

TAC ATTACK

TAC Attack

April 1974

APRIL 1974



Tomkowski

A FAILURE TO
COMMUNICATE....Pg 4

for efficient tactical air power

TAC ATTACK

APRIL 1974

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COMMANDER
GENERAL ROBERT J. DIXON

VICE COMMANDER
LT GEN DALE S. SWEAT

Published by the Chief of Safety
COLONEL E. HILLDING



editor
Maj Joe Tillman
assistant editor
Capt Jim Young
art editor
Stan Hardison
editorial assistant
Rebecca Clarke
layout production
TSgt John Tomkowski

COVER ART
by TSGT John Tomkowski



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

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Angle of ATTACK

SUPERVISOR'S MINI-QUIZ

The findings of several recent accidents point the finger at the supervisor. The word "supervise" covers a lot of territory. Among Webster's several definitions is this one: "to oversee with the powers of direction and decision the implementation of *one's own* or another's intentions..." The italics are mine, but the meaning is clear. If supervisors don't apply good judgment or make the correct decisions, they are guilty of supervisory negligence.

This mini-quiz might prompt you to re-examine your supervisory programs:

- Is your cadre of instructor aircrew members comprised of the best people you have available? How thorough is your instructor-upgrade program?

- Are weak aircrew students receiving additional training with your best instructors? Do their lesson plans receive special emphasis?

- Are your SOF and RSU (mobile) personnel qualified? (I don't mean minimum time requirements, but can they do the job?) Do they understand all their responsibilities?

- Do your aircrews brief what they fly and fly what they brief? Do you or one of your supervisors

monitor aircrew briefings and debriefings?

- Have you visited your maintenance shops lately? Do you ask questions? Is the word getting down to the troops?

- When was the last time you observed "short cuts" being taken without taking on-the-spot corrective action and notifying the supervisor in charge?

The weapons systems and flying environment we live with are near absolutes. The supervisor has very little control over the limitations of the aircraft, the radar environment, or weather phenomena. But the human factor — here's where you can, and must, make the difference. You can insure that all aircrews are familiar with their responsibilities while flying under radar control. You can make sure your aircrews understand how to avoid thunderstorms. Supervisory errors are the result of human factors; therefore, human factor accidents can be prevented. This is where your efforts can pay off. ➔

E. Hillding
E. HILLDING, Colonel, USAF
Chief of Safety

A FAILURE TO COMMUNICATE

The F-111 came down final on a nearly normal glideslope, hotter than necessary, and touched down about a thousand feet down the runway. Moments later, the nose raised and the tail bumper struck the runway. The aircraft lifted off and travelled about 1000 feet before it contacted the runway again. "Contacted" may not be the right word, for the impact blew both tires, the bumper struck the runway and the entire right main gear assembly departed the aircraft. Airborne again — this time for a distance of about 800 feet — and then the F-111 really started shedding parts. It skidded about another 6000 feet, leaving behind the left main gear, left wing tip and many smaller pieces. It finally stopped near the departure end, and fire erupted in the wheelwell area. The crew egressed safely and the fire department extinguished the flames. So there you have it, the profile of an accident, right? Wrong.





Accidents just don't happen that way — the accident profile started much earlier in the flight. As is often the case, the accident itself is only the end result of a chain of events — a chain that started with a minor problem and ended as a major accident.

EDSEL 42, the ill-fated aircraft, was leading a two-ship training mission that included low-level navigation, bomb deliveries, and formation recovery. Except for some minor delays, there were no problems until EDSEL 42 initiated gear and slats lowering during the recovery. The gear extended normally. The slats also extended, but the flaps extended only about three degrees. A recycle was attempted with no luck. Number two checked lead over and confirmed

"no flaps." A low approach was made and EDSEL 42 declared an emergency. An emergency flap extension was attempted but still no luck. During this time, some confusion arose as to what configuration the landing data should be based upon — the pilot was pretty sure, but not certain, that he had full slats. He also knew some flap travel had taken place (confirmed by the wingman) but he was not certain how much. Some of this confusion arose because of confusing and segmented dash-one procedures. It was difficult for the crew to determine which emergency procedure to use:

- a. No flap
- b. No (or partial) slats with partial flaps, or

c. Partial flaps

This confusion probably resulted in the pilot using a higher airspeed than was normal for his landing configuration. In addition, he used a 16° wing sweep position to decrease both the angle of attack and final airspeed. This angle of sweep placed the aircraft in an aft-center-of-gravity condition for the aircraft's gross weight and landing configuration.

To add to the aircrew's confusion, the supervisor of flying, because he did not have a radio available for direct communication with EDSEL 42, was attempting to assist by relaying information through approach control. Because of this lack of communication, the SOF was unaware of the aircraft's actual configuration and

A FAILURE TO COMMUNICATE

was unable to provide timely and accurate emergency assistance.

So now we're back to the final link in the chain of events — the landing. The touchdown appeared normal but with the extra 30 knots and CG condition, the ballooning effect was inevitable — and you know the rest.

Some recommendations were made as a result of this accident:

The first was to improve the present slat/flap design to reduce malfunctions. This, of course, is what started the whole ball rolling.

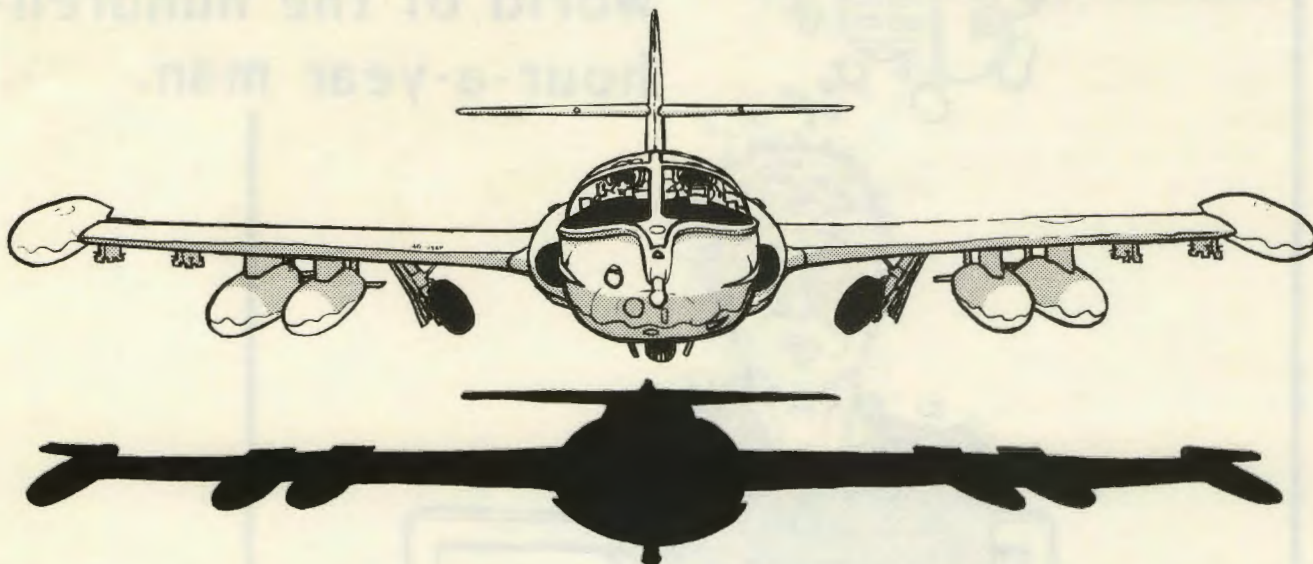


Second, clean up and consolidate slat/flap emergency procedures. If possible, charts and descriptions should be applicable for any possible landing configuration. Inaccurate and conflicting tech data caused cockpit confusion — the high landing airspeed and aft CG condition was the result...another link in the tragic chain.

Finally, the SOF was unable to communicate directly with the emergency aircraft. This is where the chain could have been broken and the course of events reversed. We must insure the aircrew in trouble is given every bit of help available. Failure to communicate, both in writing (tech data) and verbally (SOF) is the real culprit in this avoidable accident. It's up to us now — let's start communicating. ➤

