TAC ATTACK

JULY 1974

DO UNTO OTHERS
Pg....4

do unto others, pg 4

for efficient tactical air power

TAC ATTACK

JULY 1974

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Tactical Air Command

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Published by the Chief of Safety
COLONEL E. HILLDING

COVER ART
by Stan Hardison

CURRENT INTEREST

DEPARTMENTS

TACRP 127-1

Angle of ATTACK

The Buddy System

Tail-end Charlie, in an orbiting flight of three F-4s, crossed from outside the formation to the inside of the turn, descended and crashed. His erratic flight path was observed by the other two aircraft but no call was made until lead advised three to pull up — just prior to ground impact.

Formation tactics have a proven and essential combat role. Although two aircraft flying with only a few feet separation is inherently more dangerous than solo flight, our years of experience and pounds of published guidance have resulted in pilots who can fly formation almost as if it were a hereditary instinct. The complacency that results from this kind of confidence may be part of the reason that flight leaders have been a cause factor in 6 out of 18 accidents that have occurred in TAC and TAC-gained Reserve Force units in the last eight months.

Safety awareness within the flight demands effort from all crewmembers in the formation. It's a two-way street. Although lead assumes responsibility for the safe conduct of the formation, the wingman must keep his head out to insure the leader himself doesn't bust his backside. This symbiotic relationship depends on sharing the responsibility to make the number of landings equal the number of takeoffs — as well as sharing the pride that comes from hacking the mission because of good teamwork.

Probably the weakest link in formation integrity is the failure to communicate within the flight. The lead must keep the rest of the formation advised of any required changes to planned procedures and the wingman shouldn't hesitate to speak up if he sees lead deviate from the standard. There's nothing bush about letting everyone know your problem or offering your help to another — it's just good, common sense.

Let's cut this dangerous trend short — let's put good judgement back into formation flying.

E. HILLDING, Colonel, USAF
Chief of Safety

"DO UNTO OTHERS..."

by Maj Joe Tillman

some common sense words on formation flying.

The two A-7s streaked over the slate brown terrain of west Texas at six miles per minute. Fizz 06, #2, was hanging in there watching lead, bright orange from the lowering sun. His peripheral vision caught the monotonous terrain sliding by a thousand feet beneath him. His enjoyment faded as he tried to pick up a radar target.

"Damn," he thought, "picking a target out of that prairie is really tough. I'd better move out a little. I don't remember from the briefing how far I should drop back." He eased the throttle back and gave a couple of clicks of nose-up trim. "This should be safe."

The flight dropped down into a canyon mouth and #2 stayed a little above his leader, Fizz 02, until he saw him level off. Lead sure seemed lower than 1000 feet AGL. He reached over and tapped his radar altimeter — still inop.

"Lead, 2 – my radar altimeter is out; we seem a little low . . ."

"Rog, mine's out too . . . how do I look now?"

"Still a couple hundred feet low, I think . . . bring it up a little more."

Lead climbed a bit and his wingman went back to his scope. As the flight neared the far side of the shallow canyon, lead started another slow descent. Number 2 man stayed at what he thought was a thousand feet.

"Sam sure likes the low-level stuff," he thought to himself; "he's creeping down to the weeds again."

When his leader looked like he started to level off, he got into his scope again, trying to pick a good return from the clutter. When he glanced up, he saw that lead had started a climb but the terrain was climbing faster!

"Pull it up, lead! " Too late.

The SLUF caught the rim of the canyon wall. The wingman yanked back on the stick. All he could see at his twelve o'clock position was a giant orange fireball and his cockpit went dark for an instant as his A-7 flashed through the column of black smoke. Climbing, he threw the bird into a steep left-hand turn and watched the rising column of smoke come into view over his left shoulder. Flipping to guard, he intoned, "Mayday, Mayday . . . ."

His mouth was so dry, the call was almost inaudible.

* * *

The above accident is fiction but the costly results aren't. There is nothing more real than the TAC accidents involving poor formation techniques and procedures. In the last 12 months, we have had ten accidents and numerous incidents that involved a lack of formation discipline or poor formation integrity — Examples:

— The wingman of a two-ship RF-4C formation was performing a straight-ahead rejoin after a low-level leg. He fell behind, then picked up an excessive overtake speed and rolled over lead. He then closed in on his fingertip position too rapidly. Lead observed the rapid closure rate, but not until it was too late. Both pilots pushed forward on the stick and the Phantoms collided.

— Bent-wings again, but this time four F-4Cs on an ACM mission. Number 4, a student AC, disengaged after trying to hang in with #3 — who was trying to force his attackers to overshoot. Number 4 ended up nose-high and inverted. The aircraft stalled, the student AC applied full forward stick and, after no luck in regaining control, the crew punched out.

— Fighter types don't have a monopoly on formation flying—or accidents. Last year, we lost a C-130E on a two-ship night low-level. The flight overshot their turn off the drop zone, and while trying to get back to the escape route, two impacted a mountain top.

Not all of these accidents resulted from the same mistakes but they all mirror a lack of formation discipline — a totally unacceptable trend. Formation tactics are a result of years of experience born of necessity. Although specific procedures vary from one aircraft to another, there are a few things common to all — and all have one thing in common — good sense.

SPEAK UP

The good leader briefs what he flies and flies what he briefs. If he can't, he should at least let his wingman know the changes — in advance. There is nothing more frustrating than to be flying along when lead suddenly surprises you with an unbriefed (and sometimes uncoordinated) whifferdill. Trying to hang in there, you think, "Did he see a bogey at twelve? Lose an engine? Forget to feed the dog?"

Now lead has compounded your problem; not only has he surprised you with an unbriefed maneuver, but he's got you guessing. This is O. K. if he's trying to lose you, but damn, you're scheduled to fly a mission with the S.O.B. — KEEP YOUR WINGMAN INFORMED!

Although lead bears a heavy burden of responsibility, the safety of the flight is up to everyone in the gaggle. When you're sitting in that #2 spot — fat, dumb, and happy . . . don't be. If it looks like lead is doing something strange, speak up. He could have vertigo, hypoxia — or be just plain confused. Talk to him. Wingmen have an

"DO UNTO OTHERS..."

inherent responsibility to take care of lead. Do it.

One TAC accident occurred when the wingman elected to press on with a master caution light. To make things worse, he didn't let his flight leader know. Later in the flight, his negligence caught up with him when he glanced down to see what malfunction he had and lost sight of lead. When he finally picked him up again, an uncommanded input forced his aircraft into lead's. Result? One easily preventable mid-air and one aircraft scratched from TAC's inventory.

BE AWARE OF YOUR WINGMAN'S(AND YOUR OWN) CAPABILITIES.

Supervisors can bite the bullet here. Scheduling aircrews beyond their capabilities was identified as a cause factor in five TAC accidents since last October. Ideally, any combat crew can accomplish any mission at anytime. In the true light of dawn, however, we all know that we're always good — but sometimes we're better. You say you just got back from 30 days' leave, your wife just had a baby, the weather forecast is grim and they've got you scheduled as #4 in a night gunnery mission? Is that your trouble, tiger? Do your boss a favor and talk to him. When he finds you haven't flown for awhile, he might put you on a nice, simple day two-ship to unlimber your motor skills — and nobody will think the less of you for it.

Pilots, like doctors, all have a minimum amount of skills but some are better than others. If you're a leader, know your wingmen and if any of them are a little weak, spend some time with them before takeoff and make sure they know exactly what's happening — and give them all the help you can in the air. Common sense? You bet!

PROTECT,ASSIST,SUPPORT AND MONITOR

Sounds like a bunch, doesn't it? It is, but it's nothing new really; it just boils down to good formation integrity. One of the most important advantages of formation flying is that four eyes (or more) are better than two. In a combat environment, the life-saving protection one pilot gives another often results in a friendship that lasts long after the shooting stops — and rightfully so. Well, I've got news for you — they're still out to splash you. Now those "they's" are mid-airs, mountains, and meteorological conditions, just to name a few. They may not be as dramatic as a SAM or MiG at your six, but the results are often the same — and you're just as dead.

We've somehow developed the bad habit in the last few years of labeling "weenie" anyone who breaks formation because of any problem less critical than a complete loss of power, control, or both. It's a pain in the backside to have to escort your wingman home, but this procedure has been known to save lives. I remember back in pilot

training on my solo four-ship checkride in the white rocket....

I forgot to turn on my fuel boost pumps (yes, there's one in every class) and just like the book says, I got a double engine flameout on climbout. Dumb? Yes. Quiet? Yes, except for my heavy breathing on hot mike and the calm voice of the check pilot in #3 who advised me to please look down, check my fuel boost pump switches and see if they weren't in the "off" position. Yes they were. He then told me to place two fingers (one for each switch) under the switches and raise them to the "on" position. This done, he advised me to attempt an airstart to see if the airplane wouldn't fly better. I did. It did. I landed that airplane in a slight state of shock — years older in experience, very aware of the value of the checklist — and with a deep appreciation of a damn good wingman. No matter that my wingman also happened to be the squadron commander and my checkpilot. No matter that I "pinked" the ride. I can still sit in a bar and tell others of the dumb things I did in my youth — and that's what matters.

Finally (and this may torque some jaws) a few words about trust. At one time or another, every aspiring young jock has been told of the epitome of formation intergrity: four black spots on the White Cliffs of Dover where a flight of P-51s followed their shot-up leader to their deaths. Fact or fiction, this type of trust is, at the best, questionable. There are times when staying with lead is important — and there are times when a disengagement is critical. Two or more smokin' holes are never better than one, and man's basic drive to survive is still our best safety weapon.

With two (or more) flying the same direction at the same time and two handfuls of technology, you need all the help you can get. If you agree, raise your right hand and repeat after me: "Do unto others...." >

TAC TIPS

...interest items,

THE GREATEST CAUSE OF ACCIDENTS IS BEING PHYSICALLY PRESENT AND MENTALLY ABSENT

HE LEARNED A LESSON - HOW ABOUT YOU ?

Habit patterns are very closely tied to our flying activities. We strive to build good habit patterns, and work hard to get rid of bad ones. Recently, an IP in a side-by-side seating trainer took a good pattern, and applied it at the wrong time.

He was on initial for a full-stop landing, planning to give the student a simulated single engine. To most pilots, flying twin engine airplanes, this is pretty much a no-sweat maneuver. Most of our modern two-engine types have good single-engine performance.

The IP got to thinking ahead to the landing, and as they rolled into the break, he pulled the right throttle to idle, simulating an engine failure; however, he was thinking ahead to the wing's new noise abatement procedure of shutting down the right engine while taxiing in.

You guessed it! He smartly raised the right throttle over the idle detent and shut the right engine down. He very shortly thereafter stopped day-dreaming and rapidly lost his complacency.

— Fortunately, the engine restarted, just as advertised.

— Fortunately, he wasn't flying a single-engine airplane.

— Fortunately, the landing after the engine restarted was routine.

— Fortunately, he had guts enough to admit his mistake, because he isn't the only pilot around who daydreams or becomes complacent.

We know he learned a lesson from this incident — how about you?

YOU'D BETTER BELIEVE...

The F-4 taxied out, #2 in the four-ship formation. The flight lined up on the runway and started their takeoffs, in-trail at ten-second intervals. At 95 knots, #2 had a fire light on his number one engine. He called abort, shut down the left engine, deployed the drag chute and lowered the tail hook. As he slowed, the aircraft commander asked the tower if there were evidence of fire, and received a negative.

