

TAC ATTACK

May 1967

MAY 1967



FIGHTER PILOTS
and PARACHUTES
...pg 20

for efficient tactical air power

TAC ATTACK

MAY 1967
VOL. 7 NO. 5

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 PUBLICATIONS
LT COL CARL E. PEARSON

editor

Maj John D. Shacklock

art director

Stan Hardison

layout & production

SSGT James E. Fields

editorial assistant

SSGT Richard D. Reid

printing

Hq TAC Field Printing Plant

current interest

TURNING THE F-4 - more on max performance	Pg 4
SAFE AS YOUR OWN BACK YARD - timely tips for yard wardens	Pg 10
THE SIDEWINDER - can be deadly	Pg 12
WHAT DO YOU HAVE TO LOSE - call for crash trucks?	Pg 16
FIGHTER PILOTS AND PARACHUTES - how much do <u>you</u> know?	Pg 20
AN ACT OF FAITH - the crew let him down	Pg 30

departments

Angle of ATTACK	3
TAC Tips	14
A 2nd Look	18
Surveys of Places	26
Chock Talk	28
Pilot of Distinction	25
Letters	31

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 (OSP), Langley AFB, Va. 23365.

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

Angle of ATTACK



COLONEL HOMER C. BOLES
Chief of Safety

CONVINCE HIM

Last year we lost twice as many TAC people in fatal auto accidents during May as we did in April. And in June we almost doubled May's figure! The beginning of summer brings a sudden jump in auto accidents each year. So now is the time to make our people aware. Their exposure to violence and death will increase in the next few months.

Who should we direct our attention to? One group is involved in more accidents than any other. It is our younger airmen, the group between 19 and 22 years of age.

How do we reach them? Convince them? We don't often accomplish our purpose by preaching Safety. We're more likely to get our message across to this fast moving, active group by our example . . . our attitudes. They may hate to admit it, but they do look for guidance to the successful and older ones among them. They emulate the habits, speech, and attitudes of the people they respect.

Those of you in daily contact with them can do a lot to prevent accidents . . . and deaths. You are familiar with each man's judgment. You know of each one's rash acts. You know who needs attention and who can handle himself.

Too often, we look the other way when a man shows tendencies which may lead to disaster behind the wheel. Few of us accept, or even feel, a responsibility to talk to the man. Of course, you must handle this with care. The direct approach . . . rebuff, reprimand, or ridicule . . . seldom works. It alienates.

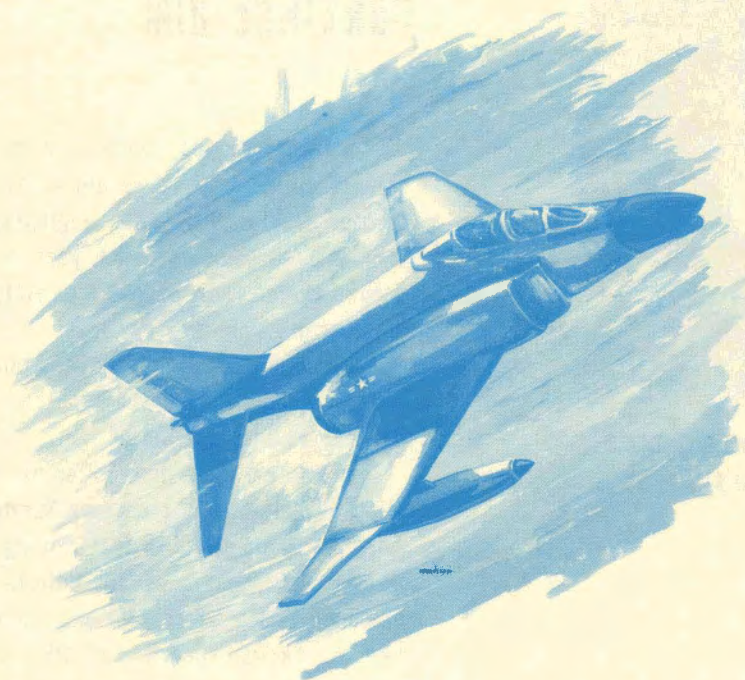
The most effective approach is example. Show him that you are concerned about your own safety. Show him that you take special precautions when you plan a weekend trip . . . or just an outing to the lake.

When you convince him of this through your conversation and actions, he will stay convinced.

Homer C. Boles

more on...

TURNING THE F-4



Adapted from material by

Captain Don Calvert
originally published
in the USAF Fighter
Weapons Newsletter

What is all this about turning the F-4?

It's learning, and being able, to get the most out of the airplane, isn't it? It's knowing how to get maximum performance out of it in a fight. And until someone comes up with something better, we in the fighter business will hang our hats on an Air Combat Tactics (ACT) training program to prepare us for ... turning the bird.

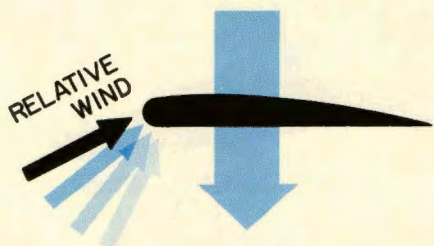
A good ACT program will give you the knowledge and skills that increase your combat capability in all phases of fighter flying. And a

good ACT program must start on the ground floor. In other words, you must master basic maneuvers before you can move on to tactics.

It's not just a matter of jumping in the airplane and going out to fly these maneuvers, either. A solid academic foundation in each phase of training will give you a better understanding of... and consequently make you better at ... turning any fighter airplane.

Before you go out to learn maneuvers, you must understand the performance characteristics of your airplane. Then you can prac-

FIG. 1 Relative wind (angle of attack) on downgoing wing during roll.



tice maximum performance flight. What you will be doing is learning to operate the bird efficiently under high angle of attack conditions. Once you have mastered that, you will be able to perform all the fighter maneuvers you need in an air combat situation.

While it is important for you to be able to maneuver the F-4 at maximum performance, there are other factors which are equally important.

You must recognize your enemy and his armament. If he has missiles, his tactics and yours will follow one pattern. If he's trying to press a gun attack, you'll both maneuver differently. In either event, you must know your enemy's capabilities and limitations.

In practice, you are generally pitting one F-4 against another. The performance of both the attacker and his quarry are about the same. And it's only natural that these exercises often progress to a minimum airspeed contest.

In general, you should always avoid a fight that places you at minimum airspeed. If you can entice a faster enemy into maneu-

vering at your best airspeed, you have him.

The advantage of keeping the fight up around your best turning speed is that you are in the optimum portion of your flight envelope. At low and medium altitudes, you can pull the airplane all the way to the G limits before you reach critical angle of attack. At five thousand feet you only need about 10 units angle of attack to pull 6.5G at best turning speed.

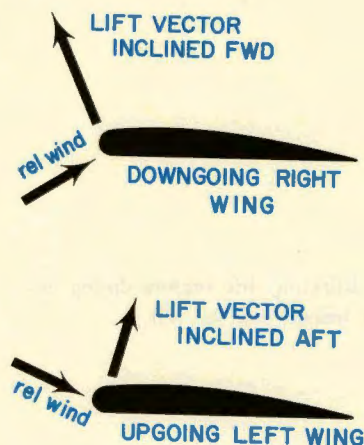
The only time you need maximum performance maneuvering in the low speed area where angle of attack becomes critical, is when you find yourself slow and need a last-ditch maneuver to survive ... say when you find yourself the target of a missile and have to take drastic action to survive.

ROLL CONTROL

In maneuvering the F-4 through max performance turns, you use basically the same technique as in other swept wing, century-series fighters. You use two separate techniques:

- At low angle of attack you use conventional control ... aileron and spoiler for roll, rudder to

FIG. 2 Lift vectors are inclined at differing angles during roll.



keep the turn coordinated. You control rate of turn, or roll intensity (as in a barrel roll), with aft stick.

- However, at high angle of attack, you must hold your ailerons and spoilers neutral while you maneuver. Rudder becomes primary for roll control and turn direction. You still use backstick to get the turn rate or roll intensity you want.

Adverse yaw, which the F-4 encounters with normal control at high angle of attack, dictates the difference in control. Yaw opposite the turn or roll direction, adverse yaw, comes from two major sources:

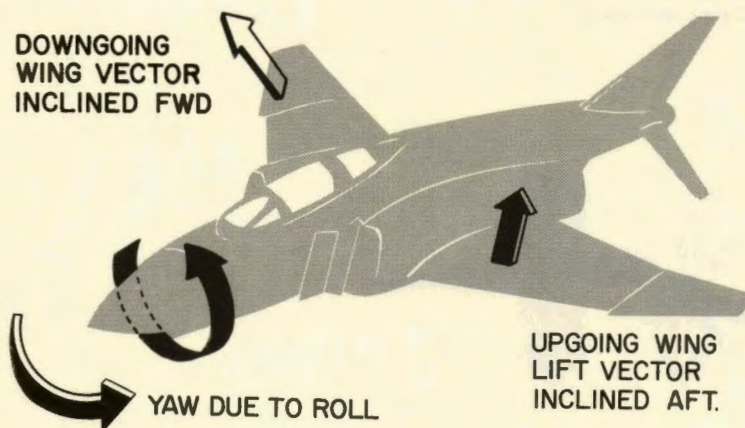
- Yaw created by the drag of the downward deflected aileron on your high wing, and

- Yaw caused by the roll itself.

In a right roll, as your right wing goes down it encounters a new relative wind (fig 1). This new relative wind meets the wing at an increased angle of attack. Your left wing, going up, encounters a new relative wind which it sees as decreased angle of attack.

