

TAC ATTACK

TAC Attack July 1965



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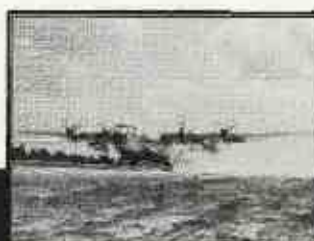
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COVER PHOTO:

TAC's workhorse, a C-130, lifts off a dirt assault strip.

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General Watkins on SAFETY

SAFETY, a never out-of-date subject, has been battered around so much over the years that often comments such as these fall on deaf ears. Everything has been said that can be said--but we still have accidents. Basically, there are no new types of accidents--just repeats of accidents that everyone has been warned about with millions of words and pictures. So again, as in advertising, we have to repeat again and again in order to telegraph this important message of safety to our personnel.

SAFETY is knowing your job. The best guard against mishaps is an understanding of every facet of your job. A pilot in command of an intricate weapons system has no room to make mistakes. The slightest miscalculation of a routine job can lead to a serious accident. Our biggest safety hazard is the man who only half understands his job.

SAFETY is pride in your job. A proud approach to your job offers no room for carelessness and automatically protects against safety hazards. When morale and pride in workmanship is low, we are more liable to make mistakes; accidents begin to happen. A proud approach to a job is a safe approach.

SAFETY is not luck; it does not just happen. A safe environment is made to happen when people are aware of hazards which exist. You can't be safe when you aren't alert to hazards around you. Alert people are the backbone of sharp, well-run organizations. In regard to safety, there is no such thing as bad luck. Excellent safety records in an organization are the result of alert personnel who know their business and are keenly aware of their responsibilities. There is no place for luck in the business of preventing accidents.

Brigadier General Tarleton H. Watkins enlisted in the Air Force in 1938 and attended pilot training at Randolph and Kelly Fields, graduating in May 1939. Stationed in Hawaii during the attack on Pearl Harbor, he was one of the few pilots to get in to the air. He was later assigned to the 79th Fighter Group in North Africa where he destroyed three enemy aircraft while flying P-40 aircraft. He was awarded the Distinguished Flying Cross, Air Medal with seven oak leaf clusters, and the Presidential Unit Citation with one oak leaf cluster.

After the war he served a tour at Kindley AFB, and was then assigned to the 1602d Air Transport Wing in Germany in 1951. In 1952 he was appointed Commander of the 1708th Ferrying Wing (MATS) at Kelly AFB.

Following a year at the National War College, General Watkins was assigned to the 322d Air Division in France and became Division Commander in June 1959. In this capacity he commanded the entire USAF airlift effort in the 1960 Congo Crisis. In 1961, he was assigned to Hq Ninth Air Force, as the Deputy for Operations.

In January 1963, General Watkins organized the Directorate of Airlift at Hq TAC and served as the Director until 1964 when assumed command of the USAF Air Ground Operations School at Hurlburt Field, Florida.

angle of **ATTACK**

Man is a tool using animal . . . Without tools he is nothing, with tools he

— Carlyle



Colonel Gust Askounis
Chief of Safety

Some years back a national magazine ran an article on a self-trained artist who had become famous for his wood carvings. He did beautiful work, but what impressed me most was the fact that he did most of his carving with a pocket knife . . . a tool the average man usually reserves for just whittling, cutting fingernails or sharpening toothpicks.

He undoubtedly keeps that knife honed to a razor's edge and has learned to get the most out of it.

Obviously I'm not interested in turning you into wood carvers, but I am interested in preventing accidents. We have several tools designed for this task. One of the best, if not the best, is the safety council; however, the wood carver and his knife, you must learn to use it effectively.

Reading the minutes from some of your safety councils, I get the impression that some of you are whittling around the edges instead of carving out a safety program. You are using your council to handle administrative problems or have turned it into a reviewing agency instead of an action agency. I've even noticed that some commanders are not bothering to preside over their safety council. How can a safety council be effective if the commander takes no more interest than this? How can a safety council be effective if it takes no action and does not actively promote safety?

If your safety council is having trouble finding weak areas upon which to act, try discussing all the incidents, accidents, and operational hazards that were reported in your unit since the previous meeting. Dig down and find the basic cause behind each occurrence and take action to correct it. You'll find that accidents and near accidents are caused by people . . . people who didn't understand the problem or their job. Most accidents can be prevented by taking action that is directed at these people. Action that betters the training they receive, betters their working conditions, or gives them better motivation.

It is not easy, but with effort you can hone your safety council into an effective tool that will prevent accidents right at their source.

COMBAT Fuel Facts



— By Captains Robert P. Taylor, Cecil W. Powell and David H. Groark
80th TAC Fighter Squadron, APO San Francisco

"**T**iger Lead, this is Two I've been hit. I'm heading 225 degrees at your seven o'clock."

"Roger, I have you. You're streaming fuel. Climb straight ahead and I'll join on you."

"Ah, Lead I've just lost pressure ... my controls are locked. I'm getting out."

Tiger Two is in trouble. He has just ejected over hostile territory in Southeast Asia some 200 miles from home and Tiger Lead is his only hope of rescue. Lead will soon have fuel problems ... can he cap long enough to direct rescue choppers to his wingman? How much fuel does he need to get home? Once he starts home, what's his best climb speed, how high should he climb? When should he start descent?

Green 11 is annoyed. He didn't

get the enroute letdown he asked for and now the controller has directed him to hold. He has 2000 pounds (two has 1800). What a way to break in a new wingman! He changes to approach control and the controller confirms the worst: "Green 11, Dinosaur Field Operations advises a B-52 is on the runway with eight blown tires. The runway will be blocked for five or six hours. What are your intentions?"

The flight is no longer routine ... the nearest airfield is 175 miles away and the weather is not too good. How high to climb and at what airspeed? Can he make it, or is a flameout inevitable?

In combat or emergency situations you have little time to pull out the dash one to try and extrapolate hidden gems from the fuel

charts. Your decisions must be based on facts that you pull out of your ear ... right now! Your mind races, the adrenalin pumps, and without some quick reference figures you may do the wrong thing and end up making the old nylon letdown. Every pilot of supersonic, fuel gulping aircraft should have a set of simple fuel consumption figures at his fingertips at any time. He should be able to tell how far he can go with the fuel he has aboard. He should know how high to climb, best cruise speed, when to start descent, and the best airspeed for descent. He should arrive at these figures with a minimum of mental gymnastics.

From the F-105 dash one and practical experience in Southeast Asia, we arrived at what we believe to be some of those handy

fuel figures all squash-bomber pilots should know. Before presenting these figures we must explain the ground rules. These figures are based on a return to home plate of 300 miles or less. They are primarily for combat situations, where you must remain in the combat area or cap a downed pilot until you are down to minimum fuel. They get you home with just enough fuel to land and no more. When higher gross weight or greater distances are involved, such figures are difficult to generalize. We used a gross weight of 32,500 pounds or less (4500 pounds fuel remaining). Altho these figures are not always the dash one optimums for all conditions of gross weights, drag indices, altitudes, etc., they vary from the ideal situation by less than you can detect on your fuel gage.

We are primarily concerned with: Distance, cruise mach and altitude, and type of descent. Let's use two drag indices. Zero ... very easily attained in a combat situation ... and 50. A drag index of 50 will cover situations where you retain an MER, outboard pylons, or one tank or rocket pod won't jettison ... which happened to us on several occasions. All figures are based on an enroute climb from sea level. This would be the worst you could expect in a combat or cap operation.

First, how far can you go? We found that a clean airplane requires 10 pounds of fuel per mile. So when capping 180 nautical miles from home you must depart with 1800 pounds fuel plus any desired reserve. In a dirty bird with drag indices from 20 to 50, we found it took 15 pounds per mile. Sure you could sit down and figure out pounds per mile for individual drag index 20, 25, 30, 35, but now you're trying to carry the dash

one along. We found it completely practical to memorize two sets of figures that would bracket all conditions. Next, how high do you climb? Our rule of thumb is to climb to 15,000 feet when within 100 nautical miles of home, and to 30,000 feet when from 100 to 300 miles. Again, these are single figures designed to fit most circumstances and, hence, not quite optimum for all conditions. Take the division point, 100 miles as an example. Going to 15,000 feet and returning to home plate takes about 1000 pounds, (the 10 pounds per nautical mile figure). If from 100 miles we climb to 30,000 feet, it takes about 970 pounds to get home. Climbing the extra 15,000 feet saves only 30 pounds.

We know how high we're going so now what about climb and cruise data? If we're within 100 miles of home and climbing to 15,000 feet we hold 350 KCAS all the way. If

we're going to 30,000 feet we hold the standard 400 KCAS to .88 and cruise at .88 mach (.88 is about 340 KCAS).

Now let's figure out a letdown point and a method for descent. Our point is to take twice our altitude in nautical miles. For example, cruising at 15,000 feet we begin our descent 30 miles out and at 30,000 feet we start 60 miles out. In all cases we penetrate at Idle rpm, Cruise and Maneuver Flaps, Speed Brakes IN, and 260 KCAS. We lower the gear just prior to final glide slope.

We want to reemphasize that these figures are not dash one optimums in every case. They're for quick reference, to reduce the pressure during a tight situation, and are not intended to take the place of a pre-briefed BINGO. Keep them in mind for the day your mission doesn't go as planned.

This tiger goes on record to indorse the need for having a few good quick simple rules of thumb for emergencies. Just remember to crank in a fudge factor for wind ... it can make or break you at times. In fact, it takes an extra 800 pounds to go 300 miles in an F-105 when bumping against a 100 knot headwind.

Back during the K scuffle our normal bingo included wind, and there were times we had to stay as long as possible. We used a quickly modified bingo. We knew we'd hit home with 600 pounds if we started for home with bingo fuel ... so, subtract 300 from bingo and we should make it back with a fat 300.

This revised bingo ignored one important factor ... occasionally some MIG drivers liked to fight and a fellow could not always break away until after ALL of his reserve fuel had gone to making black smoke trails around the area.

The occasional eager MIG types also induced us to change our climb habits ... we climbed at high mach to lessen the chance of getting surprised from behind.

What I'm trying to say is that altho your rules of thumb are based on aircraft requirements and performance, to make them work you must also consider outside factors such as wind, weather at destination, possible enemy activity, and traffic.

-TAT

TAT

A WHILE BACK 'nother feller and I launched on our fifth flight of the day... actually it was well into the next day and the two of us had been up and at 'em since 0800. Normally the other troop was a very proficient pilot... but from the way he let his heading and airspeed wander during the climbout you sure wouldn't have guessed it.

I flew the last half of that flight and managed to come thru with an acceptable arrival at around 0500 hours. Looking back, my performance wasn't so red hot shiney, either. This wasn't the first time I'd flown long hours... but I'd like to think it's the last... and that I have ceased such foolishness, at least for peacetime operations.

Flying while fatigued is a lot like playing around with thunderstorms, starting fires with gasoline, or flying while tight... you can get away with doing any of 'em for a while, but the odds are stacked. Keep at 'em long enough and you'll find that trouble can be sudden and violent.

