to get the door to release. Something has to give . . . it usually turns out to be the door release cam follower.

The parachute shop folks decided to fix their compressing machine!

### **a matter of conscience**

Please Murphy . . . a man's life is at stake. While an F-100 egress crew was accomplishing a rocket catapult TOC in another command, they discovered that Murphy had completely negated the seat and canopy ejection system. The hose assembly from the initiator to the catapult was improperly routed. It was connected instead to the canopy exactor assembly, and the hose assembly from the canopy initiator was connected to the lower disconnect assembly.

To compound the felony . . . and we're not so sure that isn't the right word . . . the egress troops inspected all other wing aircraft and found another hooked up the same way. Raises the short hairs on your neck, doesn't it?

The compatibility of the quick disconnects on the two hose assemblies provides the opportunity for that egress specialist . . . and we use the term loosely . . . to improperly hook up and re-route hoses. Incompatible connectors and color coding the system sound like a good start on out-distancing Murphy.

### **who done it??**

The phlyer was on GCA when he saw a utility hydraulic pump lite come on and the left engine oil pressure drop. He shut down the Phantom's left engine and made a successful single engine landing back at home base.

When maintenance investigators got into it, they found the left engine utility pump was broken at the

six mounting flange studs on the transfer gear box casing. The hydraulic mounting adapter and gear assembly had disengaged from the scavenge pump, allowing oil to pump overboard. After they pulled the engine, the engine troops discovered that four of the mounting adapter flanges had been broken previously and the broken surfaces were worn smooth. Two of the flanges broke on the last flight.

Suspecting insufficient torque, they checked breakaway torque on two of the mounting nuts and found they broke loose at 125 inch pounds. The engine TO called for 190 to 230 inch pounds.

### **hurt hercules**

After they finished refueling their C-130, the ground crew prepared to tow it to its normal parking place. Tractor, driver, and nose wheel moved. The rest of the bird stayed put and assumed the collapsed nose gear position. They spent 25 man-hours repairing the damaged gear cylinder and nose wheel doors.

Would you believe towing error?

### **all out**

The loadmaster watched in amazement as the jump platform followed a stick of jumpers out the door of his Hercules. Both brackets holding the platform had broken . . . apparently because someone had drilled the countersink holes incorrectly.

### **do it now!**

The message was short, curt, and to the point. It said the F-100 had experienced number two flight control system failure on the way back from the gunnery range, and the hydraulic pump, filters, and a hydraulic line had to be replaced. Then it went on to say that the hydraulic line had broken . . . suspected cause was metal fatigue. It stated emphatically that this wasn't a case of over-torque.

There have been several failures of this particular part recently, according to an article quoted in the message. Yet no requirement has been established for inspection or replacement of this item in the field. The message closed requesting that "the responsible agency take remedial action to correct this problem now instead of waiting . . ."

Sounds like a good plan . . . there are more and more parts and pieces in our birds that aren't getting any younger, but have never been placed on the inspect, test, or time change lists. Let's see how many we can identify before they cause a big bash!



# more about Aborts

To The Editor

I have a few words to say about the article "About Aborts" in the April 1966 TAC ATTACK. First of all, I have no disagreement with your basic premise that in both accidents the pilots were not mentally prepared to cope with the emergency.

I do take exception to the statement that "altho a malfunctioning airspeed indicator triggered the pilots to abort in both cases, it can hardly be blamed for either accident." It was my understanding that "seat of the pants" flying was in disrepute, or had taken a back seat to precision flying.

In the first accident the pilot checked his line speed three times. Three times the speed was on, or above, schedule. Then the speed seemed to hold at 155 knots. The pilot lowered his nose back to the runway but the speed still did not increase. Therefore, he could only conclude that his push was failing. He did the only reasonable thing ... abort.

The article says "the pilot's decision to abort was based solely upon reference to the airspeed indicator." What other instrument does he have to measure engine output? Where is the thrust meter located in the aircraft? I haven't found any in the aircraft I've flown. If there was some other way of telling the performance of the aircraft-engine combination we wouldn't have to use line speed checks, except as a backup.