This difference in angle of attack between the two wings causes their lift vectors to be inclined at different angles (fig 2). The result

FIG. 3 Differing lift vectors during roll to right induce yaw to left.



is a yawing moment opposite to your roll direction... adverse yaw. (fig 3)

Both sources of adverse yaw are greatest at high angles of attack and, of course, with maximum aileron deflection.

When you roll the aircraft or change turn direction with rudder, you are using a principle called dihedral effect. You could call it roll due to sideslip or yaw. By using right rudder and causing a yaw to the right, you increase the sweep angle of the right wing and reduce the sweep angle of the left wing (fig 4). Due to the change in sweep angle, your right wing loses lift and your left wing gains lift. The result is that you roll in the direction of the rudder you applied (fig 5).

By using this principle at high angle of attack, you have eliminated one source of adverse yaw... aileron drag. And you have applied rudder to counter the second source of adverse yaw before it becomes significant.

Turning the airplane with dihedral effect at low angles of attack produces roll rates much lower than what you can get using conventional control. But at a high angle of attack dihedral effect

gives you a higher rate of roll. And for all practical purposes, you have eliminated adverse yaw.

Okay, those are the basic control techniques. Let's see what happens when you use incorrect techniques:

When you move an aileron down while the wing is at high angle of attack, the drag it creates causes adverse yaw. That yaw creates unequal lift on your wings and a rolling moment... dihedral effect (fig 5 again). But now, that dihedral effect is working against the direction you want to turn. So you give it more aileron. The airplane's tendency to roll out of the turn increases. You give it more stick into the turn. Finally, you have increased angle of attack on one wing until it stalls... a snap roll results!

And you seldom improve your tactical position by snap-rolling out of a defensive turn... or in the middle of an attack!

IN-FLIGHT RIG CHECKS

Before you practice max performance turns or try air combat maneuvers, you should check your aircraft for proper rig and trim. The people at the Fighter Weapons

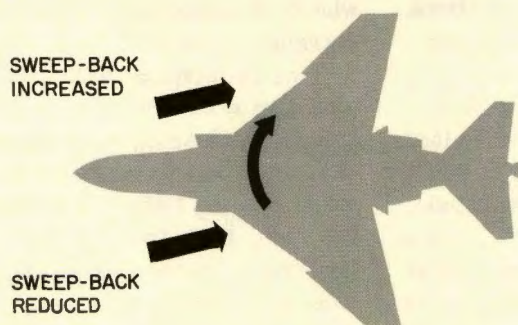


FIG. 4 Change in sweep-back during yaw (right rudder).

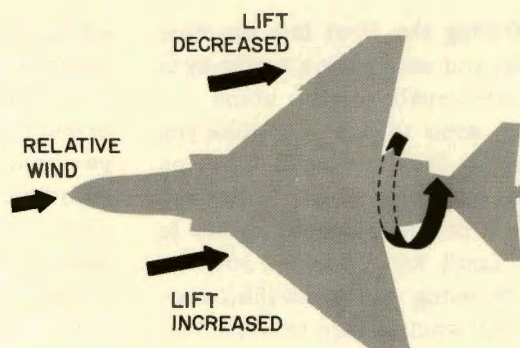


FIG. 5 Right rudder induces roll to right due to asymmetrical lift on wings from dihedral effect.

School use a rig check that you can easily accomplish in the climb. It goes like this:

With Stability Augmentation (Stab Aug) engaged, trim the ball to the center (from the rear cockpit). Check that your aircraft will fly wings level with ailerons and spoilers neutral. A slight roll tendency is acceptable. But if you must use a large amount of trim to hold wings level (1 to 1-1/2 inches of aileron down at 350 knots CAS), you either have an airplane that is out of rig, or a Stab Aug that is acting up.

To isolate the source, go through the same check with Stab Aug off. If the airplane still takes the same amount of trim to hold wings level, it is out of rig. A word of caution here... it's easy to overcontrol in pitch with Pitch Aug disengaged. If you have three Stab Aug switches, leave Pitch Aug on. When you have only a single Stab Aug switch, use caution at high airspeeds.

If you didn't need a lot of trim with Stab Aug off, suspect the Stab Aug.

In either case, don't try to fly the aircraft to max performance! Handling characteristics are extremely poor and you may lose

control under these conditions. Fly the bird home, write it up, and let the experts correct the problem.

After you're satisfied with the rig check, move on to a check of the Stab Aug. Induce moderate roll, pitch, and yaw moments. Stab Aug should damp them out after one overshoot. *

GETTING THE FEEL

During your initial max performance turn training, use a canned situation. Begin the maneuver at 30,000 feet, Mach .9, and full military power. Enter a rapid, coordinated bank and simultaneously apply smooth back pressure.

Continue back pressure until you have 19 units on the angle of attack indicator. Use back trim to

relieve the stick forces. Now hold the 19 units with back stick and continue to trim until you reach 200 knots. Recover by placing the stick forward of neutral.

Remember, you've been trimming the stick back. You must positively move the stick away from you to place it forward of neutral!

But don't forgo the back trim just because of the recovery. Without the stick pressures trimmed out, you can easily induce small side pressures without knowing you are doing it. Even small aileron deflections will require that you reduce back pressure to maintain control. And there goes the maximum performance!

Learn to fly the rudder exactly as you do the ailerons. Develop a feel for the pedals and use them to control turn and roll. Again, the word is smooth... a rapid, full rudder deflection will put you right into that snap roll we talked about. The one that won't do you any good in a fight.

And be critical of yourself! Any time the nose wallows around while you are practicing high angle of attack turns, you are using too much rudder!

* During all air combat tactics missions in the Fighter Weapons Instructor Course, the people there leave the Stab Aug roll axis disengaged. This prevents Roll Aug from countering the rolling moment of dihedral effect at high angles of attack. When you leave Roll Aug engaged, it generates an undesirable cross-control or pro-spin condition.

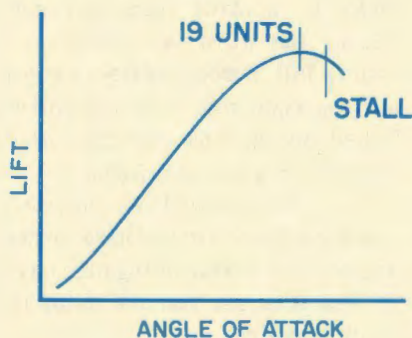
During the first few practice turns, you may have a tendency to subconsciously apply some aileron, even though you think you have the stick centered. Concentrate on keeping the stick centered until it becomes second nature to you. Don't try to control adverse yaw by using aileron in the direction you want to turn or roll.

And don't use rudder to counter the aircraft's tendency to roll out of the turn. At high angles of attack, you can encounter adverse yaw of such magnitude that full rudder will not counteract it. Your only recovery is to reduce angle of attack, rate of roll... or both. Incorrect control technique may put you right into poststall gyration or a fully developed spin.

WHY 19 UNITS?

By now you may be asking some questions... Just what is maximum performance? Why 19 units angle of attack?

You can define max performance as the angle of attack at which your wing generates maximum lift. Any higher or lower angle of attack will give you less than maximum lift (fig 6). At subsonic speeds the F-4 wing generates maximum lift at approximately 19 units angle of attack. At super-



sonic speeds the angle of attack value for max lift becomes variable. But this doesn't present a problem, because supersonic max performance in the F-4 is limited by either G or full aft stick. When you're supersonic at high altitude, max turn is full aft stick... stabilator limited. Supersonic at lower altitudes, you encounter G limits before you reach maximum lift and max performance... structurally limited. **

If you're generating maximum turn while supersonic and decelerate to subsonic speed, be prepared for a pronounced dig-in. Stabilator effectiveness increases as you go subsonic. If you don't overstress the bird, you will at least lose a good chunk of your Mach in the high speed stall. After a few practice turns through this area, you will learn to anticipate the increased stabilator effectiveness. You get light buffet shortly before the dig-in. Just ease off a bit of back pressure.

And when you're accelerating through sonic speed you'll have to increase back stick to keep the F-4 at max performance. But watch the G-meter at lower altitudes, you can overstress the aircraft.

As we said earlier, 19 units give you max lift subsonic. You can use the angle of attack indicator in certain areas, but trying to generate 19 units at high CAS and low altitude will normally get you a high speed stall or overstress. At high altitudes... say 18,000 feet and above... you can easily get 19 units if you use the control techniques we've discussed.

In fact, you can generate more than 19 units. But why? You'll lose lift when you pass 19. And induced drag will increase rapidly... drag due to angle of attack. In addition to that, you're entering an area

where aircraft control becomes marginal. Remember, you're turning the airplane with dihedral effect to avoid trouble. And that increases the angle of attack on one wing beyond whatever you were holding before you started the turn. If you're above 19 when you start, you're just cutting into what you have to turn with. When that wing stalls, you're out of business!

Unless your tactical situation makes it desirable to lose airspeed or altitude... or both... there's not much sense in going past 19 units.

It's not generally possible to use the angle of attack indicator in a tactical situation. In turning the airplane its use is limited to training. Therefore, you should try to develop a feel for maximum turning performance during your practice. You can use buffet intensity as a crutch in determining max performance, but be careful. The indications for one situation don't necessarily hold true for another. Practice in all areas of the flight envelope.

Once you've mastered max performance turns, you will be ready to progress to basic fighter maneuvers. These maneuvers are the key to success in air combat.

And that's what we're here for!

** For simplicity's sake we've treated the transition from sub- to supersonic flight as a single point. Aerodynamically, the F-4 experiences many changes in lift, drag, and stability between about .92 and 1.05... but most of our flying is either above or below the transonic zone. Similarly, we know that max lift on the F-4 wing occurs at 18 degrees angle of attack below .92 Mach, which equates to about 19.6 units on the meter we look at. But who can read tenths on it? So we've used terms and figures that will be meaningful to us in the air.