TACTICAL AIR COMMAND

AIRCREWMAN of DISTINCTION



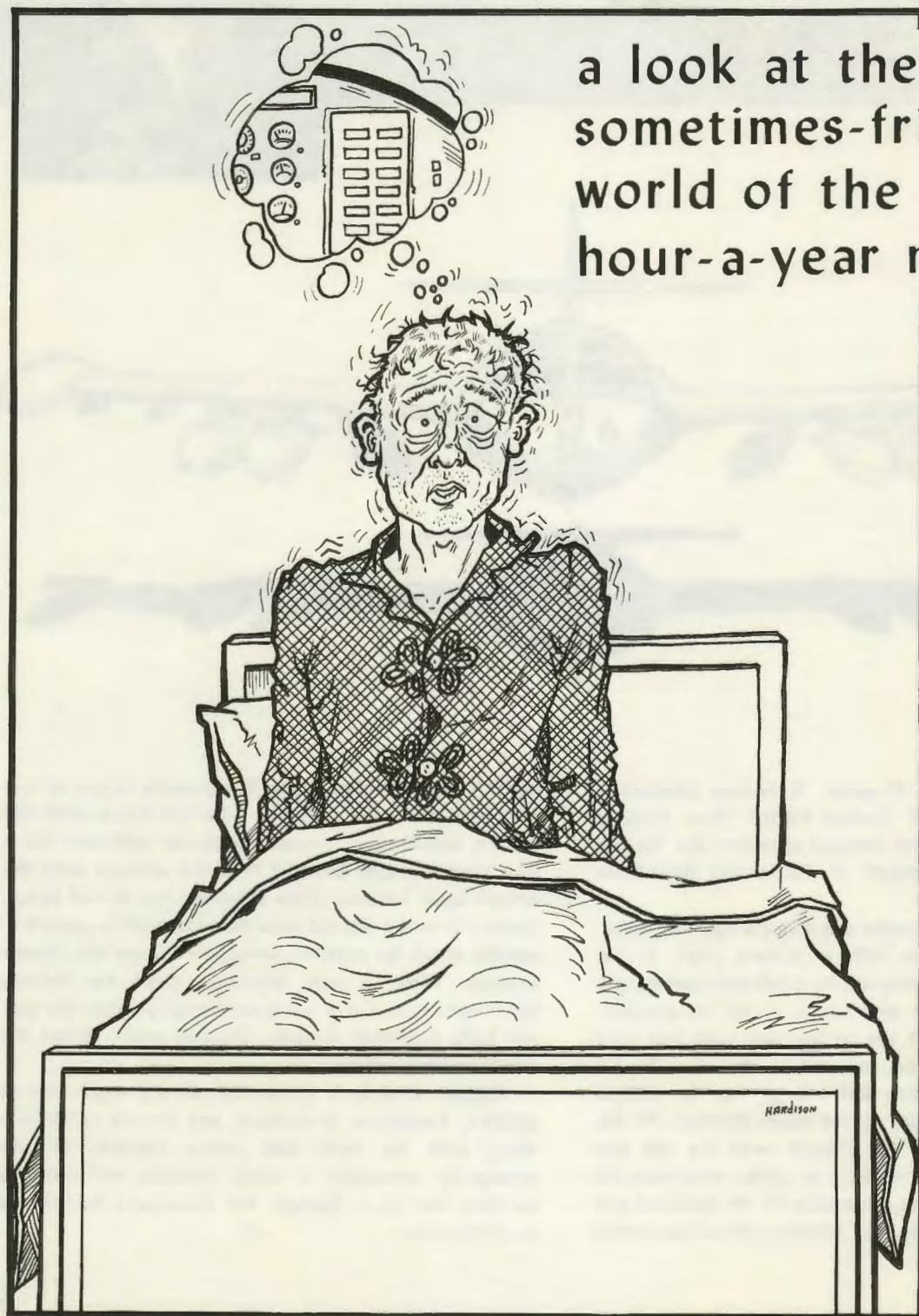
Captain James R. Crowder, 6 Special Operations Training Squadron, 23 Tactical Fighter Wing, England AFB, Louisiana, has been selected to receive the Tactical Air Command Aircrewman of Distinction Award for February 1974.

Recently Captain Crowder was flying a routine transition training mission with a student pilot in the A-37. While on the landing roll for a full stop landing, the student pilot raised the gear handle to the up position. Captain Crowder noted the landing gear unlocked light illuminated and assumed control of the aircraft. He quickly added full power and insured that the student replaced the gear handle to the down position. At the same time, he rotated the aircraft until the tail was dragging on the runway in order to obtain maximum lift and keep as much weight as possible off the unlocked and folding landing gear. Captain Crowder realized that in this

attitude and with the aircraft being nearly empty of fuel that even if the gear began to raise, the thrust produced by the accelerating engines should be sufficient for a go-around. Captain Crowder held this attitude until the aircraft again became safely airborne. Due to fuel status, Captain Crowder did not have time for another aircraft to visually check for possible damage or to have the runway foamed. After a low approach over the Runway Supervisory Unit for a visual confirmation that the gear was fully extended, Captain Crowder safely landed the aircraft with no damage.

Captain Crowder's knowledge of the A-37 aircraft systems, emergency procedures, and aircraft capabilities along with his swift and precise handling of this emergency prevented a major accident and certainly qualifies him as a Tactical Air Command Aircrewman of Distinction.

CAT D or LOW-TIME TIGER



a look at the
sometimes-frightening
world of the hundred-
hour-a-year man.

It's tough to wake up from a nightmare. I felt like I was pulling about 8 Gs and it took all my effort just to raise my head and force myself back to reality. . . . when I finally did, I turned on the light and looked at my watch — 0200. Damn, I've got a five o'clock get-up and here I am in the middle of the night recalling a ridiculous nightmare . . .

I was in a cockpit, airborne, night mission and a warning light was glaring in my eyes. The only problem was I didn't recognize the warning light. In fact, I didn't recognize the cockpit. I couldn't identify a single switch or gage — and I was alone! That, my friends, is a nightmare.

I got up for a drink of water (my mouth was pretty dry) and wondered, what would prompt such a dream? The cantaloupe stuffed with chili I had for supper had something to do with it — but why was the dream about a strange aircraft? That, too, was easily explainable. I've got about 4000 hours of flying time. Most of that I got in increments of about 50 hours a month. Recently, I got this job at Headquarters TAC and suddenly I had to change from my old, familiar aircraft to a new one — and from 50 hours a month to about 10. Once I sorted out the causes of the nightmare, I was comfortable enough to hit the rack for another few hours of zzz's. My flight the next morning went off without a hitch.

There are a lot of people like me in TAC. Rated supplements, staff assignments, and fuel shortages have made low-time tigers out of many of us. In the Reserve Forces, this lack of monthly flying time is an inherent problem — magnified recently when all fuel allotments were cut back and the fleet did not fly for about three weeks.

So what do I do when my proficiency suffers? How do I keep abreast of the aircraft? How can I maximize my proficiency with a minimum of flying time? These are questions I asked myself and hope some of the answers might help you.

Prepare for the Flight

When you only fly a couple of times a month, you need to prepare for the flight a little more thoroughly — preferably the evening before. It goes without saying you must hit the Dash One pretty hard — especially emergency procedures and limitations. But how about a quick run-through of expanded normal procedures? What was that time limitation on engine start? How about the temperature limits? What was that airspeed for min-run landing? Short final is no place to try to recall what the book says about hydroplaning.

O. K., you've spent enough time on that big, fat sleeping pill (it's better than Sominex), but how about your other pubs? Just what were those latest changes to

60-16? How about the 51 and 55 series — can I practice touch-and-go's? Stop-and-go's? No-flap landings?

What are my category minimums? Check TAC Sup 1 to 60-16. Remember that commanders can place you in a more restrictive category but can't lower the weather minimums without HQ TAC approval. Can I make a low approach VFR below my category minimums?

Then there's local procedures . . . local traffic pattern altitudes . . . local RCR limits . . . , I can't even remember the command post freq

So there you sit, missing the Waltons; with unpaid bills, unwritten letters, and untaken-out garbage postponed until tomorrow . . . but hold it! I forgot about my nose-hose. It's been two weeks since I last flew. Better get in a few minutes early and get my mask checked. Oops, flashlight doesn't work — gotta hit the BX and pick up a couple of batteries. Better leave about 30 minutes early.

I guess the best way to plan for a mission the day before is to go over the mission step by step in your mind. Instrument practice? Better hit AFM 51-37. Out and back? Let's see, on the return leg do you file airspeed or altitude first? Takeoff data? Better take a quick peek at the performance section — never can remember how to find that best single-engine climb. Hauling passengers? Review the pax briefing checklist. The best way to prepare for the flight is do all you can in advance so you can concentrate on what your aerospace machine is doing once you've broken the surly bonds.

Flight Planning

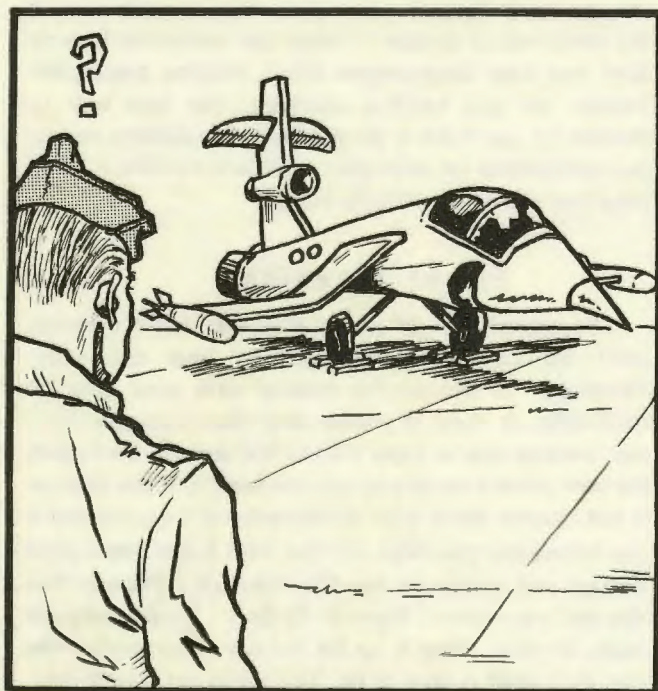
The importance of good, thorough flight planning can't be overemphasized. Get to base ops early. Remember to look at the weather with your personal minimums in mind if you're other than Category "A". Just because you've made a lot of 100 and 1/4 landings in the past doesn't mean you can still hack it. If the weather is just barely above your minimums and the crosswind is just below the max limit and the RCR is just barely good enough and you're on the 13th hour of a 16-hour crew day and you haven't flown in 40 days . . . put your pride aside, brother. Hang it up for the day. Your proficiency just ain't what it used to be. You might get it back later, but for now put a lid on your ego and abide by your personal limits. It just might save your skin.

Take an extra few minutes to thoroughly review the FCIF — after all you don't get a chance to look at it every day. Take a look at your planned arrival base in the En Route Supplement — their facilities may have changed. Check notams, of course. A well filled out Form 70. An accurate flight plan. Recheck the form "F" — check both the weight and C/G limitations for your bird. Flight

low-time tiger

orders O. K.? Check the numbers — the clerk probably doesn't know you personally now — besides, who says there might not be a pilot by the name of Maj Yxdumz? Call and make sure there are no last minute changes, file the plan and a quick dash to the snack bar to extinguish your low-grease warning light — you're on your way.

Walking out to your aerospace machine you realize, as a low-time tiger, that you're immediately at a disadvantage. You don't know a thing about this particular bird. In the "old days" you might say to yourself, "Ah, old 294 — it'll probably need about five degrees right rudder trim . . . imagine I might have a few electrical problems too"; or "good, I got Smitties" — it's always in good shape . . ." But now you're on your own. The chief is a stranger to you — but rest assured you'll know more about him by the time you get back.



Preflight

Preflight check — better use the checklist for the walk-around — even though my IP didn't. "Hey chief, it looks like a hydraulic leak on that right main door."