Sounds like another false fire warning light, doesn't it? Well, it wasn't!

A few seconds later, as the pilot started to turn off the runway, the tower called and told him that fire was trailing the airplane. The crew immediately shut down and emergency ground egressed while the fire truck put out a fire in the left engine bay.

Investigation revealed a failure of the number one engine afterburner fuel line. It failed due to chafing on a broken clamp, which allowed fuel to spray onto the hot section of the engine.

Fire lights? You'd better believe them.

1800 FEET TO THE SIDE AND LEGAL !

Quick — When flying an Airport Surveillance Radar (ASR) approach, how far from either edge of the runway can the radar folks get you and still be legal? 500 feet at one mile, you say? That's only partially correct. A recent hazard report pointed out that the 500-foot answer given may not always be true. Take the case at Hurlburt Field. If you receive an ASR to Hurlburt, given by Hurlburt, the radar people will guarantee within 500 feet. However, if the ASR to Hurlburt is given by Eglin approach control, located some ten nautical miles away, the allowable error is about 1800 feet!

The explanation for this appears in AFM 55-8, which says that the allowable error is 500 feet or 3% of the distance between the missed approach point and the radar antenna, whichever is greater (Change 2 to AFM 51-37 will point out the 500 feet or 3% also). In this case, the radar at Eglin is approximately ten miles from Hurlburt; ergo, 3% of that distance gives you about 1800 feet.

How do you know when the ASR you're getting is not given by the people at the intended landing field? The

mishaps with morals, for the TAC aircrewman

controller, according to the Terminal Air Traffic Control Handbook, will advise you that the approach is being given to (airport name) if (airport name) is not the place where he's located. Another subtle clue will be in the phraseology during the final controller changeover:

> "Contact (name of facility) final controller on (frequency)."

For example, if you're shooting an ASR to Hurlburt, and you are told to contact Eglin final controller on (frequency), that is your clue that the controller is not at Hurlburt.

At some places, the only radar approach available may be from a remote located radar and at others, this situation is only used for backup. Do you know what exists at your base? How about the one you've filed into? Alternate? The en route supplement doesn't always tell the whole story!

Suggest you take a look at your local radar setup and talk to your local flight facilities people. You might be surprised at what you find.

WHAAAT ?

The message traffic and numerous reports that flood a headquarters often provide weary desk-bound warriors with little bits of humor – some intentional and some unintentional.

Recently, we received a report that has to rank near the top of the unintentionals.

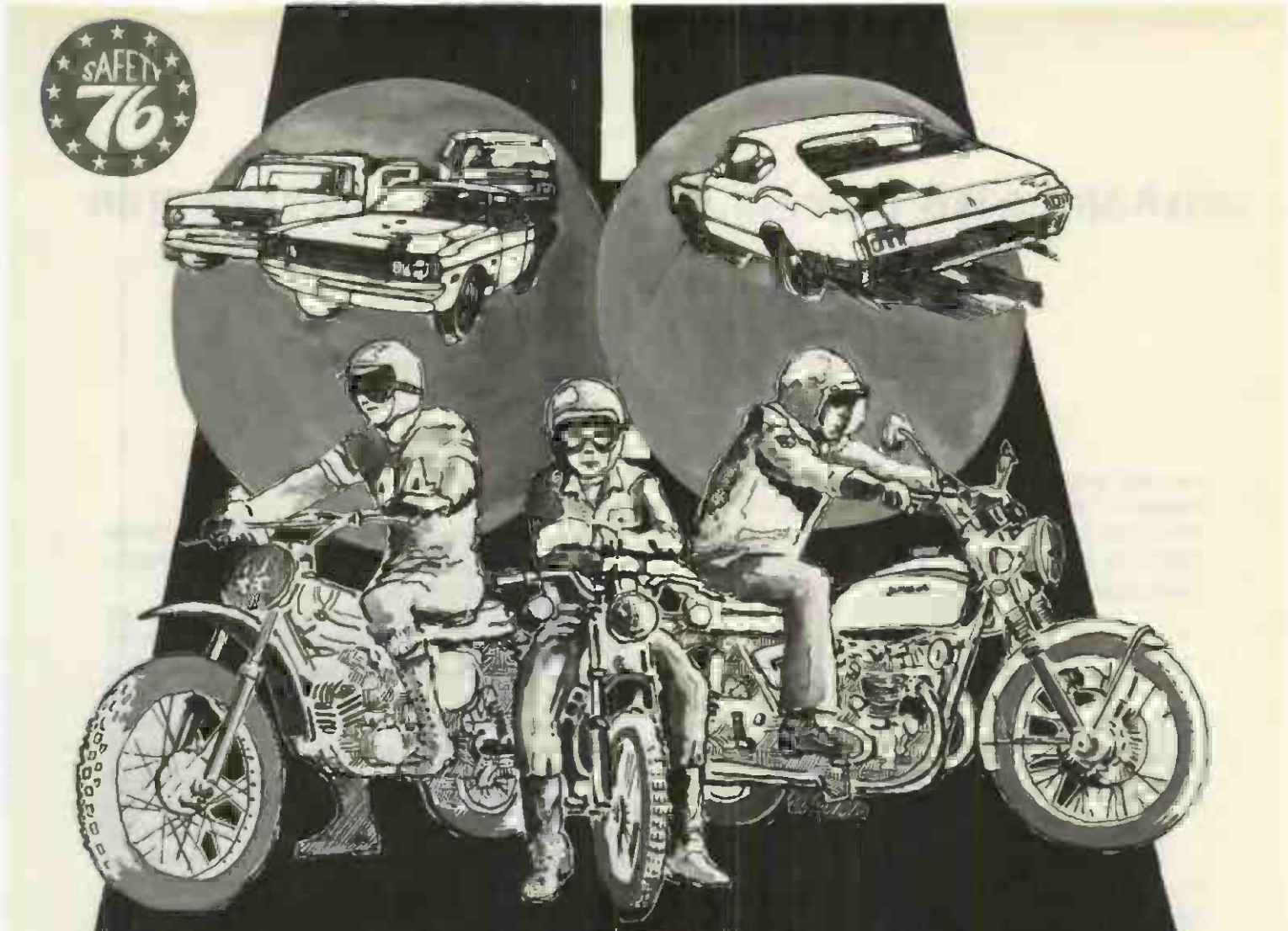
The report was discussing problem areas at one location and states:

> **"Problem areas existed in air traffic control and clearance procedures . . . One instrument flight clearance was passed to the flight in the following manner: 'Call Sign, you are cleared as filed. Be advised we do not have a flight plan on you.'"**

JUST FILLING A SQUARE ?

How many times do RSU officers figure they're just filling a square? "After all, all the guys are responsible for their own airplanes, aren't they?"

Well, fortunately, this attitude wasn't present during a recent incident. The RSU officer monitored the F-105's takeoff, just like the good book says he should. Just as the Thud lifted off, the RSU officer noticed an irregular flame pattern, with white flecks extending beyond the flame. He tried to call the pilot to advise him of the situation, but the attempt was unsuccessful due to UHF difficulties. He then grabbed the tower hot line and asked them to relay the information. When the tower told the pilot what had been observed, he checked his engine instruments, but they were all normal. Nevertheless, he burned down his fuel and made a precautionary landing. A post flight check of the engine revealed light damage to the first three stages of the compressor, and extensive damage to the ninth stage. The culprit? A threaded foreign object. Had the RSU officer not been alert and spotted the problem, the pilot probably wouldn't have found out that anything was wrong until he had a very sick engine.



GETTING ALONG with MOTORCYCLES

by David Girling
Courtesy GM's American Youth Magazine

Cars and motorcycles — is there a need for more cooperation in the current two/four-wheel traffic mix?

As a high-mileage driver and frequent motorcyclist, I say, yes. I see both sides of this sometimes touchy situation, and it's my opinion that we've all got to work a little harder at getting along. Furthermore, I think the onus is the driver to make an extra effort to improve relations between bikes and cars. It's simply a matter of the injury potential involved. In even a minor encounter

between a car and bike, what may mean scratched paint or a dented fender for the driver may well mean a broken human body for the motorcyclist. The biker just doesn't have much safety margin even in a minor collision or upset.

Put another way, studies show that fewer than one of 10 accidents involving all motor vehicles results in injury. But only about one in 10 accidents involving motorcycles does not result in personal injury. The fact is, when four-wheeled vehicles and motorcyles are at odds, the motorcycle invariably is the loser.

There are justifiable beefs on both sides of the two/four-wheel mix. Motorcyclists claim that some drivers do dangerous things, such as tailgating, pulling out in front of them from side streets and driveways, not monitoring them closely in the rearview mirrors, and not glancing over their shoulders before turning or changing lanes.

Drivers have their complaints, too. Some say that motorcyclists don't always follow the rules of the road as the law says they must.

Most frequent driver complaints are that because of the size of their bikes some motorcyclists often ride between rows of vehicles, pass within the same lane, pass on the right in curb lanes, thread unnecessarily in and out of traffic and tailgate.

So what can you, the average driver, do to make life easier (and perhaps healthier) for the average motorcyclist? First, if you feel any annoyance or hostility about sharing the road with motorcycles, you can make a sincere effort to adjust your attitude. Motorcycles aren't going to go away. As licensed vehicles they have a perfect right to use the public roads. So really make an attempt to rise above trying to prove every point with the motorcyclist who may not be driving just the way you think he should. Don't hassle the biker. Don't always insist on the right of way, even if you're convinced that it's yours. And never try to "put a motorcyclist in his place" with some near-miss maneuvering in retaliation for what you consider to be acts of rude or sloppy riding. That "place" may be the back of an ambulance, or worse.

Be highly defensive when you're near a motorcycle; expect the rider to do the worst possible thing, and make allowances. (A good motorcyclist will be highly defensive, too. He'll expect drivers to do the worst possible thing.) Keep in mind that with the increase in the number of motorcycles on the road over the past few years, many cyclists are fairly new to the game. Few have had formal training on how to handle their bikes. And since there is a tendency for people to get into the bike scene, ride for a season or two, and get out of it, at any given time you can be sure that a good percentage of motorcyclists on the road are inexperienced; that is, they probably don't have more than a few hundred miles in the saddle.

In bad weather, when it's raining, for example, be extra tolerant of the biker. He's exposed to the elements and he may have difficulty seeing well and coping with reduced traction. Take it from me, even moderately sized raindrops hitting one's face can be painful and very distracting.

When you're in bumper-to-bumper slow-moving traffic, watch for bikes to "appear from nowhere" between lines of cars. A driver edging to one side of his lane can unknowingly put a quick end to such foolhardy riding tactics. But who wants that on his conscience?

By the same token, don't try to "share" a lane with a motorcycle merely because it doesn't occupy all of the space. I repeat, a motorcycle is a licensed vehicle, entitled to a full share of the road. If you pass a bike, pass it as you would a car by moving completely into the next lane and not returning to the original lane until you're safely ahead of it. If you come to a stop signal and a motorcycle is stopped to one side of the lane (even if the lane isn't marked), don't snuggle up beside it. Stop behind it, as you would if it were a four-wheel vehicle.