Recognition

CREW CHIEF OF THE MONTH

Staff Sergeant Brian Kreidler of the 27th Tactical Fighter Wing, Cannon Air Force Base, New Mexico, has been selected to receive the TAC Crew Chief Safety Award. Sergeant Kreidler will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



Staff Sergeant Brian Kreidler

MAINTENANCE MAN OF THE MONTH

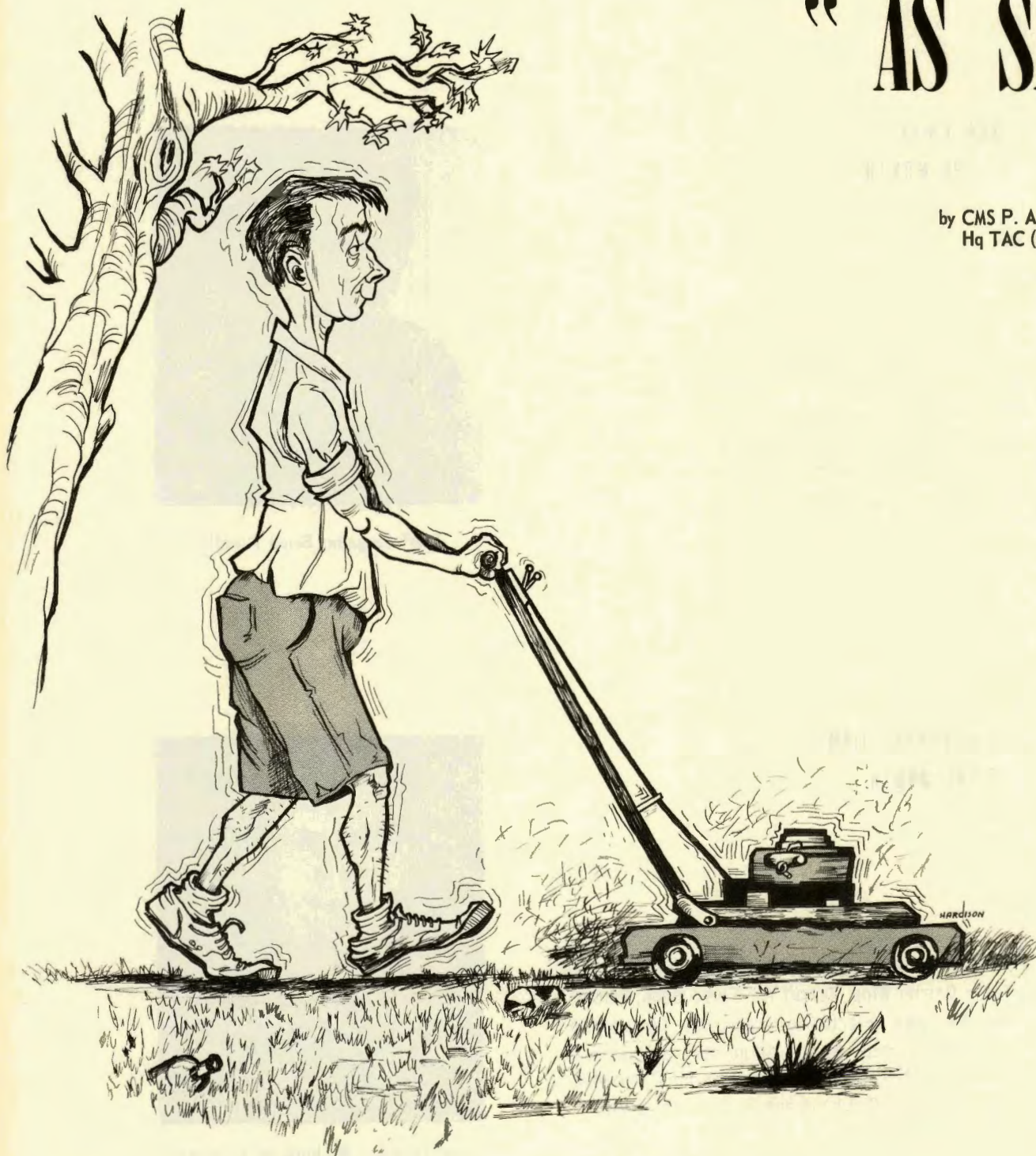
Staff Sergeant Richard W. Lienhardt of the 64th Troop Carrier Wing, Sewart Air Force Base, Tennessee, has been selected to receive the TAC Maintenance Man Safety Award. Sergeant Lienhardt will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



Staff Sergeant Richard W. Lienhardt

"AS SAFE

by CMS P. A. Palombo
Hq TAC (OSG)



AS YOUR OWN BACK YARD "

We've all said something like that when we want to imply almost complete security from accidental harm. But maybe we'd better add: "Safe, that is, if you're not cutting the backyard grass."

A recent study by a large insurance company showed that power lawn mowers have been involved in over 60,000 accidents a year since 1959. Also involved were some 50,000 toes and 18,000 fingers. Almost a third of the victims were innocent bystanders. The records show that only about nine percent of these mishaps resulted from mechanical failure of the machinery.

Although injuries from power mower accidents usually involve cut fingers and toes, there have been fatalities. When a power mower hits an obstruction in the grass, flying rocks or blades have been known to strike the operator or innocent bystanders in the head, throat, or chest, causing death.

Here are some suggestions for your safety in operating the power-driven reel mower or the less expensive, and more popular rotary type:

- The rotary blade, whirling up to 4000 revolutions per minute, is as potentially lethal as a power saw. Remember this. And treat the machine with respect.

- Do not operate the mower when you're wearing open-toe sandals or thin leather soles that become slippery from damp grass. Certainly don't try it barefooted.

- Don't pull a power mower backward. It can easily roll over your foot. Don't try to start it while it is in gear. And even when it is out of gear, get yourself a solid, well-balanced footing. Keep your feet safely away from the under-carriage.

- Never be so absent-minded as to pull grass out of the machine or try to refuel or oil it when the engine is running. Refueling while the engine is hot is

equally dangerous. A red hot exhaust pipe can cause an explosion! Wait for the engine to cool. And always disconnect the spark plug wire before you clean the machine or make adjustments.

- Don't make the mistake of trying to operate a new mower before you're familiar with the controls. When a beginner finds his machine straying off course toward the flower bed, he instinctively tries to hold it back instead of throwing out the clutch. When your 2 1/2 horsepower engine takes the bit in its teeth, it can hurt you!

- Be sure you "case the area" before taking the mower over the lawn ... or into a jungle of grass and weeds. Walk the ground before you start to work. Every time you mow!

- Never leave your power mower running unattended, not even for a moment. Many, many children have suffered mangled feet and broken legs because they approached a running mower which an adult left for a moment or two.

Shopping for a rotary mower? Look for ...

Built-in guards that cover dangerous revolving parts.

A handle long enough to keep you from pulling the machine back over your feet.

A grass-ejection slot on the side, forward of center with a low discharge angle.

A ground wire or a three-prong plug for electric mowers.

Large wheels to simplify operation over uneven ground.

A rear-deck extension four to six inches beyond the revolving blade.

A mower that will be easy to maneuver on your terrain, and not too heavy or awkward for your physique.

THE SIDEWINDER

... can be deadly

BY Major William Haygood
HQ TAC (OSMEN)

This is not a story about the vicious little rattlesnake of the western deserts. It is a story about a vicious little missile. One that's mighty unforgiving when you don't handle it properly.

The story begins early one Friday afternoon. Jim had just talked with Flo. The beach party was all set for that evening. Jim knew it would be a long drive, that he would have to leave work a little early. He'd pick up Joe at the barracks and go get the girls. Girls! Boy, that Flo was something! Oh, well ... just four more hours ...

"C'mon, you guys," the Sarge bellowed. "Get moving! I want that load of missiles assembled and ready to roll for tomorrow's flying schedule."

"Okay, okay, Sarge ... I hear you!" Jim answered. The Sarge went back to his paperwork.

That's where my trouble started. Me? I'm a Missile Safety Officer. My Job? Preserve TAC's missile training and combat capability and insure that we get the most out of our assets.

My trouble started when the Sarge issued his order. He didn't consider that a missile assembly crew, working under ideal conditions, requires 20 minutes to assemble each Sidewinder. Even when they're 100 percent proficient!

Jim's crew was not proficient. In fact, the two new men didn't always understand what Jim was reading from the check list.

Working conditions weren't too good, either. It was hot. The assembly bay was open at both ends, but sweat still dripped from Jim's brow.

It was dry out there on the desert. They hardly noticed the little breeze that was blowing. Yesterday had been better ... the wind blew all day. But it left a layer of dust and grime in the bay. They were used to the dust.

They had sixteen missiles to assemble. Fortunately, the rocket motors and the guidance and control units had been tested and inspected the day before.

"Say, Joe," Jim scratched his head. "Let's figure out a faster way to put these birds together."

They did.

But during the hurried assembly session, Jim's crew gave less than total attention to these important items:

- The check list. It stayed in Jim's pocket most of the time. Jim was using both hands to show the new troops how to get through each step with the least delay.

- Cleaning the rocket motor threads. Well, they did go through it ... it's too bad their paint brush wasn't very good for cleaning the back side of the threads.*

- And when they wiped out the solvent, there were times when the rag flipped dirt up onto the O-ring seating surfaces. But it wasn't serious enough for Joe to be really concerned.

- Applying the mollycote. Some dust blew into the open can ... not much. They painted all the fuzes. And again they missed the back side of the threads.