"No sweat, sir, it's been like that for weeks — we can't seem to fix it. Everybody else ignores it."

Hmm. Do I play weenie and delay the takeoff or take it as it is, like "everybody else." Just call me Oscar Meyer.

In my old airplane I knew what was critical and what wasn't, but not anymore. A low-time tiger has a tendency to be easily convinced by people who seem to know more than he does — a dangerous tendency.



Strapping In

All fixed? Good. Forms signed off? O. K. A good, thorough look through the forms. "Gear lock cycles three or four times on retraction." All right, at least I won't panic when it happens. Strap in. Checklist. Oh, I see — my response should be "locked" instead of "set"? Good. Keep reminding me, co-pilot. I'll get it right eventually. If we rush, we still might make an on-time takeoff? Forget it. I'd rather buy a late takeoff than find it takes an inordinate amount of power to taxi because the gear is up.

Crew Briefing

This is where you can really make money. Brief abort, emergency, and departure procedures so thoroughly that there is no doubt in your mind (or anyone else's) what to do during this critical phase of flight. It's just as important to have your pubs ready. There's nothing more aggravating than to get a last minute clearance change to a fix you can't find — 'cause you didn't have the low altitude chart handy. By the way, if your Morse Code is a little weak, you'll also find the dots and dashes printed out by the stations on your low altitude chart. How about landing data? Downwind for an emergency landing is no time to be spinning a wheel for approach speeds. Get your stuff in order.

Takeoff, Climb and Cruise

And away we go. Sixty knots and all's well. Rotation . . . Liftoff . . . Gear-up . . . WHAT'S THAT NOISE? Oh, yeah, uplocks cycling. It's stopped now. And

I said I wouldn't be surprised.

What's that climb schedule? That's right, co-pilot, 240 KIAS 'til .64 mach — how did I ever miss that in Section II? Level off. What speed do I need to get 380 true, co-pilot? Gee, I don't know, let's see, put the pressure altitude over the temperature . . . no, that's not it . . . hell, let's try about 250 indicated. I should review those computer problems — better add that to my list.

Co-pilot, you take it while I review the letdown plate. Hmm . . . will we be landing two-one or zero-three? Our weather sheet gives us a direct cross. Better call metro. O.K., it looks like zero-three. Hmm, how do we get from our last fix to the IAF? TACAN point-to-point? YGBSM! Let's see, you take your pencil . . .

Like the crew briefing before takeoff, a good thorough approach briefing prior to descent can save you a lot of grief. Since your crosscheck may not be as fast as it once was, use any help you've got. If you're lucky (?) enough to have a co-pilot or GIB, have him call out passing altitudes and one hundred feet above assigned altitudes and MDAs/DHs. Brief time to missed approach, missed approach procedures, and high terrain in the area. To save confusion, make sure someone is monitoring the station identifier. If there are more than one of you in the cockpit, a warning about unnecessary chatter during the approach might prevent missed radio calls. To really hack the co-pilot off, after you've given him all these tasks, tell

him to keep his head out of the cockpit in VFR conditions — a mid-air can spoil your whole day.

Termination

Inflight decisions are numerous and critical — that's what flying is all about. The low-time tiger opts to side of safety. There are no MIGs to splash, no essential supplies to be delivered and no critical pictures to be taken. Keep cool. Play it safe. Holy jumping ****! What's that warning light? Uh-oh — looks like we're gonna have trouble with the number one engine. Let's shut it down. Use the checklist, co-driver — let's not miss anything . . . All done? Good. Declare an emergency. Let's take a peek in the Dash One to make sure we've taken care of everything. You say we can crank it up later if the situation dictates? That's good to know. How about safe single speed? Ah, here it is on the TOLD card. Call command post and let them know our problem. You already have? It's nice to have a high-time co-pilot. You only have 26 hours in this aircraft? Oh well.

Approach speeds still look good . . . before landing checklist . . . take out my rudder trim when I tell you . . . O. K. now . . . better slow it down a bit . . . cleared to land . . . a greaser! Couldn't have done better if I were proficient! There's nothing to it when you know how. Oops, missed the last turnoff. Co-pilot, ask the tower if we can make a 180 . . . if you can stop snickering.



TAC TIPS

...interest items,

During fighter vs fighter, when your opponent is behind you — you are maneuvering in a very poor offensive position.

THIS ONE'LL WATER YOUR EYES

The F-4 was scheduled for a four-ship range mission, but three and four ground aborted. The remaining two aircraft took off and completed their range work as briefed. The flight then split up to shoot some practice approaches. Lead went to the initial approach fix and shot a TACAN low approach followed by a missed approach. In the meantime, another F-4 declared an emergency and had to take the barrier, closing the runway. Our lead F-4 ginned around the GCA pattern trying to find out when the runway would be reopened. When he finally decided to divert, his fuel was approximately 3200 pounds and his divert base was 150 miles away.

He declared an emergency, flew to an open area, and dropped his tanks. He then proceeded toward his divert base. His inertial nav system and TACAN didn't agree, so he had some difficulty in locating the field. He finally got some GCA vectors and spotted the field at eight miles. Concerned over his low fuel (he had less than 1000 pounds then), he elected to fly a steep approach and land downwind. He made a high, steep approach and lowered the gear at 275 knots. The F-4 touched down with only 2900 feet remaining, and as it touched down, the flaps finally started to extend. The AC lowered the hook, but the late flaps caused the airplane to balloon . . . right over the departure end barrier.

As the aircraft approached the overrun, still doing about 200 knots, the aircraft commander recognized the impending disaster and initiated a timely, successful command ejection.

When the investigation was completed on this one, the following mistakes and deficiencies were uncovered:

a. The pilot had misjudged his approach, landed long with excessive airspeed, and failed to stop the airplane on the runway.

b. The aircrew did not proceed via the most direct route to their divert base. Instead they went out of their way to drop the external fuel tanks, and ended up using

more fuel than if they'd kept the tanks and gone direct.

c. The SOF had gone to the runway because of the aircraft in the barrier, and so was not in a position to aid aircraft still airborne.

d. The divert cards in the aircrew's possession were in error. Although this could have been a factor, the pilot was below bingo when he elected to divert.

e. Recovery control procedures at the divert base were not adequately coordinated resulting in an excessive traffic delay.

As in every accident, there was a chain of events that led to disaster. Your job, and ours, is to break that sequence before the accident happens. The correction of a seemingly minor discrepancy can break the chain and prevent an accident. CHOOSE YOUR OPTIONS CAREFULLY!

PARACHUTES FOR ARMY JUMPMASTERS

The requirement to carry parachutes in C-130s is no longer in effect and this change has led to some embarrassing situations during joint airborne operations. Since Army jumpmaster/safety personnel are jump-qualified, they are still required to wear 'chutes rather than restraining harnesses during personnel airdrops. All units should insure that three chutes are on board each aircraft participating in exercises or operations requiring Army personnel airdrops.

Aircrew members can help too. During preflight check to insure that three parachutes with current inspection/repack data are stowed prior to departure from home base.

This information will be incorporated into the new TACM 55-130, but until that time, a pencil addition in your preflight checklist could prevent further confusion and embarrassment.

mishaps with morals, for the TAC aircrewman

F-4 FOD

Postflight inspection of an F-4E revealed numerous dents in the first four stages of number one engine's compressor section. A subsequent tear-down revealed extensive damage all the way back to the seventh stage. The indentations in the blades matched the pattern of a braided wire. Further inspection found that a number one engine starter deflector door cable (soft braided wire) was missing.

This FOD was believed to have been ingested through the engine bellmouth during inflight cycling of the bellmouth. Two obvious recommendations were made as a result of this incident:

- a. Inspect all F-4 units' Phantoms for security of starter door cables
- b. Aircrews should be briefed that during the landing gear retraction cycle, a highly critical phase of flight, FOD in the forward engine bay may be drawn into the engine. Hold your breath!

F-4 ALPHONSE & GASTON

The F-4C proficiency flight check had gone normally except for one small discrepancy — the right engine had an in-limits RPM and fuel-flow fluctuation.

The flight examiner was completing the mission with a closed pattern from the rear seat, and while on downwind, noticed the engine RPM dropping rapidly to zero. He began to retard the right throttle to idle and asked the front-seater if he had the same indication. The pilot agreed that "yes, the RPM is zero and the engine is frozen." He stop-cocked the right throttle and an uneventful single engine landing was made.

Subsequent ground investigation revealed that the tach generator main engine disconnect cannon plug had not been properly safety-wired and the plug had worked loose.

We have two mistakes here: failure to follow tech data resulted in a disconnected tach generator and "zero"

indication on the RPM gauges. The second mistake was by the crew. They shut down a perfectly good engine. Sure, previous fluctuations caused them to be spring-loaded to the "shut-down" position, but it does not excuse their failure to check other engine instruments. Sometimes the hurrier you go, the behinder you get.

USE YOUR SENSES

The crew of the AC-130H noticed fumes in the cockpit shortly after takeoff. Suspecting the fumes came from an engine source, they closed the bleed air valves, but the odor persisted. It was not until the air conditioning unit had been shut down that the crew got relief from the fumes. About 45 minutes later, the Illuminator Operator reported the fluid level in the utility hydraulic reservoir was down to about 1/3 remaining. A visual check of the engines showed number one was streaming red fluid. The engine was shut down and a landing was made without further loss of hydraulic fluid.

Later investigation revealed a leak in the hydraulic pump case drain line at the pump fitting. The fluid had dripped into an area just forward of the engine compressor inlet, allowing fumes to enter the flight deck air conditioner.

There is really no moral to the story except to remind aircrews that God gave us five senses — and sometimes the sense of smell can be just as important as the other four. Experienced airmen can often differentiate between many different types of cockpit fumes — engine oil, hydraulic fluid, fuel fumes to name a few. These clues can often prevent serious problems before they develop.

This writer can remember one cold morning when my engineer (C-130A) sniffed at the conditioned air during engine run-up and immediately pronounced impending problems with a prop — not in those words, of course. About that time we noticed a minor fluctuation in one of the engines, which rapidly increased to the point we had to shut it down and taxi back. Sure enough — failed O-ring seal. A magician, this engineer? Not really — just a damned good professional who learned from experience to use his senses.