Get yourself "up" psychologically to watch for motorcycles at all times. Some people seem to have the habit of tuning them out visually and of not allowing for them when they mentally compute their maneuvers in traffic. A motorcyclist should always ride with his lights on even in broad daylight (it's the law in some states) to make himself more visible, but don't count on it. Motorcycles can seem to disappear in "busy" backgrounds.

Many motorcyclists ride to the left of the center of the lane so that they'll be more visible to traffic ahead and behind. But if one is riding in the center of the lane (something many bikers like to avoid because of accumulated oil and residue) or to the right, he may not be visible. When you pass another vehicle, or when you're turning left, make certain there isn't a motorcycle just ahead of, or behind, the vehicle you're moving around.

Treat the motorcyclist with all the respect and courtesy he's entitled to as a legal co-user of our roads and highways. Who knows, courtesy, like a disease, can spread once it catches on. We're blessed with the best road system in the world and the most individual freedom of mobility ever enjoyed by man. If we all infect ourselves with a good dose of courtesy and mutual respect, there's no reason why we can't get along in good health. >

F-4 weight & BALANCE

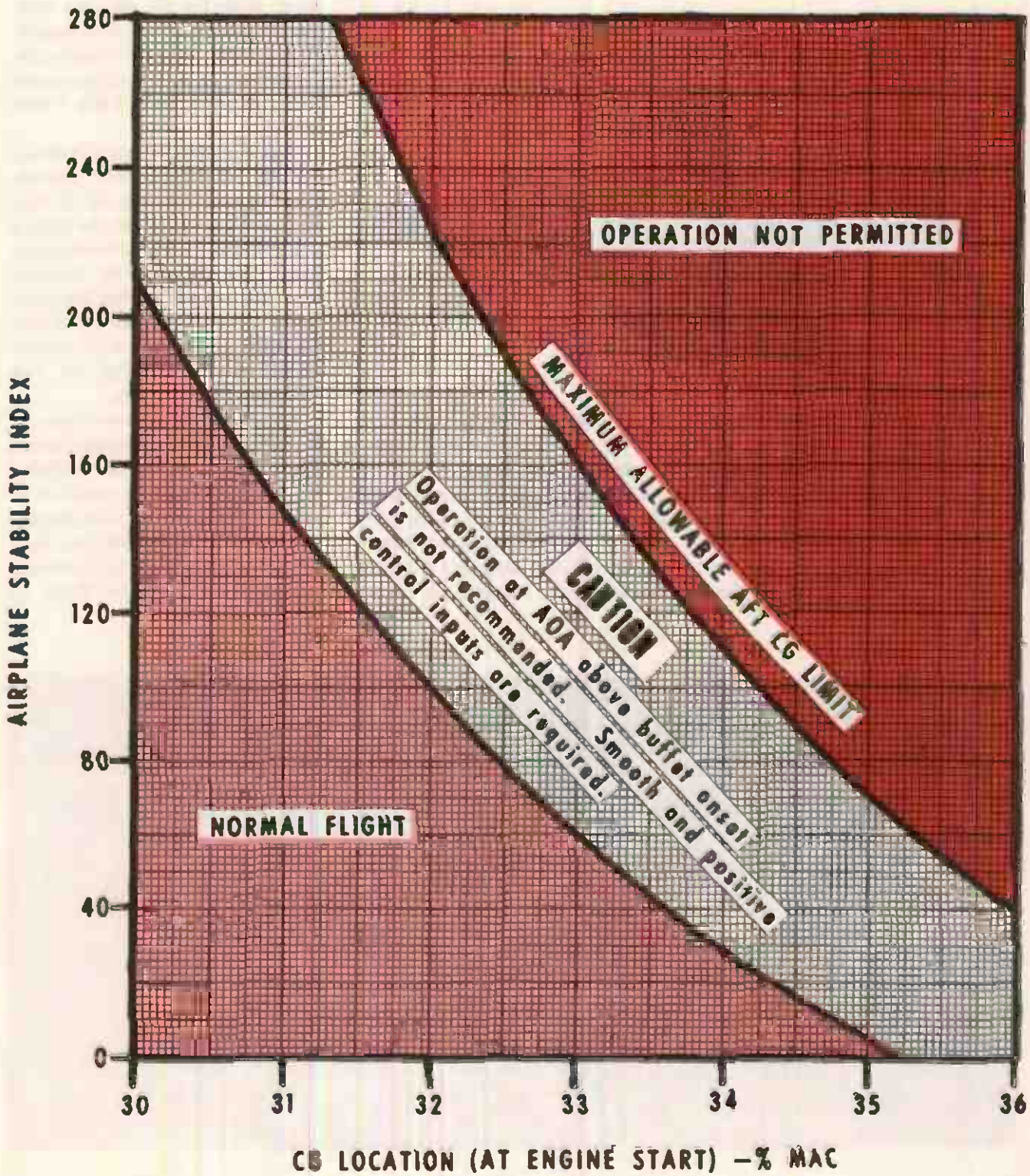
How many times do we as fighter pilots fill in the Weight and Balance block on the DD 175 as "not applicable?" Most of the time we just glance over that block as a square for the transport pilots. With two recent major F-4 accidents in which aft centers of gravity were factors, it might be wise to take a close look at some CG considerations. This is of primary concern to aircrews who are flying the leading edge slat (LES) F-4E or about to transition to it.

But first, let's take a look at what affects the CG of an F-4E. There are two primary items — fuselage fuel distribution and external stores — and, under the external stores, it is the type and location that affect the CG.

It sounds simple, but engineers have a way of complicating things. The addition of external stores on the wing stations decreases longitudinal stability and reduces the stick force required per G. This decrease in stability is further aggravated by heavy gross weights, maximum performance maneuvering, and low speed flight. Because of this, when carrying wing-mounted external stores, it is necessary to establish a maximum allowable aft CG in order to maintain minimum longitudinal stability; that is, stabilator effectiveness.

Figure 5-7 of TO 1F-4C-1 shows the relationship between aircraft stability index and center of gravity for an LES F-4E. The stability index is determined by totaling the stability number assigned to each wing-mounted store and its suspension equipment. The center of gravity of an individual aircraft is determined by referring to the weight and balance handbook and the DD 356F for the loaded aircraft. If these two lines intersect in the red region, operation is not permitted because the stabilator may not be able to provide adequate longitudinal control. Operation in the yellow area is permitted, but flight in this area requires smooth and precise control inputs.

AFT CG LIMITS F-4C/D



WEIGHT and BALANCE

Since the distribution and transfer of fuel affects the CG more than any other single factor, it is wise to know what effect the different fuel configurations have on an aircraft. The centerline tank will move the CG slightly aft but has no significant destabilizing effect. As the fuel feeds out, it has a slight net effect of moving the CG .5 percent forward. The external wing tanks also move the CG slightly aft but have a significant aerodynamic destabilizing effect. This effect is even greater when stores such as SUU-20s, and especially AGM-65s (Maverick), are mounted on the inboard pylons. As the fuel is fed from the external wing tanks, the CG will move forward about .5 percent, again a slight amount. The internal wing tanks, when fed out, will also move the CG slightly forward since they do not feed into cell 5 or 6. However, the greatest forward CG change occurs during and after tanks 5 and 6 have fed out.

Figure 2 shows some of the configurations that are commonly flown on a leading edge slat F-4E. All of these configurations are within one percent of being over the maximum allowable limit. "But we fly these airplanes every day and haven't had any problems yet." If aircrews are unaware of the potential problem, an out-of-limit aft CG could be the first link in a disastrous chain of events.

The one thing that can move the CG out of limits is dumping internal wing fuel while the fuselage fuel tanks are still full. Tests as a result of an RF-4C accident showed that dumping fuel will shift the CG aft from .8 to 1.4 percent, depending on the aircraft configuration. On slatted birds, in

MISSION	EXT TANKS	STORE	MAX ALLOWABLE AFT CG	MAX CG
GROUND ATTACK	2	2 SUU 20/A DISPENSERS	33.3	32.94
GROUND ATTACK	3	2 SUU 20/A DISPENSERS	33.3	33.3
DART	2	— " —	34.00	33.14
MAVERICK	3	3 LAU 88 WITH 1 AGM 65A	33.00	32.26
CROSS COUNTRY	3	1 TRAVEL POD	33.5	32.62
FERRY	3	1 TRAVEL POD NO AMMO IN THE GUN TANK 7 LOCKED OUT	33.5	32.5

FIGURE 2

every case that we carry wing tanks, either with or without other wing-mounted stores, dumping fuel with full fuselage tanks will drive the center of gravity past the maximum allowable aft limit.

Someone is probably thinking that, "I can remember carrying loads into combat where the CG was further aft than any of these." That's right, but it was before the addition of slats to the F-4E. The purpose of the slats is to increase the handling or control characteristics of the F-4. In order to increase control, stability must be decreased. In adding the slats, the maximum allowable aft CG was shifted forward one percent. The slats are meant to increase air-to-air performance in a clean configuration.

All this theory won't help the crew who experience a critical emergency immediately after takeoff. What will, is knowing that in order to land as soon as possible, dumping fuel is NOT the way. If the situation is critical enough, jettisoning the external wing tanks will do two things that will help. First, it eliminates 5400 pounds of weight and, secondly, it greatly increases the stability of the aircraft. Now there is no danger in dumping fuel because the stability index has decreased considerably. Jettisoning the centerline tank would decrease the weight but would not decrease the stability index. Since the F-4E does not have the # 5/6 lockout, the only way the CG can be shifted forward faster than normal without jettisoning stores is to feed only the fuselage fuel by deselecting the external tanks and selecting stop transfer on internal wing tanks.

One of the most aft CG configurations flown is the ferry configured bird. These will be flown when picking up aircraft from the depot or when delivering a new aircraft to European allies. In this configuration, the gun carries no ammunition and, therefore, the number seven fuel cell must be empty and locked out. If it isn't, the CG will exceed the maximum allowable aft limit. An entry must be made in the aircraft forms and the pilot can check by looking at two switches in the right wheel well. These are not on the fuel panel, but are to the left and marked A and F. Both of these switches must be depressed and held in position by a wire retainer. In the cockpit, if the difference of subtracting the tape from the counter is greater than about 4100 pounds, it is likely that there is fuel in the No 7 tank.

In summary, and without the use of engineering terms, the important things to remember are:

1. The reduction of fuselage fuel will have the greatest effect in moving the CG forward.

2. If any wing stores are mounted, wing fuel should not be dumped unless the tape indicates 5000 or less.

3. If fuselage fuel is not reduced, and gross weight must be reduced immediately, the only safe way to reduce weight is to jettison the wing tanks.

4. The best way to land ASAP with an emergency is to take your time and use the landing configuration and/or afterburners and speed brakes to reduce GW and manage your fuel to keep the aft fuel cells empty.

Until we fly the LES F-4E in a clean configuration all of the time, all of us will have to be aware of the aft center of gravity situations that can develop, and how to avoid aggravating the situation should an emergency develop.