- Lubricating the O-ring. They just forgot to "carefully inspect, with good light and a magnifying glass." The lubricant had grit in it too. But not much! And Joe's fingers had been clean. In fact, they were much cleaner after he rubbed them in the lubricant. It was too bad when they placed the O-rings, lube and all, on the work bench ... without wiping away that layer of dirt and dust.

- Torquing the fuzes. The big torque wrench had been calibrated. And Jim made sure the boys handled it properly. They had some trouble with the missiles

rotating, but Joe held the strap wrench as best he could.

● Installing wings and warhead. This torque wrench should have been sent in for calibration ... it was overdue. But four more hours wouldn't hurt, would it? And someone had left it set at 85 inch-pounds. Jim hoped it hadn't been that way all week. No one thought to inspect the interface clamps on the warheads. Only one of them really had rust on it ...

The beach party was a success! The whole gang had a swimmin' good time. And the girls brought a first-class basketful of food.

It was late Saturday night when Jim heard the news. An F-4 had gone down. One dead, one injured.

He got the rest of the story later. The F-4 crew had launched their first Sidewinder without a hitch. The second missile disintegrated about 500 feet in front of the airplane. The aircrew didn't have a chance!

A large piece of the missile crashed through the windscreen. The aircraft commander was killed in-

stantly. Although he was stunned and badly cut, the pilot managed to eject.

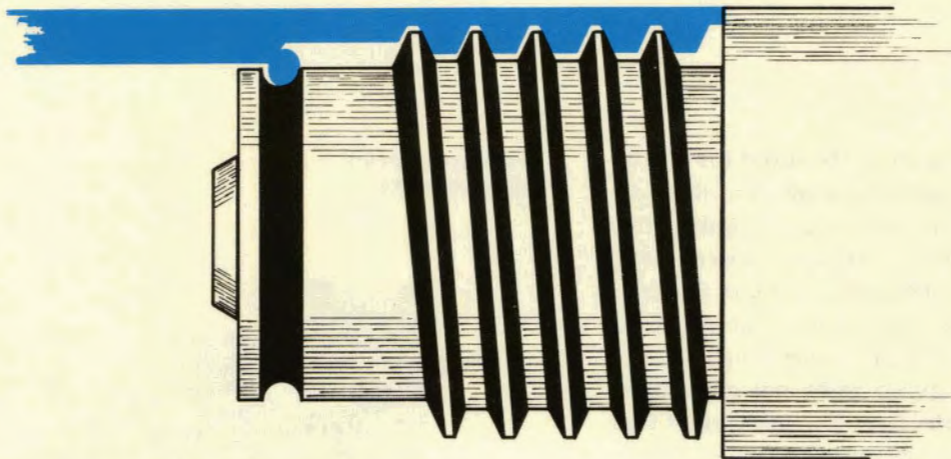
Joe and Jim didn't enjoy the rest of their weekend. It was bad enough to lose a man from the outfit. It was sickening to think that maybe the missile broke up because of the way it had been assembled.

After a lot of discussion and not a few beers, they decided that yes, they had assembled those missiles properly. In accordance with the check list. Why should they feel any special remorse?

"That missile came apart because it was poorly designed," Joe muttered. "Somebody should do something about those missiles!"

Ed Note -

Major Haygood's story is fiction. But the errors that he credited to his heroes (?) are repeated almost daily by people who work around missiles. We have had early bursts. We haven't lost aircraft from them ... yet! Let's not allow this story to come true.



* What this crew didn't know is that the "back side" or contact side of threads is the all-important side. All the rest of the thread cross-section is only a means of extending the contact surface.

TAC TIPS

... interest items, mishaps with morals, for the TAC aircrewman.



WHO HAS IT ?

There were several birds in the pattern making touch and go landings. The instructor in one aircraft said, "I have it," meaning, of course, that he had control of the airplane.

Suddenly all aircraft in the pattern except one started to descend. The instructor had thumbed the mike button by mistake. Every student in the pattern let go of the controls.

SYMPTOMS

A McConnell AFB pilot recently saved his F-105 by following the Dash One procedure for high oil pressure ... land as soon as practical. Unhappily, many experienced F-105 pilots don't worry very much when they see oil pressure up around 52, even 60 pounds. Some of this complacency, no doubt, is because many "old" '105 types spent some time in Germany. High oil pressures were not uncommon in the winter there for the first few minutes of taxi and flight. It's also pretty common to find oil pressure riding on the high side during functional check flights for engine repair.

In this case, the pilot noticed oil at 60 pounds ... after he had been airborne for a while. He immediately retarded the throttle to 90 percent. Pressure came down to 52. He headed straight back to home plate and made an uneventful landing.

Corrective action was not "oil pressure adjusted" as many of you would expect. His oil pressure gage had been telling him his bird was sick.

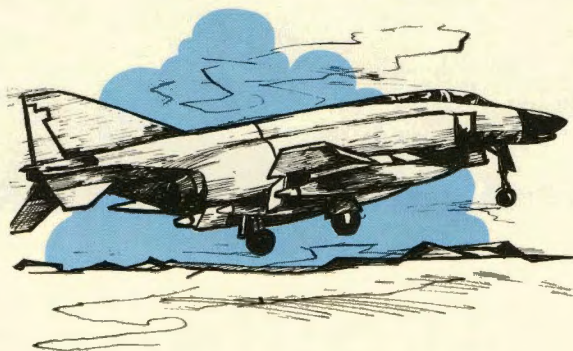
*Major John Lowery
HQ TAC (OSF)*



Spectro analysis of the oil revealed an impending bearing failure. Metal particles were partially blocking the oil pressure indicating system.

TRICKY ?

A pair of overseas troops were making a formation landing at night. All went well until touchdown, when Wingman found himself with one wheel off the



HOW CLOSE. . .

The Student Phantom crew had made their first pass across the range dry. This was to be rockets, the first event. Turning base, the aircraft commander found he was 20 or 30 knots slow. He was also about 200 feet higher than briefed. He advanced the throttles to full military in the turn to final and started down the slide toward the target. Dive angle looked about right to him. He eased the throttles back a bit . . . they should have been at idle.

Shortly, however he noticed the altitude calls from his pilot were taking on a very rapid cadence. And his visual references on the ground didn't look quite right.

When the pilot got to his pickle call, they were already 200 feet below pickle altitude. He didn't notice either airspeed or dive angle. But he knew they were too fast!

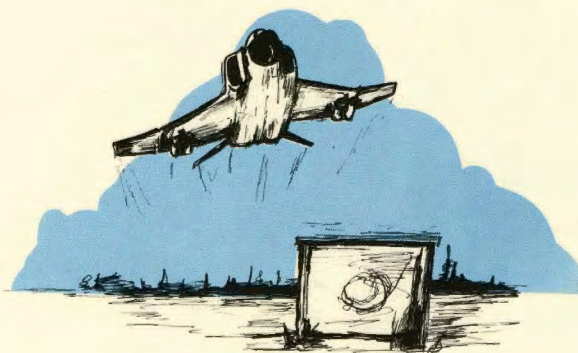
The aircraft commander aborted the pass and started to pull only a moment before the pickle call came from the back seat. His G-meter showed 6.6G

runway. It hadn't looked bad to him . . . the row of white runway lights was still several feet away.

But suddenly he lost control of the bird and wound up with a major accident. He learned later that the lights were about ten feet from the edge of the pavement. The terrain wasn't fit for rolling airplanes. And when he blew a tire on the BAK-9 gear at the edge of the runway, it didn't help him a bit!

This condition exists at many of our bases . . . all over the world. As they stand right now, the rules don't say there's anything wrong with placing the lights that far from the edge of the runway.

Consider the line of lights to be a reference . . . parallel to, but not necessarily on, the runway. And stay away from them!



when they had the big bird pointed skyward again. Neither crewmember could estimate how close they had come to the ground while the bird was mushing.

After landing, they learned their right wing had struck a tree!

Part of the counseling that ensued concerned aborting any pass that isn't right on the money at roll-in.



What do you have to lose ?

by Major Vincent C. Hughes
HQ TAC (OSF)

"Far West Tower, this is Vat 69, a Charlie 130 landing with Number Four caged. We've canceled with approach control and are landing VFR. Are we cleared for a straight-in approach to Runway 05?"

"Roger, Vat 69, this is Far West. You're cleared for the straight-in. Winds are Zero-Seven-Zero, 10 knots, altimeter 29.89. Are you declaring an emergency?"

"Negative ... no sweat. Everything's under control."

"Roger. Call three miles final with gear."

"Southwest Tower, this is Mock 12, an F-100 returning to the field on a precautionary landing. Request landing information."

"Roger Mock 12. We're using Runway 35, winds are calm, altimeter 30.01, call one mile initial. State the nature of your difficulty."



...should you call for fire trucks?

"My utility hydraulic pressure is fluctuating. No emergency."

"Do you request fire trucks?"

"Negative."

Do you think these pilots should have called for Crash Rescue?

What if the C-130 pilot forgot his caged engine and attempted to reverse all four? What if he went off the left side of the runway?

What if the F-100 lost his hydraulic system?

Some pilots unaccountably feel it is a sign of personal weakness to request crash rescue equipment when any but the most dire emergency situation exists. ("I can't get my gear down. Foam the runway and have crash equipment standing by.")

Why are so many pilots reluctant to ask for a little added safety factor when they know their situation measurably increases the risk of a landing accident? Are

they afraid they might be imposing on the guys that work in the fire department? "Standing by" is a big part of their job, isn't it?

Are our pilots afraid that one of their buddies might overhear the request? Does it make them less than he-men ... the bravest of the brave?

What if accident boards identified as pilot error those instances where pilots should have but didn't request crash equipment? If they called it pilot error when the damage to people and airplanes could have been reduced, do you suppose pilots would be less reluctant to ask for that assistance?