It just wasn't my day! Anonymous

IT JUST
WASN'T
MY DAY!

Anonymous

Have you ever awakened feeling on top of the world only to discover in a few short minutes that you were dreaming?

After a great night's sleep, eggs — sausage — hot biscuits, and a fast smooch from the better half, I nonchalantly went out into the morning darkness to the carriage in the yard. Errr, Errr, Errr, what's wrong? Alas, I've had a friendly visit from the famous midnight fuel requisitioner. Luckily, the wife's car still had gas — after syphoning a couple of gallons, I asked a friend to follow me to a garage to drop off my car for a tune-up.

His car wouldn't start! Dead battery. What next?

I drove down to the garage, borrowed a set of jumper cables, and returned to start his wagon. We couldn't find a flashlight so we used matches for light. I took the taped-together cables and attached the red ends to the positive terminals on each battery. I then attached the black cable to his battery and then mine. About 15 seconds later, my battery exploded, sending casing, caps, and acid all over me, my friend, and his car. I ran into the house, threw my now holey raincoat into the tub, and washed my face.

THEN, I should have gone back to bed but instead ran out of the house, still hoping to be at work by 0800. Well, I tripped and fell on the steps, skinning my knees. But all was not lost — my car, with blown battery and all, was still running! My friend decided to forget his car and ride in with me and we proceeded to the garage to return the cables. At the garage, a check of the cables revealed that the colored clamps had been reversed; therefore, without realizing it, anyone using those cables inadvertently crossed polarity on the batteries, thus asking for an explosion.

We finally headed for work, the radio playing "Oh, What a Beautiful Morning . . ."

We were nearing the base — oops, that fellow is not even slowing down for the YIELD sign — whew! That was close! We were late for work.

I thought of several alternatives to keep a day like this from happening again:

- Sell the car
- Join a car pool
- Use the bus
- Keep cool, don't panic, stop, relax, shrug it off, and proceed.

BUT, except for the empty tank of gas and the near-miss, none of the above would have happened, had a few safety rules been followed:

- First of all, make sure that both batteries, the "live" one and the "dead" one, have the same rated voltage. Don't try to jump-start a 12-volt battery from a 6-volt battery; it can't put out enough juice to get through a 12-volter to the car's ignition system. On the other



hand, a 12-volt battery will burn out a 6-volt battery.

b. Next, make certain that both vehicles have negative-ground electrical systems. A sure way to check this is to look and see which battery cable goes to the car's frame — this is the ground cable. The positive cable goes to the starter.

c. Be sure the "dead" battery isn't frozen. It could blow up when you try to push an electrical current through it from the "live" battery. If there is a possibility the dead battery is frozen — don't try to jump-start it.

d. The next thing to do is bring both vehicles close together, but don't let them touch, you might get a short circuit.

e. Set both parking brakes and put the gears in neutral or park.

f. Keep the booster car's engine running and turn off all accessory switches.

g. Remove the well caps from both batteries and cover

the wells with two pieces of cloth. Now, if you're sure the "dead" battery isn't iced up, you can go ahead with the cable bit.

h. Find the positive terminal on both batteries. It will be marked with a "P" or a "+" sign and sometimes it is painted red.

i. Connect one cable clip to the positive terminal on the "live" battery and the other clip on the same cable to the positive terminal on the "dead" battery. Jump cables are usually colored red and black to keep you from getting mixed up, but as the previous story indicates, color-coding isn't foolproof.

j. Now comes the switch from what you probably have done before — Don't connect the remaining two cable clips to the negative terminals of both batteries.

k. Connect one clip to the negative terminal on the "live" battery, and the other clip to the "dead" car's frame, at least 12 inches from the battery. This way, any sparks you may get when you crank up won't be near the battery.

l. O. K., now's the time to start the "dead" car's engine.

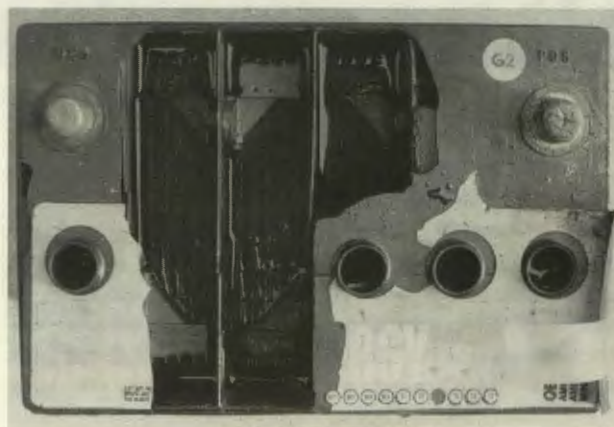
m. As soon as it's running, disconnect the two cables in precisely the reverse order; detach the negative clip from the "dead" car's frame, and then remove the clip from the negative terminal on the "live" battery. When this is done, remove both clamps of the positive cable.

n. Remove the cloths from the battery wells and replace the well caps. Be sure the vent holes are clean.

o. Dispose of the cloths where any battery acid on them won't hurt animals or people.

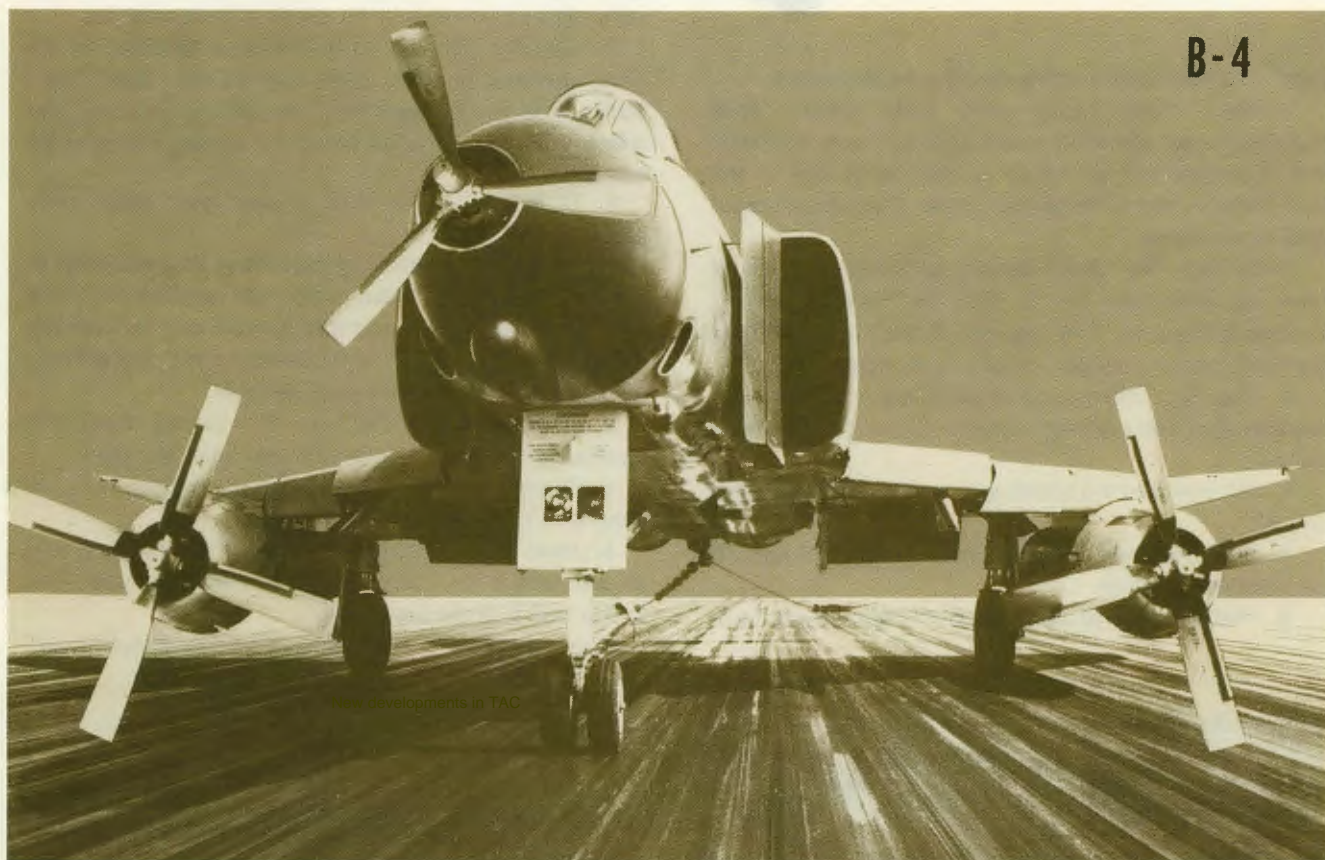
p. Now, with the previously "dead" car running, you should take it to a good garage and find out what was wrong with it in the first place.

One more hint: A flashlight is a lot handier (and safer) than matches!



NEW DEVELOPMENTS

At Headquarters TAC we occasionally have an opportunity to see new weapons systems and proposals that can be considered truly amazing. Since many of these new developments are highly classified, we are delighted when we find some project whose classification has been downgraded. This allows us to share our amazement with you. The following declassified test projects may give you an idea of what we mean.



This B-4 took the barrier when its props failed to reverse.

The little known B-4 program (known as Project Groundhog) was begun in late 1970. The purpose was to create a powerful new light bomber using existing components. The dual-command test (TAC and SAC) incorporated three internal combustion powerplants in place of the F-4's normal jet engines. The intakes were left intact to provide the bird with a large RAT, and this later proved a wise move since the hydraulic problems

experienced by the B-4 were manifold. In fact, a hydraulic failure resulted in the destruction of the only known prototype on 2 Feb 1972.

Complete hydraulic failure resulted in the loss of all performance instruments and a successful ground-controlled ejection. The only injury reported was a fractured patella received by the tail-gunner. The real irony of the accident is that it occurred on Groundhog Day.

N TAC

The F-130 project was begun as a natural offshoot of the AC-130 program. The versatile Hercules was fitted with the world's largest jet engine — the T-5600, with a rated thrust of 240,000 lbs. The F-130 has reduced shortfield capability but, of course, much greater inflight performance.