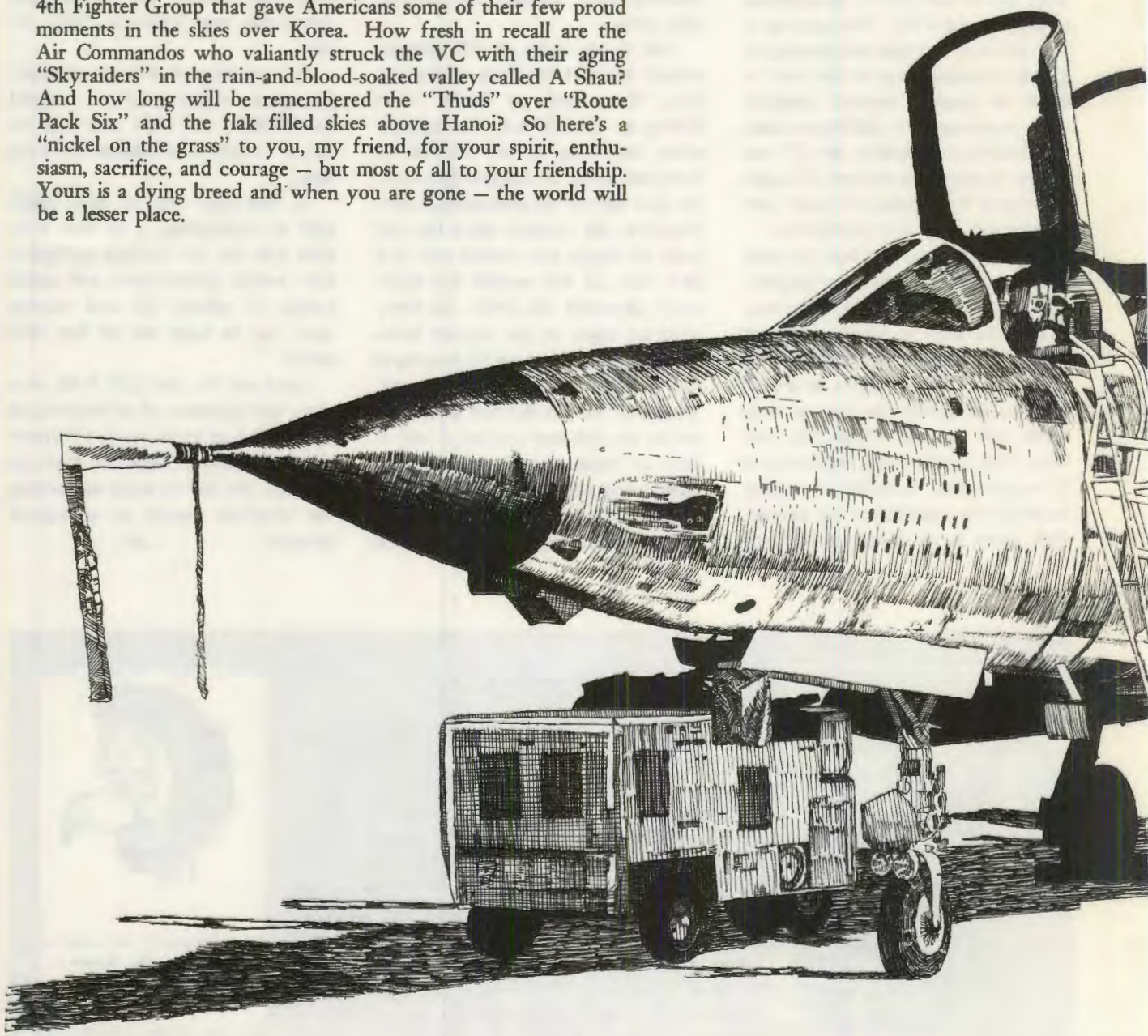
ABOUT THE AUTHOR

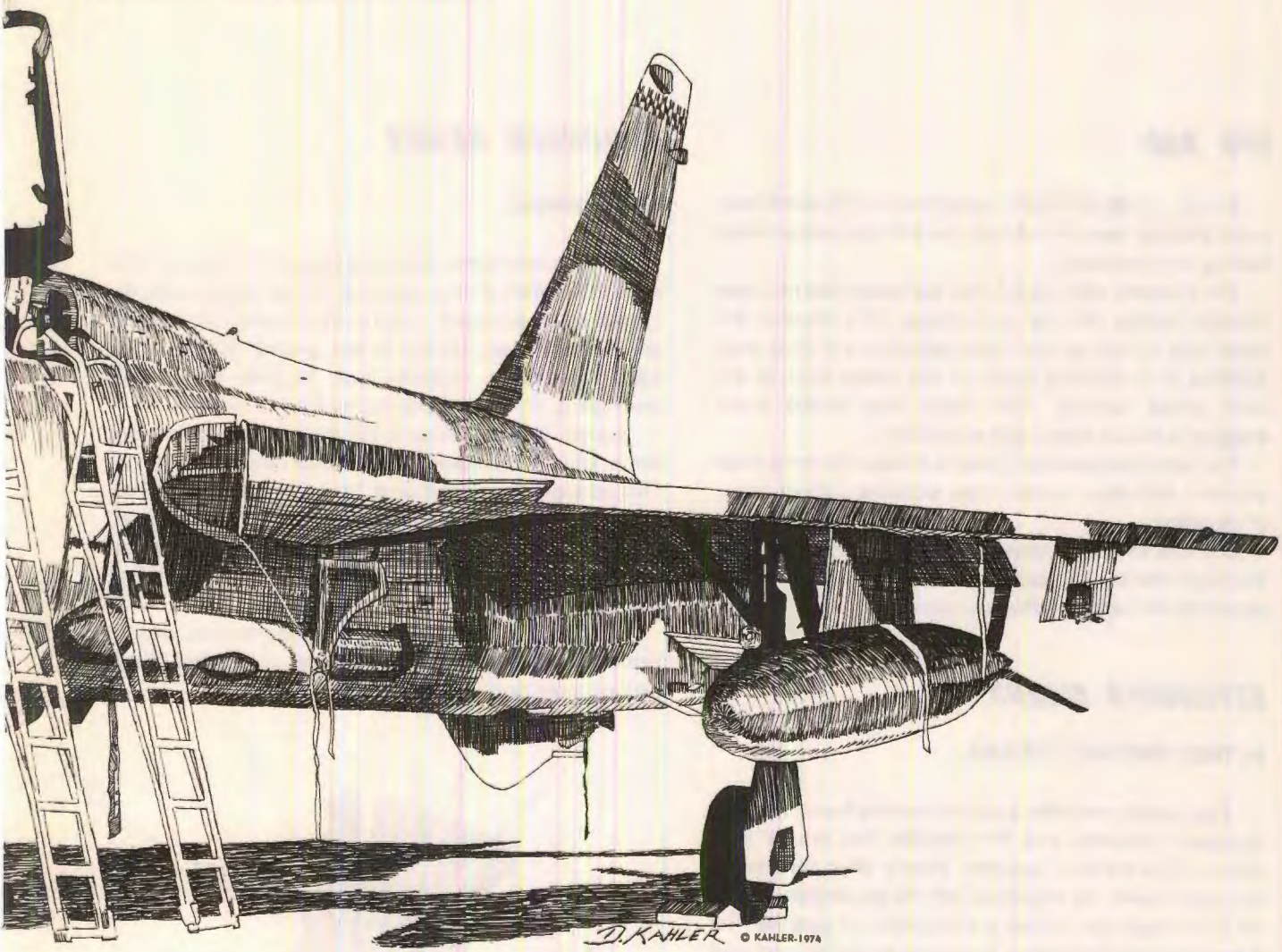
Captain Seymour is a University of Pittsburg graduate with a degree in Aeronautical Engineering. After completing pilot training at Webb AFB, Texas, he attended F-4 RTU at Davis-Monthan AFB, Arizona. He was assigned to the 35 Tactical Fighter Squadron at Kunsan, Korea, but spent seven months TDY at Da Nang and Korat, flying 75 combat sorties and 110 combat hours. Returning to Seymour Johnson AFB in January 1973, he later attended the Flight Safety Officers Course at the University of Southern California. Captain Seymour is currently Flight Safety Officer in the 4 TFW Seymour Johnson AFB, NC, flying the F-4E.

Capt Seymour's contribution makes him this month's FLEAGLE T-Shirt winner.

THE FIGHTER PILOT

Say what you will about him: arrogant, cocky, boisterous, and a fun-loving fool to boot – he has earned his place in the sun. Across the span of fifty years he has given this country some of its proudest moments and most cherished military traditions. But fame is short-lived and little the world remembers. Almost forgotten are the 1400 fighter pilots who stood alone against the might of Hitler's Germany during the dark summer of 1940 – and in the words of Sir Winston Churchill gave England "Its Finest Hour." Gone from the hardstands of Duxford are the 51s with their checkerboard noses that terrorized the finest fighter squadrons the Luftwaffe had. Dimly remembered – the 4th Fighter Group that gave Americans some of their few proud moments in the skies over Korea. How fresh in recall are the Air Commandos who valiantly struck the VC with their aging "Skyraiders" in the rain-and-blood-soaked valley called A Shau? And how long will be remembered the "Thuds" over "Route Pack Six" and the flak filled skies above Hanoi? So here's a "nickel on the grass" to you, my friend, for your spirit, enthusiasm, sacrifice, and courage – but most of all to your friendship. Yours is a dying breed and when you are gone – the world will be a lesser place.





We recently ran across a beautiful portfolio of drawings by Dennis Kahler. Denny's got more than a passing interest in flying. His father, Colonel Harold Kahler piloted an F-105 for 80 combat missions with the 34 TFS and 354 TFS. On his 81st trip, 14 Jun 69, he was downed in Laos and is still MIA. Our thanks to Denny for permission to reprint his Thud drawing – and hopefully we'll print more of his work in future issues.

CHOCK TALK

chock talk

...incidents and incidentals with a maintenance slant.

TOO BAD

During a T-39 postflight inspection at a transient base, metal shavings were found near the left main outer wheel bearing and brake area.

The transient alert found that the spacer had not been installed during the last tire change. This allowed the wheel hub to rub on the brake assembly and strut area, resulting in a grinding down of the flange next to the outer wheel bearing. This could have caused brake dragging, a locked wheel, and an accident.

The tech data describing how to change the tire is clear and even includes a caution note requiring a visual check of the spacer.

Our hats are off to those transient alert folks for their thorough checks. Too bad we can't say the same for the personnel who installed the tire incorrectly.

EXPLODING PICKUP

by TSGT WHITING, TAC/SEG

Two people recently sustained serious burns when an explosion occurred and fire engulfed the cab of their pickup. The accident occurred shortly after the pickup had been fueled. As the driver left the gas station, he and the NCO passenger noticed a strong odor of gasoline. The driver even remarked about the strong gas fumes, and then put a cigarette in his mouth and attempted to light it, using the other's lighter. The fuel vent pipe was not properly connected, allowing some gas to run into the truck's cab. When the lighter produced a spark, the gas fumes ignited and exploded.

Moral? Don't light up when you smell gas fumes; it could be hazardous to your health!