In recent months TAC has had a couple of accidents and a taxi mishap that fairly shouted fatigue... at least the prelim reports indicate that this would be a factor. Over 20 hours up and at 'em... sub-standard crew quarters, and so on. However, I'd bet a stale salami sandwich against a three hour lease on a sway-backed GI upper bunk that when the boards try to verify the effect of fatigue, most pilots will minimize the problem. After all, they hacked their flight OK, didn't they? The ones that failed to hack it, just didn't have enough stamina. True, back with the crowd they'll complain about the lousy chow, the noisy quarters and tell each other how bad things are... but let the colonel ask 'em how everything is going and 'tis a different story.

Getting a true reading on such matters has always been difficult. Everyone likes for the boss to think he has the can-do attitude of a shade tree mechanic, the fighting spirit of a James Bond, and the durability of a TV commercial. The problem is not unique to crews, either. Maintenance and support people work just as long - or longer - than the aircrews and



I feel fine, but YOU'LL never hack it.

fatigue wrecks their performance just as surely. At best, they lose a little time fixing leaks or fishing for dropped tools. At worst, their goofs go unnoticed to booby trap an airplane.

The PACAF FLYER had a very good story on conditional clearances which brings up a point or two for everyone who uses a radio. Briefly, a T-33 cleared for a touch-and-go landing slammed one tip tank thru the cab of a pickup truck that had started to cross the active. The T-bird lost its tanks, but escaped further damage. The driver of the pickup was killed. When they checked the tower tape, they found the tower had said, "After the T-33, you are cleared to cross without delay."

This is a conditional clearance... and the pickup driver obviously failed to understand the qualifying phrase. There is a possibility he only heard the final part of the clearance.

Conditional clearances do not provide safe positive control because they ARE easily misunderstood, particularly when only partly received. Controllers should keep this in mind and avoid using them. The rest of us should question any clearance we do not completely understand or do not completely receive. Incidentally, the FLYER pointed out that the driver of this truck could have driven around the base to get to his destination in about six minutes. By going around, he would not have had to cross a runway or clutter up the radio asking for clearances... and he'd still be with us today.

POSITIVE CONTROLLED Airspace has just about eliminated the mid-air problem above 24,000 feet. That is, if all hands fly their assigned altitudes and the controllers don't goof. The added security has most of us flying around with our eyes caged on the altimeter, compass and radio displays.

Unfortunately, being creatures of habit, a lot of us are flying the same way during climbout and descent, where traffic separation is not guaranteed. 'Tis a poor practice. It takes a lot of looking to avoid the aircraft that's going to hit you. Significantly, when two aircraft are on a collision course, and both are in stabilized flight... straight and level, climbing or diving, **THERE IS NO APPARENT MOTION TO CATCH EITHER PILOT'S ATTENTION!** If a canopy frame is between the pilot's eyes and the other aircraft, and the pilot doesn't move his head around, he can't possibly see the other bird until it is close enough to show on one side of the obstruction.



In short, it isn't enough to just look out the window when you fly. You must move your head fore and aft, or lean to one side when you look if you expect to really clear the area. In addition, you must know how to look or you may not see an aircraft when glancing straight at it. Take a tip from the fighter pilots. Flick your eyes to a distant object such as a cloud, or other object on the horizon and focus on this distant object before you scan. Find a closer object to get an accurate focus before making a second scan. With practice it becomes automatic... and buster, if you're looking the way you should be looking, you'll get plenty of practice!

SEEMS TO ME we've been down this road before. Five overseas F-105s were returning from a jaunt to another base... number one had to take his bird to the hot brake area after the drag chute failed. Num-

ber two engaged the MA-1A at about 20 knots when his chute failed. Forewarned, three and four managed to get stopped OK without chutes, while number surprise, got a good chute!

The same transient maintenance crew installed all five chutes, getting the bungee D-ring above the striker plate on four of the five. Not very standard, were they? I was pleasantly impressed with the corrective action. Instead of beating at the pilots to check the chute during preflight, the investigator recommended a training program that would insure that knowledgeable transient service personnel are available at each turn-around base. It isn't this easy, but he has the right idea. The transient maintenance troops may not service more than one or two flights of a given type during any one month, and being human, they can soon get rusty. A well illustrated checklist for some of the more complex procedures may help refresh their memory. The photo lab can take much of the effort out of illustrating one of these check lists.

THEY SPACED 55 gallon oil drums about 1000 feet apart to mark a low level route thru mountainous terrain, then told the pilot to fly as low as possible. He did, chopping open one of the oil drums with prop. To me, it's immaterial whether they charged this to the pilot for flying too low or to the test supervisor for giving him license. Please note the test supervisor ain't going to be the one who gets scattered in a typical fan-shaped pattern if someone misjudges and gets lower still.

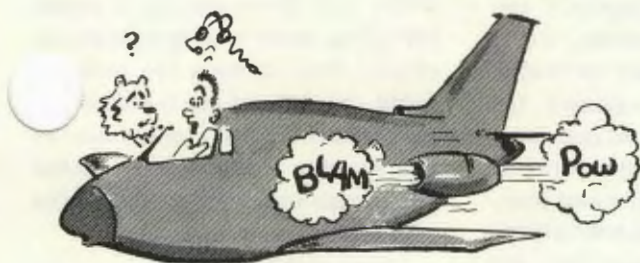
AT-BIRDER from another command was pretty sure he was having oxygen trouble altho his buddy up front reported cabin altitude was 16,000 feet as they climbed thru 250. As they reached 270 he asked the front troop to descend... his world was getting woozy. The front seat troop told him to check his oxygen again... especially the hose connections. The aft seat lad then noticed his blinker was open, indicating no flow. He switched the diluter to full pressure and saw the blinker close as his world started to black out. This is when he shoved forward on the stick, kicked out the speed boards, and pulled his bailout bottle.

His buddy up front took this subtle hint and let the bird descend to 10,000 feet, turning it toward the nearest airpatch. Some moments later the aft seat troop, still feeling weak, discovered the main oxygen hose was not connected to the oxygen regulator. Instead it had a spare fitting screwed onto the outlet.

The pilot said he was able to tell he was getting a real quick like 'cause he'd just gone thru the side chamber. In which case, he should have had smarts enough to check the blinker when he first strapped in the bird and again when he first started having trouble. His oxygen discipline falls in the same category as the brand of maintenance that turned this bird loose with the hose unconnected.

THIS TIGER was reading about a SAC T-39 that was climbing thru 390 with everything normal when, and I quote, "two muffled engine backfires were heard as the left engine flamed out."

I couldn't help wondering if the crew checked carburetor heat. Reminds me, not long ago I was flying the radio, talking to GCA, while another troop drove our little T-39 on an extended base. We were in weather as he extended the gear and advanced power from around 75 per cent. Number one responded with a series of four or five hard compressor stalls. To my surprise he reacted by shoving both throttles farther forward!



Shall I feather it?

This was his first experience with compressor stalls, and not realizing what was going on, he instinctively took the wrong action. Number one behaved quietly for a few seconds after I snatched it back to 75 per cent, then banged out a couple more stalls. Seventy kept it quiet until landing was assured.

Up until this time I'd assumed everyone knew what a compressor stall sounded like, as if they were born with the knowledge. You troops just starting to fly jets after many hours behind a prop should make sure you know what to expect and don't be afraid to ask around. Different engines react differently. The J-47 rattles like a slipping ratchet when it stalls. Ignore the clatter and EGT will soon peg, followed by a great deal of melting metal.

The J-57 is more spectacular . . . coughing up the truly splendid explosions that'll fair knock your

feet off the rudder pedals. The J-79, so the big boys tell me, has a real sneaky stall that takes some gage reading to interpret.

Basically a jet engine stalls when it's getting too much fuel, not enough air, or both. High angle of attack, while maneuvering or while flying slow, and inlet icing can restrict the amount of air. So can a damaged compressor. Improper throttle technique or a sick fuel control can overschedule fuel. Bad bearings or other failures can restrict the engine and also induce fuel overschedule. Regardless of the cause, if you get a compressor stall, reduce power and try to get better air flow to the engine to cure it. The J-79, of course, requires more drastic action . . . check the article, "Big Picture" in last month's fish-wrapper.

WHILE TAXIING back to the ramp, the main hydraulic system failed and the C-119 crew had to use emergency air brakes to control their flying wheelbarrow. They wrote up the emergency brake system because the right brake overheated and caught fire.

Seems the emergency brake handle pivot was rusty and didn't release, causing the brake to drag.

The corrective action was to lubricate the brake handle, operate it several times to free it, and then recommend a change to the PE work cards. Off hand, they should have gone one step further and oiled up the aircrews' think tanks . . . taxiing on the emergency brake system! If that ain't asking for trouble I'll go crawl in a gas tank and strike a match.

Can you imagine how hard it would be to explain this sort of thing had they had a stupid taxi accident?

AFTER LEVELING at 9000 feet, the cockpit seemed too hot, so an F-105 pilot reached over to turn off the windshield side panel defrost. Moments later the fuel inlet pressure light came on. While he was considering this, the engine quit.

He turned the fuel selector back on and restarted the unit. That's right, he turned off the fuel instead of the defrost. This is the second time I've read of someone making this error and I'd bet several others have made the same goof, or almost made it, but kept quiet. 'Tis a point to watch. Ideally, the error should be engineered out of the bird . . . but, it pays to glance into the office to see what you have your meathook on before you move it. No matter how hard the slip stick set try, they can't seem to eliminate every potential problem such as this.

INCIDENT

INSIGHT

...preventing the big ones

"...the pilot declared an emergency and made an uneventful landing from a precautionary approach. Cause was determined to be ..."

* Utility pressure quick disconnect backed off part way.

* Overfill line in oil tank broken off at the exit port.

* Cracked pressure line on number two flight control pump.

* Top swivel fitting on left master brake cylinder leaking.

* Seals in viscous damper sticking.

* Loose marmon clamp on hot air line.

Each of these incident reports was processed through countless in-and-out-baskets at division, numbered air force, command headquarters and the depot. They were reviewed by safety people, maintenance people, ops people and commanders. They were carefully tabulated by type aircraft and system, how malfunctioned code and work unit code, and appropriate entries were made in several voluminous data reports.

Each of these incident reports failed to accomplish its purpose. None of them identified the basic cause of the trouble and little, if any, constructive action could be taken to prevent recurrence of the same incident.

Each of these incident reports

was a waste of time.

Every incident, or airborne emergency, is a symptom of an accident that may occur. We should call them near-accidents. Many full-fledged aircraft accidents are made up of one or more mechanical failures which have happened before.

When a single failure snowballs ... when it triggers a sequence of other failures, or is surrounded by weather or traffic situations which saturate the pilot's ability to control the situation, airplanes are damaged or destroyed and the crews seriously injured. But when these failures are uncomplicated, when they are not compounded by additional failures, bad weather or scrambled traffic situations, they usually end as incidents ... the aircrew walks away from them and the airplane is repaired and flies again.

When a mechanical deficiency is reported as the cause of a serious accident, a great deal of attention is focused on it, vast research and development resources are turned toward correcting it. When the failure is buried in a mass of other cause factor data, it naturally receives a smaller proportion of the attention. It may be corrected ... it may occur again!

