

TAC ATTACK

OCTOBER 1980



WILLIAM TELL 1980

Pg 4



READINESS IS OUR PROFESSION



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TACRP 127-1

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Angle of Attack

EXERCISE WITH CAUTION

Exercises, surges, deployments, and operational test and evaluation programs are a way of life for Tactical Air Command units. These operations are designed to practice and test our capabilities for sustained operations under various combat scenarios. They are a logical companion to our efforts to train, mobilize, and deploy under realistic conditions. Keep in mind that operations such as these should be a time for increased vigilance.

In 1979, nine aircraft mishaps—26% of our losses—occurred during exercises, deployments, and test operations. Through the first week of September 1980, seven aircraft—30% of our losses—have been during the same type operations. Even more alarming is the fact all but one of these 16 mishaps were command controlled—mishaps under our direct control. Why the disproportionate number of operational causes in these mishaps? We are still looking for answers. In the majority of these mishaps the aircrews were also lost.

All supervisors and aircrews should be aware of

this apparent accident potential during deployments and exercises. We must insure our scenarios are not too demanding for the crews—particularly during critical phases of flight. We cannot allow even the perception of mission importance to override our normal operational constraints. Exercises, surges, and deployments must maintain that margin for error—for all personnel involved. Everyone must be aware of that margin, the risks, and the necessity for greater vigilance throughout all phases of the operation.

Above all, we have to realize there isn't a peacetime training sortie, mission deployment, or aircraft test that can't be flown tomorrow. ➤

Richard K. Ely

RICHARD K. ELY, Colonel, USAF
Chief of Safety



You remember William Tell don't you? That's right, the "original" William Tell was a legendary Swiss folk hero. During the early 14th century, Tell had reportedly shot an Austrian bailiff's hat from a pole where it had been placed as a symbol of the bailiff's authority. William Tell was soon captured by the bailiff's troops and was then forced into the famous shoot-the apple-off-your-son's-head trick. Legend has it that William shot the bailiff a short time later, giving the signal for a general uprising against the Austrians. This of course is all unsubstantiated. Similar tales also occur in Danish, Icelandic, and Scottish folklore.

Turning to a bit more modern history—it has been substantiated that the William Tell aerial weapons meet began in 1954 as the air-to-air rocketry portion of the third annual USAF Fighter Gunnery and Weapons Meet. Air Defense Command and Air



Training Command teams participated with the honors going to Training Command.

An ADC team from the Eastern Air Defense Force won in 1955 by outshooting the ATC entrants. This particular year, William Tell went worldwide with four out of seven teams from overseas bases. 1956 saw nine teams representing seven major air commands competing in the final rocket meet held in Arizona. The Eastern Air Defense Force successfully defended its championship as F-86s, F-89s, and F-94s were the mainstays of ADC's competitors in the meet.

William Tell moved to Tyndall Air Force Base, Florida in 1958 where it has remained since then. In that year, the contest took on a new dimension—the F-102, ADC's first supersonic interceptor entered the competition. It was also in 1958 that William Tell was exclusively an ADC competition



and an impressive array of new equipment made its debut. Radio controlled Q-2A drones and electronic scoring replaced towed targets and the Falcon and Genie rockets made their first weapons meet appearance. Another first occurred that year when a team from the Florida ANG racked up a perfect score in their F-86s.

Twelve teams representing five major air commands entered the 1959 competition and in this meet the scoring was so close, the winner won by a margin of only 100 points in the 6,000 point match. F-100s and F-104s joined the F-102s and F-89s in scrambling day and night against targets at all altitudes and airspeeds.



In 1963, an "intruder" was added to the competition. A drone was launched from an unannounced point and intercept directors had to find it, scramble their fighters, and guide them to the target. In 1965, the meet went "international" with the inclusion of a Canadian F-101 team. The winners in the 1965 competition that year was a USAFE team

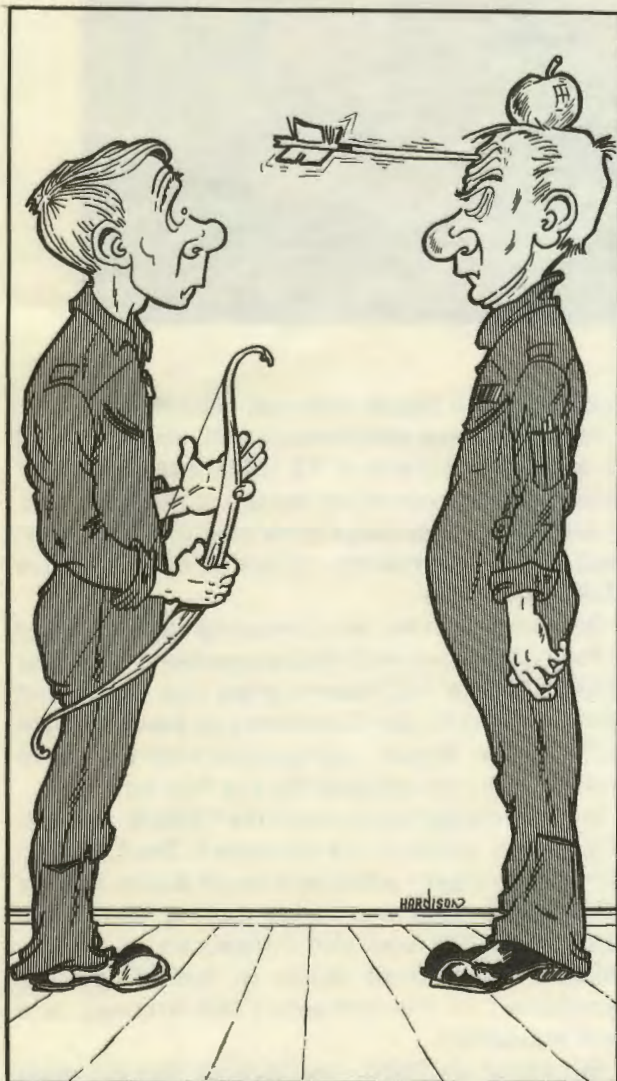
operating with Dutch intercept controllers.