Its armament consists of two 20mm and one 105mm cannon and any of the missiles currently in our inventory, including the IRBMs. The only problem encountered at this point is one of aircrew adaptability. Psychological stresses have been noted in pilots of the F-130 since they are not accepted socially by either their fighter or airlift peers.



The C-111 was developed to fill the void left by conversion of the C-130 to the "F" configuration. It is designed as an interim high-speed transport until the AMST becomes operational. The biggest problem encountered to date has resulted from the unusual mounting of the powerplants on the swing-wing. Inflight tests have revealed that longitudinal cracks the entire length of the fuselage have developed as a result of the opposing thrust vectors. A temporary fix of carbon-epoxy bands circling the fuselage are now being tested, but handling problems continue to plague the C-111 and discontinuance of the program is under consideration.

DECLASSIFIED



A modified A-7D, the P-7, is now in the final testing stages. Primarily billed as an interdiction/ground support aircraft, the P-7 is a natural successor to the sturdy A-1E.

It is capable of handling a large selection of air-to-ground weapons (except on the inboard pylons) and is powered by the T-56-A-7 constant-speed turboprop. A flyoff with the A-10 is forecast for early next year. ➔

CHOCK TALK

chock talk ...incidents and incidentals

...incidents and incidentals

BEWARE OF EXCESSIVE NOISE

Permanent damage to hearing may be caused by repeated unprotected exposure to hazardous noise. Initial noise-induced hearing loss usually goes unnoticed because the loss occurs in high frequencies above the normal speech range.

For example, one may be able to hear speech communication but cannot clearly hear music with frequencies above the voice range. At present, loss in hearing due to noise cannot be corrected by any known or accepted medical or surgical method of treatment.

If a person has to shout to be understood from one to three feet, he is probably in a hazardous noise area. Hazardous noise is more precisely determined by the use of sound level measuring equipment and applicable standards.

Results derived from extensive research clearly emphasize the fact that noise does not have to elicit pain, or even discomfort, for it to cause a permanent loss in hearing.

Use of personal ear protection (ear plugs or ear muffs) every time one enters hazardous noise areas can prevent the occurrence of such losses. When the speech signal is adequate, wearing ear protection allows voice communication to be heard more easily in the presence of surrounding noise. (courtesy TIG Brief)

SLOPPY !

The TAC T-38 took off as lead in a two-ship formation. Shortly after take-off, the pilot heard a thump and his wingman reported that an access panel had come off. Fortunately, the panel fell in an uninhabited area. The incident was investigated and the following sequence of events was uncovered.

The access panel was on the upper surface of the rear fuselage and had been removed for an engine run the previous day. The aircraft had been placed on a red "X", the engine run completed, and the panel replaced. The red "X" had been cleared and the aircraft released for flight. However, none of the 32 fasteners on the panel had been tightened down. The supervisor who signed that he had

inspected the panel installation had never done so. The panel was located in an area where the pilot could not see the fasteners on his walk-around.

The lessons from this incident are crystal clear — first, if you put a panel on, fasten it down. As a matter of fact, many units have MOIs that prohibit putting a panel in place unless it is fastened down. Second, before you sign off an inspection item, make sure you actually inspect it. People's lives and expensive airplanes are at stake. 'Nuff said!

YOU NEVER KNOW

The F-4 was on a functional check flight and so far everything had gone normally. During the descent back to the base, however, things started to happen. The left generator light illuminated, and when the pilot checked the left engine oil pressure, he found it to be low. He shut the left engine down, and less than 30 seconds later the right engine flamed out! Fortunately, he was able to restart the right engine and land safely.

As you can well imagine, maintenance went over that airplane with a fine tooth comb.

And you know what? They could find no explanation for either the left engine low oil pressure or the right engine flameout. A complete flameout checklist was run on the number two engine but nothing could be found. They surmised that the low oil pressure on number one might have been due to low oil quantity due to improper servicing. They'll never know for sure, though, because the postflight oil check was never completed. Nobody did it. There was probably a reason. We imagine that when an F-4 lands after experiencing two engine failures, the last man able to get near that bird was the guy responsible for the oil check — the crew chief. Another possibility is that in the excitement of hearing the pilot's description of what happened (and we bet it was colorful), he just forgot.

Regardless, it all points out that you never know when one little check will make the difference. You just never know.

with a maintenance slant.

CADMIUM-PLATED TOOLS AND TITANIUM COMPONENTS

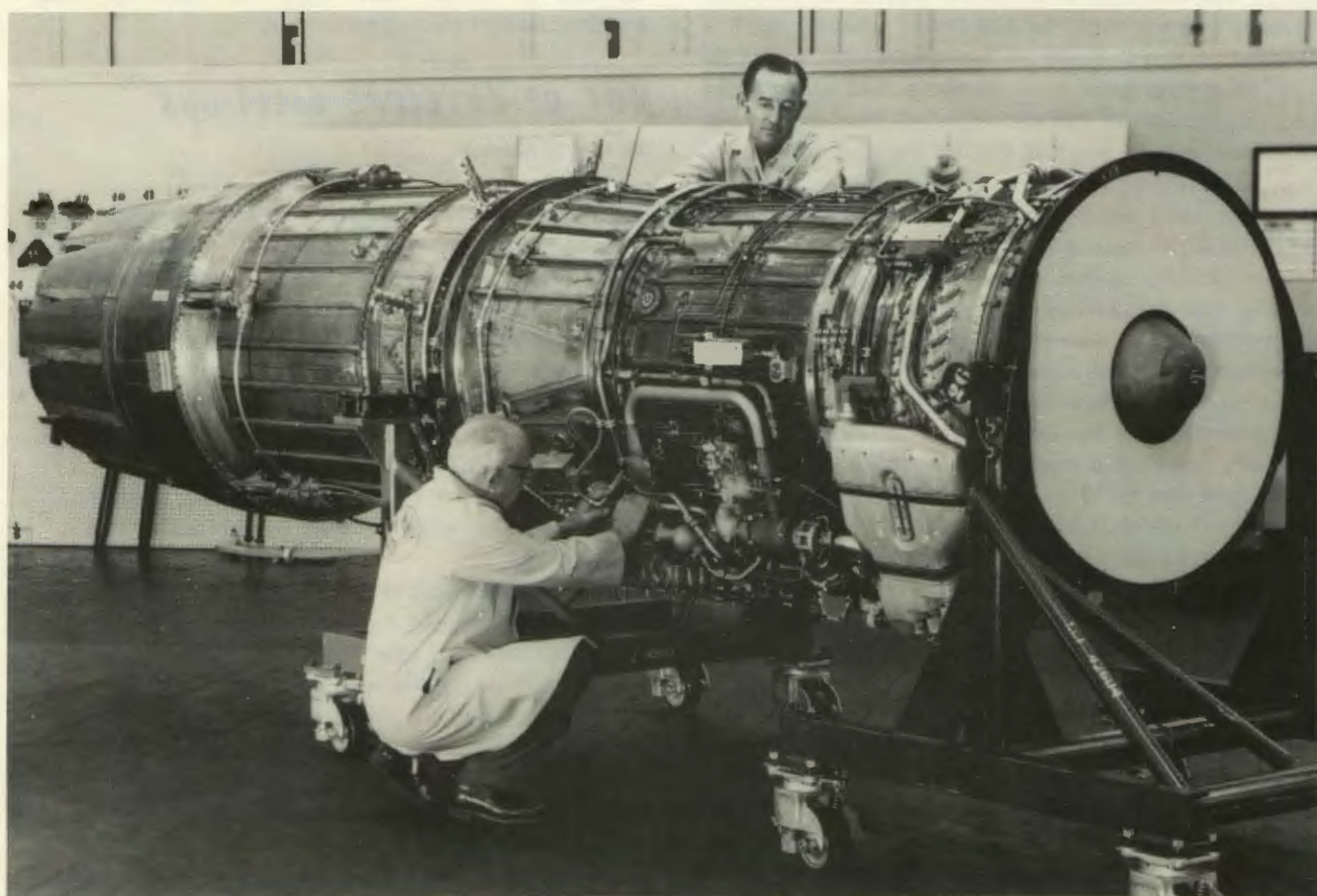
A new problem has crept up on you wrench-benders. Embrittlement and subsequent failure of titanium components can result from contact with cadmium-plated hand tools. Although actions have been taken since 1971 to halt the purchase of C/D-plated tools, it's a long term effort and the supply system will not have all cadmium-free tools prior to operational deployment of the F-15. Since the hazard is clearly outlined in the F-15 systems' publications, TAC's problems will primarily fall in the area of transient maintenance. The Chief of Staff, Air Force, is requesting that each command publicize the following guidelines:

a. All responsible maintenance sections should be alerted to the potential hazard of using C/D-plated hand tools on titanium components, especially those exposed to high temperatures and stresses.

b. Take steps to insure that C/D-free hand tools are identified and available in transient maintenance facilities.

c. Issue appropriate instructions that only C/D-free hand measuring tools will be used in conjunction with the F-15 and F-14 aircraft. Guidance is applicable to entire aircraft system since titanium components will not be readily identifiable.

The F-15 will be in the field later this year, so timely support of these guidelines is a must. Let's get the word out.



Photo, Courtesy of Pratt & Whitney Aircraft

F-4 FUEL CELL RUPTURE

by Maj Burt Miller

No. 4 Fuel Cell Webb Failure: Early last year, PACAF rediscovered a problem with the no. 4 fuel cell webbing. This .016 inch webbing fails from fatigue and the resultant sharp edges rupture the fuel bladder, which allows fuel to stream back and be ignited by the afterburners or any other available ignition source. The pilot's first indication of a problem may be fumes in the cockpit, a thump when the fuel ignites, overheat lights, a wingman's "you're streaming fuel vapors" or "you're on fire," or any combination of the above. TAC has now had two inflight cases of this critical failure. One aircraft was recovered and one was lost. PACAF has lost two aircraft due to confirmed or suspected fuel cell rupture. In summary, there has been a total of 21 incidents and 4 accidents attributable to no. 4 cell failures.