Let's turn this first accident around a little and see how it sounds to an accident board. Everything is the same until the point where the pilot aborts. In this hypothetical case he does not abort after lowering the nose, instead he pulls it back up to takeoff attitude. He thinks he is accelerating and he thinks his speed is sufficient for takeoff and he thinks his airspeed indicator is malfunctioning. The aircraft never leaves the ground. The pilot is lucky and survives to tell his story. Let's say investigation reveals the engine was producing something less than maximum thrust during latter stages of the takeoff. What would you, as a pilot and board member think?

Wouldn't you think this pilot was maybe a little dense? He refused to believe his primary performance instrument, the IAS indicator, and trusted his feeling that he had sufficient airspeed.

I've got as good a seat-of-the-pants feel for flying as the next pilot. And I use it, but in conjunction with the available instruments. I would hate to make a critical maneuver such as takeoff, without some kind of IAS (or TAS) instrument. I believe my attitude is typical of the pilot corps. I don't want to go back to the "I've passed the control tower (runway intersection, roach coach, etc.) so it must be time to pull back on the stick" days of flying.

This article, or the portion of it I am concerned with, gives the distinct impression that the author feels the airspeed indicator is not to be trusted as much as the pilot's sense of speed. This is just not the truth, and has not been valid for many years. Since the article was printed in a magazine that is widely read and believed, I urge that a clarification be immediately published in the same magazine.

Major



Dear Major

In reply to your letter we'll start by saying: No, No, a Thousand Times No! The article did not say that a pilot's sense of speed is more reliable than his airspeed indicator.

You quoted from paragraph three that the airspeed indicators can hardly be blamed for the accidents. That's right; now read the rest of the paragraph: "However, there is a cause that is common to both (accidents) . . . neither pilot was properly educated or prepared to cope with a takeoff abort situation."

That last sentence is apparently more important than we realized when we built the article.

In paragraph six we asked, "Would you risk a high speed abort without confirming an actual acceleration loss? Do you know where each switch or handle listed in the abort procedure is located? Would you punch off the tanks? If you haven't an immediate answer for these questions or haven't considered all the options and consequences of an abort, you might very well find yourself trying to figure out the answers when it is too late."

Your hypothetical (and yes, rather dense) throttle bender, after three good speed checks on the runway, finds the airspeed meter hanging at 155. Instead of trying to confirm a thrust loss by looking at his engine instruments (thrust meters, yes!), he thinks his speed is sufficient and presses on into the barrier. Let's hope that none of us would be caught in that situation. Wouldn't it be more sensible to shop around the cockpit for another indication? Something that will confirm or refute the airspeed indication . . . and tell you if it's the power plant acting up.

We agree, the airspeed indicator is primary for performance during takeoff. It gives the most direct information, so we use it to check acceleration . . . which gives us a final reading on engine performance. Final, that is, because we checked the RPM, EGT, Fuel Flow, and EPR (in some birds) just before, or immediately after brake release. If these thrust meters had not told us there was sufficient power for takeoff, we would have aborted right there. We use airspeed only to confirm what the engine instruments are telling us.

We're talking indicated airspeed throughout this discussion. Shame on you for suggesting that you can use true airspeed for any kind of takeoff information! Without some fancy conversion tables for temperature and density effects, you'll be in the real deep serious . . .

Back to that very critical moment when the guy in the cockpit finds he has 155 knots and it isn't growing. Trusting he knows where to find them, he looks at his engine instruments . . . as many as he can digest in a fast glance. This will vary from one individual to the next by the amount of thought he has given to it in the past.

Which engine instruments does he want to check? In some airplanes he'll look for exhaust nozzle position, in others he'll want to know about EGT or EPR. If he sees nozzles part or full open, EGT, EPR, or RPM dropping, or fuel flow falling off, he has his answer . . . ABORT. And do it right! Again his reaction, its correctness and speed, will depend on the amount of thought and preparation that went thru his head before the takeoff started.

If he sees all the thrust meters holding steady and reliable at the go position, he has his answer, too. The airspeed meter's bad. But he has good assurance that the push is still there . . . and that it's going to get him off the ground. It will be an uneasy few moments, sure, until the gear's in and the flaps are up. But certainly not as uneasy as those moments with the barrier rushing toward you while you wonder if this abort was really necessary.