After a five year intermission, William Tell picked up again in 1970 and in '72, BQM-34A and EB-57 targets added even more realism to the scenarios. In that year, a Canadian crew won the "Top Gun" award, having achieved a direct hit on the evasive BQM-34A drone.

Succeeding years saw increasing sophistication in the competitors and the competition. In '74, the TDU-25B infra red, towed target was used—and you guys who fly dart tow think you have it tough! By 1976, the "Deuce" had passed from the scene and the Phantom entered for the first time.

In 1978, eleven teams from the CONUS, Europe, Philippines, and Canada competed. The F-102 re-entered the meet—albeit as a target drone, and the ACMI was utilized to enhance scoring. The supersonic BQM-34F was also introduced as a high-altitude, high speed target to further test the capabilities of the controllers, the aircrews, and their equipment.

But today it's 1980. The William Tell 80 meet



began a few short days ago and will continue until the 16th of October. In that short time, F-4s, F-106s, and F-10Is will compete in numerous events. A new scenario has been added for 1980 which encompasses a dry fire run against SAC B-52s who will test the interceptors' capabilities against ECM. In the December '80 issue, we will have a full report on the meet results and the winners. For now, let us wish this year's entrants the best of luck.

F-4 Category: (Aircrews and Controllers)

347 TFW, Moody AFB, GA & 507 TAIRCW, Shaw AFB, SC.

119 FIG(ANG) Hector Fld, ND & 24 AD Malmstrom AFB, MT.

191 FIG(ANG) Selfridge AFB, MI & 23 AD Duluth IAP, MN.

F-106 Category: (Aircrews and Controllers)

5 FIS, Minot AFB, ND & 24 AD Malmstrom AFB, MT.

49 FIS, Griffis AFB, NY & 21 AD Hancock Fld, NY

102 FIW (ANG) Otis ANGB, MA & 21 AD Hancock Fld, NY.

144 FIW (ANG), Fresno CA & 26 AD, Luke AFB, AZ.

F-10I Category: (Aircrews and Controllers)

Canadian Composite Team & 22 NR, North Bay, Canada.

107 FIG (ANG), Niagara Falls NY, & 21 AD Hancock Fld, NY.

147 FIG (ANG) Ellington AFB, TX & 678 AD Tyndall AFB, FL.



AIRCREW of DISTINCTION

On 2 April 1980, Lt Douglas P. Whitworth was instructing Lt Michael J. Baldwin on a T-33 target training sortie. After the intercept training was completed, the crew decided to return to Tyndall AFB for practice instrument approaches. As the aircraft was in a descent to FL 200, 25 miles southeast of the base, the engine flamed out without warning. Lt Whitworth quickly selected the gang start switch and retarded the throttle to idle in accordance with the emergency procedures. With no indications of an airstart, they set up a glide towards Tyndall at 180 knots.

Upon reaching FL 180 the crew encountered total IMC conditions. The weather at Tyndall throughout the day had been layered clouds between 8,000' and FL 180, rainshowers, and marginal visibility. During the descent, the crew attempted two more gang starts and two manual airstarts with negative results. Realizing further attempts to start the engine were futile, the crew elected to continue their glide towards Tyndall. If they could reach VMC conditions a flame-out pattern was planned. If the field was not in sight, they planned to turn south over water and abandon the aircraft.

Operating solely on battery power, they located the field using TACAN and visual references once they descended below 8,000'. They entered the flameout pattern 1,000 feet lower than optimum. Because of this, they delayed lowering the landing gear until base leg. When the gear was lowered, the already low windmilling hydraulic pressure went to zero and the gear indicated unsafe. Lt Whitworth was now maneuvering the aircraft without aileron boost available—which required 15 times the normal force to deflect the ailerons. Lt Baldwin activated the emergency hydraulic pump and shortly the gear indicated down and locked. Lt Whitworth was now established on final, using aimpoint and flaps to control the airspeed. He completed a safe landing 1,500' down the runway and brought the aircraft to a safe stop.

Lt Whitworth and Lt Baldwin displayed an extraordinary level of presence of mind and airmanship in this difficult situation. Their reasoned, decisive actions, superb flying skills, and cool inflight analysis while flying a powerless aircraft and facing imminent battery failure in the weather prevented injury and possible loss of life and qualifies them for Tactical Air Command Aircrew of Distinction award.



Lt Douglas P. Whitworth
95 FTS/ADWC, Tyndall AFB, FL



Lt Michael J. Baldwin
49 FIS, Griffis AFB, NY

TIPS

If principle is good for anything,
it is worth living up to.

Franklin

THAT'S A GOTCHA

The Photo Phantom had returned from a training mission and was in the VFR pattern for some touch and go landings. Following a few overhead patterns the aircraft entered a closed downwind for a full stop. Gear and flaps were checked down and the base turn started. The pilot completed the turn and made a normal, on speed touchdown. Immediately after touching down, the pilot felt the aircraft was settling to the runway and initiated a go around. He raised the gear handle, but immediately put it back down thinking he may have blown a tire. The SOF/RSO saw a cloud of smoke coming from the area of the right main gear about the time the aircraft lifted off.

The RSO called for the aircraft to leave the gear and flaps down. He thought the aircraft had blown the right main or had a problem with the strut. The aircraft flew by mobile for a visual check and all appeared normal. Following the fly by, the aircraft set up for a visual straight-in and completed a successful approach-end cable engagement. At this time, damage was discovered to the main gear tires, external tanks, and tips of the stabilator. The aircraft had apparently touched down during the go around.