Positioning crash trucks by the runway during a landing is not a big operation. If all is well when the pilot turns off the runway, he can call tower and dismiss the equipment. Better to do this a thousand times than fail to have the equipment right there when you need it.

If you declare an emergency, you will receive precedence over other landing traffic. And crash equipment should be provided automatically. If you do not make this designation, the tower may or may not provide the equipment for you!

When should you request crash equipment? You are returning to the field ... aborting the mission ... because a piece of mission-essential equipment has failed. You can't complete your mission, but safety of flight is not involved. There is no requirement for crash or rescue equipment.

But if you are making a precautionary landing, there must be something wrong with your airplane. Why not call for the trucks?

No one can write a text book that will cover every possible situation. But when you don't know whether to call for the trucks or not ... play it safe.

What do you have to lose?

A

2 LOOK
ND

A 2nd Look

...at some recent unnecessary losses



There's a way to get low pressure air from the high pressure side of the MC-1 compressor ... the side, that builds up to 2400 pounds before air enters its receiving tank. You won't find the procedure in a manual. It's been passed along from old-head to new-guy for so long, it's almost standard practice. First you get 2400 pounds in the receiving tank. Then you crack open the servicing valve ... and watch the servicing line pressure gage. Just turn the valve a hair, and ... presto! ... there's your low pressure.

So it was that an A2C and an A3C recently went to service the hydraulic accumulator on their C-47. It takes 250 pounds of air. And the MC-1's low pressure hose didn't match the accumulator's fitting. The high pressure hose did.

A2C attached the high pressure chuck to the accumulator while A3C started the compressor. A2C went back to the compressor and opened the servicing valve. On his first two tries no air entered the accumulator. He went back to the airplane, checked the connection, and signaled A3C to open the valve. Still no luck. A2C signaled A3C to close the valve, and went to check the hose. He had turned the nut 1/4 of a turn when the accumulator exploded!

It severed his thumb and one finger, broke another. The top of the accumulator shot through

the C-47's side and landed on the grass across the ramp.

Although A2C had done this job many times in the past, he missed one important step. He didn't allow the compressor to build to 2400 pounds. On his first few tries to bleed air from the receiving tank, it contained no pressure. Then, when A3C opened the valve the last time ... he got the whole charge!

But it should not have ruptured the accumulator. It should hold 4300 pounds. This one had been assembled with aluminum instead of steel nuts. It could withstand only 2150 pounds!

So the person who assembled the accumulator caused it. Or did he? A second look at this accident reminds you of the danger in old, hand-me-down, shortcut procedures. Even procedures that have worked for years. We use a lot of them on our older machinery.

These shortcuts seem to work as long as no unsuspected fault exists in the system. It's similar to using the right tool for the job. There's a good reason why you shouldn't use a 2400-pound air source to charge a 250-pound accumulator when there's a 300-pound source available.

The 300-pound pressure won't make as big a bang!



Approaching 3000 feet on takeoff roll, the pilot glanced at his airspeed for the acceleration check. It read zero!

He hesitated, took another look to be sure he wasn't seeing things. When he hauled back on the throttle there was only 5000 feet of runway in front of him. By the time he called abort and started for the drag chute, his wingman was passing him ... with his main gear lifting off the runway.

The pilot realized he was getting mighty close to the end of the pavement. He must be up around takeoff speed ... 160 or 170 knots! Putting everything he had into the brake pedals, he blew the left tire. And in another 1000 feet he was crossing the MA-1A barrier on the overrun. His right tire blew. The barrier didn't catch him.

A second look at this one reminds you that we're in a business that requires several very fast decisions every flight. If we don't think through these decision points in advance, we leave ourselves open for disaster.

You can anticipate practically every decision you might have to make.



The overseas Caribou pilot had just landed and turned right into the first of three taxiways leading to the ramp. Turning right again when he reached the ramp, he soon had to turn left when he reached the corner of the PSP. Just as he completed 90 degrees of turn, his right wing tip ran into a rubber tree!

The flight mechanic had been riding in the cockpit-top hatch, acting as scanner. The co-pilot had been concentrating his attention on the edge of the ramp ... about three feet from the main gear. He wanted to be sure his boss didn't taxi their machine into those deep ruts beyond the PSP.

When the shouting was over, they all decided that yes, they should have stopped the bird until they had wing walkers.

And you can define the conditions that will surround each decision:

Airspeed low at 3000 feet ... 6000 feet of runway remaining ... 1500 feet to computed takeoff ...

Hot summer day ... line speed and engine instruments looked good ... at liftoff, airspeed is zero.

In the calm atmosphere of a preflight planning session, you evaluate the conditions and make an unhurried decision. In the first case, you'd abort. No question about it. Abort quickly. Make the most of that runway in front of you. Tell your wingman ... jettison stores ... lower the hook if you have one.

In the second case, you're committed. There isn't safe stopping distance ahead. Punch off the weight of external stores. Fly attitude and power if the airspeed's gone wrong ... Reach for ejection altitude ... and then look things over.

By making the decisions in advance, you can cut reaction time to recognition and physical reaction.

In either case, time is working against you. Since you thought it through before, it's not all new when you get there. You know what to do. And you do it right.

But a second look at this one makes you wonder if maybe too many of us are conditioned to the nice, safe, carefully-engineered facilities we find here at home. Who would ever think a tree would be sticking up there where it could get in the way of a wing? Clearly, the immediate and paramount hazard was that deep mud at the edge of the ramp. In the ZI, that would have been a reasonable approach to take ... at most bases.

But we're fighting a war over there, and most of us, who haven't been there already, will have a chance to try our skill and cunning on the sometimes less-than-optimum conditions we'll find when we get there. Best we treat them with a good deal of respect!

fighter pilots and parachutes

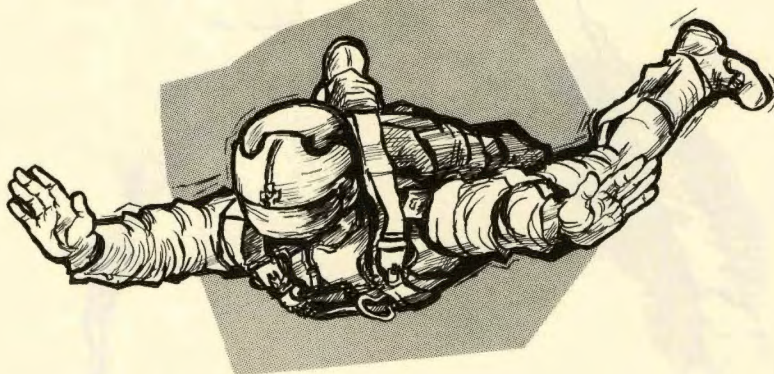
by Major John M. Lowery
Hq TAC (OSF)





FREE FALL

1. Head forward, look at rip cord grip.
2. Bend at waist, feet and knees together.
3. Cross arms over chest, right hand near rip cord grip.



SPREAD EAGLE

1. Spread legs to shoulder width.
2. Arch back, throw head back.
3. Extend arms to sides, parallel to ground.

His battle-damaged F-105 was over the jungle-covered hills west of Dong Hoi when he made the decision and ejected. Once out of the airplane, he found that a strong southwest wind was blowing him toward the lowlands. The paddies and villages meant population. And hostile population meant almost certain and speedy capture . . . little chance to evade.

But this fighter pilot had been through jump school. He knew and understood his equipment. He had thought out the actions he would take in just such a situation. Without hesitation, he climbed hand over hand up the suspension lines and grasped the skirt of his parachute canopy. With the chute spilling out behind him he was able to

steer into the wind and reduce his drift toward the lowlands.

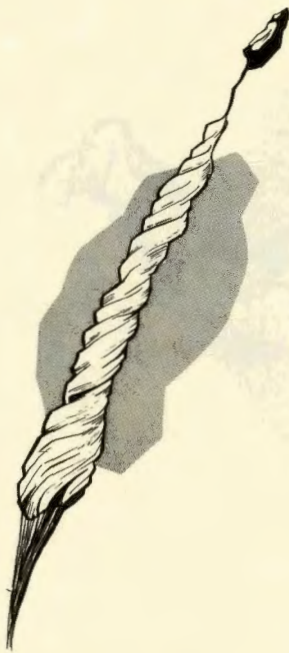
He was rescued later in the day, though not without a firefight. Tracers were coming from the vicinity of his flare smoke as the chopper pulled him up and away.

This pilot's quick-thinking action to steer toward a more favorable landing spot was extreme. It appreciably increased his rate of descent. And it could be dangerous for the inexperienced parachutist . . . that's most of us fighter pilots. But his knowledge of parachuting techniques saved him from imminent capture.

More and more pilots are gaining first-hand experience with the parachute. And several deficiencies have cropped up. Not the least

of these is the fighter pilot's lack of training in the use of his equipment. Too often, a fighter pilot's total parachute training has consisted of a briefing or two, or a how-to-do-it movie. But effective control of your parachute, and landing without injuring yourself require physical manipulation and coordination. The only way to learn these procedures and be ready to use them is to practice them.

Consider your escape in four phases . . . before parachute opening, descent, landing, and after landing. The first critical step is proper body position after you leave the seat. At low altitude, your chute should deploy immediately, you're not concerned with this phase. But at higher altitude,



CIGARETTE ROLL

Try to get air into canopy by pulling out on two or three suspension lines and letting them snap back.



MAE WEST

This condition will normally clear itself. You can help by pulling suspension lines on the smaller loop.



LANDING POSITION

1. Kit deployed.
2. Head erect, eyes on horizon.
3. Hands straight up, knuckles front, grasp front risers.
4. Back straight, feet, knees together.
5. Knees slightly bent.

you will free fall to the pre-set altitude for automatic deployment.