Once in the air, he knows about how much power it will take to keep him flying. If he misjudges, the airplane will tell him his speed is too low or too high . . . and in plenty of time to avoid anything like the spectacular results of most high-speed takeoff aborts. He can stooge around on a full fuel load while he waits for GCA to join him up with somebody to land beside.

What we're saying is that indicated airspeed is certainly the primary performance instrument during takeoff. But there are several supporting instruments in the cockpit. They're there for you to use. If you look at them only when you start the bird or when it rumbles and bumps in an unusual manner, you're missing an awful good bet.

- Ed.





"That's what I said, Orville . . . it's an awful fancy prop, but not very efficient."

# SORRY 'b



"Yes, Sir . . . the landing went great until I tried to use rudder."

"I told you the water in this canal looked too smooth!"





# out that



"No . . . it's not in there, either!"

"Murphy! . . . Did you reassemble this thing after PE?"



TAC ATTACK



"Ahh . . . correction, make that a LEFT turn-off at the end, 652."



"OK, Tower, you got us here . . . now who's #1 for the runway?"



## MAINTENANCE MAN OF THE MONTH



Technical Sergeant Walter E. Narkiewicz of the 31st Tactical Fighter Wing, Homestead Air Force Base, Florida, has been selected to receive the TAC Maintenance Man Safety Award for the month of June 1966. Sergeant Narkiewicz will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.

R  
e  
c  
o  
g  
n  
i  
t  
i  
o  
n

## CREW CHIEF OF THE MONTH



Staff Sergeant Frederick A. Cheney of the 4413th Organizational Maintenance Squadron, Sewart Air Force Base, Tennessee, has been selected to receive the TAC Crew Chief Safety Award for the month of June 1966. Sergeant Cheney will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.

## PILOT OF DISTINCTION



Captain Donald R. Moody, 4409th Combat Crew Training Squadron, Hurlburt Field, Florida, has been selected as a Tactical Air Command Pilot of Distinction.

Captain Moody was flying a T-28 on an ordnance delivery mission with an observer in the rear seat. On his first strafing pass he experienced severe engine backfiring. He quickly reduced power, declared an emergency, and turned toward a fire break on the gunnery range. The engine continued to backfire and Captain Moody lost altitude as oil slow back over the windscreen. Engine detonation ignited the oil and flames streaked back over the cockpit.

Rather than risk a low altitude bailout with an inexperienced passenger in the aircraft, Captain Moody elected to make a gear-up landing. He blew back the canopy and made a smooth landing on the sand, incurring only minor damage to the aircraft. Captain Moody and his observer exited the aircraft uninjured and assisted in extinguishing the fire.

Captain Moody's quick reaction in a critical low-altitude emergency averted the loss of an aircraft and possible serious injury to himself and his passenger. His outstanding airmanship, skill, and good judgment readily qualify him as a Tactical Air Command Pilot of Distinction.



# TAC TIPS



## CLOSE CALL

At the end of a training flight, with 6000 pounds of fuel showing on the gages, the C-130 crew made three assault landings and takeoffs. On the first and second takeoffs, they noticed the number two scavenge flow light blinking. On the third takeoff the number four light blinked. Altho they had fuel on crossfeed with the crossfeed separation valve closed, they decided to call it a day and taxied to their parking place.

Just as the pilot reached for the condition levers to shut down the engines, the flight mechanic called that they had lost number two engine. The pilot immediately placed all four condition levers in ground stop. As the rpm on all engines started to decay the cockpit became dark . . . the GTC had flamed out too!

Using a flashlight, the crew noted that number one tank indicated 200 pounds of fuel, number two and three tanks showed 1500, and number four tank 1000 pounds. However, when they dip-sticked the tanks they found that number one had zero fuel, number four only wet the bottom of the stick. Tank three held 1950 pounds.

But the totalizer had shown 4000 pounds on board when number two and the GTC flamed out from fuel starvation!

The crew went in and submitted an OHR to alert all hands to the unreliable fuel gages. One of the results was a rule that all C-130 missions be planned to land with 6000 pounds of fuel.

Should you have to operate with less than 6000 pounds through some unforeseen circumstance, the best bet to preclude flameout is to open all crossfeed valves and the crossfeed separation valve. The handbook says you should do this below 4000 pounds, but it won't hurt anything to play it safe before that. The experts say any resulting asymmetrical fuel condition will not be a big factor.