There never was a satisfactory explanation for the "settling" feeling the crew noted after touchdown. It was evident the gear had been retracted too soon during the go around. The aircraft settled to the runway after the gear was retracted. Once airborne the main gear tires were damaged as the gear extended once again.

Remember, before you reach for the gear handle you want to be clear of the ground and have a positive rate of climb going. Skidding around on an airplane's tummy ain't fun!

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

WHY TAKE OFF

The F-4 crew was taking their airplane back to the home station following PDM. Preflight checks were normal but on engine start the right engine EGT rose to 700 degrees—nothing terribly alarming. But the crew also noticed the number two engine EGT was consistently 100 degrees above the other engine. The crew decided to takeoff anyway.

After leveling off at FL 330, the crew felt a vibration and brought the right throttle to idle. The vibrations still continued so the pilot advanced the throttle again. The EGT immediately climbed to 800 degrees. The pilot brought the engine to idle and noted the vibrations were still there, and shut down the engine.

Maintenance personnel were unable to duplicate the vibrations or the EGT problems. E did find the No. 5 fuel nozzle failed on secondary flow resulting in hot streaking and locally excessive temperatures.

Let's get back to the beginning. Why take off in the first place? It was apparent something wasn't right. Sure maintenance might give you some grief if you can't specifically identify a problem. But, you don't have to fly any airplane unless you're completely satisfied with it. Remember, you're the one who's playing "you bet your life."



CRRUUUUUNCH !

The crew chief and his assistant (a comm-nav specialist in cross utilization training) were preparing an F-4 for a mission. The Dash 60 was positioned near the right wingtip. An INS specialist advised the crew chief that the Dash 60 should be moved further from the wingtip to prevent interference with the INS alignment. The air hose length prevented moving the unit straight out from the wingtip so the unit was moved aft of the right wing and close to the fuselage—about three feet away.

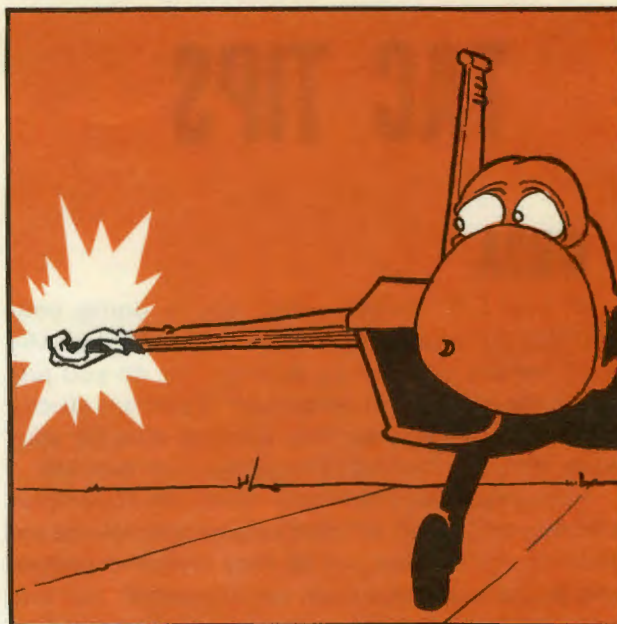
The aircrew arrived and performed a normal preflight, noting the unusual position of the Dash 60. They didn't mention it to the crewchief, assuming it would be moved after engine start. It was—by the aircraft. The assistant felt there wasn't time to stow the air hose and the electrical cables, so they were disconnected and coiled close to the Dash 60. When it came time for the plane to taxi, the ground crew were both on the left side of the aircraft and the Dash 60 was hidden from view by the external tanks and stores.

When the aircraft started taxiing, the stabilator caught on on the exhaust shield of the Dash 60 and started tipping it forward. The unit tipped more as the aircraft continued and the rear cable carrying arm punched a hole in the trailing edge of the stabilator. The aircrew never felt a thing and only stopped when another aircrew notified them on the radio.

Even though the unusual position of the Dash 60 was noticed by everyone involved, no one said anything. The crew assumed the crew chief would move it. Maybe the crew chief assumed the assistant had moved it. Who knows? Remember, you can trust a person to do a job, but you can't ever assume totally he or she will. There is a difference. That difference is too often a bent airplane.

FORMATION DINGS

Formation takeoffs and landings should be fairly "routine." After all, they're pretty much a part of tactical aviation. But they do require an increased level of attention on everyone's part because of the proximity of the aircraft and the lack of room to maneuver. In some folks' minds they may seem too routine. In the space of 10 days we managed to



ding two Eagles, two Thuds, and a couple A-10s. Here's How:

The F-15s were returning from a 2 v 2 ACT mission. The approach for the formation landing appeared normal except the wingman was slightly close just after touchdown. As he began to aerobreak, he used the rudder to return to proper lateral spacing. On postflight, damage was discovered to each aircraft. The tip of the wingman's airplane had apparently slid over the tip of his leader's wing . . .

The A-10s were also returning from a training mission and planned a formation recovery. The wingman was on the left and maintained normal position until just prior to touchdown. At this point, the wingman noted the planes were converging and he was unable to stop it before the wingtips overlapped. At touchdown, the wingee was at idle power and extended the speed brakes to gain separation. He wasn't completely successful—cause his pitot tube ended up creasing the leader's rudder . . .

The Thuds were making a formation takeoff and all appeared fine until gear retraction. Just after the gear came up, the air became slightly turbulent and the wingman rose slightly above the lead. As he corrected back into position he noticed a slight bump. Once back where he belonged, he noted damage to the lead's aileron and he called for an RTB. The leading edge flap of the wingman had come down on top of the leader's aileron. . .

Now, if any of these descriptions made your hair stand on end, made you shiver, or gave you goose bumps—you got the message.