The incidents stayed incidents because the fuel never reached that necessary ignition source. A safety of flight supplement was issued to provide aircrews with techniques for recovering an aircraft with a ruptured cell. These procedures imply that an aircraft can be recovered even after the fuel has ignited. Keep in mind, however, that only one of four crews has been that fortunate. The indications that the other three aircrews received which helped them decide it was time to evaluate the MKH7 seat were: loss of flight control response, binding throttles or failure of engine to respond to throttle movement, fire lights on both engines, or frantic calls by wingman or the tower that "YOU'RE ON FIRE!"

But — do not be discouraged. A fix to the no. 4 webbing will be accomplished by depot teams at all TAC bases which began in March 1974. All TAC aircraft should have a thicker .071 inch webb, plus a stiffener across the top of the no. 4 cell by December 1974. Until all aircraft are modified, inspection of the top of the no. 4 cell will

be accomplished after each flight and during every 75-hour phase.

But — be prepared to see those interim safety supplement procedures become a permanent part of your Dash One. During mods and inspections of the top of the no. 4 cell, cracks have been discovered on the tops and bottoms of several other cells. The fixes for these locations haven't been identified yet.

OUT-OF-ENVELOPE EJECTIONS

by Maj Al Mosher

In days gone by, aircraft were built to glide. Then along came the jet aircraft, lotsa' push but little lift and SHAZAM! Airplanes took on the gliding characteristics of a rock. While the powerplant is running everything is fine, but take away the thrust, and enter the rock.

Some dash-ones say it and some don't, but all old fighter pilots agree — "complete loss of power below 2000' AGL — get out." Another "old head" rule reflects some judicious thinking: "Out-of-control below 10,000' AGL? LEAVE YOUR AEROSPACE MACHINE BEHIND!" (For some aircraft, the altitude is higher — know yours.)

I mention these old saws because as I look at our egress record so far this year, I count six dead pilots: one forgot the power-loss rule; the five other pilots, for reasons unknown, made no attempt to eject. We do have two live pilots who ejected out of the recommended envelope, but don't let that delay your decision — they were lucky.

You can play the odds at the craps table or the track, but be a sure winner in the ejection game. Don't be an out-of-the-envelope statistic.

NER



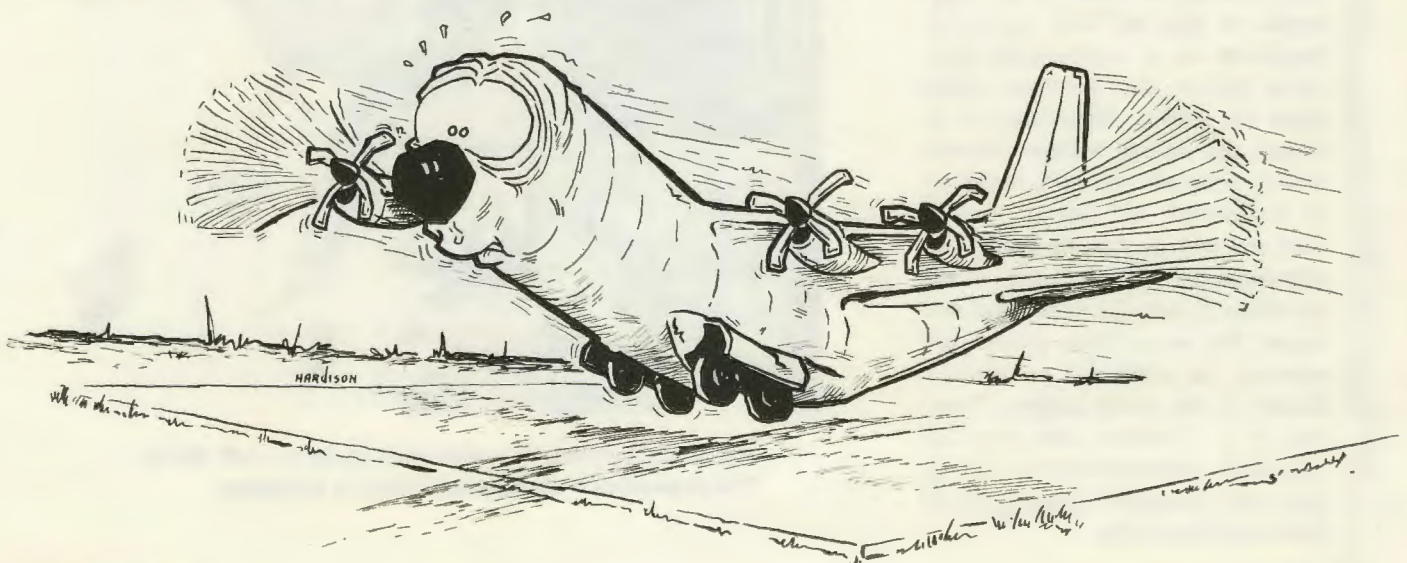
C-130 FLAMEOUT/POWER LOSS

By Maj 'Doc' Ply

Few things are more certain to shatter the tranquility of a Herky flight than a sudden engine flameout. To put the problem in perspective, the odds of your being confronted with such an event are roughly twice as great today as they were two or three years ago. Of one hundred C-130 engine flameouts analyzed in 1973, 62 occurred during flight conditions which required low power or ground reversing, 14 during high or cruise power settings and 14 while parked or taxiing. A further breakout reveals that 30 occurred on landing roll, either during or immediately after reversing. Fifty-six occurred during flight (from takeoff to and including final approach) and as mentioned earlier, 14 while parked or taxiing. The C-130 engine power loss/flameout problem was recognized before 1967

and numerous fixes have since been instituted with less than satisfactory results. The problem is currently being worked by AF engine managers, WRAMA, SAAMA, Lockheed, Allison, and Hamilton. The fixes are too numerous to list, but a healthier engine should eventually emerge.

In the meantime, your throttle technique can reduce the chances of being confronted by an abrupt shrinkage of horsepower and bold face procedure exercise. Avoiding those grossly abrupt/inept throttle movements during acceleration/deceleration and using positive continuous throttle movement when making power changes will greatly reduce the possibility of engine overload and eventual flameout. While smooth pilot technique will reward you with fewer flameouts, you may have the added satisfaction of discovering that you have won your navigator's everlasting adoration.



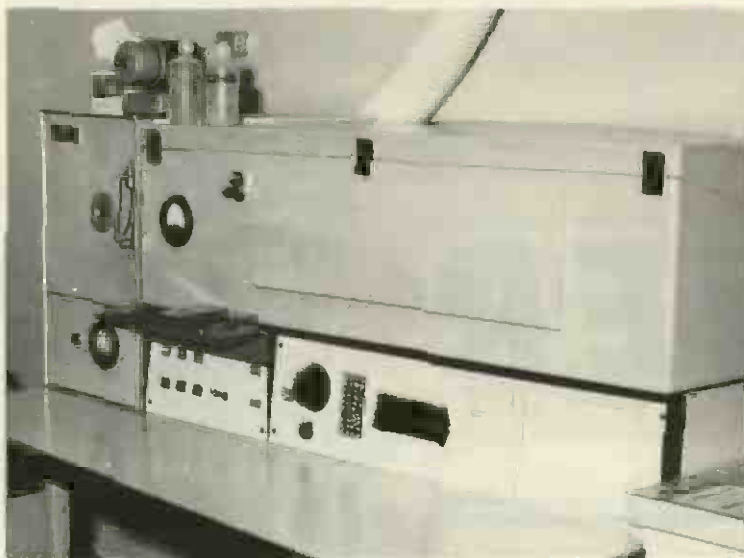
SOAP

The Diagnostic Tool
that Gives the Inside Story

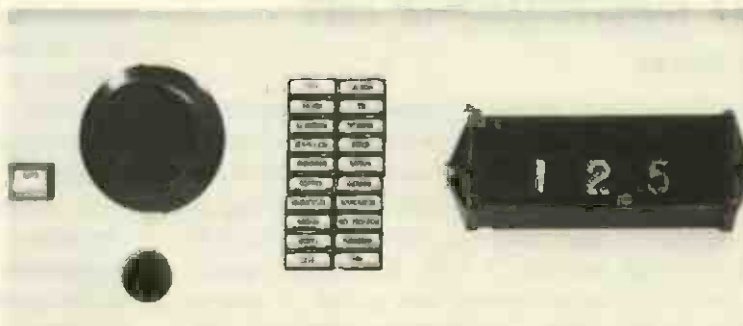
by SMS Lawrence D. Craft
HQ TAC/LGMS

Has SOAP ever saved your life? It's quite possible. Sergeant Craft's article may give you a little more insight into one of preventive maintenance's most effective tools.

The Spectrometric Oil Analysis Program (SOAP) is based on the concept that through the identification and quantitative measurement of wearmetal concentration in system lubricants, prediction can be made concerning condition of oil-wetted components. The moving contact between metallic components of any mechanical system is always accompanied by friction and a consequent wearing away or transformation of the contacting surface into small metal particles. Under normal conditions, the rate of wear will be microscopic in size and will remain in suspension in a recirculating lubrication system. Any condition which alters the normal relationship or increases the normal friction between moving parts will also have the effect of accelerating the rate of metallic wear and thereby increase quantity of wearmetal particles produced. If this condition is not discovered and corrected, the deterioration process will continue to accelerate to eventual failure of the entire system. Therefore, it is imperative that abnormal wearmetal concentrations be immediately and thoroughly investigated to determine the source.



Fluid Analysis Spectrometer



The Iron channel readout — 12.5 PPM (parts per million)



Preparing standards for calibration check on A/E 35U-3.
The calibration is checked daily prior to operation.

The method used by SOAP to monitor the wearmetal concentration in used oil is accomplished with the spectrometer. A spectrometer is an optical instrument used to determine the concentration level of wearmetals in lubricating fluid. The analysis is accomplished by subjecting ("burning") the sample to a high voltage spark which energizes the atomic structure of the metallic elements, causing the emission of light. The light emitted is subsequently focused into the optical path of the spectrometer and separated by wave length, converted to electrical energy and then measured. The emitted light for any element is proportional to the concentration of wearmetal suspended in the lubricating fluid.