## TAC ATTACK

## PHANTOM PANTS

The student on a Phase I check was demonstrating his ability to perform an approach to a stall for his instructor phlyer in the back seat. All went well until he started recovery and encountered nose rise at approximately 150 knots. As the nose of the aircraft was falling thru the horizon, the student phlyer stopped his forward stick movement and tried to pick up the left wing with right aileron. The IP cautioned him on that and he neutralized controls. But then, relying more on the seat of his pants than a sound understanding of the stall characteristics of his Phantom, the student attempted to raise the nose with back stick while the airspeed read only about 135 knots (with gear and flaps up).

The increased angle of attack resulted in a fully developed stall with airspeed dropping rapidly to below 80 knots. Phlyers and Phantom had gone around two turns of the spin together . . . with post stall gyration controls applied . . . when IP told student to deploy the drag chute.

Recovery was almost immediate.

## UNUSUAL?

The GCA was unusual to the extent that the F-84 pilot received one, big 180-degree turn from downwind to final. The rest of the approach was unusual because the pilot was doing a lot of talking on the radio about the cross wind and using his drag chute. The runway was unusual because it was pretty slick and another bird had just gone into the barrier on the far end.

The landing was unusual, too. He landed on his drop tanks! He heard someone on the radio say "no gear" when it was too late to do anything about it . . . doesn't remember hearing the horn or seeing a red light in the gear handle.



## THAT SUDDEN STOP

The overseas C-123 pilot was making an assault landing approach to a short runway. He accepted a five-knot tailwind to take advantage of the runway upslope. Altho he was flying the correct airspeed on final the tailwind made the approach appear too fast to him.

When he pulled off about six inches of manifold pressure, the bottom fell out! He was unable to re-apply power in time to stop the very impressive sink rate that developed. The equally impressive collision with the ground . . . 60 feet short of the runway . . . resulted in 800 man-hours worth of damage to the aircraft.

## AIR PHLOW

During recovery from a low-air-speed, high angle of attack rudder roll during ACT, the Phantom phlyer selected afterburner. His left engine smartly stalled and flamed out!

The airstart was uneventful and he landed from a straight-in approach.

The engine people gave the big bird an exhaustive going over. On the trim pad they checked fuel scheduling and exhaust nozzle positioning. Finding nothing amiss, they went on to check variable stator blade, ramp, and bellmouth scheduling. Still nothing wrong!

Most likely cause of the flameout is that the left engine air intake was restricted during the slow (200-230 knots), yawing roll. When the pilot selected burner the increased fuel flow without enough air caused the compressor stall and flameout.

## GEORGE DID IT

The Phantom phlyer was taking phuel in a turn when the tanker autopilot made an independent decision to play crack-the-whip. During the porpoise, and before anyone had time to disconnect, the Phantom suffered damage to the refueling receptacle, stop assembly, and hydraulic actuator . . . fifty man-hours to repair.

The slightly spastic autopilot on the kerosene konveyor misbehaved because of a broken wire on a straight "potted" plug. The electronic experts recommended an elbow type cannon plug replacement.

Somewhere along the line it was decided that autopilots could fly a smoother refueling platform than the human types. But if George is going to get nervous and jerky at critical moments, and suffer from "potted" plugs as well, let's go back to flesh and blood pilots. At least they can be disciplined for poor pilot technique and given refresher training.

## WHAT A DRAG

Just before the tow bird launched his dart, one of the firing aircraft noticed a small object fall from the dart rig.

Dart Tow's first attempt to launch the dart was unsuccessful. After about three more tries, the dart appeared to launch normally but it fell into the ocean. When the flight leader checked over the tow ship he found it trailing seven or eight feet of cable. The tow ship headed for home while the rest of the flight proceeded with an alternate mission. With only a few feet of wire trailing, the tow pilot made a normal landing pattern.

As the pilot flared for landing, tower told him sparks were coming from some railroad high tension lines in the approach zone. He went around and cut the remaining cable over the jettison area. His next landing attempt was uneventful.