TAC TIPS

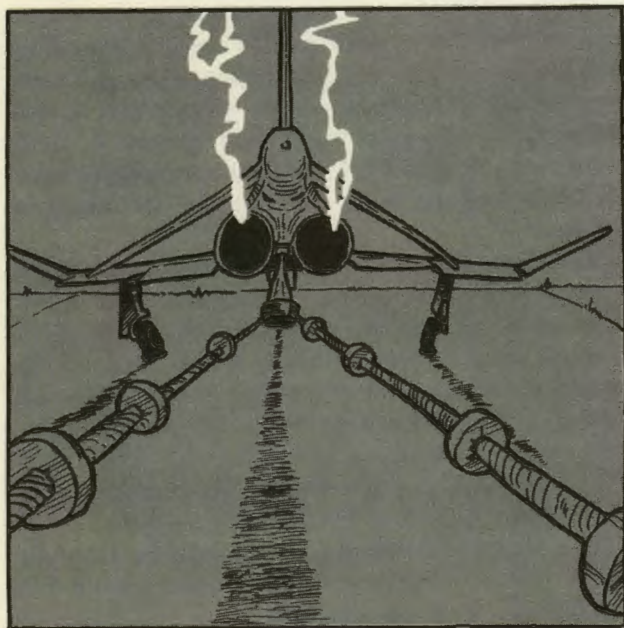
WHOA

All you F-4 drivers, when you're doing your preflight, do you physically check to make sure the hook handle is in the up position, or do you just give it the ole eyeball once over? If you are strictly the eyeball type, you may want to change your ways. Why do I say that? Thought you'd never ask...

A phlight of two Phantoms was on the runway for a formation takeoff. All checks were normal and the warning lights were out as they released brakes. The leader was keeping an eye on number two and watched him start falling back at 150 knots. Two thought he had an A/B blowout and cycled the burners. The aircraft had just come out of burner when it decelerated sharply. The pilot pulled the go levers to idle and rode out the rest of the inadvertant BAK-13 engagement! It was then the pilot noted the hook handle was down and the MASTER CAUTION and HOOK DOWN lights were illuminated.

Here's a real stan eval question for you. How many pounds of pressure should be required to lower the hook handle? The correct answer is—11 to 24 pounds. In the incident aircraft it only took seven pounds.

There are two factors which determine the force



required to move the handle. One is a spring which connects the handle to the tail hook handle housing. This spring applies tension to hold the hook handle in the up position. The second factor is the tension of the cable assembly connecting the handle to the hook release mechanism. The tension applied by the cable most directly affects the overcenter mechanism and eventually, the total pressure required to lower the hook handle.

Experimentation on hook mechanisms with excessively low tension demonstrated the hook handle overcenter mechanism could be set in an intermediate position so that only a slight tap would cause the handle to fall. This situation could not be duplicated with a hook handle mechanism under proper tension. It was also noted the distance between a handle in the full up position and one with the overcenter mechanism in an intermediate position was only about one inch. In this incident, the handle must have been in such a position that the vibration during takeoff roll was all that was needed to finish the job of dropping the handle.

Now as I was saying, how do you check the hook release handle during your preflight?

PREFLIGHT BLUES

An F-4 was returning to home station. A fuel stop at an enroute base was necessary. The crew parked their bird, installed the seat mounted initiator and face curtain safety pins and went to get some chow while the plane was being fueled. Upon returning to the airplane, they preflighted and headed to the home station.

During postflight at the homedrome, it was discovered that the emergency harness release handle in the front cockpit had been raised high enough to fire the guillotine and sever the parachute withdrawal line. The guillotine cartridge sear was found in the ejection seat.

The crew didn't fully pin the seat at their enroute stop and this allowed someone—knowingly or otherwise—to lift the handle far enough to fire the guillotine. That's serious for sure, but the pilot should have caught it on preflight. Part of the seat preflight is to open the protective cover and visually confirm the parachute withdrawal line is routed through the guillotine and is still in one piece. If you don't do that each and every time—you'll never know if it's in one piece or not—not a very good way to travel.

FANTASTIC T-SHIRT GIVE AWAY !

Hello,

I'm Marcia Bradley and I'd like to speak to you for a moment. I just found out how you can own a Fleagle T-Shirt exactly like the one I'm wearing. As a matter of fact, it won't cost you one penny. Here's all you have to do.

Write an original article, story, or poem for TAC ATTACK magazine on any aspect of aviation—maintenance, operations, life support training, survival, weapons delivery, or even your very own, completely unique war story. Send it to TAC ATTACK and if it's published and selected as the best story of the month, you're an instant winner and will join the exclusive club of T-Shirt winners. Just one caution, your story should have some lessons or otherwise contribute to the overall safety theme of the magazine.

Don't wait until tomorrow. Your friends and acquaintances are already working on their stories! Send your stories to:

Editor, TAC ATTACK
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Or call Attn 432-2937/3373.

Chicago born Marcia Bradley is a television personality with PM Magazine, a nightly syndicated TV program which appears locally on WTAR-TV, Norfolk VA. A graduate in Broadcast Journalism from the University of South Carolina, Ms Bradley has worked in all phases of radio and television from disc jockey to her present position.



Photo by Joe Lahouchuc

**My friends at TAC ATTACK
are waiting to hear from you.
Good Luck**



WELDERS WOES

Two airmen were assigned to weld a leaking gas tank. The tank had been removed from an MC-1A air compressor and was purged with a mixture of water and solvent during the two days prior to the welding operation. The welding had been under way approximately 20 minutes when the tank exploded, injuring the two welders.

During the investigation, they found that the three-level airman assigned the task had never welded fuel tanks. The five level airman supervising the task had welded only one tank prior to this operation. Training requirements were signed off on the specialty training standards for each welder. All five-level airmen in the shop indicated they had been trained IAW applicable directives and AFR 127-101. However, when interviewed, none of them were aware of the requirement to weld with water in the tank. This requirement is spelled out in AFR 127-101.