We've come a long way with the Spectrometric Oil Analysis Program. The success of the program depends largely on the ability of the SOAP technician to spot an abnormality, which might be a single high reading or a rate of increase of wearmetal which looks bad to him. He gets some of his ability through training but a good deal of it comes from experience. He's looked at a lot of samples and he's developed a mental picture of what is normal and what is abnormal for a particular engine. To be useful, everybody has to abide by the rules! If the SOAP is going to be completely successful, it is going to take effort by everyone involved. The Laboratory must be adequately staffed by trained personnel and oil samples must be taken correctly at the prescribed frequency and promptly delivered to the SOAP Lab. All pertinent data must be documented correctly. Coordination is required between the SOAP Laboratory and propulsion on all suspect engines.

SOAP is now the newest and perhaps the most valuable member of the Nondestructive Inspection (NDI) family. Since its inception, the oil analysis function has been performed

by engine technicians; however, the recent changes to AFM 66-1, Vol IV, and AFM 39-1, placed the responsibility of maintaining the oil analysis program within the NDI Laboratory. The transitioning of SOAP into NDI is presently creating a shortage of manpower in the NDI career field (AFSC

536X0), making it necessary for an accelerated output of students at the NDI training school at Chanute AFB, Ill. Training of NDI personnel presently assigned in the operation and evaluation of SOAP is a major concern of Laboratory supervisors.

The oil analysis function is a tri-



Sample excitation chamber is cleaned prior to next analysis. Chamber and quartz window must be kept clean to insure best possible results.



Conducting routine analysis of oil sample.

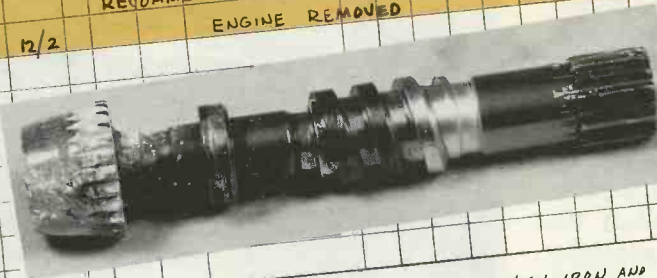
SOAP

soap

service program. The Navy has the responsibility to manage the monthly SOAP Correlation Program and provides each SOAP laboratory oil calibrating standards. The Air Force provides logistical support, to include procurement and repair of spectrometers for all services. The Army has the responsibility of training per-

sonnel of all three services in SOAP. The training is conducted at Fort Lee, Virginia. NDI personnel completing training at Chanute are sent to the Fort Lee SOAP training program prior to reaching their permanent duty assignment. Approximately 25% of

UNIT MODEL		UNIT SERIAL		ACFT MODEL		ACFT SERIAL		BASE		TYPE OIL		SAMPLING INTERVAL		NUMBER OF OVERHAULS		LAST SRA		LAB REQUEST	
B. SAMPLE NO	LAB TEST NO	CODE	DATE SAMPLE TAKEN	W. 20 O/H	HOURS SM.	LD	SPECIAL INFORMATION	Al	Fe	Cr	Ag	Cu	Sn	Mg	Pb	Ni	Si		
	85		24/1		355	10	LD	IP	0	10	1	0	2		1				R
SPECIAL SAMPLE AFTER EVERY FLIGHT - TO BE ANALYZED																			
BEFORE NEXT FLIGHT (RESTRICTED TO LOCAL FLIGHT)																			
69			31/1		355	10	LD (COLD)		0	6	0	0	2		0				G
133			1/2		356	11	LD		0	9	0	0	2		0				R
14			2/2		357	12	LD		0	11	0	0	2		1				G
36			4/2		358	13	LD		0	12	0	0	2		1				VC
234			4/2		359	14	LB	2P	0	16	1	0	3		2				R
1			5/2		359	14	LD		0	12	1	0	2		1				R
122			7/2		360	15	LD		0	9	0	0	2		1				S
34			12/2		361	16	LB		0	118	2	0	4		2				VC
SPECIAL ASAP PRIOR TO FLIGHT																			
52			12/2		361	16	LT		0	96	2	0	4		2				M
RECOMMEND ENGINE REMOVAL																			
ENGINE REMOVED																			
12/2																			



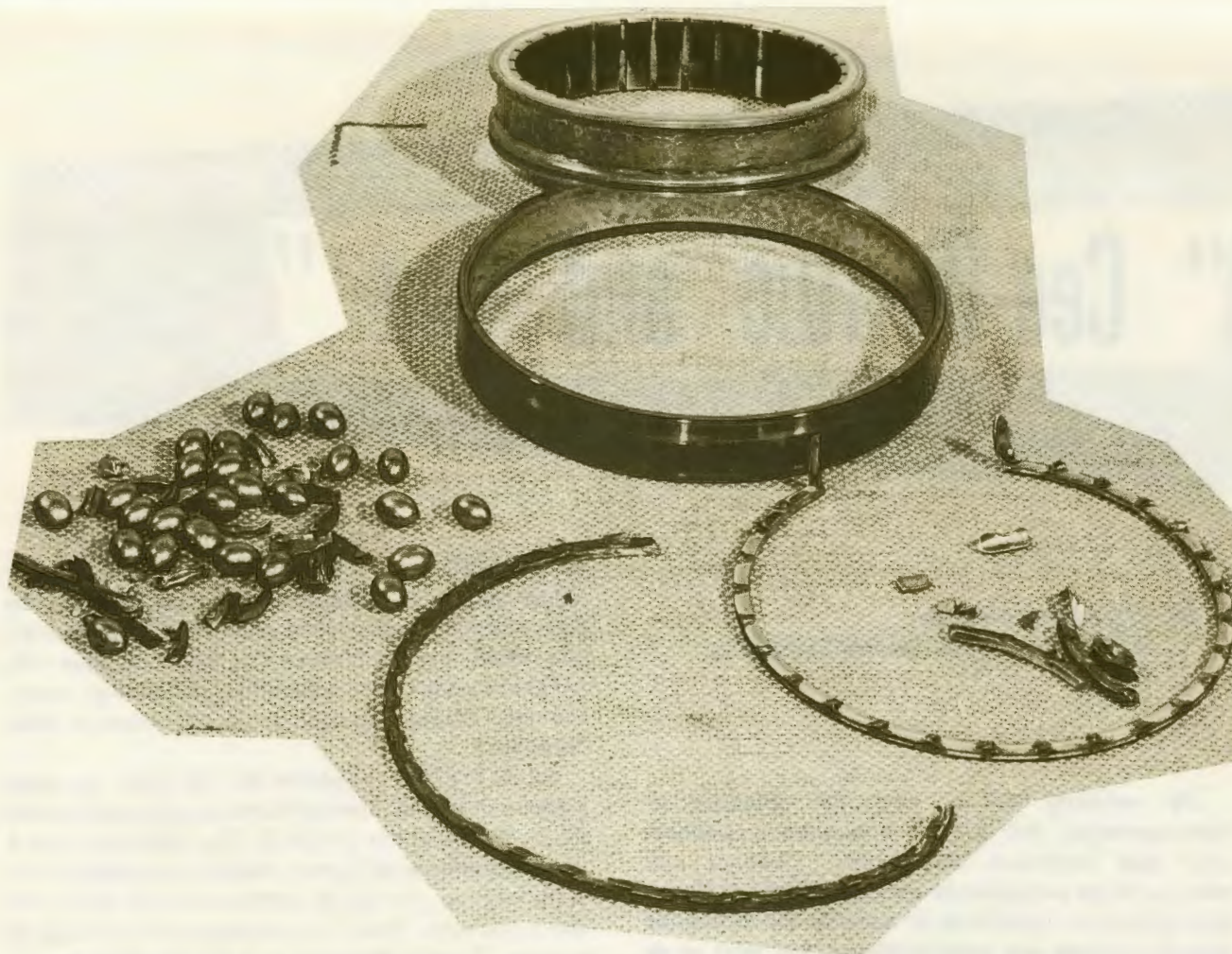
REMARKS: * NOTE 1/5/1/4 - ENGINE WAS INSPECTED DUE TO HIGH IRON AND COPPER. NOTHING NOTED DURING INSPECTION. DRAIN AND FLUSH ACCOMPLISHED. GROUND RUN AND TREND ESTABLISHED AT 3PPM IN IRON. 12/2/4 CSD & INLET GEARBOX REPLACED DUE TO IMPROPER ALIGNMENT OF THE CSD SHAFT TO THE GEARBOX.

AF 168N, Inc. New Canaan, Ohio 8-11 27004

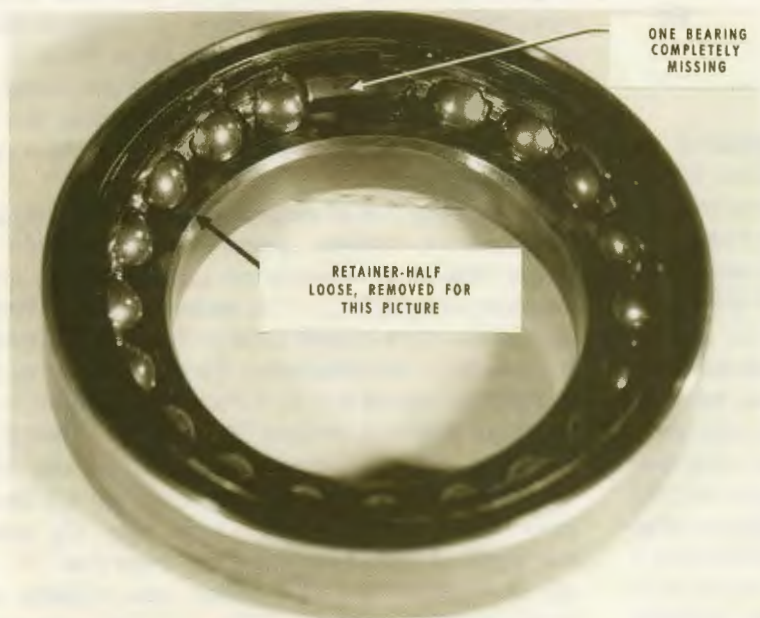
OIL ANALYSIS RECORD

AFTO FORM 119A FEB 66 PREVIOUS EDITION OF THIS FORM IS BE USED.