How much simpler it is to focus on a failure when it is only the

cause of a near accident ... one that is not complicated by twisted airplane parts or dead crewmembers no longer able to tell how it happened. How much simpler to isolate the basic cause of a failure or malfunction and correct it before it triggers a full-fledged accident.

Airborne emergencies occur daily. And great stacks of paper reporting these emergencies constantly flow through the comicated channels of our favorite ing business. Yet a great deal of this activity is wasted because the real cause was not identified by the reporter.

Look at the examples ... and see if you can recommend corrective action that will prevent recurrence. You are stopped each time with the same question, "Why?"

Quick disconnect backed off... why? Was it properly installed? Was it inspected? Is it designed wrong?

Overfill line broken ... why? Was it the correct line? Correct material? Installed correctly? When was it last inspected?

Loose marmon clamp ... why? Did it work loose, break loose, was it installed loose? Did it fail shortly after inspection or just before the next scheduled inspection?

Swivel fitting leaking ... wh,

Was there a manufacturing fault? Head stripped? Washer missing?

Now, we're getting closer to the real cause. But let's keep asking why. The marmon clamp was loose because it was installed incorrectly ... why? Was the troop that installed it sleepy? Or was he interrupted half way thru the job? Was this the first time he had done this job? What was his training? Where was his supervisor?

The overfill line broke because it was the wrong material ... why? Is the tech order confusing? Was there a part number mixup?

The swivel fitting leaked because it was the wrong fitting ... why? Did it look just like the correct one?

The flight control pressure line cracked ten hours before its next inspection ... why? Should the inspection cycle be more frequent or was a clamp left off the line?

The seals in the viscous damper had deteriorated after 325 hours, they're replaced every 400 hours ... why? Should the replacement cycle be shorter?

OK, are you ready to recommend corrective action now? Action aimed at preventing a similar occurrence in another aircraft?

If you can't think of real, effective corrective action, you haven't completed your incident investigation ... you haven't asked enough whys. As a matter of fact, you have not completed your investigation until there are no more questions to ask.

Far too many aircraft incident reports also fail to give an adequate answer in paragraph S, "action taken to prevent a recurrence." In effect, many of them say that ... "this and that were doubtless shot. The malfunction

could not be duplicated so the part was changed anyway." Others go something like ... "So-and-so was replaced and the part bench checked OK. Aircraft was test flown with no evidence of malfunction." The investigators have usually isolated the malfunctioning component, but have not asked why it malfunctioned. As a result, they are unable to prescribe corrective action that will preclude a similar occurrence in another aircraft. In most cases, they have not considered the probability of the new component failing just as the old one did, and have really taken no action to prevent a recurrence.

Frequently, they are unable to take direct action to correct the cause of an incident. It may require action at the depot or at a higher headquarters. In this case, the incident report should serve as a cry for help, with the cause factor and proposed fix stated clearly, and factually. The incident report should alert each reader to the Unsatisfactory Report (UR) or request for teardown that is to follow. It should wave a red flag ... attract attention to whatever testing, redesign, quality control or evaluation is necessary.

Not long ago, one of our higher-priced machines was flying at 550 knots, 100 feet above the ground when it started violently banking 45 degrees to one side and then the other. The pilot pointed it skyward, tried the handling characteristics at altitude and finally landed, not without difficulty. The technicians found a faulty auto-pilot amplifier. The incident report said, "Amplifier section replaced, aircraft test flown with no further problems." No UR was submitted. The bad amplifier was turned in to reparable processing.

A few weeks before this incident, a two-seat version of the

same type aircraft went into violent gyrations during weapons delivery. The rear seat pilot ejected and was killed. The pilot in the front seat recovered and was able to land. The auto-pilot amplifier was the cause of the gyrations.

Halfway around the world, a pilot retracted his gear after take-off and the airplane began to yaw twelve degrees each side of center. Altho the pilot turned off all auto-pilot and stab aug switches, the oscillations continued intermittently until he turned off both the AC and DC generators. The incident report said a wire was found shorted to the case of the auto-pilot amplifier. The action taken to prevent a recurrence was, "Wire replaced, amplifier bench checked and reinstalled. System ops checked and test flown without evidence of malfunction." Was a UR submitted to alert all concerned? Did anyone suggest that assembly procedures for the amplifier be reviewed and that better quality control inspections identify similar loose wires before they're installed in our birds?

The incident report said: "No. This is considered an isolated instance." Freely translated into everyday language, this means ... No. I'm too busy, or ... No. This bird belongs to another base, or ... No. It hasn't killed anybody here yet.

You are the most vitally interested in getting a fix ... you're flying the airplane! You're cheating yourself and your squadron mates when the time you spend on an incident investigation doesn't produce the desired results ... a fix. The fix may be local or it may require command or depot action, but it cannot be made until you identify the thing that needs fixed!

CASEY

at the pool



By - Capt Vincent C. Hughes Jr. TAC Office of Safety

Casey's back was just beginning to itch...time to get out of the sun, slide under one of the umbrellas alongside the pool and have a cool one. A break like this sure was nice during TDY...and the birdwatching was superior. Captain Sweet, the stdn/evaltype, and Sparks, Casey's newly married co-pilot, were already in the shade sipping from cans all frosted with moisture.

"Say, Major Casey, Sparky thinks he's got the inside track on when the first bird leaves for the land of the round door knob," Sweet winked, "He thinks he'll clean up on the betting pool."

"Yes, sir. I got it from the club officer. He said they're going to throw a party for all the officers in two weeks - buffet dinner, cocktails and everything. He said it's because they've made so much money off the TDY troops. You know they never do that until after we leave."

As usual, this was the number two topic of conversation. It had been pretty rough having to deploy right after returning from rotation. Young Sparks had been a little more than upset about getting called back from his honeymoon. Casey reflected, "Look at the bright side, Sparky, some tourists pay thousands of dollars to see what we've seen in the last few months!"

"Yes, sir, but that isn't making

my wife any happier," he wondered how she was getting along all by herself in that dinky apartment.

Casey made himself comfortable. "I know what you mean. But it could be worse." He knew that many younger airmen had money problems...some wives couldn't pay bills because the husbands didn't make proper allotments or because they'd been moonlighting to make ends meet. These people had it rough. Then there were the gamblers and the ones who couldn't push themselves away from the bar...the big spenders. The ones who drew advance per diem and blew it the first few days and spent the rest of their time with nothing to do except to mooch cigarettes and movie money. These created their own troubles. People were working on the problem. The push to get husbands and wives to keep separate bank accounts and to send pay checks to the bank was a small step in the right direction. But, how do you get people to grow up about money?

He paused to watch a bikini clad figure climb out of the pool. "Yes sir, it could be worse. At least you hear from your wife from time to time."

"He ought to," Sweet remarked, "as many letters as he writes."

Casey nodded. Letter writing's

a two way street and a good way to keep the home front happy. He brushed a fly off his leg. "My biggest gripe with TDYs are you're either too busy to think or have nothing to do, period."

Sparks nodded agreement. Major Casey was pretty good about keeping everyone busy. When he didn't have them out sight-seeing, he was rounding up a team for baseball, volley ball or some other sport. If he couldn't get up a team then he played handball or v swimming. They partied, but not too often, and never when they had to fly the next day. Despite all his enthusiasm, he was careful not to go heavy on exotic foods and was careful about water and similar problems of primitive areas. Yes, and he didn't slough off on his flying either. He kept his flight planning, crew coordination and other flying tasks at top professional level. Captain Sweet had been impressed, he could sense that this was their normal operation and that they weren't just flying this way because he was along.

A slender well-rounded form left the high board and was briefly silhouetted against the sky. Casey shifted to get a better view. "You know, this TDY has broken all records for bird watching. When did you say we'd leaving?"

Fixation

It was a dark, gray afternoon at 8000 feet. The crew had bumped along in turbulent clouds for almost three hours. As rime ice built up on the prop hubs and wings, they checked carburetor heat, it was working. The freezing level was reported two thousand feet below them, but the outside air temperature was holding right at freezing.

They had just reported station passage and received latest weather from the ground station, when the left engine sputtered and gave up. Both pilots went for the carburetor heat, but it was on. It must have iced up anyhow. It looked as if all they could do was feather the engine, declare an emergency and turn back to the town they just passed.

The weather was certainly not improving. As they completed the turn and prepared for the single-engine descent, the right engine coughed and stopped. They bailed out as the aircraft descended thru 3500 feet.

The crew met with the accident board the next day. Their description of the flight thru freezing clouds sent one board member to get a complete run down on the weather while the others went to examine the wreckage.

When they arrived at the scene they found that the aircraft had made an amazingly good, uncontrolled wheels-up landing. They found both outboard wing fuel tanks full, both inboard tanks intact and empty and both fuel selectors set on inboard tanks. The engines, despite weather and icing, had quit from fuel starvation.

What caused this crew to become so totally engrossed in the weather situation that their normal emergency procedures went blank? Every bit of

their training should have been screaming at them to CHECK FUEL!

The accident board immediately recommended that the bold face emergency procedures be changed to require crews to switch to the fullest tank when an engine quits. This would help only if the crew is not too deeply submerged in a fixation with other matters.

The only change from completely normal routine on this flight had been the weather. This crew's attention had been channeled by their environment. Icing was their primary concern. They had been thinking about and taking action to prevent icing-induced engine failure. When the first engine DID fail, their fixation was complete...the second engine failure was almost anticlimatic.

Unlike blue fingernails that alert you to a lack of oxygen, there are no tried and true, pat answers for alerting you to a fixated attention.

Perhaps the answer is knowledge and experience. When you have coped with a particularly unpleasant or hazardous phase of flying enough times, you can better evaluate it...place it in its proper perspective. There are only so many actions you can take to protect or insulate yourself from the hazard. When you have taken these actions your experience tells you what the probability is. You then relegate this immediate concern to its proper priority among your flying chores and CONTINUE TO FLY THE AIRCRAFT.

The one positive action we can take to fight channelized attention, or fixation, is to recognize it, discuss it, be ready for it. Question your thoroughness when you are in a tight...is there something I've left out?



CHOCK TALK

cool technique

Trouble shooting an auto pilot write-up in the F-105 can often be quite frustrating... particularly when the malfunction can't be duplicated using normal procedures. Quite often electronics experts are forced to eliminate the problem by changing each black box in turn until the faulty one is located. This can result in one or more unsatisfactory test hops and a great deal of lost effort.

Recently A2C Richard J. A. Gauthier of the 4521st A&E Squadron out at Nellis grew tired of this type of cut-and-try maintenance and decided to simulate the airborne environment while bench checking suspected components. It's awful hot around Nellis and the biggest single difference between workshop and airborne environment is temperature. He located a refrigerator that was being turned in to salvage, put it in working condition, and tried cooling off the black boxes before bench checking them. He found that an hour or more in the ice box was usually enough and that he was able to locate many malfunctions that were not apparent at room temperatures.