Investigators found that the cable touched the ground about 5000 feet short of the runway and broke electric and telephone lines at three different locations. It then struck the roof of a private home and cut the railroad power line that did all the sparking.

The unit concluded there was sufficient drag on the short length of cable to reel the rest of it out of the tow rig. Then they decided that it would be a good idea to have a chase ship follow the dart tow home any time there was cable hanging . . . and that they'd try to cut it loose before attempting to land.

## EASY DOES IT

The F-105 pilot was a little fast approaching the air refueling drogue. Before he could slow his beast, he had pushed the drogue forward and looped the hose around his probe. With understandable, but hasty concern he snatched back on the power. This caused the basket to strike the probe again . . . and bend it!

The drogue assembly and reception coupling were damaged, the hose cut. Everybody gave up and went home.

## CLOSE COPTER

The C-123 saw that a Huey was parked dangerously close to the runway when he landed on the first of three shuttle runs. He told the tower about the hazard. On his second time around the one close copter had grown to three! Fearing that another complaint would have the same unhappy results, he kept his peace. The third time on the runway he got a piece of tail rotor with his wing tip.



## AN ANALYSIS OF TAC ACCIDENT EXPERIENCE

## TAC TALLY

for may 1966

## ACCIDENT FREE

ACTIVE	MONTHS		ANG/RES
67TRW	5	8	140TFW
479TFW 4453CCTW	4	7	122TFW
4TFW 401TFW	3	6	117TRW
4500ABW	59	70	349TCW
4442CCTW	42	45	403TCW
516TCW	21	35	459TCW

## F-84

FATAL - Landed short, cartwheeled, and burned.

## F-100

MAJOR - Crashed on simulated strafe run.  
No ejection.

## F-104

MAJOR - Engine oil low light, nozzle would not close, AB blew out. Unable to hold altitude or airspeed. Ejection successful.

## F-105

MAJOR - Fuel depleted rapidly on return from gunnery range. Flamed out, ejection successful.

## F-4C

FATAL - Lost control in pitch-out for landing. One ejection successful, one unsuccessful.

MAJOR - Explosion and left engine flameout on GCA. Right engine dropped to 70 per cent. Both ejections successful.

MINOR - No left AB on takeoff, high-speed abort, barrier malfunction. Nose gear collapsed 200 feet beyond overrun.

## MAY TALLY

UNIT	MAJOR	MINOR
15TFW	1	1
23TFW	1	
33TFW	1	
121TFW	1	
131TFW	1	
4510CCTW	1	

## MAJOR ACCIDENT RATE

TYPE	TAC	ANG	AFRES
ALL	7.3 8.9	10.4 13.2	6.3 1.7
A-1	0 15.7		
F-84		8.0 0	
F-86	97.0 121.6	0 31.1	
F-100	13.3 14.4	18.2 17.0	
F-101	21.6 0	76.9 0	
F-104	22.1 23.3		
F-105	19.9 22.3	0 46.5	
F-4	9.4 10.5		
B-57		0 12.3	
C-47	0 0	0 0	0 0
C-97		0 6.6	
C-119		0 0	6.5 1.3
C-123	0 0		11.0
C-130	1.2 1.8		
T-29	0 0		
T-33	0 0	0 5.3	
T-39	0 0		

estimated due to non-receipt  
of ANG rates at presstime.

thru may 66

1965





**TACTICAL AIR COMMAND**

## **SAFETY AWARDS**

**1965 TRAFFIC SAFETY**

31TFW, HOMESTEAD AFB, FLORIDA

**1965 TRAFFIC SAFETY**

4504MTW, ORLANDO AFB, FLORIDA

**1965 GROUND SAFETY**

USAF TAWC, EGLIN AFB, FLORIDA

**1965 GROUND SAFETY**

838AD, FORBES AFB, KANSAS

**1ST QTR 1966 DRIVE SAFE**

516TCW, DYESS AFB, TEXAS

**1ST QTR 1966 DRIVE SAFE**

4504MTW, ORLANDO AFB, FLORIDA

**1965 EXPLOSIVES SAFETY**

4453CCTW, DAVIS-MONTHAN AFB, ARIZ



***Join the  
Star-Spangled  
Savings plan***

*Buy U.S. Savings Bonds through payroll savings*