The free fall position illustrated here will best prepare you for parachute opening. If you find yourself tumbling, the tech order says not to fear it (that might be a big order!). But certainly, don't panic. Should you find yourself in a flat spin, instead of gently tumbling, assume the spread-eagle position and hold it. Prolonged spinning can be incapacitating.

The success of the descent phase depends on the condition of your parachute. Check the canopy and suspension lines immediately after they deploy, and look for these common malfunctions:

The cigarette roll is usually caused by body rotation as your chute deploys. This results in twisted suspension lines and canopy. You can help the canopy catch some air and begin to inflate by pulling out on two or three suspension lines and suddenly releasing them.

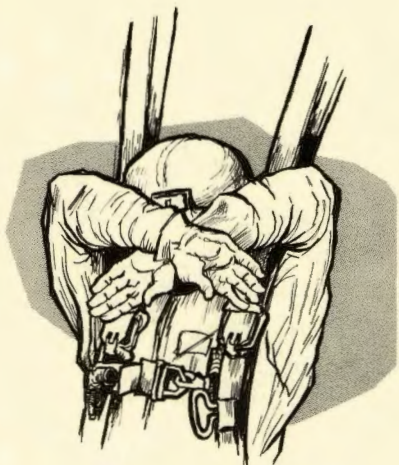
Twisted lines are similar to the cigarette roll, except that the canopy fully inflates. Your neck becomes pinned in front of the risers. The lines will untwist on their own, given enough time, but you can help by spreading the risers and kicking vigorously.

The Mae West is probably the most common malfunction. From below it will appear as a figure-eight. In many cases it will clear

itself, but again, you can hurry it by pulling down the suspension lines on the smaller loop of the canopy. If that doesn't do it, and only two or three lines are over the canopy, cut them with the hook blade on your survival knife.

If there is a hopeless tangle, forget it. Don't panic . . . you only lose a small part of your total lift with a Mae West. You will come down a little faster, but you can survive the landing with a proper landing fall.

Excessive speed at deployment is the usual cause of blown canopy sections. This can occur when you open your chute manually at high altitude, or at low altitude and high airspeed when your zero lanyard is connected. Also, the lines pull-



TREE LANDING POSITION

1. Mask on, visor down.
2. Deploy kit.
3. Feet and knees together.
4. Hands under opposite armpits, palms out, elbows high.
5. Head on arms, look through either arm.



WATER LANDING

1. Mask off, deploy kit.
2. Inflate LPU, hook cells together.
3. Remove release covers.
4. Press down on front of LPUs.
5. On water contact, operate releases.



REMOVING QUICK RELEASE COVERS

1. Hand in V of riser.
2. Look at release.
3. Remove cover only.

ing across the canopy as a Mae West clears itself can burn out a panel or two. With the standard C-9 parachute, you can lose three or four panels without losing much lift . . . the top 60 percent of the canopy provides most of it. If damage is substantial, again, your best bet is to concentrate on your landing fall.

One note . . . don't try the four-line cut in an attempt to control your chute if you have a malfunction, particularly the blown panel variety.

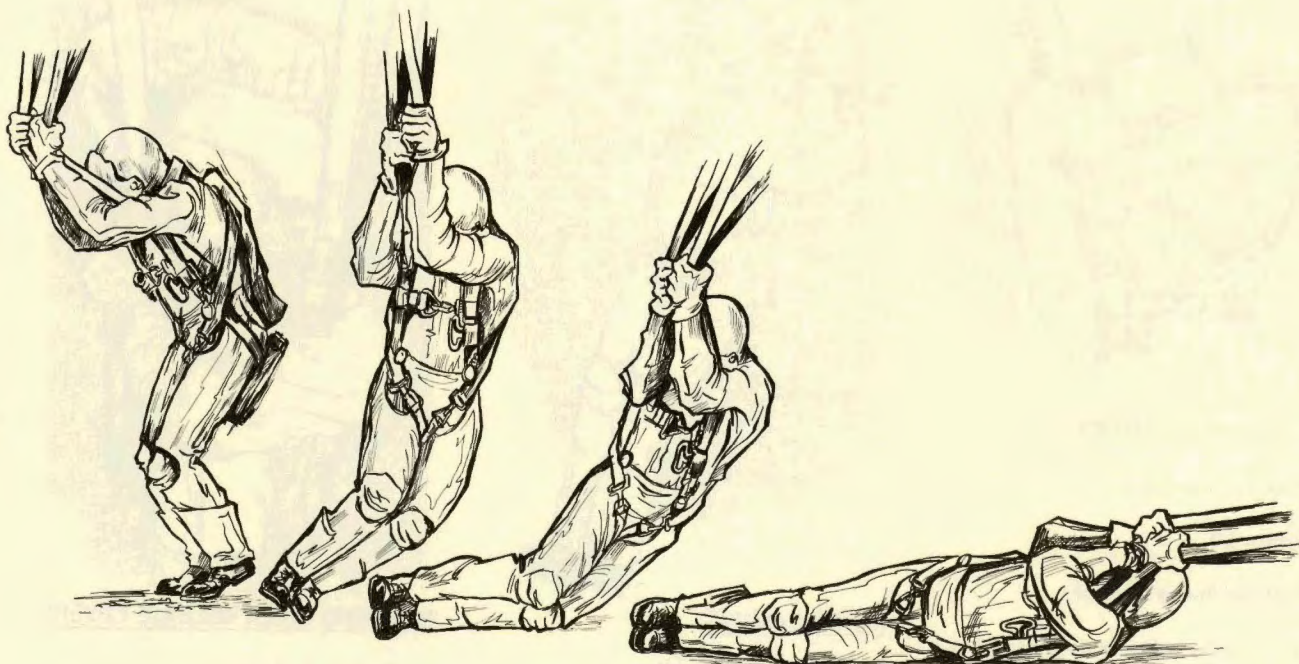
You should know the basic pre-landing positions illustrated here. The normal position prepares you for the parachute landing fall (PLF). It will distribute landing impact over your body.

Some horizontal movement across the ground is desirable. It reduces the vertical impact on your feet and legs by making you fall naturally into a PLF. However, if there's more than about six knots of wind, you can reduce ground speed with a two-riser slip into the wind. Pull down on the two upwind risers . . . if the wind is from your left, pull your left front and rear risers.

You can accomplish about the same thing by cutting the four rear suspension lines. They are wrapped in tape just above the risers. This gives you about a four-knot forward airspeed. Now turn yourself into the wind by pulling down the rear riser on the side toward which you want to turn. Hold a one-

arm-length pull until you approach the direction you want to travel. Then slowly release your pull. In addition to giving you steering control, both the slip and the suspension line cut will reduce oscillations.

There are a lot of things to do and remember while you're suspended beneath a parachute. The four-line cut is a good technique to use . . . when you have everything under control. But you should not attempt an elaborate procedure unless you have the time to do it calmly. In a fast-moving situation, do as much as you can by manipulating the risers. You can turn, steer, reduce oscillations, if you have thought about the forces involved.



PARACHUTE LANDING FALL

Ground contact should be in this order to distribute shock:

Balls of feet, calf of leg, thigh, buttock, pushup muscle (latissimus dorsi).

It's important that you understand the third phase . . . ground contact. This is where 35 to 40 percent of the injuries occur. You must have good personal equipment and use it correctly to avoid injury. You need a good helmet, with chin strap fastened and snugged up tight. If your landing fall is faulty, if rocks get in the way, if you are dragged in spite of all you do . . . that helmet can literally be a life saver. Your boots must be the sturdy GI type. Not Herr Probst boots. They are too

light and flimsy to give the protection you need.

The landing fall itself is a precise method of hitting the ground. A correct fall will spread the landing shock over your entire body, instead of concentrating it in your feet and legs. By keeping your body muscles moderately tensed, it allows them to absorb some of the shock that would otherwise go entirely to your bone structure.

It takes practice and concentration to resist the urge to remain upright on landing. Plan

to roll and you'll come out ahead.

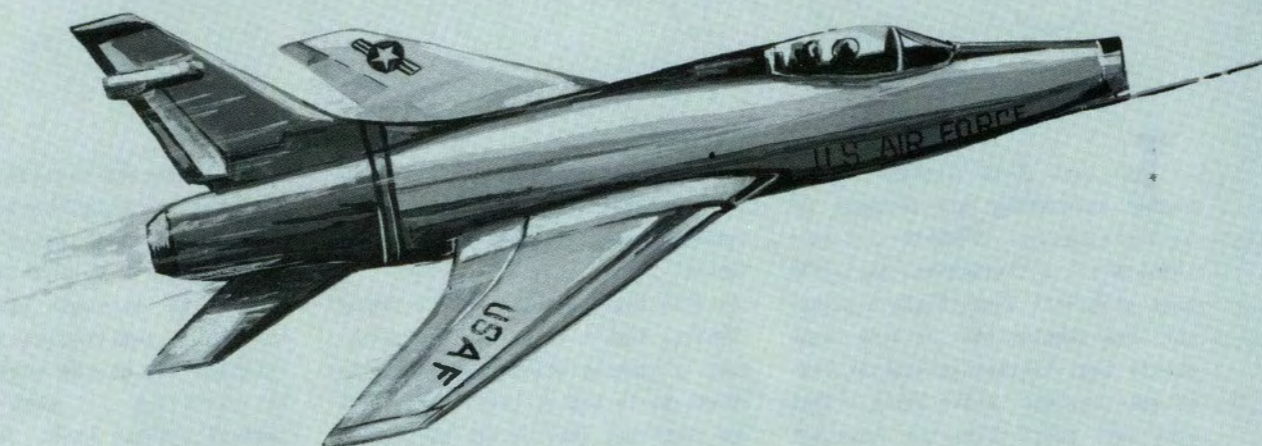
The final phase of your parachute escape is control of your parachute after landing. This is simple enough . . . whether in water or on land, pull the quick releases and let the canopy blow away. You should have the covers open before you hit the ground (unless you just don't have time). Grab the rings and pull. It's faster, surer, and safer than any gymnastics you might attempt in trying to spill the wind from your chute.