As a result, the electronics section has greatly reduced the time they have to spend bench checking electronic components and have cut down on repeat write-ups. In fact, they stopped about three aborts per month on just the F-105 auto pilot system alone. The same technique has been expanded to help trouble shoot other electronic gear with even greater benefits. Well done, Airman Gauthier, you have again proved the value of applying reasoning and initiative to the task at hand.

inadvertent panic

He had been working transient alert for years and was used to handling new problems on strange birds, but this time it was getting pretty terse. The cockpit was small, didn't leave much room to maneuver. When he finally got the instrument panel loose, he found it was flexible and he would have to hold it with one hand while he repaired the pitot static line. He was sitting sideways in the seat, reaching for a tool, when the tanks jettisoned from the wings. Too late, he realized that he had not disconnected the battery... the little red panic button was hot.

the amateur hour

An overseas pilot released back stick pressure during takeoff and noticed he could not move the stick forward. When safely airborne and at a safe altitude, he forced the stick forward and broke the restriction. He experienced six or eight rapid pitch oscillations when it broke loose, and again two more times during the flight. After landing, maintenance troops opened the right engine access door and a shower of foreign objects fell to the ramp. Back in the engine bay itself were a small bearing, some safety wire, assorted scraps of rubber, one 9/16 inch nut, one 3/8 inch nut, and one 1/4 by 3/4 inch bolt. A deep gouge mark on the trim actuator motor and heavy scoring on the framework adjacent to it indicated that something had lodged under the motor and jammed the actuator. The report didn't include the pilot's comments.

tac attacks tetos

Each time compliance technical order (TCTO) is a directive which requires us to modify or inspect an item of Air Force equipment to make it more reliable, increase its performance, or make it safer.

At present, TAC has a drive on to get all of the outstanding TCTOs on our equipment accomplished ASAP. This is a big program . . . and to help get it done, you'll need to implement TAC Reg 65-5. This reg requires you to report complete data on all outstanding TCTOs on all of your assigned weapons systems, engines, accessories and aerospace ground equipment. You'll use the RCS: TAC-A1 report which gets to all TAC maintenance managers five days to a week after the reporting period. With it, they can make timely assessments of the TCTO status and take action to correct and realign the program.

The RCS: TAC-A1 report uses an electronic computer to provide TCTO configuration data. Data cards are maintained at the records section of all TAC units and are updated as TCTO compliances and other status changes occur. A monthly report is machine produced by data systems and provides:

- * TCTO man-hours that are reduced thru compliance, rescission or transfer from the command. These are broken out by weapon system serial number.

- * TCTO outstanding man-hours by weapon system serial number and by organizational field maintenance or depot responsibility. (Organizational field maintenance TCTO man-hours are further identified to indicate how many man-hours have parts or kits available and how many are scheduled to be accomplished by AFLC contract facilities.)

- * Identification of compliance urgency, such as immediate, urgent action, and safety TCTOs. Also, routine TCTOs that are selected for special compliance emphasis and command directed inspections or modifications.

- * Date of issue, receipt and expiration for each TCTO, with the estimated man-hours, location of the equipment to which the TCTO applies, and 14 codes to indicate status of each TCTO.

- * TCTO data for all TAC weapon systems on rotation or TDY. This TCTO configuration data helps determine the complete TCTO status and man-hour backlog for all assigned equipment, regardless of where it is located.

Complete and timely TCTO configuration data is a tool for management at all levels, and has resulted in specific actions such as:

- * Establishing separate TCTO docks on TAC bases having very high TCTO man-hour backlogs.

- * Including organizational field maintenance TCTOs into IRAN work packages when it is possible to save man-hours by accomplishing them during interrelated teardown and maintenance.

- * Closer screening to eliminate marginal and non-essential engineering change proposals during certification.

- * Negotiation to get AFLC TCTO teams to help accomplish large man-hour TCTOs, or speed those with safety implications.

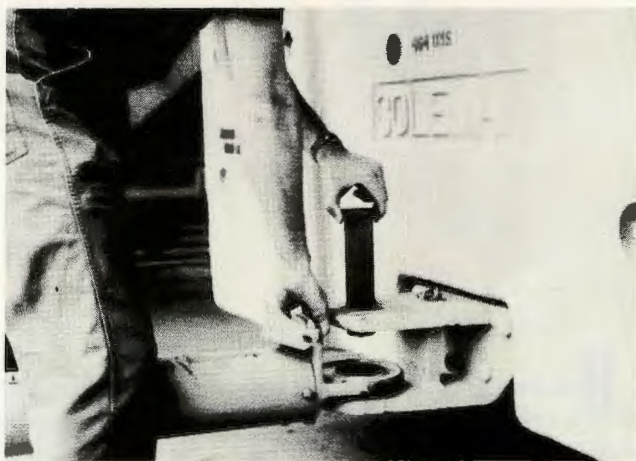
Every TAC maintenance manager from the base Chief of Maintenance to the TAC Deputy for Materiel uses the RCS: TAC-A1 report as an effective way to provide reliable and safer weapon systems for the Tactical Air Command.

—By MSgt Joseph M. Ketron Jr
DMEMP, Hq TAC

close figuring

An overseas F-101 unit reported a drag chute failure caused by five broken suspension lines. This particular chute has a service life of 25 deployments and it failed on its 25th.

Seriously, this one could have been prevented by more critical inspection.



finger masher

A ground crewman lost two fingers trying to guide a C-130 tow bar into the hitch of a U-18 tractor. As you can see from the photo, the large draw bar on the U-18 is set just right to smash a man's fingers if he tries to use the tow bar handle. Captain Keith C. McDonald, flying safety officer of the 464TCW, reports a practical solution . . . remove the handle and weld on a new one far enough back to leave safe clearance.



PICTURE STORY



Remember this one? Photographers rarely capture an accident sequence from start to finish. Actually, the photographer didn't catch the true start of this sequence since the accident actually started back at headquarters. The flight crew was relatively inexperienced and had been checked out on most of the numerous delivery techniques. Each of these techniques required a specific aircraft configuration but no one had published a checklist for these

various configurations. It was inevitable that a crew would eventually try a delivery using the wrong configuration. When the cargo ramp touched it was too late to write the checklist, too late to publish it and too late to follow it.

We're running this remarkable sequence to emphasize the reason behind checklists for tactical operations and to underline the reason you should follow them.





Reduce the airspeed by moving the throttle to IDLE and maintain attitude by holding the nose up. When the desired speed has been attained, it can be maintained by varying the rudder.

SIDESLIPS

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

STALLS

HIGH,

At 10,000 feet the airplane stalls normally, with plenty of warning; it shakes noticeably and begins to shake and buffet about 10 knots

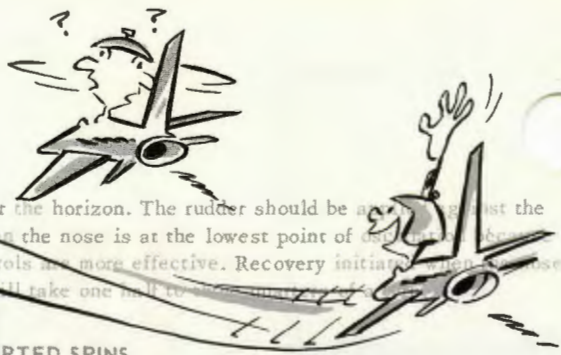
Wide

INVERTED SPINS.

Note

An inverted spin is easily recognized because negative-G forces exerted on the pilot will force him against the lap belt.

Inverted spins are usually caused by too much forward stick during slow speed in inverted flight or by pushing the stick forward too quickly when rotation stops during recovery from an erect spin. In



and LONESOME

Sideslip glanced quickly at his altimeter and back to Lead . . . level at 38,000 feet and still in the hazy cirrus. He smiled as he thought back to the fuzzy-cheeked weather guesser assuring them there would be no clouds at this altitude. He had even urged them to take this northern route to avoid weather.

"Very severe thunderstorm activity along the Marfa Front thru Oklahoma and the Panhandle," he had frowned, "I'd recommend you stay north over the plains states as much as you can." He had sounded so sure of himself . . . "just a few scattered thunderstorms and no appreciable cirrus."

This was "appreciable" enough to be weather formation, and altho the clouds above looked mighty thin, Sideslip knew they could extend several thousand feet. He had been fooled before. Just as he dismissed all thoughts of breaking out in the clear and decided to concentrate on flying Lead's wing, Lead started calling

Denver Center for clearance to climb to 42,000 feet. His receiver was getting weak and Sideslip had to relay everything back to him. While they waited for Center to clear them, Sideslip looked up again . . . if they didn't break out of the clouds, it would be no easy job to stay in formation at 42,000. Why did Lead want to climb instead of descending to a comfortable altitude?

They received the clearance, pushed up the power and started a slow climb. When they leveled, still in the clouds, Lead called to inform Center; Center rogered and Sideslip relayed . . . but this time Lead failed to acknowledge.

"Lead . . . this is Sideslip, do you read? Sideslip nudged the throttle and waited until he was almost abreast of Lead. When Lead looked over, Sideslip pointed at the side of his helmet.

"If you're reading me, Sideslip . . . nod your head." Lead had the idea.

Sideslip vigorously nodded his head, "Are you reading anyone,

Lead?" Lead's head was shaking slowly from side to side as he leaned down to check switches and circuit breakers. He looked over at Sideslip again and raised his hands, palms up, in a what-do-we-do-next shrug.

"Looks like I've lost my receiver for good Sideslip," Lead was motioning forward, "You take the lead . . . your radio's OK . . . isn't it?"

Sideslip nodded his head and watched Lead drop back. Lead see-sawed back and forth two or three times before settling into position. It only took a small power reduction at this altitude to make a big difference, and it took a long time to move up when he fell behind. It sure would be easier if they were out of the clouds . . . or at a lower altitude, Sideslip thought.

Sideslip busied himself with the navigation chores he had been leaving to Lead. One small correction and they were back on track. Thank goodness he remembered Lead's ETA for the next 1

... he hadn't written it down. They were the fix two minutes late because of the climb, Sideslip gave the position report using Lead's call ... Air Force 9339.

Lead was flying a steady, but comfortably loose position. In the thin clouds, visibility was good ... half a mile or more.

Then they hit it!

The violent turbulence slammed Sideslip from one side of the cockpit to the other. He caught one glimpse as Lead's aircraft moved in very close, but didn't take his eyes from the instruments, knowing this was the time to keep wings level.

"Give me a couple, Sideslip," Lead sounded shaken. "I've dropped back ... going to loose you ... stuff's getting' thicker."

"Rog, Lead," Sideslip answered, forgetting that Lead's receiver was out, as he pulled off the power. He thought about going for a lower altitude, but decided to wait until Lead was back in formation. He glanced in the mirror and saw Lead several ship lengths back in the haze. He pulled the throttle back another per cent and peered ahead. The gray of the clouds ahead was darker, the brilliance gone from the haze above. "We're going into a big one," he thought, "c'mon Lead, move in ... what're you waiting for." He couldn't find Lead in the mirror now ... where was he?

Sideslip glanced over his shoulder as Lead moved up fast. He came up abreast of Sideslip with speed brakes out. Sideslip shoved power up to cruise.

As he watched, Lead dropped back into position. His boards came up, but he continued to drop back. Lead had pulled off too much power when he caught up!