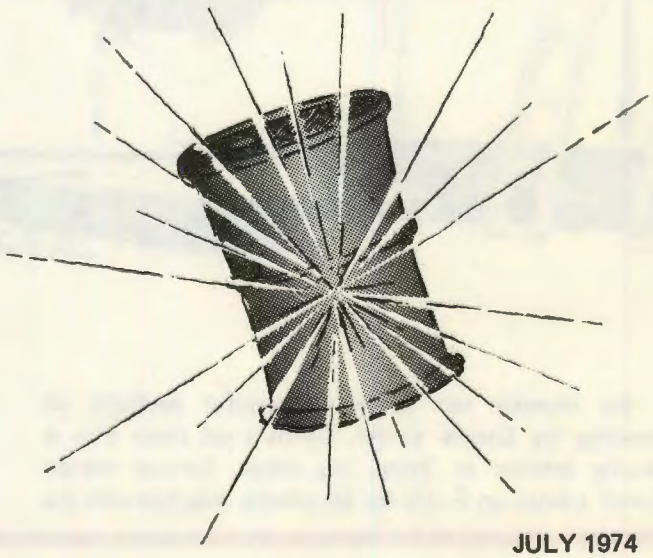
UNPURGED DRUMS

by TSgt Whiting

An acetylene torch was being used to cut the top from empty 55 gallon drums. Just after the cut was started, the second drum exploded, forcing the lid and torch against the worker's head. He fell to the ground and struck his head, resulting in multiple skull fractures and a brain concussion. He will be hospitalized for five months.

Sounds familiar, doesn't it? It's the same old story about empty, mislabeled, or misused cans doing you in. This accident was caused when the torch flame ignited the fumes inside the drum. The contents of the drum could not be determined, because it had been tightly sealed for an undetermined length of time. Also, the drum had never been purged.

Insure that all drums are purged and inspected with an explosive meter prior to any type of cutting. These actions could be lifesavers.



TACTICAL AIR COMMAND

AIRCREWMAN of DISTINCTION

LT COL WILCOX

Lieutenant Colonel Samuel E. Wilcox, Jr., 159 Tactical Fighter Group, New Orleans Naval Air Station, Louisiana, has been selected for the Tactical Air Command Aircrewman of Distinction Award for April 1974.

Lieutenant Colonel Wilcox was flying #2 in a flight of three F-100Ds on a scheduled tactical air-to-ground mission at Camp Shelby, Mississippi, Air-to-Ground Range. Approximately five minutes after departure from NAS New Orleans, a slat check was performed by the flight at 5,000 feet. The aircraft was porpoised three times to check slat action. On the third pull, the slab inputs were normal, but upon releasing the back pressure, the stick would not move forward from the centered (neutral) position. Forward force was applied with both hands while holding forward trim, with no detectable response. The aircraft sought its own level at approximately 250 knots. Aileron and rudder response were normal. Both hydraulic systems checked normally. Lt Col Wilcox took control of the flight and set the transponder to Emergency/Mode 3, Code 7700. The flight proceeded to the area south of the New Orleans Naval Air Station for controllability checks. Radio contact was maintained with the NAS Tower and the ANG Command Post/RSU. The stick appeared nearly frozen, fore and aft, with the stabilator moving approximately one inch at the leading edge with full stick deflection. This was reported by the two chase aircraft. At 15,000 feet and 220 kts, a controllability check was performed. It was found with gear down and full flaps,control was adequate down to 185 kts, becoming marginal at 175 kts. A straight-in approach was made using 185 kts to about 50 feet AGL where ground effect permitted a safe landing speed of 160 kts at touchdown. Rollout was normal.

Investigation revealed that the panel stiffener connected to access panel F-122 had come loose and wedged between the horizontal control bell crank and the support bell crank.

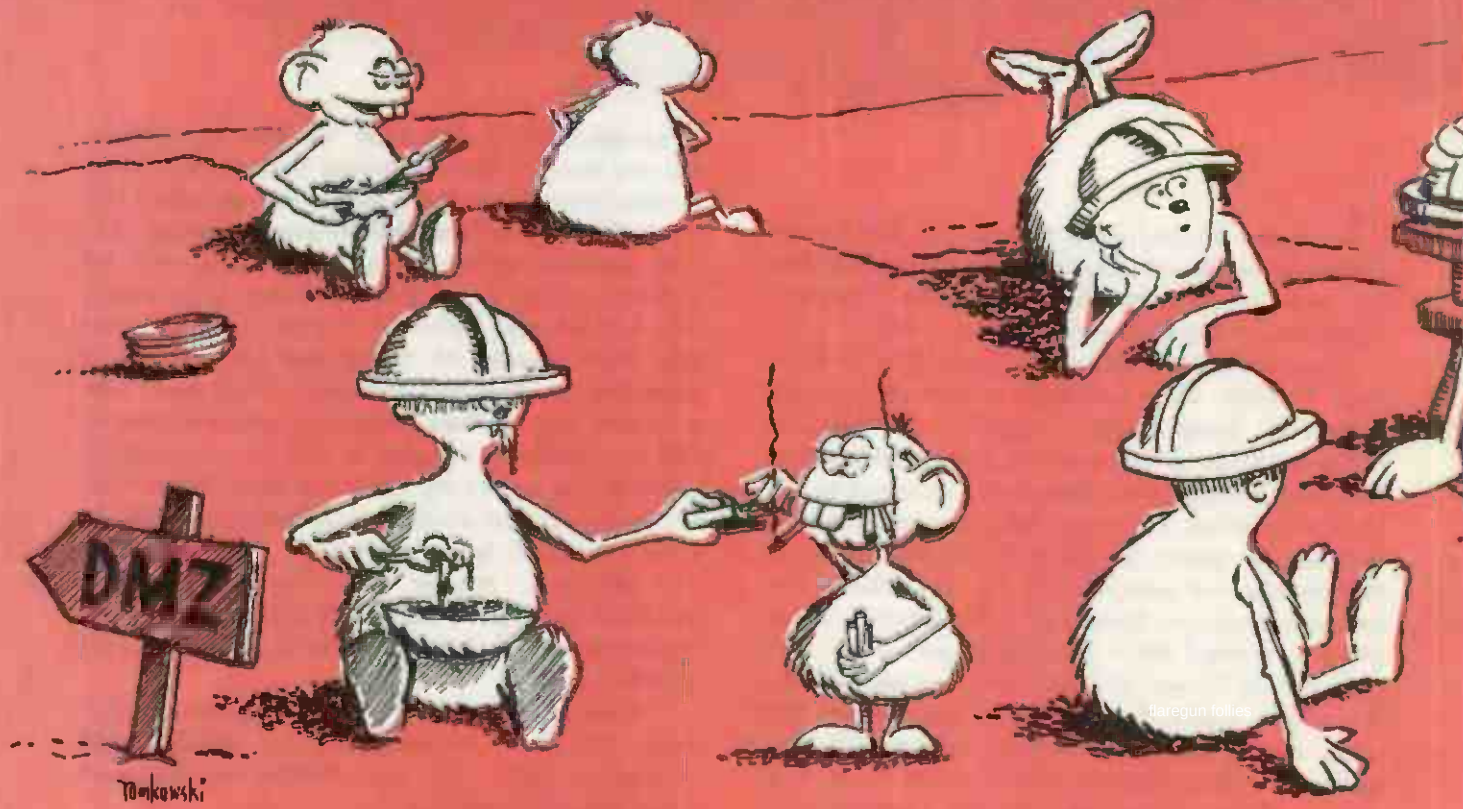
The exceptional skill and excellent judgment displayed by Lt Col Wilcox in overcoming this serious inflight emergency qualify him as a Tactical Air Command Aircrewman of Distinction.

FLAREGUN FOLLIES

OR THE FABLE OF THE FOOLISH FAC

Once (or maybe even twice) upon a time, in a unique land called Co-ree-uh, there lived a group of creatures called FACs. It was known far and wide that they were creatures of exceeding strange caliber, possessing strange and wondrous weapons (called willypetes) which they hurled from chariots (that were pulled in two different directions simultaneously) called Otoos. Their leader was Watt the One and Only, a warrior of great renown, in whose name the FACs advised other creatures called ROKs (who ate funny food.)

The ROKs lived in remote places (which makes it very remote because Co-ree-uh itself is remote), mostly near a strip of uninhabitable land called a DMZ. And thence went the FACs, singly or in groups, living amidst the ROKs, sharing their board and quarter. And once in a great while, certain Winged Weenies would descend upon

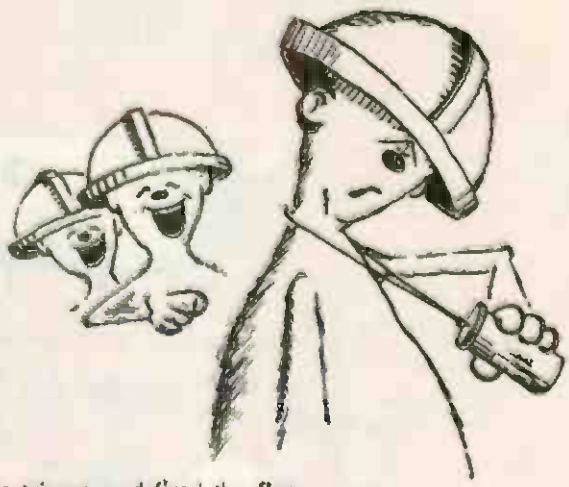


the FACs to make certain that they were obedient to the wishes of an emperor called HHQ, and that they accomplished their work with a method called IAW.

On one fateful day, a young and eager FAC was sent to meet arriving Winged Weenies, who were due at a place called an FOL. In preparation for the arrival of the guests, the FAC (a thorough fellow) had in his possession a weapon called a flaregun (oh, that toy of the devil) with which he could warn the Winged Weenies' Otoo in case the vicious creatures called Unsafe Conditions should appear in the area.

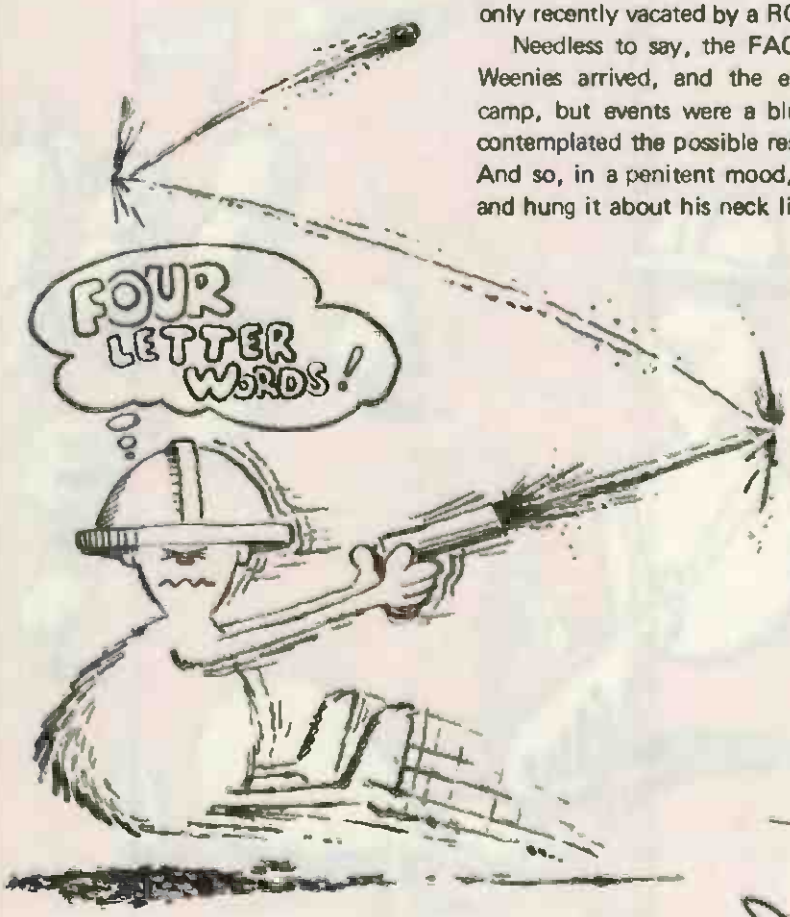
To make a long fable short, the Winged Weenies were

FLAREGUN FOLLIES ...



late. The Otoo, a slow bird at best (understandable if trying to go two ways at the same time) was even slower than usual. The winds were from the evil North, and the GCI was manned by ROKs. As the FAC waited and waited, he became more and more bored and angry. ROK choppers arrived and departed, ROKs scrounged cigarette after cigarette, and still no Winged Weenies. And thus, as his mind was occupied with four letter words and curses, the inevitable happened – he absentmindedly toyed with the devilish flaregun, and the devil (unbeknownst to the FAC) put a finger around the trigger, and fired the flare, which whizzed past the FAC's prominent proboscis with all of its 3000 magnesium degrees, and landed in an area only recently vacated by a ROK chopper.