TACTICAL AIR COMMAND

PILOT OF DISTINCTION



Captain Charles R. Peters



Captain Charles R. Peters of the 354th Tactical Fighter Wing, Myrtle Beach Air Force Base, South Carolina, has been selected as a Tactical Air Command Pilot of Distinction.

Captain Peters was leading a flight of four F-100 aircraft on a low-level navigation mission enroute to the gunnery range. Approaching the starting point of the low-level route, he reduced power and descended to 500 feet above the ground. He advanced his throttle to maintain airspeed when he leveled off, but found that his airspeed was rapidly decreasing. Checking RPM, he found it was still at 83 percent. EGT was only 320 degrees, and fuel flow 3000 pounds per hour. Captain Peters immediately selected the emergency fuel system and started a

gentle climbing turn toward home base. Although engine RPM never went above 84 percent he was able to climb to 1200 feet and level off at 230 knots. His external tanks still contained 2000 pounds of fuel apiece, but he retained them until he was clear of all populated areas. After he jettisoned the tanks over a swampy area, he was able to climb to 1500 feet and maintain 240 knots. Captain Peters made a wide, circling approach to the runway and landed with no further incident.

Captain Peters' prompt and correct reaction to this serious low altitude emergency indicates the highest degree of professionalism and readily qualify him as a Tactical Air Command Pilot of Distinction.

SURVEYS OF PLACES



The two F-4s circled, their crews searching for targets of opportunity. "There ... two o'clock ... a truck convoy! Let's take a look." They made a pass, and the temptation to fire was pretty big. As they pulled up, one of the excited jocks said, "Did you see that? They're moving! What's going on? Didn't know we'd get moving targets."

Could this be the sort of conversation you might hear in Southeast Asia? Why was it so unusual to see a moving target?

Well, this didn't happen in Viet Nam. And it wasn't a VC convoy. We heard about it during a safety survey, and it happened in our own back yard ... on one of our desert gunnery ranges.

A misguided truck driver and open range laws often complicate range safety problems. Rock hounds, brass pickers, and plain old junk collectors are going to be with us on TAC ranges. So keep

your ranges posted as best you can ... and tell the guys to watch for moving targets. They don't belong there.

You don't always need a truck convoy and an armed aircraft to see a target destroyed. All you need do is put a T-29 in front of an aircraft that is up on jacks. Then run the T-29 up to full power. Fortunately this time, it was during another survey, screams from the maintenance crew alerted the T-29 pilot. He throttled back before he "blew the man down."

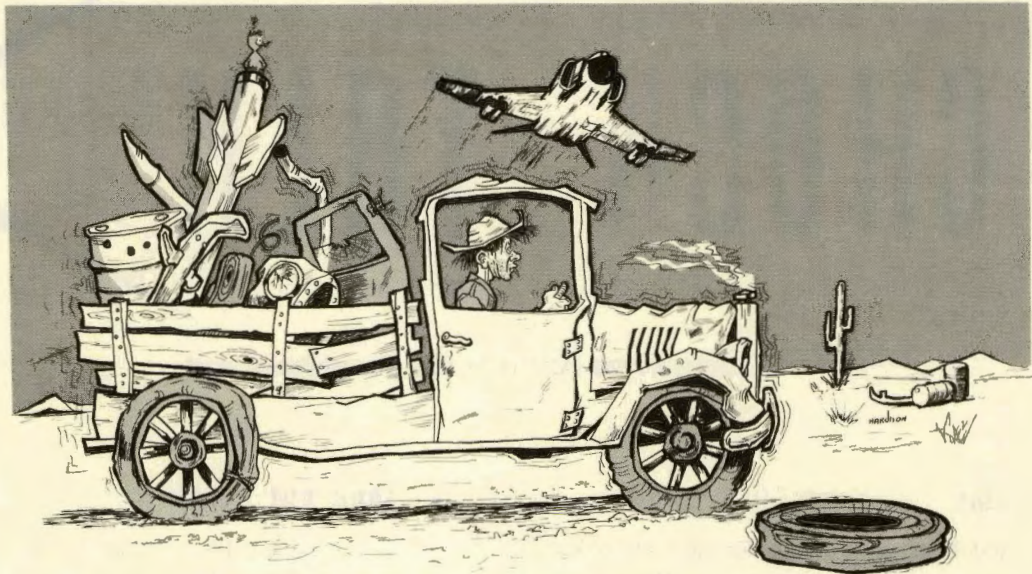
Know what's back there before you run up to high power. This ounce of prevention is worth much more than a pound of cure!

Here's one of the most unusual accident potentials we've discovered during a survey in a long time. Several prop types were parked near the approach end of a runway. It was a nasty night, the strobes were flashing through the mist. Suddenly we realized that the

props appeared to be motionless. With engines at just the right RPM, the stroboscopic effect was uncanny! So, if you're working around an airplane under these conditions, and you hear the engine running, you can be sure the prop is turning ... even though it doesn't appear to be. Falling for this illusion could cost you your head.

Flight line traffic continues to be one of our biggest problems. On some bases, there is almost no room for the airplanes ... when you consider the number of vehicles that are out there. On one base we visited, flight line accidents had reached an alarming number. Numbered Air Force, sensing the need for additional emphasis, rushed their key trouble shooter to this base in a T-33. He parked near Base Ops, and went straight to the Wing safety office.

While he was talking to the



safety chief, the trouble shooter got a phone call. "Sir," the voice from Base Ops quivered, "an Air Police vehicle just ran into your T-33."

I guess you can't win them all! If you don't want to be the loser ... you'd best not be caught in a situation where you'll have to explain one of these.

Our modern air launch missiles have been made pretty goof-proof. Or so we thought! All you need do is follow the check list. But, it's difficult at best to convince some of our youngsters that you have to follow the book.

At a western base, we found that silicone grease was not being used to lube the O-rings during the AIM-9 assembly operation. Reason ... they just ran out of it. And if you don't have it, you can't possibly use it. We explained to them that this oversight could cause an early warhead burst and possible loss of an aircraft. They

soon found they could buy this important grease locally, and rebuilt their entire stock of missiles.

Follow the check list ... the life you'll save will be yours, as well as the pilot's.

Now for some bouquets:

We visited Puerto Rico ANG in San Juan recently, and found ample evidence of the fine cooperation that has existed between this unit and the 836 Air Division. The results of their general inspections and safety surveys reflect the frequent assistance visits they've received from advisory units. The Salinas air-to-ground gunnery range was another example of PRANG's eagerness to get the job done. With a great deal of self-help, they built the range at about ten percent the cost of comparable ranges ... in only four months!

Keep up the good work and good luck with the F-104!

The Mission Safety 70 Ground Accident Prevention Program

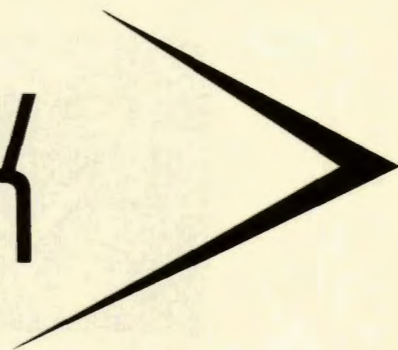
document we found at George AFB was the best we've seen to date. Its monthly "Special Subjects" portion helps implement an aggressive ground accident prevention plan in the true spirit of the President's program. Each month, a program outlining private and government vehicle accident prevention is made available to units. It also includes seasonal subjects such as power lawn mowers safety, swimming and boating safety, skiing safety, etc. Sounds like a good approach to safety for other units.

Thanks, George for this idea.

See you next month.

LT COL BEN B. BENIGNO
Chief, TAC Safety Survey
Team

CHOCK TALK



... incidents and incidentals with a maintenance slant.

no help!

It had been a bad day for him all round. On his napalm pass, only one can came off his F-100. When he came back around to get rid of the right outboard can, he hit the intermediate auxiliary release instead of the outboard release. Understandably, both his 335-gallon fuel tanks came off.

He did finally get the reluctant napalm can off his wing by using the outboard aux release button on the next pass. But the next event was strafe ... and when he started to fire, his right gun bay door blew off!

He called it a day and went home. After landing he learned that at least the gun door wasn't his fault. Investigators told him that two drum seals were missing from his right upper gun. Someone had failed to reinstall the drum seal retainer when the gun was last worked on.

ten minutes

Climbing out for a transition mission, the phlyer suddenly found his right engine fire warning light glowing at him. After smartly retarding the throttle to idle, the aircraft commander turned back toward the runway. When the light didn't go out, he shut down the right engine. Ten minutes after takeoff he was back on the ground.

Investigators found that a marmon coupling had separated from a bleed air duct. Hot, 17th-stage air had entered the engine bay, setting off the warning system. Suspicion is that the clamp was not properly torqued when it was installed.

look out below

The co-pilot reacted to the 10 second warning call on the C-130 LAPES run. He hit the red light warning switch and punched the Air Delivery System button. He readied himself for the green light call abeam the release point, but it wasn't needed. The loadmaster's interphone call beat him to it.

"Load clear," he called, "the chute dereefed on the red light ... We dropped short."