Sideslip knew that if he pulled the power back again, they'd end

up in the same yo-yo, but he didn't want Lead to lose sight of him ... and Lead with no receiver. He set his throttle two per cent below cruise and decided not to touch it. The turbulence was increasing again.

"Denver Center ... Air Force 9339, request immediate descent to Flight Level 360 or below." Sideslip knew this was a gamble, the turbulence might be worse, but at least it would be easier formation.

"9339, Denver Center ... cleared immediate descent to Flight Level 340 ... report passing 360 ... are you experiencing difficulty?"

"Uh ... Rog, Center ... 9339 ... severe turbulence..." Sideslip rogered the clearance and wondered if he had ever been in worse.

He glanced in the mirror again, but couldn't find Lead. With a quick look at the attitude indicator, he turned his head in time to see Lead come sailing up beside him, speed brakes out, again. It took conscious effort, but Sideslip didn't move the throttle. Lead moved farther ahead, his head twisting around to keep Sideslip in sight. Sideslip knew Lead was fighting the temptation to pull power off again. Lead gingerly banked away and rose above him, slowly losing overtake.

Suddenly he was gone ... the clouds were thick around Sideslip's canopy. "Don't turn back into me, Dad," he breathed into his mask.

"Lost wingman ... lost wingman," Lead was calling in the blind. "I'm turning away from you, Sideslip."

Sideslip tried to relax ... 38,000 feet ... TACAN steady ... better call Center ... but what to tell 'em? What's Lead going

to do? Level at 340? No, he didn't hear that clearance ... stay at 380 ... or 420?

"Center ... 9339, over?" he called.

"9339 ... Denver, have you lost your wingman, over?"

"Uh ... Rog, Denver ... this is 9339 ... passing 380 to level at 340 ... wingman got separated. He has no receiver ... said he was turning away ... north ... I don't know his altitude."

"Understand, 9339 ... descending ... pffst ... lost wingman." Lead was trying to tell Sideslip what he was doing.

"Roger, 9339 ... Roger, you are cleared to Flight Level 340 ... can you contact your wingman?"

"Negative, Center ... uh, no!" Sideslip was emphatic. "This is 9339 ... I mean I'm 9339's wingman ... he was on my wing and he lost me ... my wingman is separated from me without a receiver."

"Air Force 9339 ... Denver Center, how many aircraft were in your flight ... have you lost receiver ... do you read?"

"No ... uh, rog, Center ... I'm reading you fine. There were only two aircraft ..."

What's the use," thought the Slip. Then, on the radio, "9339 lost his receiver ... uh, I mean Lead ... ah, he was on my wing ..."

"9339 ... Denver Center, my radar shows a Mayday in your vicinity ... what exactly is your emergency?"

"Rog, Center ... that must be Lead squawking Mayday."

"Understand ... you lost your lead aircraft and are descending ... your lead is level at 340 ... is that roger?"

"You've got that like backwards, Center." Sideslip was getting desperate. "He lost his receiver before we got the descent

to 340 . . . he doesn't know about it. 9339 just said he was descending."

"Pffst-zsshrr. . . 39, say again about your wingman descending, over?"

Sideslip realized Lead must have been calling again.

"This is 9339 transmitting in the blind . . . lost receiver . . . descending to VFR . . ." Lead came thru.

"9339, Denver Center . . . you have not been cleared to descend . . . hold Flight Level 340."

"Center . . . this is . . . ah, 9339's wingman, I'm level at 340 . . . he's apparently trying to get VFR under this stuff . . . he knew I was descending when he lost me . . ." Sideslip hoped Center was beginning to understand. In all the confusion he had almost forgotten how close he was to destination. Stormsville AFB was only twenty miles on the TACAN. He'd have to start thinking about getting down.

"9339 . . . Denver Center, understand you are descending to VFR . . . and your wingman is at 340."

"Well, something like that, Center." Part of it got thru, Sideslip realized. "But the one descending has no receiver, I'm at

340 with a receiver and everything!"

"Air Force 9339 descending from Flight Level 340 . . . this is Denver Center on guard . . . you are cleared to Stormsville TACAN at any altitude below Flight Level 180 . . . 9339, Denver Center on guard, do you read?"

"OK, Center . . . good show . . . this is 39's wingman . . . inbound to Stormsville at 340."

"9339, this is Stormsville approach on guard . . . if you read, you are cleared at . . . pffsst-zsshrr. . ."

" . . . VFR at eight thousand . . . south of field . . . not in sight . . . heavy rain. . . cloud to ground . . . severe turbulence . . . TACAN straight in."

Sideslip ducked as the sudden racket of hail hitting the canopy drowned out all other sounds. In twenty seconds it was over, and he gathered his thoughts . . . he was over the fix . . . better turn into the holding pattern.

"Air Force 9339 at Flight Level 340 . . . this is Stormsville Approach . . . hold your altitude until further advised, over."

Sideslip rogered, wondering what kind of visibility Lead would have for landing, and how long he would have to hold.

"Air Force 9339 at eight thousand feet . . . cleared approach to Stormsville run one-five . . . weather four thousand broken, visibility seven miles, wind 160 at 18 knots. . . . Heavy rain shower south, moving south."

"9339 at 340, Approach . . . Radar is now tracking what is believed to be your wingman at eight thousand. We can start your approach . . . roll out heading 350 for radar vector . . . descend to one-zero thousand."

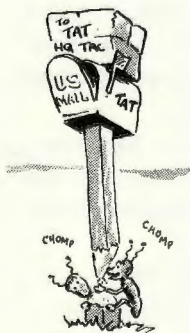
Sideslip was just passing 350 degrees. He rolled out, pulled back the power, dropped boards and plunged headlong back into the hail storm. As he neared ten thousand feet, Radar cleared him to continue descent . . . they had Lead coming down final.

Sideslip landed as Lead turned off the far end of the runway, taxied to Base Ops and parked beside him. While he shut down, he the staff car pull between the two airplanes and stop . . .

"OK, you two," the Base Ops Officer called, looking from Lead to Sideslip and back, "how about stepping inside and telling us whatinell you've been doing . . . if you know!"



Letters to the Editor



Dear TAT

I noted with interest your article on Page 6 of the May issue of TAC Attack concerning the C-119 which limped home after the engine failed and your comments about the decision to fly that aircraft. Since I am the officer responsible for making that decision, the following is a highly censored version of my reaction to your article.

First a little history of the spectrographic analysis program as we know it in the Air Force tod.

This unit has been utilizing the spectrographic oil analysis program since April of 1961, a long time before the Air Force in general ever heard of spectrographic oil analysis. As a former Naval Aircraft Maintenance Officer, I had used the program in the Navy. We in the 934 Trp Carr Gp introduced the program to the Air Force through HQ CONAC and fought tooth and nail for almost two years to put it across. We were the first unit in the Air Force to use oil analysis and we proudly proclaim this unit to be the originator of the Air Force oil analysis program. I mention the above only to emphasize that we are well acquainted with this program and have been deeply involved in its use since its conception.

Now in regard to the particular engine in question. First your comment that the failure was anticipated is erroneous. No Maintenance Officer would fly an aircraft with an engine that he anticipated would fail. The following is a brief synopsis of what happens when utilizing spectrographic oil analysis. A sample of warm engine oil is taken after flight at specified intervals, the data slip completed and the slip and sample sent off to the laboratory for analysis. On the R-3350-89A this occurs every 30 hours. When the sample is normal, we hear nothing. However, if the metal content of any one or a combination of 7 different metals, has risen above the normal limit established for that engine in parts per million, we receive a TWX from the Laboratory as we did on the engine in question. (Attach #1) With 18 aircraft assigned, as many as two or three high readings in a week are not uncommon. A high metal reading simply means something is beginning to wear and if not discovered, could eventually mean engine failure. A survey just completed indicates that approximately 100 hours elapses between the first high reading and engine failure.

Upon receipt of a high metal reading, the following routine procedure is utilized:

- * The aircraft is removed from the cross country flight schedule and restricted to the local area, not because failure is anticipated, but in order that the engine be more closely monitored and samples taken at the interval specified by the laboratory.

- * Inspections as directed by the laboratory are accomplished depending on the type of metal found.

- * The aircraft remains on the local schedule until a trend develops and the metal content goes either up or down, the discrepancy is discovered, or as happens most frequently, the metal reading simply returns to normal. This is not unusual because engines do not wear evenly and at the same rate.

All of the above had been accomplished on the engine in question. A special sample had been taken, screens inspected, engine operating normally. True, the engine did fail. We were as surprised as anyone. But it did fail at home and in the daylight. This incidentally was the first time we ever had an engine fail as this one did. The silver content had only increased two parts per million from 2 to 4. Also at this time there were no removal limits for an engine, so we simply had to guess as to how significant this increase was. Now a silver content limit has been established.

The sum and substance of all of this is that I fear you may have the same idea of oil analysis that many others have and that is that it's a crystal ball or a magic formula and the solid answer to all our problems. Nothing could be farther from the truth. It is simply one more maintenance tool that when used in conjunction with other information available, provides useful and meaningful answers or trends. However, its use must be learned and a lot of hard work and frustration go with it. We in this unit feel very strongly about oil analysis and more strongly about the Air Force Reserve Program. It's easy to tarnish something but it takes a lot of polish to brighten it again.

Maj Joseph G. Rollins
Chief of Maintenance
934TCG, Minneapolis - St Paul

Dear Joe

Many thanks for taking the time and trouble to give us a look at the other side of the coin. I can't find the message that triggered my response, but it certainly gave the impression that failure was much closer at hand. As I recall it said "...anticipating a possible engine failure, the aircraft was removed from the cross country schedule."

I apologize for jumping to hasty conclusions...you get that way in this business after observing the end result of too many decisions made with fingers crossed. I am particularly sensitive about the C-119 and its engine because of the less-than-perfect record C-119 crews have had coping with engine failures...a factor that explains why C-119 units with the cleanest accident records invariably report the least inflight engine failures.

Incidentally, I and countless others around the Air Force, will forever be in debt to you and the 934th for helping get the oil analysis program going. I consider it and the NDI program to be the two most significant contributions to safety I have observed in over ten years in the racket.

TAT



SEG NEWS

4450th Standardization Evaluation Gp.

Know your Stdn Evaluators



MAJOR HUBERT E. CHANEY

Major Chaney was assigned to 4450th SEG in May 1964 as a C-130 flight examiner. He has been a flight examiner continually since 1953. He was accepted in the aviation cadet program in 1943 and graduated from twin-engine fighter school in May 1944. After a brief CCTS, he was sent to the European Theater where he flew supply missions in C-47s and C-46s. After WWII he went on inactive duty and studied engineering at the University of Texas. At the outbreak of the Korean conflict, he was recalled as a production control officer at the Douglas Aircraft Plant in Tulsa, Okla. After serving there for about a year, he went through Troop Carrier CCTS and on to Ashiya, Japan, flying C-119's into Korea and later into Indo-China. After the Korean conflict, he returned to Ardmore AFB, Okla, and was among the first few to enter into the C-130 program. After extensive factory schooling and checkout, he delivered the first C-130 accepted by the Air Force. He helped form and command the C-130 aerial demonstration team, "The Four Horsemen." In 1960 he was transferred to Hq USAFE where he served four years as the chief of C-130 Standardization and Training.