Needless to say, the FAC was frightened; the Winged Weenies arrived, and the entire party returned to the camp, but events were a blur in the FAC's mind as he contemplated the possible results of what had transpired. And so, in a penitent mood, he took the expended flare and hung it about his neck like an albatross, to serve as a reminder to him (and others) that regardless of how many times one does a job, he can still err if his attention isn't always there, especially when Unsafe Conditions, and their kin, Dangerous Things, are part of the job.



The FAC has found a new calling as a result of this experience, being knighted as Safety Officer, to travel from AFB to AFB as a changed man, telling his tale of terror to all who will listen. And the moral of his story is: Watch the flareguns, fellow FACs and fighter pilots; unloaded, they take a good pull on the trigger; load it up and it takes about .00000000001 ounce to set them off.

PHYZ-BIZ
PHYZ-BIZ
PHYZ-BIZ

LOW BLOOD SUGAR

by Lt Col Andersen
TAC Physiological Training Coordinator

"Hypoglycemia" is the medical term which means "low blood sugar," and it may well be the most consistently overlooked factor in the occurrence of physiological incidents. Let's take a look at an actual case, reported on an AF Form 711gA, Section A, the "Life Sciences Report of an Individual Involved in an AF Accident/Incident."

The chronological account of the student pilot's activities for the day of the reported physiological incident are listed as:

0430 – Awoke and ate toast and coffee
0505 – Arrived at squadron
0515 to 0540 – Briefing
0545 to 0630 – IP Briefing
0630 to 0710 – Preflighted aircraft, no problems
0710 – Taxi takeoff

This was the student's first flight in advanced instruments and it had been one month since he had last flown instruments. Ten minutes into the instrument portion of the mission, he began to come unglued: he began to over-correct, and when the IP noticed that the plane was climbing after a rollout from a turn, he queried the student who reported symptoms of dizziness, tingling and generalized warmth. The IP then declared an emergency (alt 29,000 feet; cabin altitude, 12,000 feet) and began a descent. The student made an oxygen equipment check and went to 100% oxygen – no malfunctions were detected.

Dizziness gradually cleared during descent and the student reported he was "completely normal at the time of landing." The student never reported heavy breathing and the IP did not recall the student pilot breathing heavily, but because the symptoms are compatible with hyperventilation, that was considered to be the most likely possibility."

But is it the most likely possibility? I think not! Let's see if we can't put the pieces together in a logical manner. Through the years, the student's body had become accustomed to a dietary regimen of heavy meals at regular intervals. The man was a foreign student who usually ate a heavy breakfast, commonly three sausage sandwiches and coffee at 0600, followed by a heavy lunch of meat, potatoes, etc. Dinner, usually at 1900, followed the same pattern, heavy food and lots of it! But, after the customary evening meal at 1900 the night before, breakfast on the day in question consisted only of toast and coffee, and that at a much earlier hour than normal. As in any normal individual, the amount of sugar in his blood is controlled by the amount of food consumed and by a hormone, insulin, manufactured in the pancreas and introduced directly into the blood stream. Normally, the amount of sugar in the blood rises rapidly after eating; this triggers the secretion of insulin by the pancreas and

low blood sugar

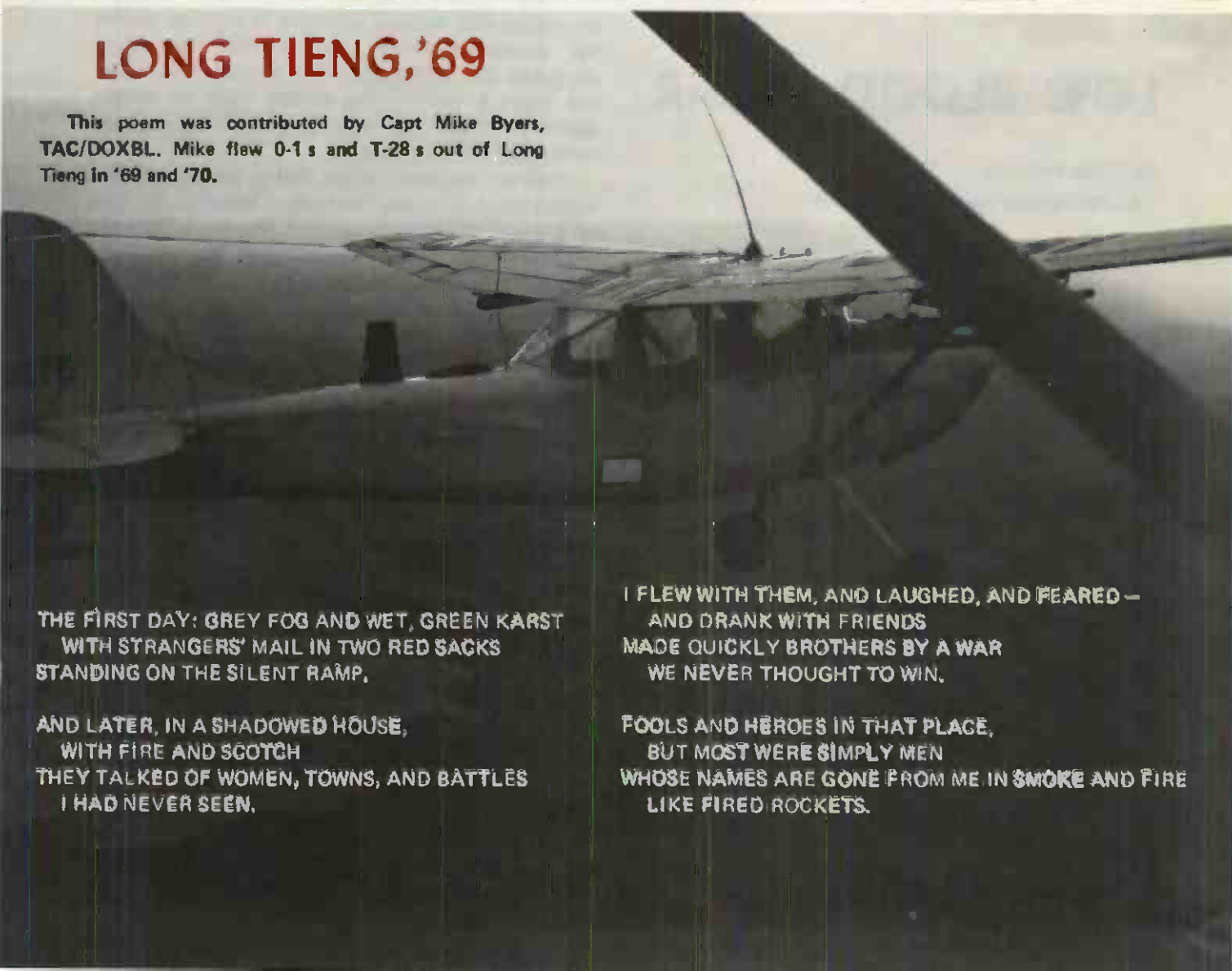
within two or three hours the level is back to normal limits. The level of sugar in the blood is a critical factor in the functioning of brain cells, since they use sugar almost exclusively as their source of energy.

In this particular case, the student "fasted" from 1900 hours the night before until the time of his reaction(about 0730); this is a fast of more than 12 hours, broken only by coffee and toast. It is entirely possible that the toast and coffee triggered the insulin mechanism and brought his blood sugar down to a borderline level. At this point, three hours after eating, he was subjected to severe psychological stress in the form of anxiety (remember, his first advanced instrument flight, and the first time on instruments in a month). Under these conditions, adrenalin (or epinephrine, the "fight or flight" hormone which mobilizes the bodily resources for action) is present in large amounts in the blood stream. It stimulates the utilization of sugar in the blood stream to produce energy to meet the emergency. In so doing, it may cause such rapid utilization that the blood sugar level drops to a critical level, at which times the symptoms of dizziness, weakness, sweating, etc., present themselves. When the IP takes over, declares an emergency and begins a descent, the student's emergency is over; he can relax and in so doing the level of epinephrine rapidly diminishes. His symptoms disappear by the time the IP lands the aircraft!

A blood test taken post-flight revealed that his blood sugar level was still in a "borderline" status. The real culprit here is hypoglycemia and every crew member must realize his own vulnerability under similar conditions. You may get away with lapses and omissions occasionally, but as long as the laws of probability are valid, you can expect to have a reaction at some unspecified time and under conditions which may be more dangerous than this student's. Try speculating on what might have been the outcome had he been solo!

LONG TIENG,'69

This poem was contributed by Capt Mike Byers, TAC/DOXBL. Mike flew O-1 s and T-28 s out of Long Tieng in '69 and '70.



THE FIRST DAY: GREY FOG AND WET, GREEN KARST
WITH STRANGERS' MAIL IN TWO RED SACKS
STANDING ON THE SILENT RAMP.

AND LATER, IN A SHADOWED HOUSE,
WITH FIRE AND SCOTCH
THEY TALKED OF WOMEN, TOWNS, AND BATTLES
I HAD NEVER SEEN.

I FLEW WITH THEM, AND LAUGHED, AND FEARED—
AND DRANK WITH FRIENDS
MADE QUICKLY BROTHERS BY A WAR
WE NEVER THOUGHT TO WIN.

FOOLS AND HEROES IN THAT PLACE,
BUT MOST WERE SIMPLY MEN
WHOSE NAMES ARE GONE FROM ME IN SMOKE AND FIRE
LIKE FIRED ROCKETS.

SPO CORNER

aims to please

by Maj BURT MILLER

Like many new systems, AIMS has received more than its share of bad publicity. Although significant problems have cropped up during the hardware modification, installation, and implementation phases of this program, most have now been eliminated. One of the biggest problems has been in the area of education. Aircrews tend to be suspicious of new goodies — especially if they don't improve their strafe score or autopilot's operation. In the case of AIMS and servoed altimeters, it was quickly learned that using the standby mode gave you the old reliable pneumatic altimeter. Therefore, since a few jocks had reported bad things such as 3000 to 4000-foot errors in the reset mode, and since the dash one guidance wasn't all that expansive (who reads Section IV anyway), a lot of aviators just kept the gadget in standby. By so doing, they actually denied themselves more accurate altitude data. I'm not saying it's going to make that much difference picking a pickle point during a 45° dive but it does reduce your instrument error by about one-half, cuts down the installation error and generally tells you more precisely at what altitude you and your machine are during level flight. When working as designed, electrical computer signals are much more accurate than pneumatic aneroids and mechanical linkages.