The 4900 pound load left the Herk at 100 feet AGL and hit on the runway. It skidded across the macadam and wiped out a VASI light before sliding to a stop.

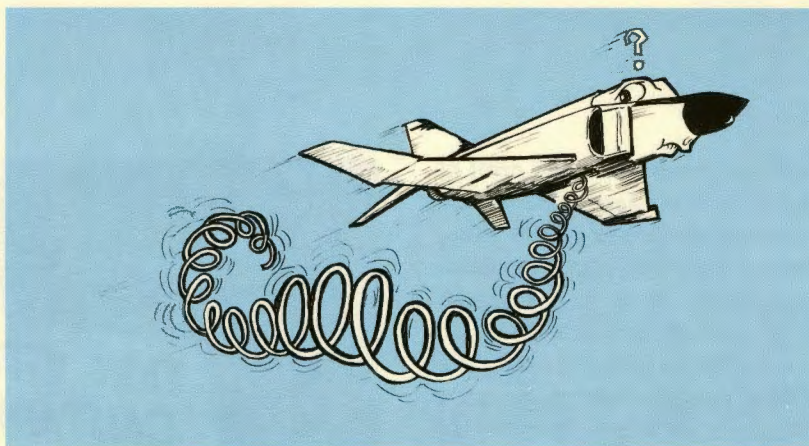
The investigators pinpointed the problem. They identified the cause as a poor reefing knot and are asking for better quality control in their parachute rigging shop. As a backup they are taping the reefing knot to improve its reliability ... just in case their quality control slips again.

forgotten inventory

The F-84 pilot had just pulled out of his parking spot when he noticed EGT at something close to 900 degrees. After snatching the throttle back to a low setting, he returned to the parking place at reduced power and shut down. The maintenance folks' first look at the compressor confirmed their suspicions ... FOD! Extensive damage to both blades and vanes.

When the engine shop people tore deeper into the engine, they found parts of a number two Apex screw-driver bit in the combustion chamber.

Very likely, a careful tool inventory could have prevented this expensive damage.



ejector cartridges-#1

The crew chief, in the course of his morning routine, made an entry in the form saying the centerline station of his F-4 needed to be armed. In due course, a crew arrived at the bird to arm the station. They went right to the business at hand, prepared to make a continuity check of the circuit. When they applied power, the RMU-8A jettisoned from the centerline station.

That's right, ejector cartridges in the centerline station had been armed all along.

Nobody had checked the breeches as required by the check list.

As a matter of fact, if someone had looked at the forms from the day before, they would have seen a write-up that clearly told them the station was armed.

transient door

Returning from a local training flight, the F-100 pilot found home base was engulfed in a dust storm. High, gusty cross winds were lacing the runway. He diverted to a base across the mountains, refueled, and waited for conditions to improve at the home patch. Before long they did, and he was on his way.

After he landed at home, postflight inspection revealed he had lost his single-point refueling door on the way home. A close look showed that the forward airloc fastener receptacles were undamaged. And the rear receptacles were torn!

Little doubt that the transient alert folks who serviced the bird at the divert base didn't completely fasten the panel. Best to fasten a panel completely ... or not attach it to the airplane at all!

ejector cartridges-#2

On the way to a simulated close air support strike, the F-4 was performing a weapons release computer system check. When the aircraft commander pressed his pickle button, he heard a muffled noise. Nothing in the cockpit indicated any trouble, so the crew continued their mission. It wasn't until after landing that they learned both centerline ejector cartridges had fired.

That's right, the cartridges had been left in the centerline station after the tank was removed on the ground.

Since no stores were installed when the cartridges fired, the return spring on the Aero-27A bomb rack ejector mechanism was elongated three feet beyond its design limits.

control problem

Pulling off target, a Phantom crew found the control stick unusually stiff when the aircraft commander tried to move it to the right. Left stick and pitch control felt normal, but the problem was serious enough that he decided to call it a day and head for home. His straight-in approach and landing were uneventful, although the stick remained stiff whenever he tried to move it to the right.

On the ground, the aircraft commander tried several times to move the stick against the restriction. After one final, mighty effort, it broke loose.

Investigators later found that someone had over-torqued a bolt on the left aileron actuator. When the bolt was retorqued to the correct value, the controls worked the way they were supposed to. ➤

The ramp was small and congested. The pilot of the cargo hauler eased his bird forward and sweated ... both physically and mentally. He had good reason. It was hot. And he knew the result of a taxi accident. It's the pilot's responsibility. He's in command.

Riding the brakes, he inched forward. The two small planes parked up ahead were too close to his left wing. A little farther, another light plane and a small rampside building on his right complicated the problem. That was the decision point. He braked to a stop and signaled the wing walkers. Those birds on his left must be moved. He couldn't risk it.

While the ground crew tugged and pushed to give him more room on the left, the pilot cautioned his co-pilot and flight engineer, "Keep me clear on that right wing tip." The flight engineer standing behind him, and the co-pilot in the right seat, acknowledged: "Rog ... we've got it, you're clear right."

The small planes were moved and the wing walkers resumed their positions and their siren song ... with gestures. The pilot, reassured, released his parking brakes, and the big bird rolled slowly ahead.

Cautiously, the pilot followed the wing walkers, watched his left wing, and relied on his crew for the not-visible right wing clearance. He felt, rather than heard, the sickening sound when his wing tip hit the building. The bird started a swerve to the right, but he quickly panic-stopped the airplane. After shutdown, he saw 18 inches of right wing trying to punch a hole in the small shack.

His physically overheated condition turned into a cold, angry frustration. Only a pilot, led into a taxi accident by people he trusted, knows how it feels. Taxiing this ungainly bird under these conditions is largely an act of faith ... and they let him down.

You have sympathy for this pilot led astray. And you understand his dedication to the mission under minimum support conditions. But responsibility for this accident goes to the pilot. His authority, as temporary commander of a small part of the Air Force, carries ultimate responsibility for protecting his command.

Yes, he did request an eye exam for his co-pilot. Surprisingly enough, the co-pilot's vision and depth perception checked out okay. It must have been temporary blindness ... or fixation on the sign.



an act of faith

by L/Col Carl E. Pearson
Chief, Safety Publications Div.

LETTERS. . . to the editor

Reference the anecdote, on page 7 of your March 67 issue, about internal failure of a C-130 main wheel, which concludes, "...how can a responsible man sign the (Red Cross) release with a clear conscience ... unless he has watched the entire assembly operation?"

Well, sir, this sounds to me like a solid gold, full swiveling loser! Either the USAF has a plethora of maintenance supervisors or a hitherto unknown luxury of disassembled airplanes sitting idly waiting for a supervisor to personally witness their reassembly. Like maybe several simultaneously sick aircraft ... how could the squadron operate?

The management concept proposed in this article could seriously degrade the management function of maintenance supervisors ... and all the rest of us managers ... if embraced across the board.

The author apparently was lost in the semantics' jungle when he made his concluding statement. It is generally agreed that supervisors get things done through and with people by planning, organizing, coordinating and controlling for the purpose of accomplishing predetermined objectives. Control, no doubt, is what the author had in mind in his conclusion. By no means must one watch the entire operation in order to

verify a complete job. A responsible supervisor assures that his men do reliable jobs without looking over their shoulders.

Major Richard G. Francey
Eglin AFB, Florida

Yes, semantics are often a jungle. We only said "maintenance supervisor" because the message we quoted used that term. And it's even money the message was talking about somebody who got that handle by virtue of his AFSC. Not necessarily the guy who does all that planning, organizing ...

We were talking about whoever certifies (by releasing a red cross condition) that the bird is safe for us to fly. And what we said still goes ... let's hope he has a very active conscience!

P.S. - did you happen to turn to the next page ... where we went "In Search of the Meaning of Meaning"?

- Ed

* * * *

The recent article "Turning the Phantom" in the February TAC ATTACK was read with great interest by members of this organization who had flown the F-4 in previous assignments.

Our one big question, after digesting the article, was that an aircraft con-

figured like the example on page 7 is in the region of %MAC versus balance number that obviously requires fuel management; and yet, paragraph 3 on page 7 starts out by saying "you transfer external tanks immediately," etc. It seems that by definition this statement is incorrect and in light of the aft CG situation is definitely not the thing to do.

If you have some information which is not common knowledge, would you mind passing it on?

Major John F. O'Donnell
APO San Francisco 96328

We put it that way because we've found all too many F-4 people paying fuel management less attention than they should. Undesirable and incorrect, but unfortunately pretty common.

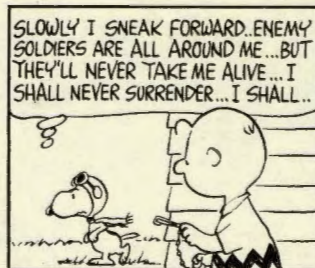
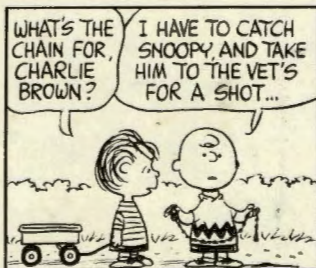
Also, we're not too happy with fuel management as it stands now. Burning fuselage fuel down to 5000 pounds before you feed wing fuel moves the CG forward ... but not for very long. After about 15 minutes on a low level, you must feed fuel back into the fuselage. And there goes that CG back aft again!

As we go to press, a new series of tests on the F-4 is nearing completion. The results should be published soon. And we hope that corrective recommendations are promptly acted upon.

- Ed

PEANUTS

Courtesy of Daily Press, Newport News, Va.
© United Feature Syndicate, Inc. 1966





HE KNEW WHAT HIS CHUTE
COULD DO FOR HIM ...

DO YOU ? ... pg 20