STDN/EVAL FOR MAINTENANCE

In the May ATTACK we told you that we would be establishing a maintenance evaluation division. We pointed out that General Sweeney had envisioned a program to increase the professional standards of each individual maintenance man in the command. That this program would be accomplished thru Stdn/Eval Maintenance Examiners (SEMEN) who would evaluate individual specialists and verify the quality of their work on a regular basis just as S/E Flight

Examiners evaluate aircrews.

The SEG section developed the initial rough plan for the new maintenance stdn/eval program, then went to the field for the technical assistance and maintenance experts to refine and finalize the plan before submitting it for approval.

The commander approved the proposed program last October and we were on our way. We selected nine level maintenance people from the field to the maintenance division and to develop the criteria.

master question files and other guidelines for administering the program.

We will visit each TAC regular forces wing annually, administering written tests to maintenance people at all skill levels. This is outlined by TACM 66-3, which you should have in hand by now. We will also observe maintenance being performed by all maintenance AFSCs, as designated by AFM 66-1, and as objectively as possible grade each performance against the published grading criteria and checklist.

Briefly, we will grade three areas... job preparation, job performance, and job completion. We will look for professionalism as indicated by how thoroughly you prepare for the job, how well you perform it, and how well you follow directives and checklists to successfully complete all phases of the job. We'll ask questions on areas not covered by the written exam. We'll also check your aircraft to see if it is in combat ready status. In short, we'll be doing the same thing your training/standardization and quality control people do each day of the year.

We will be trying to standardize and pass on the good aspects of each maintenance activity... while searching for weak areas that need improvement. We will provide a yardstick commanders can use to measure their maintenance activities. We will try to motivate each man into doing his dead level best and having pride in his accomplishments.

The end result should be fewer accidents and countless dollars saved. Further, each man in TAC will be receiving the same evaluation for his AFSC and the results recorded so each commander can know how his unit compares.

We'll be seeing you soon. The first time around, no names will be taken. You'll have plenty of time to prepare after you've received your master question files and other guidelines.

DO YOU KNOW?

Many areas and aspects of normal unit operations are evaluated during formal stdn/eval visits, and some consistently receive low ratings. One is the written examination phase of the evaluation. There can be very little excuse for low grades on these tests. For example, when you went to school, how many of your teachers provided you with the questions and answers before you took a mid-term exam?

Most of you are reasonably well versed on all but one section of the exam... the section on performance data. You must make at least 96 per cent to achieve outstanding rating, so this one area can have considerable effect on your overall rating.

Why are so many performance questions missed? Several reasons come to mind; however, two of the most probable are that the answer to many of these questions depend on your answers to a preceeding question. If one answer at the beginning of the series is completed wrong, several of the remaining answers will also be incorrect. Another problem is that some units have reproduced charts which in many cases include computations based on local conditions and standard configurations. These goodie cards are a great help, but they should not distract you from knowing the performance charts in the dash one. Not being intimately familiar with performance computations can be your downfall, or far worse, the downfall of an entire unit.

The only solution is increased knowledge and familiarity with the performance charts. Memorizing the Master Question File is not enough; you must know the charts and know how to work them!



C-119G MANUAL SPARK ADVANCE

The R-3350-89A engines on your C-119Gs will soon be modified to incorporate a manual spark control system. In fact, modification kits have already started arriving. This modification (TOC #541) will allow you to operate in the 2300-2600 rpm range and manual lean below 2200 rpm. The dash one is being changed to incorporate new operating instructions for aircraft that have been modified and this change should already have reached you by now. Both pilots and flight mechanics should use extreme caution during the modification period, since different rpm settings are permissible during climb and traffic pattern operations. It is imperative that you stay out of the 2300-2600 rpm range on birds that have not been modified with the manual spark control to keep from damaging an engine. Meanwhile become thoroughly familiar with the dash one change before you operate the manual spark control system.

THE LATEST WORD

The current situation in Southeast Asia has resulted in a temporary shift in emphasis in TAC's stdn/eval program. Formal visits to active duty fighter and reconnaissance units in most cases have been curtailed since March of this year in order to allow these SEG aircrews to increase emphasis on the tactical aspects of stdn/eval. SEG aircrews are observing exercises such as "Red Rio," and participating as members of pre-rotational survey teams. To gain first hand knowledge of the latest procedures and techniques used in the overseas areas, they are deploying as primary aircrew members with our rotational units. The knowledge gained will then be put to use revising and updating our 55- and 60-series operational procedures and grading manuals.

Tentative plans call for resumption of formal visits, or administrative visits, by September. We will give you plenty of notice, in any event.

As an additional item of interest, work has been completed by representatives of TAC, PACAF and USAFE on AFM 3-1, Fighter Tactics, and it has been forwarded to Hq USAF for publication. Next, SEG will revise affected 55-series manuals to make them compatible. A multi-command conference on AFM 3-4, Assault Airlift Tactics, was completed on 21 May 1965 and is now in final coordination with using commands.

KUDOS

Normally the 4450th Standardization/Evaluation Group does not award overall wing ratings to National Guard Wings. However, the four groups of the 117th Tactical Reconnaissance Wing compiled scores during recent visits that reflect outstanding capability.

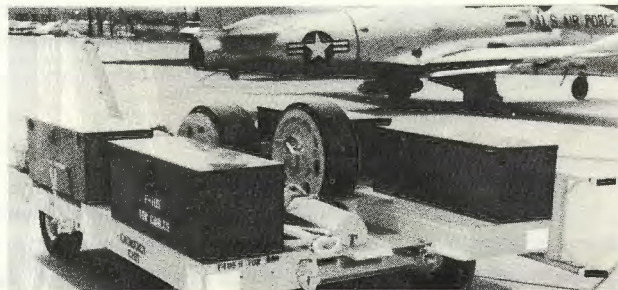
The 117th Tactical Reconnaissance Wing, with headquarters at Birmingham, Alabama, is commanded by Major General G. Reid Doster and includes the 186th Group at Montgomery, Alabama, the 188th Group at Ft Smith, Arkansas, and the 117th Group at Birmingham, Alabama.

The 117th Tactical Reconnaissance Wing was evaluated on twenty-four RF-84F flight checks, seventy-nine written examinations, and the overall administration of their stdn/eval program. There were no flight or written failures and no administrative area received less than satisfactory.

The 117th Wing applies the same aggressiveness and professional knowledge to their stdn/eval program that carried them through the 1961 Berlin deployment, the non-stop Alaska deployment, and the 1964 "Ready-Go" deployment to Europe and return.

WELL DONE, 117th!

Better Mousetrap Department



McGuire AFB has only one 10,000 foot runway and it handles a large volume of diversified air traffic including jet transports, cargo aircraft and jet fighter aircraft. When a bird blows a tire on this runway it has to be moved fast or a lot of serious problems arise.

The New Jersey ANG's 108th

Tactical Fighter Group, using a surplus trailer, has installed all the equipment for handling such an emergency including two lift-off wheels, tow bars, tow cables, hoisting slings, exit ladder for the pilot and gear safety pins. In an emergency there is no searching for equipment someone put in the

wrong place, no time lost in loading the equipment . . . it's ready to go.

So far they have only used the trailer for practice runs but they are ready to prevent an accident by opening a runway in minimum time.



After spending the morning on a bright concrete ramp, it took a few moments for the Old Sarge's eyes to adjust to the relative gloom of his temporary office. He was still standing by the door when Capt Green introduced him to Col Grimm, Chief of Maintenance for the local organization. The Colonel sat back down and mopped his rather florid brow, "Capt Green was just telling me that you've only had one gun malfunction since coming here on this TDY. You must have fantastic support."

The Old Sarge chuckled, "Fantastic support? That's the first I was aware of it, sir. I gather you've been having troubles." "As a matter of fact, we have. We can't even get a training unit on the gun to, ah, start with, and I hate to tell you what our malfunction rate is!"

"No training unit?" The Old Sarge looked puzzled. He automatically reached for the phone and dialed the operator . . . "Excuse me, sir. Operator, would you give me Langley, please?" He was in luck, a line was open and he was soon listening to a familiar voice. "Hey Charlie, who's using that Gatling Gun trainer right now . . . Yeah it is. We're out at Westpatch catching up on our gunnery and Col Grimm here was wanting it . . . sure they aren't using it? OK, I'll give 'em a call."

One phone call and two minutes later the Old Sarge turned to Col Grimm, "Well sir, there's your training unit. I suggest you send 123 after it and you can have it

in business tomorrow morning."

A slightly flustered Col turned to Capt Green . . . "I know this is rather irregular, but could I borrow your man for a moment?" He inclined his head toward the Old Sarge, "I'd like for him to run a little survey on my armament section."

Late the following morning, the Old Sarge was in Col Grimm's office, wishing he could smoke his pipe but resisting the impulse because the secretary in the outer office seemed too pretty to asphyxiate. He outlined some of the things he'd found. "Sir, the primary problem is this . . . as you know, gun inspections are based on rounds fired. I found your records indicated one gun had fired about 3000 rounds, the rest were 'way below that. I don't need to tell you that this doesn't compare too well with the number of rounds issued." He watched the Colonel's expression turn grim.

"Go on, let me have it."

"Well sir, your guns are just not being maintained. I suggest you have them equipped with a burst limiter set at around 150 rounds to eliminate burned out barrels. I'd use round counters and get your people to straighten up their records keeping. Then I'd take every gun in your fleet and tear it down and check every part and replace those that are worn beyond tolerance. This will get things started right. I'd supplement the normal inspection criteria with a seven day inspection on the aircraft. Then I'd use

the black box concept to handle normal inspections and malfunctions."

"What do you mean, 'black box concept'?"

"Keep a complete gun system on a trailer, protect it with a dust proof cover and when a gun comes up for inspection, or has a malfunction that can't be corrected with a minor adjustment, I'd pull out the complete system and replace it with the spare. Then I'd take the gun I'd pulled out to the armament shop and completely dismantle it, check every part for wear, replace the parts that are beyond tolerance and rebuild the gun."

The Colonel nodded his head, "Sort of a gun IRAN program."

"That's right, sir."

Some time later, well after their TDY, the Old Sarge got a call from Charlie up at TAC. "Hey, when you were out at Westpatch you didn't take time out to overhaul their Gatling gun operation, did you?"



"What makes you think that?"

"Well, their malfunction rate has dropped 'way down and they've just about quit having explosive mishaps, and, I rather detected your touch of genius . . ."

"Touch of genius?" The Old Sarge snorted, "The only touch of genius I know of is just plain hard work."

Ground Safety



on guard

To the casual observer it looked like any normal flight line scene... two airmen working on a maintenance stand with a third doing odd chores from below. To the trained eye it looked a bit different. Someone had removed the guard rails from the stand and the lad on the ground was limping around with a cast on one leg. On impulse I asked him how he hurt his leg.