An actual SOAP report (AFTO Form 119A) that resulted in engine teardown. Note the high iron (FE) and copper (CU) readings at dates "12/2." We've inserted a photo of the CSD shaft.



Remains of #5 bearing of F-111 engine. Engine was removed at the request of SOAP when iron readout increased from 3.7 PPM to 20.2 PPM on two consecutive analyses.



A failed #2 bearing (T-39) discovered by SOAP.

TAC assigned NDI personnel have received SOAP training and the remaining personnel are being scheduled for training as rapidly as quotas become available.

In the final analysis, we think the success of any program is in direct relation to the emphasis placed upon it by the commanders and supervisors. The Tactical Air Command does have this support. The effectiveness of the TAC SOAP speaks for itself. In 1973, 307 engines were removed prior to failure upon recommendation by alert oil analysis technicians. Flight safety has been greatly improved by the use of an effective and efficient oil analysis program.

"Cee-Oh-Two and You"

by LtCol Harold Andersen
Hq TAC Physiological Training Coordinator

We recently ran a TAC TIP (Hypoxia or Hyperventilation, Feb 1974) that included a statement that was erroneous. We stated: "Briefings and demonstrations were given by the Flight Surgeon's Office, emphasizing the importance of knowing the differences between hypoxia and hyperventilation and what to do when your symptoms point to too much, rather than too little oxygen." Having learned our lesson, we now turn to the experts.

Ed.

O.K. So we goofed! Let's correct the situation by passing along some facts about hyperventilation. In any case involving over-breathing (that's what hyperventilation means), the problem lies with a deficiency of a gas, CO₂, in the bloodstream. This is the same gas that is used to put out fires and make your Coke fizzy. It forms in your body as the living cells of all tissues burn sugar to provide energy. It is a by-product, and as such, you must get rid of it, but at a steady rate, which is determined by your level of activity. Although it is a by-product, your body uses large amounts of it to keep your body in proper acid-alkaline balance. Too much CO₂ is as bad as too little (that's why you experience heavy, deep-breathing after exercise) but in the case at hand, hyperventilation as a result of fear or apprehension causes rapid depletion of the CO₂ in lungs and blood, upsetting the acid-base balance of the blood stream in the direction of alkalinity.

As this alkaline blood is pumped through the brain, it causes the blood vessels to close down, reducing the brain's blood supply. This is an attempt to conserve the CO₂ which is being thrown off by the active brain cells, but unfortunately, the reduced blood flow also results in a lack of oxygen which as you remember, is called "hypoxia."

So as any fool can plainly see (Ah sees!) the whole problem of the crew member sitting quietly and breathing 35 or 40 times/min is one of CO₂ depletion. And it doesn't make any difference whether you breathe air or 100% oxygen, you can get symptoms just as easily from one as the other. Since hyperventilation causes a type of hypoxia (Stagnant Hypoxia) by reducing blood flow to the brain, it shouldn't be too surprising to find many symptoms in common between the two: dizziness, tingling sensations, incoordination, etc. The alkaline condition of the blood stream in hyperventilation contributes some additional symptoms of its own: for example, the peculiar muscular spasms which involve the extensor (straightening) muscles of the hands, feet and back. Both hypoxia and hyperventilation can cause unconsciousness.

Because the crux of the problem lies with the low CO₂ concentration, recovery procedures will naturally be largely directed at retaining and conserving CO₂, and at the same time playing C. Y. A. against hypoxia. Primarily, a reduction of the breathing rate to the normal 12 breaths per minute, or one breath every 5 seconds, will allow CO₂ to return to normal in 1 or 2 minutes. Remember, don't hold your breath to conserve CO₂! Breathing 100% O₂ at the same time will protect you just in case those symptoms were hypoxia. Keep calm, for fear will tend to make the problem worse. Check your O₂ system thoroughly, if symptoms persist for more than 15 - 30 sec while breathing 100% oxygen, you probably were hyperventilating, and the slower breathing rate should solve your problem. ➤

TACTICAL AIR COMMAND



Maintenance Man Safety Award

Staff Sergeant Ben C. Baker, 363 Field Maintenance Squadron, 363 Tactical Reconnaissance Wing, Shaw Air Force Base, South Carolina, has been selected to receive the Tactical Air Command Maintenance Man Safety Award for February 1974. Sergeant Baker will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



SSGT BAKER

TACTICAL AIR COMMAND



Crew Chief Safety Award

Sergeant David B. Maxwell, a CH-3 crew chief in the 834 Organizational Maintenance Squadron, 1 Special Operations Wing, Hurlburt Field, Florida, has been selected to receive the Tactical Air Command Crew Chief Safety Award for February 1974. Sergeant Maxwell will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



SGT MAXWELL

TACTICAL AIR COMMAND



Ground Safety Man of the Month

Sergeant John E. Middendorf, a senior machinist of the 314 Field Maintenance Squadron, 314 Tactical Airlift Wing, Little Rock Air Force Base, Arkansas, has been selected as the Ground Safety Man of the Month for February 1974. Sergeant Middendorf will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.



SGT MIDDENDORF



INDIVIDUAL SAFETY

We are proud to present the Tactical Air Command Individual Safety Award winners. The total contribution made by these men to our mission will never be known...we have no way of counting accidents that have been prevented. Selection for the highest Tactical Air Command award in their individual field is our way of recognizing outstanding efforts in behalf of accident prevention. I add my congratulations to the many they have already received.

E. Hillding
E. HILLDING, Colonel, USAF
Chief of Safety



Outstanding Flight Safety Officer

Major Jack W. Drummond
23 Tactical Fighter Wing
England Air Force Base, Louisiana



Ground Safety Man of the Year

Technical Sergeant Roger M. Broadwell
317 Tactical Airlift Wing
Pope Air Force Base, North Carolina

AWARDS FOR 1973



Outstanding Contributor to Weapons Safety

Senior Master Sergeant Emmett J. Sims
354 Tactical Fighter Wing
Myrtle Beach Air Force Base, South Carolina

Outstanding Weapons Safety Officer

Captain John W. Kester
4 Tactical Fighter Wing
Seymour Johnson Air Force Base,
North Carolina



Outstanding Weapons Safety Noncommissioned Officer

Master Sergeant Lynn T. Allison
314 Tactical Airlift Wing
Little Rock Air Force Base, Arkansas





Instant Wisdom

by Lt Col William R. Barrett
HQ TAC/SE

Suddenly a noise as loud as a sonic boom was followed immediately by the large picture window in the range control tower shattering. Why? Someone failed to follow the checklist and empty the flare pistol.

It has been said that "The arctic trails are full of strange tales that will make your blood run cold," but none are stranger than the tales told by our explosives accident and incident reports. The oddest thing is that too often we see events that have happened before. These are mishaps which supposedly had received enough publicity of cause factors and corrective actions to prevent recurrence.

Last year a runway supervisory officer was injured by a

flare pistol because checklist procedures had not been followed. The recent mishap had the same cause factor. The range control officer was preparing to load signal flares in what he thought was an empty pistol. Surely his day was ruined by the blast of the pistol's discharge in the cramped quarters of the control tower.

Despite what you may have heard, your own experience is not the best teacher; the lessons are too expensive. The young sages say, "To make a mistake is human; to make the same mistake twice is foolish." The wise old sages say, "Since I don't have the time or sinews to make all the mistakes myself, I must learn from the mistakes of others."

KNOWLEDGE COMES
BUT WISDOM LINGERS.

Tennyson

TAC			WEAPONS MISHAPS			ANG		
FEB 74	THRU FEB		EXPLOSIVE	FEB 74	THRU FEB		FEB 74	THRU FEB
	1974	1973			1974	1973		
4	10	28	TOTAL	1	4	11		
2	6	6	Personnel	1	4	8		
2	3	16	Materiel	0	0	3		
0	1	6	Other	0	0	0		
1	1	4	MISSILE					
1	4	1	NUCLEAR					



TAC TALLY

TOTAL ACFT. ACCIDENTS	►
MAJOR ACFT. ACCIDENTS	►
AIRCREW FATALITIES	►
TOTAL EJECTIONS	►
SUCCESSFUL EJECTIONS	►

TAC		
FEB	Thru	Feb
	1974	1973
3	5	8
3	5	6
0	2	4
5	5	5
5	5	2

ANG		
FEB	Thru	Feb
	1974	1973
2	3	4
2	3	4
2	3	1
0	1	3
0	0	1

AFRes		
FEB	Thru	Feb
	1974	1973
2	2	1
2	2	1
1	1	2
1	1	1
1	1	0

TAC'S TOP "5"

FIGHTER/RECCE WINGS		
ACCIDENT-FREE MONTHS		
71	33 TFW	TAC
41	67 TRW	TAC
39	162 TFTG	ANG
38	4 TFW	TAC
23	127 TFW	ANG

AIRLIFT/REFUELING WINGS		
ACCIDENT-FREE MONTHS		
104	440 TAW	AFRES
103	136 ARW	ANG
67	316 TAW	TAC
56	126 ARW	ANG
55	463 TAW	TAC

SPECIAL UNITS		
ACCIDENT-FREE MONTHS		
114	2 ADGP	TAC
83	DET 1, D.C.	ANG
55	182 TASG	ANG
50	68 TASG	TAC
48	193 TEWG	ANG

MAJOR ACCIDENT COMPARISON RATE 73-74

TAC	73	5.0	5.1	5.1	4.2	4.3	5.0	4.8	4.4	4.2	4.1	4.2	4.1
	74	4.5	5.4										
ANG	73	8.5	8.6	6.8	5.0	4.7	5.1	4.3	4.2	4.6	4.2	3.9	3.7
	74	7.2	9.7										
AFRes	73	14.9	6.7	4.1	3.2	1.8	1.5	1.3	1.1	1.0	.9	.9	.8
	74	0	16.4										

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

FLEAGLE