The welders assigned this job were also aware of the requirement to test for vapors with an explosive mixture meter, but failed to do so, even though a meter was available in the shop. The lack of a qualified welder in the shop supervisor position may also have been a factor in this mishap.

This is just one more instance which shows what can happen when we fail to train our people correctly. It always comes back. It might be tomorrow or 10 years later—but it will come back.

SOME PEOPLE NEVER LEARN

An F-4 was on short final for landing when the tower controller noticed a vehicle approaching the runway on a taxiway at the main vehicle crossing point. The vehicle did not appear to be slowing down to get clearance across the runway, so the controller sent the aircraft around. The aircraft passed directly over the truck as it made a missed approach.

The driver was later identified and found to have a valid driver's license and had been properly trained. He saw a red light from the tower, but figured it was meant for someone else. He also ignored the runway crossing phone. He didn't feel it was necessary to stop and ask permission because another vehicle had crossed just a short time before he arrived.

Now what if the aircraft hadn't heard the radio call to go around?



WATER CAN STOP YOU

Driving through deep water or in heavy rain can cause you three major problems—engine drownout, brake failure, and possible loss of control. This is the season for heavy rains, so don't think you won't be forced into one of these situations.

Every year people are drowned trying to drive



across flooded roads. Before crossing a flooded road, know the depth of the water, or don't cross it. Another major problem resulting from heavy water on roadways is hydroplaning, which results in a loss of steering control.

If you drive through a deep puddle—especially if the car is moving fast—water can be thrown up into your engine compartment and cause your car to stall out due to moisture on your spark plug wires, coil, or distributor. A car moving in the other direction can cause the same problem if it's moving too fast and throws water or slush onto your car.

If you encounter deep puddles or high water along the highway, **DRIVE THROUGH SLOWLY.**

If your car stalls out, try to coast to the side of the road and wait for the engine to dry out. If you know the parts of your electrical system, the drying out process can be speeded up by taking a dry rag and wiping the plugs, wires, coil, and by drying the inside of the distributor cap.

If your car stalls in the middle of a puddle and you can't move it, you may have to get out. If the water is moving or it's from a river or stream, the danger of a flash flood is real. You may have to leave the car where it is and seek shelter until the water recedes.

After moving through deep water, your brakes may have lost their stopping ability. Apply your brakes lightly while driving to dry out the linings and other components. Above all, remember that water puddles may not be as innocent as they appear.

READ AND HEED

The photo was sent to us by Capt Hugh Sutton from the 336 TFS at Seymour Johnson AFB, NC. During his PCS move to Seymour, he had a close encounter with a young lady in her late model sedan. Fortunately, she missed hitting him—but not a sign post a little further down the road. The picture probably does as effective a job of getting the point across as anything could. The driver was extremely lucky the sign didn't penetrate the windshield any deeper.

P.S. For those who didn't look closely enough, you can just make out the word "drive" through the bottom part of the windshield. . .



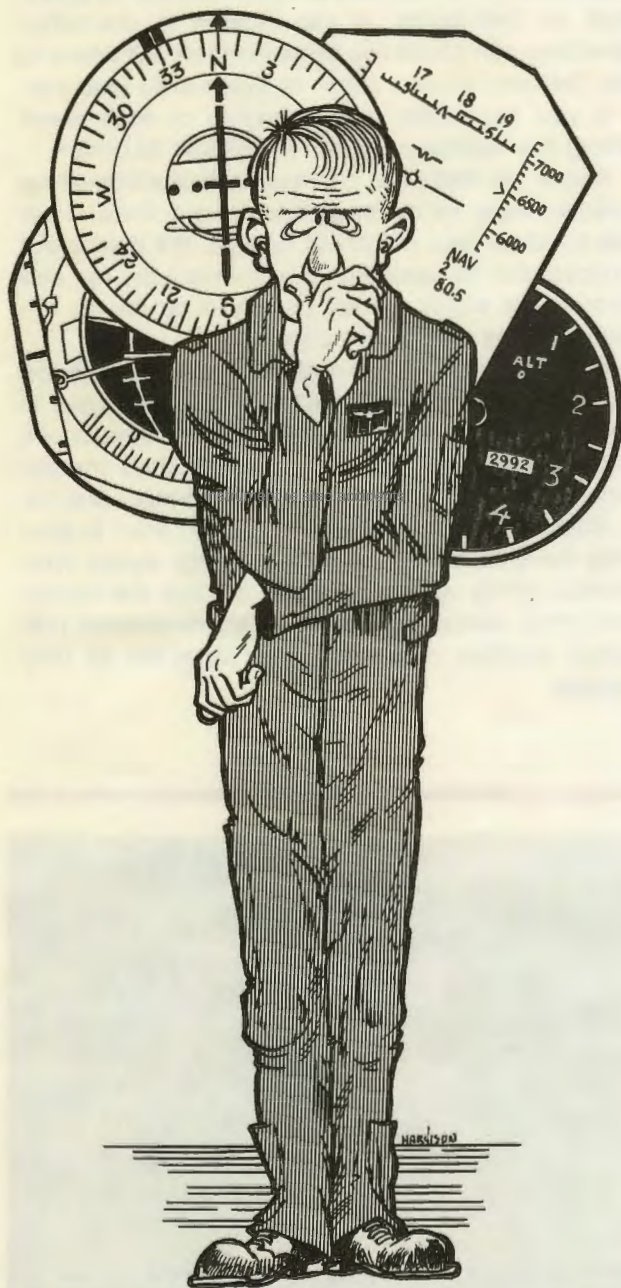
INSTRUMENT

**By Wg Cmdr Jeremy Saye (RAF)
HQ TAC/DOOT**

A number of instrument-related accidents in fighter aircraft during the last eighteen months prompted a TAC review of our command instrument training program. As a result, instrument training is receiving renewed emphasis in both formal courses and continuation training. Instrument event requirements have been increased and semi-annual event requirements were changed to quarterly requirements to encourage continuity of training. Remember, these are minimum requirements. There is nothing to prevent the individual, flight commander, squadron commander, or anyone in the chain from determining the need for more. These changes were intended to improve the instrument proficiency of TAC pilots and turn around the instrument-related accident trend. The current emphasis on realistic tactical training must be enhanced by a solid foundation in the basics. Increased instrument proficiency should encourage and better prepare aircrews to employ their weapons systems in other than "clear and fifty" weather. But increased requirements generated at the command level aren't going to make you more proficient by themselves. It's up to you to gain from your instrument practice.