"Oh, I fell off a maintenance stand," was his cheerful reply. I didn't bother to ask if the stand had been equipped with guard rails designed to prevent such accidents because, in my old age, I've become a realist and know that quite often the guard rails serve only as a quick way to reach a higher, less secure working level. Check the picture! The experts tell me that we humans have risen above the other animals because we are able to reason, record and learn from experience. It has been well recorded from bitter experience that the only safe way to work at the higher levels around aircraft is from the PLATFORM of an adequate stand, properly braked, that has guard rails installed... now let's use a little reason and avoid those short, unscheduled flights without wings.

hazards of the game

A headquarters type, not from TAC, lost control of his golf cart while descending a steeply graded paved driveway at the local course. He tried to bail out when he saw his wheels headed for a concrete abutment, but the cart managed to roll over on him, breaking one of his legs.

driving tips

Here are a few driving tips from the pros...

- * Continually look for trouble. Expect people to drive out in front of you from parking places, side streets and driveways. Yes, and expect pedestrians to step out in front of you too.

- * Adjust your driving according to conditions... traffic volume, road surface, visibility. Slow down in bad traffic or bad weather. Remember, posted speed limits are for ideal conditions, dry pavement, moderate traffic.

- * Know what your car can do... don't try to pass if you think it will be close, always allow a margin for error.

- * Never but NEVER pass in a no passing zone, or go past a stopped school bus. Don't take chances on hills or curves that hide oncoming traffic.

- * Let other drivers know what you intend to do. Signal for turns, when you change lanes, and when you pass. Avoid surprises. On multi-lane roads, the right lanes are usually for slower traffic... use them. If another driver creeps up behind you and makes a slow pass... don't let him hang there, ease up and let him get on by. Conversely, don't drive in another driver's blind spot, too far back to see and too far forward to show in either rear view mirror.

- * Don't drive when you're tired, sick, or tight. Never drive more than ten hours in a 24 hour period. Stay-awake pills can actually put you to sleep with your eyes open!

- * At uncontrolled intersections, always yield to the driver on the right. Let oncoming traffic clear when making a left turn and never trust others to give you your right-of-way even tho the law is on your side.

- * Don't tailgate... make sure you have enough room to react should the other driver make a sudden panic stop. Keep at least one car length for each 10 mph.

- * Keep your machine in good operating condition and obey traffic regs, and signs and you survive.

TAC TIPS

TAC Tips

LIGHTNING STRIKES

Despite radar and other aids, a few pilots stumble into thunderstorms each year...most will escape with little more than a rough ride. Others will encounter heavy rain, hail, lightning, or all three - and find themselves flying a damaged aircraft. If you are fortunate enough to join the latter group and your aircraft is struck by lightning, be sure to cross check your compass against the VOR or TACAN course selector bar. The strike can magnetize parts of your bird and throw all mag compass systems 'way out of kilter. Remember this, react accordingly, and don't compound your problems by trusting a confused compass.

Along this line...always do your best to avoid thunderstorms. Lightning is believed to have ignited fuel vapor in an aircraft last year, causing an explosion and complete destruction.

ATTENTION FSOs

Safety bulletin boards have been around for a long time. Unfortunately, so has most of the material found pinned to them. Some of this outdated information has value as historical reference but most gets the same glassy-eyed stare as the ops officer when he asks someone to volunteer for AO.

Bulletin boards can be a fairly effective way to get short, simple safety info to a large percentage of your people...provided the boards are well laid out and current. Are you using your bulletin board like it should, or does it still have the spin recovery procedures for the SPAD?

APPROACH END ENGAGEMENT

A TAC F-4 pilot extended the landing gear and put the flap handle down, but got a barber pole on the flaps. He checked the utility pressure and found it less than 1000 psi. He left the gear down and brought the bird around for a closed pattern, extending half flaps on downwind using the emergency procedures.

He terminated the flight with an intentional approach end barrier engagement. He touched down on the overrun about 400 feet short of the BAK-9, at normal touchdown speed. The engagement was completely successful with no damage to aircraft or barrier.

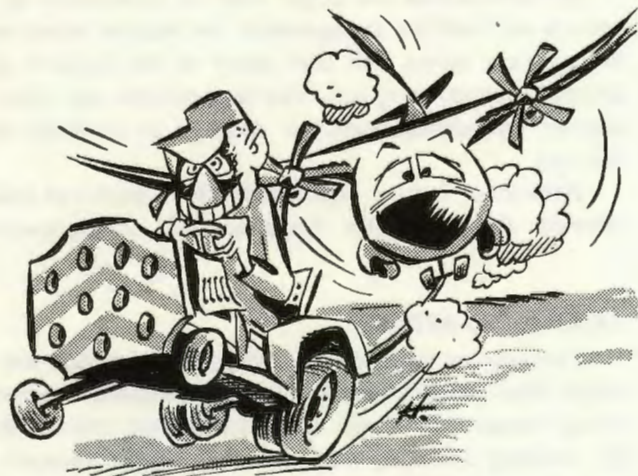
Hydraulic failure was caused by a ruptured line between the hydraulic pump and air compressor.

AROUND AND AROUND

Two troops were tooling along in a two engine machine when the left engine oil pressure needle started going 'round and 'round. It finally settled down at 60 psi, so they promptly shut down the engine. Immediate reaction from the fighter side of this office was relief...like, sure glad these guys weren't in a single engine airplane. Admittedly, 60 psi is beyond the recommended max, but when it's preceded by the needle rotating, there's little doubt that the trouble lies in the indicating system, not the oil system (it was a defective pressure transmitter). Even if these guys had to fill single engine landing squares, we heartily recommend leaving the offending power plant at idle in a case like this...never can tell when you may need it...all of a sudden!

EXPERIENCE - BEFORE AND AFTER

An F-101 lad - not TAC - found himself falling behind the formation at FL 370 and accelerated to regain position. As he closed on the lead, he reduced power and started a climbing turn to keep from over-running. When he was about 1000 feet above the other aircraft, he felt the Voodoo shudder and the pusher engaged. He placed the stick against the attitude indicator, but the nose continued to rise and the bird started a slow roll to the right... we haven't seen a pitch-up story in the mail for some time, but this one is a classic. High altitude, heavy weight, IAS decreasing toward 200 in a climbing turn, and away-we-go! For all his thirty-one hours in the big bird, this troop had learned his lessons well. He got the drag bag out at the peak of the pitch, left the bird to its own devices until it was headed downhill passing 350 knots, and smartly recovered to straight and level at FL 240. There are indications that the pitch warning horn was operating intermittently and failed to give him the signal that could have warned him before he was committed to the wild ride. However, the two supervised high-altitude, heavy-weight flights that the unit saw fit to give him AFTER the pitch-up, might have kept him out of trouble... if he had flown them BEFORE leaping off on a long deployment flight.



PILOT ERROR?

From a non-TAC mishap... The pilot was being directed back to the line and had to pass very close to a hangar to miss another parked aircraft. Clearance seemed a bit too critical and the pilot stopped the bird and shut down the engines even tho the line-man was still giving him a come-ahead signal. No one said a word. The linecrew got a tug and tow bar, hooked up the bird and proceeded to tow it to the line. Sure enough, the wing tip crunched the hangar.

EYES HAVE IT

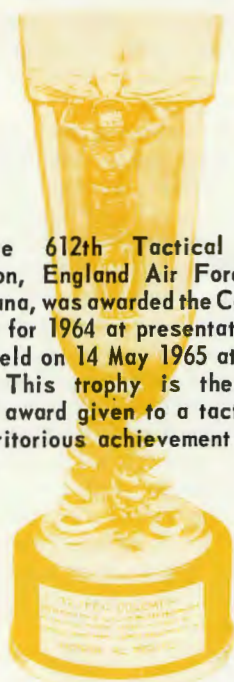
Recently, the visor on a fighter type's helmet credited with saving at least some blood and pos an eye. The troop in the front seat of an F-100F had partially engaged the drogue when it slipped off and struck the canopy just behind the front seat. The forward half of the canopy shattered and pieces splattered thru the cockpit, striking the visor and helmet of the back seat pilot. The visor absorbed the blows and fended off the pieces; however, their impact was hard enough to break the visor.

Without even considering the possibility of a high speed ejection, enough canopies are broken by birds, drogues, darts, and ricochets to warrant flying with your visor down whenever possible. Granted, sunglasses will cut down on glare, and are easier to keep clean, but they may only add to the hazard if something shatters the windscreen or the canopy. The newer helmets with built in visor covers have eliminated a lot of the bogies you used to get with the unprotected type. And a little care combined with some help from PE will keep your visor clean and operating smoothly. Remember to use it and you'll never have to sit on the ground while the Doc picks pieces of plexiglass out of your face.

LEFT PHLANK

The Phantom broke hard left and headed for the boonies when the pilot engaged nose wheel steering at 65 knots on landing roll. He disengaged steering, paddled off the anti-skid and used hard right rudder and brake, but the big bird continued to turn left, going 180 degrees before it stopped about 300 feet off the runway. Tires had to be changed, but the gear was undamaged. Investigators found a defective potentiometer that was allowing random signals to cause the hard-over steering. A fix, ECP 532, is on the way, but until we are able to forecast random failures it doesn't look too smart to give this kind of malfunction a chance to occur. Sure, the dash one says "directional control can be maintained with... nose wheel steering in the high speed region of the roll." It doesn't elaborate on the wild ride that follows a malfunction! The crew training folks at Davis-Monthan have experienced a long string of nose wheel steering troubles and now recommend that you use it only for taxi and the initial phase of takeoff roll. Their local directive says that nose wheel steering will not be engaged in the landing roll except as an emergency measure... it will be engaged at a slow taxi speed to turn off the run

The 612th Tactical Fighter Squadron, England Air Force Base, Louisiana, was awarded the Colombian Trophy for 1964 at presentation ceremony held on 14 May 1965 at England AFB. This trophy is the highest annual award given to a tactical unit for meritorious achievement in flight safety.



Marino Caicedo, Consul General at New Orleans, representing the Republic of Colombia, presents Lt Colonel Packard Larson, 612th Tactical Fighter Squadron Commander, with the coveted Colombian Trophy.



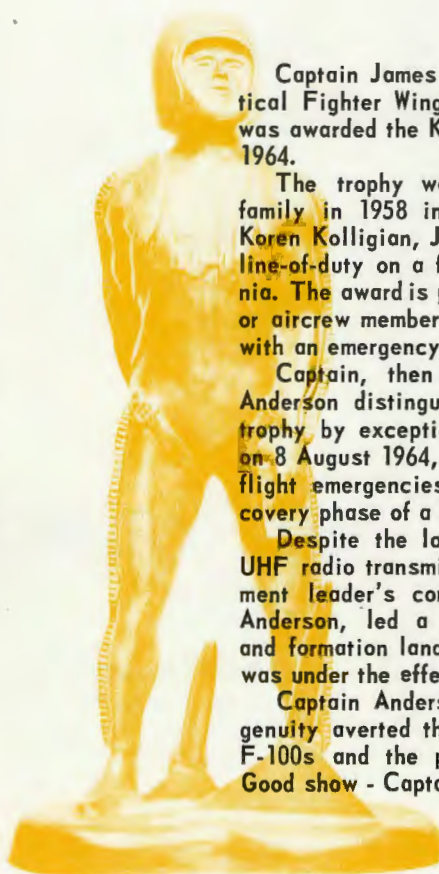
Captain James W. Anderson of the 27th Tactical Fighter Wing, Cannon AFB, New Mexico, was awarded the Koren Kolligian, Jr., Trophy for 1964.