A special study of AIMS and servoed altimeter problems was conducted this spring. Of 211 incidents reported, only 11 fell into the gross error category (over 500 feet). All were easily detected by the standby flag, AEU out or SPC light, or by performing dash one required comparisons between modes and cockpits. None of these errors had a common cause or failure mode. About half were computer problems and half altimeter deficiencies.

The remainder of the incidents were also equally split between the computer and the servoed altimeter. The detected errors can be divided into erratic behavior and stable error categories. The erratic behavior, such as stop and jump, needle jitters, or oscillations, will occur in either servoed or reset mode. All are pretty much inherent in counter drum type altimeters and won't be eliminated until someone invents a means of doing away with friction. The stable or constant errors were usually detected during switching from standby to reset and usually during ground checks. Since the errors are predominantly in the servoed mode, going back to standby will give you a suitably accurate platform to accomplish your mission.

The single most prevalent identified corrective action was adjustment and calibration. Like the aircrews, our maintenance types and the guys who write the tech data, need some time to insure the proper guidance is available and properly used to tune this gear. When correctly adjusted, a large majority of the small errors will be eliminated. Tech data and maintenance procedures are being closely checked for needed changes and improvements.

In the meantime, give yourself the benefit of modern technology — use your servoed altimeter and AIMS system. Check it using the checklist guidance and write it

up if it doesn't perform. If all else fails, recent additions to the dash one may give you a little insight into how the system works and what you should or shouldn't expect it to do. Sometime in the near future, AIMS altitude reporting will be required when operating in all controlled airspace above 12,500 feet. A properly functioning and understood system will make it safer for all concerned.

gator aid

by Maj "Doc" Ply

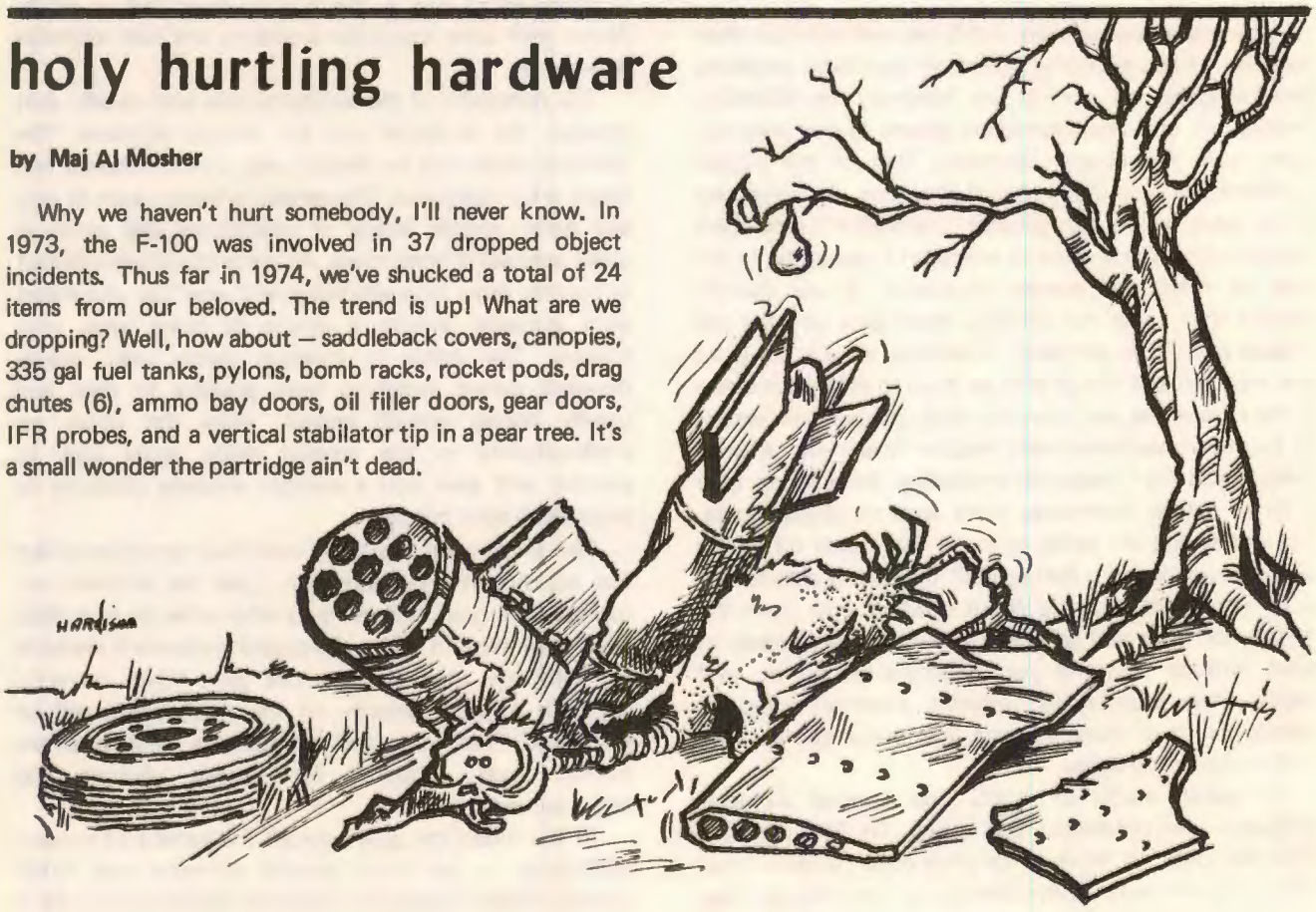
Engine start and initial taxi proceeded normally until the navigator attempted to mount the sextant in the overhead mounting bracket. He encountered considerable difficulty getting the sextant mounted, then discovered that he could not remove it. Despite the navigator's best efforts, the sextant clung grimly to its moorings. With an (expletive deleted), the gator gave up and returned to his desk. The instructor engineer then sat on the sextant stand to monitor the actions of the student flight engineer. As the taxi progressed, the sextant became detached and ricocheted off the instructor engineer's head. The engineer was dazed but after receiving the gator's aid, soon insisted that he was fine and that the mission continue. Later while driving home, the engineer experienced double vision and was subsequently hospitalized.

An errant sextant can be a pretty formidable opponent. So can large tech data binders, manuals, helmets, and other paraphernalia left lying about on crew bunks, on top of consoles, and other elevated areas in the cockpit. Turbulence, descent, or landing deceleration is often enough to launch such objects. The results have ranged from momentary distractions to serious injuries. A clean and orderly cockpit not only lends to the professional aviator mystique, it also prevents lumpy heads.

holy hurtling hardware

by Maj Al Mosher

Why we haven't hurt somebody, I'll never know. In 1973, the F-100 was involved in 37 dropped object incidents. Thus far in 1974, we've shucked a total of 24 items from our beloved. The trend is up! What are we dropping? Well, how about – saddleback covers, canopies, 335 gal fuel tanks, pylons, bomb racks, rocket pods, drag chutes (6), ammo bay doors, oil filler doors, gear doors, IFR probes, and a vertical stabilator tip in a pear tree. It's a small wonder the partridge ain't dead.



TACTICAL AIR COMMAND

Maintenance Man Safety Award

Staff Sergeant John H. Layne, an aircraft maintenance technician in the USAF Tactical Air Warfare Center, Eglin Air Force Base, Florida, has been selected to receive the Tactical Air Command Maintenance Man Safety Award for May 1974. Sergeant Layne will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.

SSgt Layne

TACTICAL AIR COMMAND

Crew Chief Safety Award

Airman First Class Robert G. Hocutt, an RF-4C crew chief in the 67 Organizational Maintenance Squadron, 67 Tactical Reconnaissance Wing, Bergstrom Air Force Base, Texas, has been selected to receive the Tactical Air Command Crew Chief Safety Award for May 1974. Airman Hocutt will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.

A1C Hocutt

TACTICAL AIR COMMAND

Ground Safety Man of the Month

Staff Sergeant Phillip DeRemer, Squadron Ground Safety NCO, 2 Aerial Port Sq, Little Rock AFB, Arkansas, has been selected to receive the TAC Ground Safety Man of the Month Award for May 1974. Staff Sergeant DeRemer will receive a certificate and letter of appreciation from the Vice Commander, Tactical Air Command.

SSgt DeRemer

pull down vent

by Capt Mike Byers
TAC/DOXBL

pull down vent lines

The Pull Down Vent Line (PDVL), in spite of what some people may tell you, is not the little leather doofer on your flight suit zipper. In fact, the PDVL is rather like a navigator: generally misunderstood, sometimes unjustly maligned, but useful.

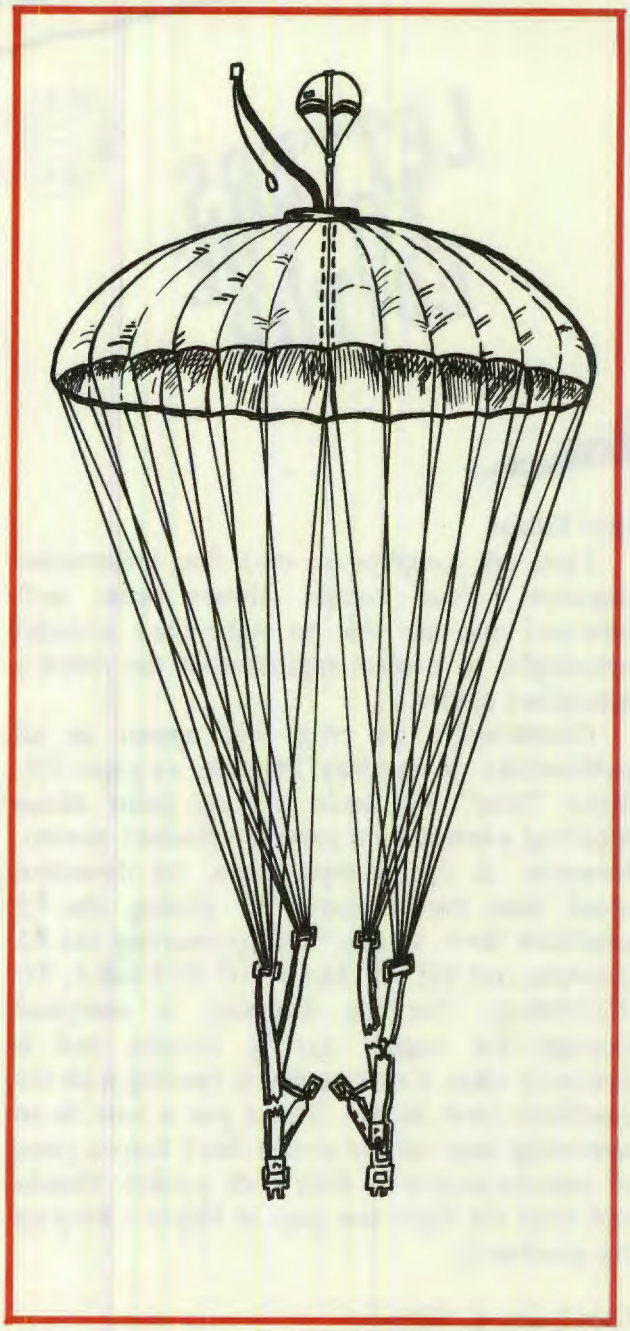
On the C-9 parachute canopy as installed in the F/RF-4 ejection seat, the PDVLs attach two suspension line connector links to canopy vent lines. For the technically-minded (or nit-pickers), it would be correct to say that the two PDVLs are "attached to the front connector links and are held at the apex of the canopy by the parachute withdrawal line and the bridle of the pilot parachute, both of which are looped around the vent lines."[1] In any event, the PDVLs are shorter than the suspension lines and therefore prevent the main canopy from "squidding"[2] by bearing the load of the drogue

[1] *Tech Order 14D1-2-376.*

[2] *"Squidding" can be visualized as a large orange/white/olive drab squid, proceeding vertically toward the ground at approximately 32 ft/sec^2, in pursuit of an exceptionally unhappy aircrew member.*

[3] *The Shear Pin Effect: Common to all mechnanical devices, but usually most noticeable during operation of emergency or back-up systems. The Shear Pin Effect, stated simply, is: "Things that are designed to break, won't."*

lines



'chute until the main 'chute is opened.