We all accept the importance of proficiency in other, more apparent combat-related skills; but we may slight the importance of proficiency in what we may mistakenly believe is mundane, i.e., instrument flying. The more proficient a pilot is in instrument flying, the less are the chances he or she will be involved in an instrument-related mishap, particularly one involving spatial disorientation.

Pilot spatial disorientation is an area of scant knowledge. We can describe the physiological causes of it, we know that every aircrewmember experiences it to some degree, and that it does not normally occur if adequate external visual referer





Wg Cmdr Jeremy Saye (RAF)
is this month's
Fleagle T-shirt winner

RELATED ACCIDENTS

ces are available. With all we know, we still have more questions and unknowns than answers. An aeromedical review by the USAF School of Aerospace Medicine, revealed two interesting theories.¹ First, a pilot is less susceptible to spatial disorientation if he is proficient in instruments. Second, disorientation can become so severe the central nervous system may not tolerate the conflict between what the pilot feels the aircraft attitude to be (seat of the pants) and what the aircraft instruments indicate the actual attitude to be. When that happens, the central nervous system may resolve the conflict in favor of the seat of the pants feel and permit aircraft control inputs which are wrong for the situation (panic).

Along with an increased emphasis on instruments, the philosophy on the use of the HUD for instrument flying has been clarified. In a nutshell, the HUD is an aid to instrument flight. The primary references for instrument flying remain the ADI and the other cockpit control and performance instruments. The flight information presented on the HUD is not sufficient for all situations. For example, the absence of a clearly defined earth/sky relationship on the HUD can add confusion to an already spatially disoriented pilot. This may contribute to loss of aircraft control, or at worst, to a fatality. Several of our recent fighter losses might have been caused by over reliance on the HUD references for instrument flight.

All of our prevention measures are aimed at the elimination of this type of mishap. Pilot proficiency is just one aspect of our efforts. Other measures have been taken in cockpit design and education to accompany our efforts at increased proficiency. Compare a T-33 cockpit to that of an F-15 and the improvements in cockpit design are obvious. With the advent of human engineering and advances in computer-generated digital displays, cockpits will become even better in the future. Education in the form of lectures, films, video tapes and bull sessions concerning the causes, recognition, and



effects of spatial disorientation will be with us as long as we perform rated duties. The more formal methods of education will be updated as newer information becomes available—and bull sessions will be around as long as there are two fighter pilots alive who are able to move their hands. Last, but not least, are those two words—pilot proficiency. Therein lies the thrust of recent and future changes to the command's instrument training program. But, as I stated before, these command-directed changes will have little effect unless you take your individual proficiency seriously. You're the only one who knows how good you really are, or how much more practice you really need.

Remember, one peek may be worth a thousand crosschecks—but it may not be there when you really need it!

¹ Review IO-74, Effects of the Abnormal Acceleratory Environment of Flight. Kent K. Gillingham, MD, PhD, and Robert W. Krutz, Jr., Major, USAF, BSC, pg 81.

FUNNY Photos



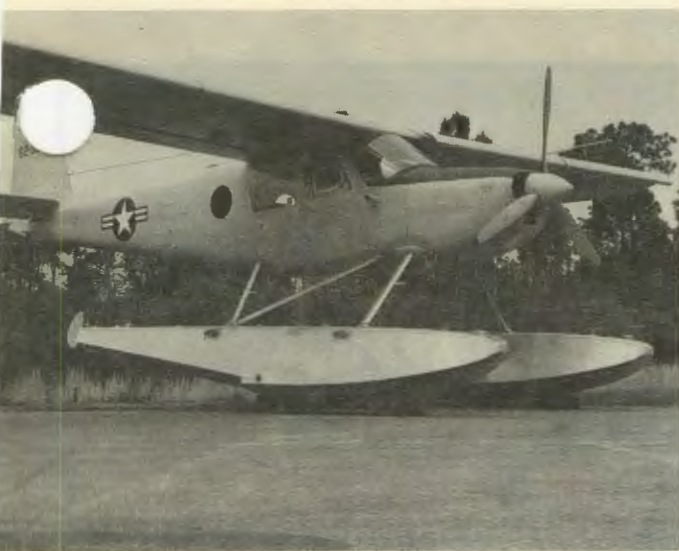
Speak up, it's a little noisy-a bunch of folks just dropped in.