The trophy was donated by the Kolligian family in 1958 in memory of First Lieutenant Koren Kolligian, Jr., USAF, who was missing in line-of-duty on a flight off the coast of California. The award is presented annually to the pilot or aircrew member who most successfully coped with an emergency during flight.

Captain, then First Lieutenant, James W. Anderson distinguished himself and earned the trophy by exceptionally outstanding airmanship on 8 August 1964, while handling a series of in-flight emergencies that occurred during the recovery phase of a long overseas deployment.

Despite the loss of TACAN, ADF, and the UHF radio transmitter in his F-100 and his element leader's complete radio failure, Captain Anderson, led a successful weather approach and formation landing at their destination which was under the effects of a typhoon.

Captain Anderson's alertness, skill, and ingenuity averted the probable destruction of two F-100s and the possible loss of their crews. Good show - Captain Anderson.



PILOT OF *Distinction*



Captain James E. Johnson of the 4510th Combat Crew Training Wing, Luke Air Force Base, Arizona, has been selected as a Tactical Air Command Pilot of Distinction.

After recovering from a VLADD maneuver, Captain Johnson, a recent basic flying school graduate with only 29 hours of F-100 time, was unable to bring the throttle of his F-100D in-board out of afterburner or retard the throttle below minimum afterburner range. He immediately turned toward the nearest emergency field 30 miles away, and notified his instructor of the throttle malfunction. Captain Johnson had 4300 pounds total and 1400 pounds forward tank fuel when he left the range, and realized this would not last long in afterburner. As he approached the emergency field, he extended the speed brakes and zoomed the aircraft to slow it to gear down airspeed. Captain Johnson flew a modified precautionary landing pattern using speed brakes to control his airspeed. He shut off fuel to the engine with the engine master switch over the runway overrun and made a good touchdown in the first 1000 feet of the 8500 foot emergency runway. Although the engine was unusually slow to decelerate, Captain Johnson stopped his aircraft without incident.

Captain Johnson's airmanship, calm application of procedures, and ability to adapt to an unusual situation, despite his very limited experience in the F-100, readily qualify him as a Tactical Air Command Pilot of Distinction.

MAINTENANCE MAN of the MONTH

Technical Sergeant Merton M. Silk, 4514th A & E Maintenance Squadron, Luke Air Force Base, Arizona, has been selected as a Tactical Air Command Maintenance Man of the Month.



CREW CHIEF of the MONTH

Crew Chief of the Month

Staff Sergeant Clarence T. Nishiyama, 27th Tactical Fighter Wing, Cannon Air Force Base, New Mexico, has been selected as a Tactical Air Command Crew Chief of the Month.

TAC TALLY

A COMPARISON OF TACTICAL AIR COMMAND ORGANIZATIONS

MAJOR ACDNT RATE

TYPE	1965*	1964
TAC	9.8	10.5
A-1	20.3	10.7
F-4	11.9	4.9
F-84	5.1	16.1
F-86	67.3	13.4
F-100	15.0	17.8
F-101	0	20.1
F-104	25.8	12.1
F-105	23.8	26.7
B-26	0	76.0
B-57	0	0
T-29/C-131	0	0
T-33	0	0
T-39	0	0
C-47	0	0
C-54	0	0
C-97	0	15.3
C-119	0	1.9
C-123	7.8	5.6
C-130	2.0	1.2
U-3	0	0
U-10	0	17.2
O-1	0	0

*1 JAN - 31 MAY 1965

ACCIDENT FREE MAJOR & MINOR

JET			
ACTIVE	MONTHS		ANG
4485TW	14	15	108TFW
363TRW	12	5	127TRW
CONVENTIONAL			
ACTIVE			RESERVE
4500ABW	47	102	434TCW
4442CCTG	30	63	435TCW

MAY TALLY

UNIT	MAJOR	MINOR
8TFW	1	
23TFW	1	
4453CCTW	1	
4510CCTW	1	
TARC	1	
31TFW	1	
479TFW		1
27TFW	1	
12TFW	1	
463TCW	1	
123TRW	1	
117TRW	1	
140TFW	1	
122TFW	1	
446TCW		1

May was another bad month with 13 major aircraft accidents, two minor, and seven aircrew fatalities. That's right . . . the same horrible tally as last month. We have majored 26 aircraft, minored four others and lost 14 persons in just 61 days.

An F-84F pilot dropped out of the diamond slot during a fly-by. Three told him to pull up. Just before he crashed, the slot pilot said it wouldn't come up. The pilot of an RF-84F pulled up steeply from about 1000 feet AGL, did a roll and a half, entered a spin at 6000 feet and ejected.

An F-100C pilot landed with a 70 degree cross wind of 22 knots gusting to 28. His bird veered left, he corrected, it veered left again, the drag chute wouldn't jettison, and the aircraft left the runway 4000 feet from touchdown. The nose gear folded, causing major damage.

When an F-100D pilot came out of afterburner after takeoff, the overheat warning light and flight control failure light came on. He ejected after the number two flight control system lost pressure and fire was observed forward of the slab. A flight of two F-100Ds ran into deteriorated weather as they recovered at their homeplate. After a GCA and missed approach, they diverted to an alternate. The wingman made it, but lead flamed out 15 miles short and ejected.

A flight leader was killed on a rocket pass when he let his F-104G hit the ground during pullout.

After completing two VFR formation GCAs the lead F-4C landed. The wingman requested an additional GCA and full stop landing. GCA was unable to handle him and cleared him to tower for landing. He made no further radio calls and the aircraft crashed in water about two minutes later. During an air-to-air intercept mission, another F-4C pilot engaged the auto pilot and the bird nosed down and entered a spin. The RIO ejected safely at 16,000 feet . . . the pilot remained with the aircraft. A flight of four F-4Cs were flying a non-ordnance, close air support mission when the flight leader tightened a turn to gain better position. During this turn, the number two man was observed to crash in a nose low wing level attitude. About 900 feet after touchdown, an RF-4C began to skid to the left side of the runway. Approaching the edge, the pilot engaged nose wheel steering and momentarily corrected the skid. However, the skid started again, the pilot released the nose wheel steering and the bird left the runway collapsing the right gear, causing major damage.

The crew of an F-105F landed short, collapsed the gear, and went around. They ejected successfully, but the aircraft remained airborne for some time before it crashed.

Taxiing to the runup area after an aborted takeoff, a C-130B pilot was advised his brakes were cherry red. He immediately stopped and shut down, but the left brake burst into flames causing major damage to wheel well and fuselage.

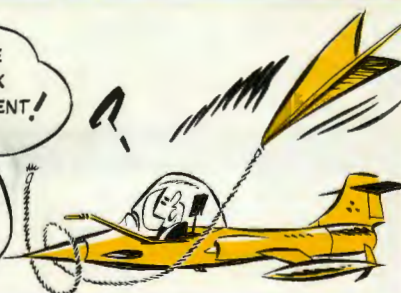
A pilot picked up the gear too soon on takeoff and his RB-57 settled back to the runway, slid off the end and broke in half. Both crewmembers escaped injury.



Weapons Delivery is one of the most personally challenging phases in TAC's mission



HOWEVER, SOMETIMES THE DESIRE TO EXCEL ENDS UP AT SIX O'CLOCK TO GOOD JUDGMENT! BECAUSE THERE ARE VERY FEW PERFECT PASSES YOU ARE ALWAYS MAKING CORRECTIONS TO HIT THE BULL!



"EVERY FIGHTER PILOT KNOWS HE'S THE BEST, AND IF HE'S WORTH HIS WAMPUM, HE WILL TRY TO PROVE IT ON EVERY PASS, IN EVERY WEAPONS EVENT. BUT YOU CAN'T ALWAYS GET AWAY WITH PRESSING TOO CLOSE TO COMPENSATE FOR AN EARLIER ERROR."

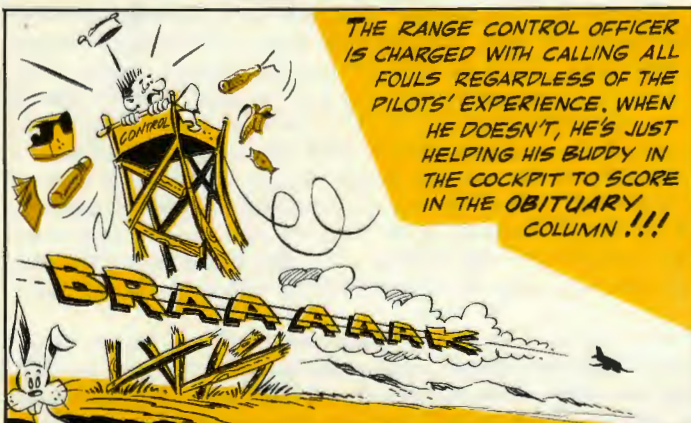


"...OR GET OUT OF AN UNNECESSARILY DANGEROUS ATTITUDE TRYING TO SALVAGE A BAD RUN."

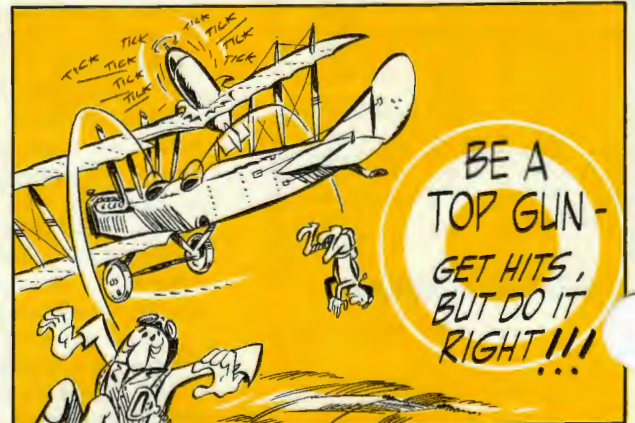


"AND EVEN THO YOUR SCORES ARE THE PROOF OF THE PUDDING, DON'T TRY WATCHING YOUR ORDNANCE HIT, --- YOU JUST CAN'T WISH THEM IN. BESIDES, YOU HAVE OTHER THINGS TO DO, AND LATE PULLOUTS CAN BE DISASTEROUS!!!"

FOR EVERY PILOT WHO HAS MISJUDGED A PULLOUT AND BASHED, THERE ARE MANY WHO HAVE MISJUDGED AND ALMOST BASHED!!!



THE RANGE CONTROL OFFICER IS CHARGED WITH CALLING ALL FOULS REGARDLESS OF THE PILOTS' EXPERIENCE. WHEN HE DOESN'T, HE'S JUST HELPING HIS BUDDY IN THE COCKPIT TO SCORE IN THE OBITUARY COLUMN!!!



BE A TOP GUN - GET HITS, BUT DO IT RIGHT!!!