While this in itself is highly desirable (you don't see many skydiving squids), the best thing that PDVLs do for you is provide quicker 'chute deployment at low airspeeds. Since a parachute canopy opens by filling with air from the apex down, the PDVLs effectively act to hold the apex closer to the skirt, thus decreasing the skirt-apex distance and allowing the canopy to inflate quicker. This is a good deal, not only for the ejectee, but also for the parachute riggers and life support technicans who, because there's no explosives involved, don't have to treat the parachute like a hand grenade. The PDVLs, you see, are designed to break after they've done their job. This is a cheap and simple way of doing things and considering the rest of the F/RF-4 egress system, it's amazing that these unsophisticated little buggers ever got approved for installation.

However, there's a catch: The PDVLs, like all mechanical devices, are subject to "The Shear Pin Effect"[3] and therefore don't always work exactly as designed. You are going to have a funny-looking canopy if the PDVLs don't break, because they're shorter than the suspension lines and will hold the 'chute apex down, giving a flatter shape to the parachute. This may appear, from the ejectee's viewpoint, to be a PARACHUTE MALFUNCTION OF A HORRIBLE, UNKNOWN NATURE! Too wrong, mate. Even if the PDVLs don't break, and they usually won't at low speeds, your friendly parachute will still work as advertised. You can even use the four-line jettison lanyards with absolutely no ill effects — in fact, you should use them to prevent oscillations. According to the people at El Centro Naval Test Facility (they know a 'gator from a stump when it comes to parachutes), unbroken PDVLs actually improve the performance of the C-9 canopy by giving it a flatter shape and consequently better glide characteristics.

So the next time your great, green, smoking monster comes down with a sudden terminal case of the crud and you wisely pull the yellow handle(s), think good thoughts about the PDVLs. Gadgets that always work even when they don't are winners every time. >

Dear Editor

First, my compliments on a fine, informative magazine. Your writers always seem well informed and are able to make their material meaningful to readers regardless of the article's specialized nature.

Occasionally, an error will appear in all publications. In the May 74 issue, on pages 8-9, Major "Doc" Ply made a good point about regaining control of a partially disabled system. However, in the example given, ice detection could have been restored by placing the #2 condition lever to run, not by resetting the #2 T-handle (ref TO 1C-130A-1, TO 1C-130B-1, TO 1C-130H-1). The ice detection is energized through the engine starting circuits, and is operative when 2 or 3 engine is running with the condition lever in run. Please put a note in an upcoming issue so the troops don't keep a piece of misinformation in their back pocket. Thanks and from the flight test guys at Hayes – keep up the good work.

Capt Larry K. Hillman
DCASO, Hayes International Corporation
Birmingham, Alabama

We're both batting .500. The ice detection circuit is energized through the ignition control system. Therefore, in order to regain ice detection in the incident cited, the #2 engine fire emergency control handle (T-handle) would have to be reset and the corresponding engine condition lever positioned to "run"... TAC Stan/Eval is taking action to clarify this procedure in the dash one. Thanks for bringing the error to our attention.

Dear Sir

I noted with interest the article in the March '74 issue entitled "Six Hours Solo is Enough." Since you seemed in doubt about the authorship, I thought I would rush to your rescue.

This piece first appeared in print in 1959 in a modest little rag known as Pre-Flight Air News, since defunct. Pre-Flight Air News was published in San Carlos, California, and edited by Bob Blodgett (now a contributing editor to Flying Magazine). The original title of the story was "I Learned About Flying From That" and was meant as a spoof of articles appearing regularly in Flying, wherein the contributing authors admitted to an appalling ignorance of (then) Civil Air Regulations.

Since its first appearance, it has been reprinted many times under many different titles. Once it appeared as "Hey, Jack", if you can figure that one out.

I was never particularly proud of this piece and have never before admitted ownership. However, since you are the first to publish it and say "thanks", I thought I would like to say "thanks" to you.

REID F. SAINDON
10604 N. 46th Avenue
Glendale, Arizona

We at TAC ATTACK enjoyed "Six Hours Solo is Enough." Have any more articles? Ed

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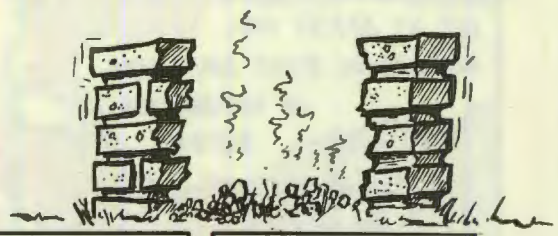


TAC TALLY

	TAC			ANG			AFRes		
	MAY	Thru MAY		MAY	Thru MAY		MAY	Thru MAY	
		1974	1973		1974	1973		1974	1973
TOTAL ACFT. ACCIDENTS ►	1	10	19	3	8	10	0	4	1
MAJOR ACFT. ACCIDENTS ►	1	10	13	3	8	6	0	3	1
AIRCREW FATALITIES ►	1	6	9	2	6	1	0	1	2
TOTAL EJECTIONS ►	0	10	12	1	4	5	0	1	1
SUCCESSFUL EJECTIONS ►	0	9	7	0	1	4	0	1	0

TAC'S TOP "5"

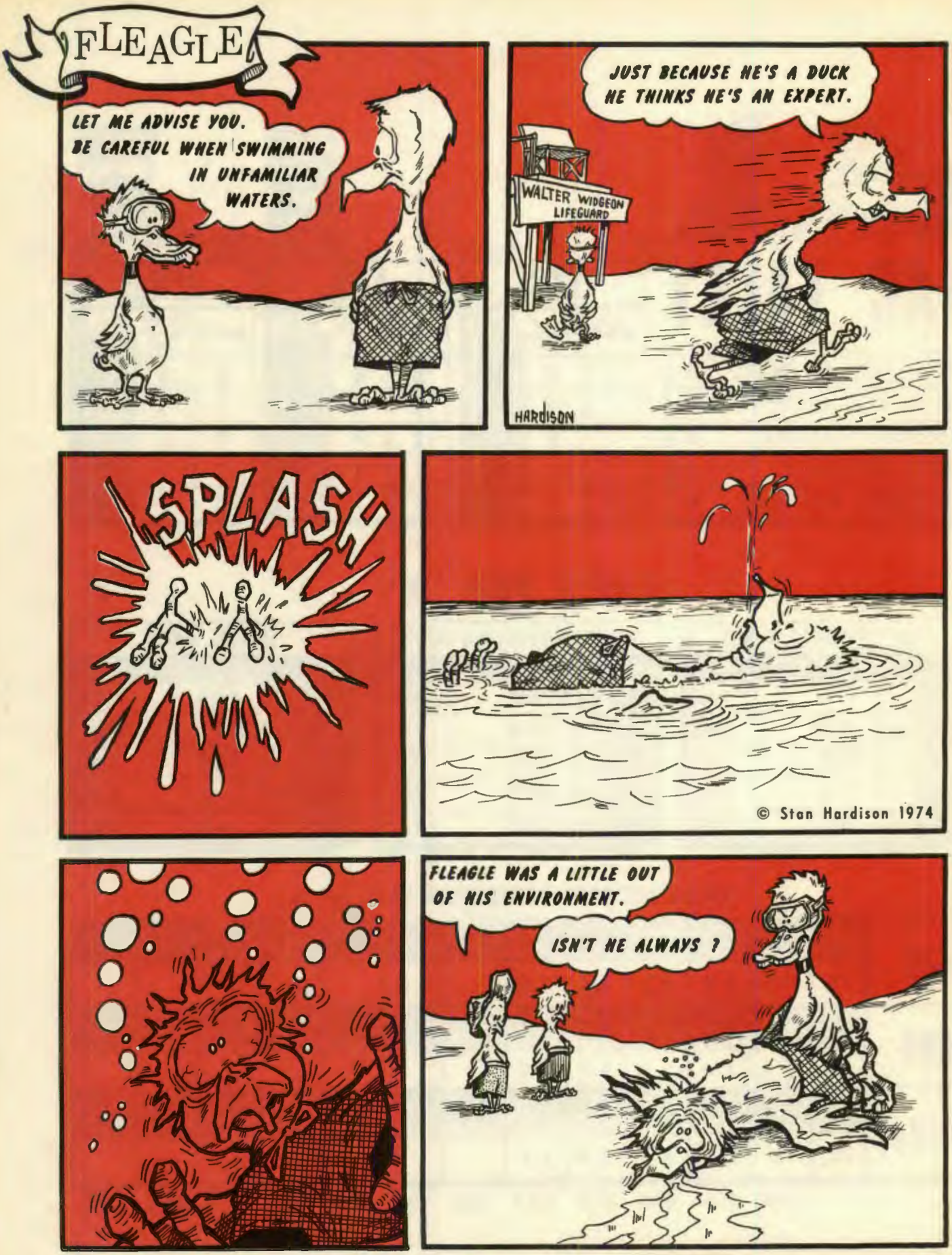
FIGHTER/RECCE WINGS		
ACCIDENT-FREE MONTHS		
74	33 TFW	TAC
42	162 TFTG	ANG
41	4 TFW	TAC
26	127 TFW	ANG
23	31 TFW	TAC

AIRLIFT/REFUELING WINGS		
ACCIDENT-FREE MONTHS		
107	440 TAW	AFRES
106	136 ARW	ANG
70	316 TAW	TAC
59	126 ARW	ANG
58	463 TAW	TAC

SPECIAL UNITS		
ACCIDENT-FREE MONTHS		
137	130 SOG	ANG
117	2 ADGP	TAC
98	143 SOG	ANG
86	DET 1, D.C.	ANG
62	135 TASG	ANG

MAJOR ACCIDENT COMPARISON RATE 73–74

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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	5.6	4.5	4.0	3.6	3.4					
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	8.6	8.2	5.7	7.0							
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	8.9	8.8	6.7							


FLEAGLE
LET ME ADVISE YOU. BE CAREFUL WHEN SWIMMING IN UNFAMILIAR WATERS.
JUST BECAUSE HE'S A DUCK HE THINKS HE'S AN EXPERT.
WALTER WIDGEON LIFEGUARD
HARDISON
SPLASH
PAM
© Stan Hardison 1974
FLEAGLE WAS A LITTLE OUT OF HIS ENVIRONMENT.
ISN'T HE ALWAYS ?