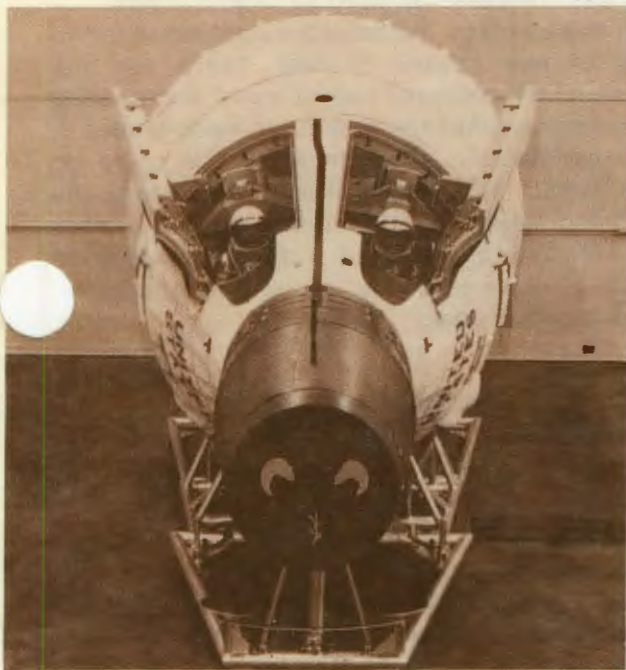
Whatta ya'got back here, your lunch ?



Let's see... 25 in a 15 zone, no anti pollution equipment, no lights, littering, this guy's in trouble !



Awright, who stole the lake ?



Watch out for them A-10s. One of'em made a pass at me at the club last nite.



One more crack about my butterfly jammies and I'll slam dunk your face !



chock talk

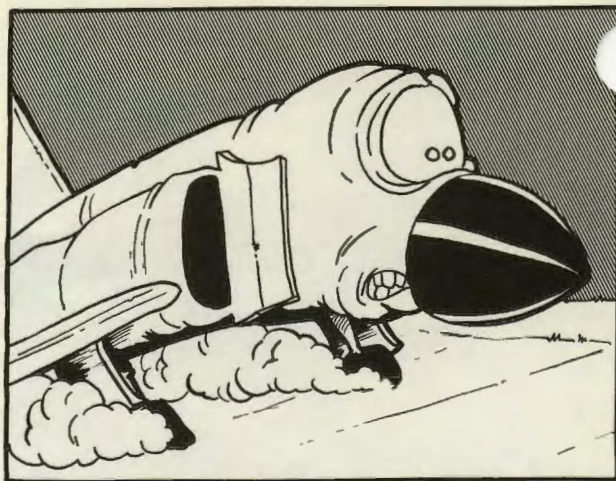
*...incidents and incidentals
with a maintenance slant.*

WHOOPS?

The F-4 was on a training mission completing a check ride for the instructor pilot in the rear cockpit. After making the final landing, the instructor let the aircraft roll out and began applying the brakes at 80 knots. As he did, the right brake pedal rotated forward to a point where he could no longer reach the top of the pedal. The front seat pilot took control of the aircraft and applied his brakes, slowing the aircraft to taxi speed. Taxi to the ramp was uneventful.

The brake pedal linkage was not connected to the bellcrank in the rear cockpit. However, the bolt, castle nut, and cotter key were installed through the bellcrank. A little more digging revealed the brake pedal push rod had been disconnected to facilitate battery removal. A recent change to the Dash 2 authorized disconnecting the push rod in lieu of the older, two-man procedure. This recent change stipulates that the push rod is to be disconnected from the pedal itself. But it is almost impossible to see the bolt, nut, bushing, and cotter key in this location. The next logical point that is visible is the push rod/bellcrank connection—this is where the technician disconnected the rod.

The inspector examined the area of normal disconnect and all appeared to be in order. The



push rod was jammed against the bellcrank, so it also appeared to be properly connected. When the job was complete—everything looked alright.

In this incident, the hazard is not limited to the loss of rear cockpit braking. There was the potential for restricted rudder travel and steering impairment. Since the brakes are seldom used in the rear cockpit, a disconnected rod could go undetected for a length of time. Changes to the tech data have been submitted to prevent another incident like this one. But, it always makes good sense to make sure what you take apart gets put back together again. . .

HOBBLLED PHANTOM

The F-4 was on a weapons test mission. The takeoff and beginning portions of the mission had gone satisfactorily. After the fifth test weapon delivery pass at 600 knots and 1,000' above the ground, the aircraft started a slow left roll. The aircraft did not respond when the pilot pushed the stick back to the right. The wings were finally leveled using full right trim and moderate right stick forces. The aircraft was climbed to a safe altitude, the crew completed a controllability check, and determined they could control the bird. A safe landing followed.

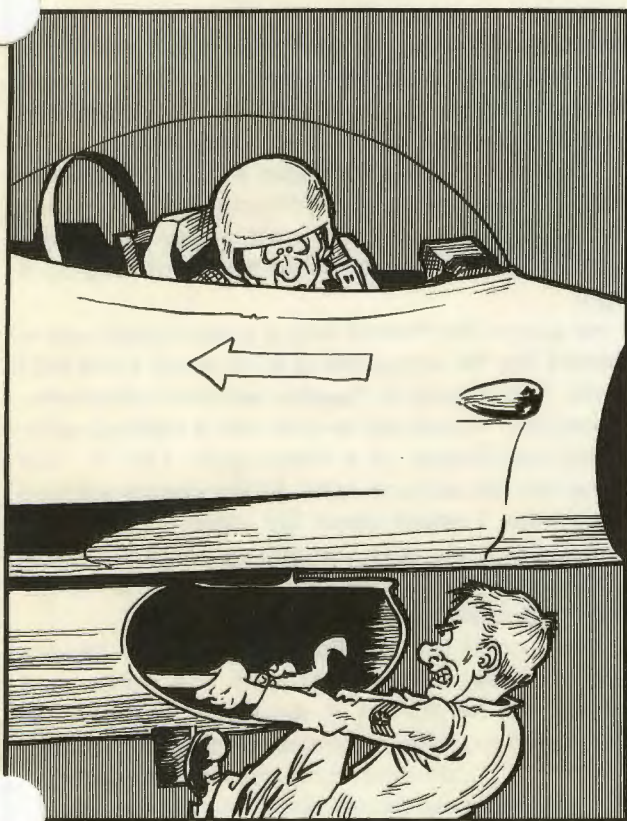
A two inch tear was found in the rear cockpit stick well boot and a blue felt tip marker was found under the boot! Marks on the pen indicated it had been jammed in the aft control stick mechanism. I imagine a lot of people are wondering where it came from. If you have reason to be in the cockpit, it might be a good idea to check yourself once you leave to make certain you haven't lost anything you need—and the aircraft doesn't.

HUNGRY FALCON

During the recovery procedures for an F-16, the crew chief's headset had malfunctioned. He could hear the pilot, but could not talk to him. Because of this, he decided to display the EPU safing pin to the pilot prior to inserting it, as a means of ensuring the EPU switch was off. As the crew chief moved back to insert the pin, it slipped from his hand and was ingested by the engine. After clearing the assistant crew chief from under the aircraft, he signalled the pilot to shut down the engine.

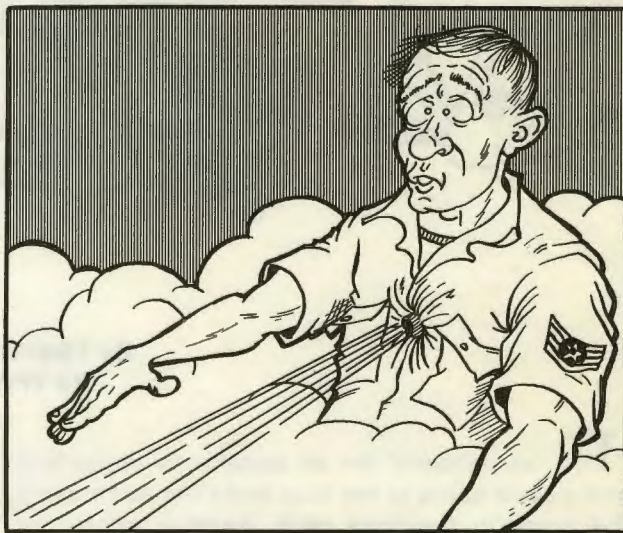
The pin ingested was a small, button-head pin with a long streamer attached. The pin itself was difficult to grasp securely and the streamer was caught in the inlet airflow and pulled the pin from the crew chief's hand.

\$73,000 was the loss to the Air Force resulting from the malfunctioning headset and poor grasp on the safing pin. It just doesn't seem worth it. If folks would view jet engines as voracious sharks with an endless appetite for anything which will fit in the intake, maybe we'd be able to stop senseless FOD incidents.



COLD CAN TURN TO HOT

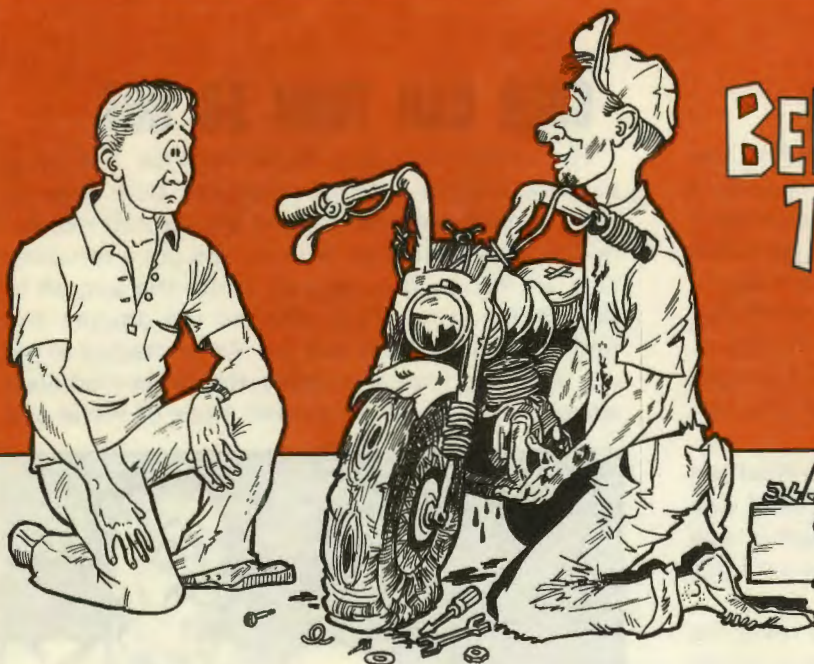
The crew chief was launching his F-4 on a practice weapons delivery mission. Both engines were running and he thought the aircraft needed hydraulic servicing so he went and got a servicing cart. He had pulled the cart under the aircraft to service the system. He checked the gauges and decided the airplane was OK. As he started to get up, he pulled the cart slightly. He was immediately struck in the chest by a small piece of metal and



engulfed in cold spot smoke. He fell to the ground and rolled from under the aircraft. The crew shut down the engines and got out of the plane to help. The crew chief was taken to the hospital and examined. The metal fragment did not injure him, and he didn't suffer any recurring effects from the titanium tetrachloride gas.

The aircraft was loaded with BDU-33s on triple ejector racks. The bombs contained CXU-2/B Cold Spot Charges. In pulling the cart under the aircraft, the crew chief caught it under the TER and against the striker on the BDU-33. The spotting charge functioned as designed when it was struck. The safety blocks had been removed earlier in accordance with the tech order.

The two metal baffle seals from the charge were expelled aft from the bomb with enough force to punch two small holes in the skin and honeycomb of the left trailing edge flap. Cold spot charges are not anywhere as dangerous as the explosive cartridges, but can still put out quite a "blast." Watch out for'em.



BEN BATTLES THE TWO WHEELER SYNDROME

By TSgt Dave Tresize
23 TFW/SEG

The "varooooom" on an apparently mufferless motorcycle came to me loud and clear as I mowed the grass in the back yard. Another chorus of "varooms" caused me to go around front and investigate. There was Ben tinkering with an aged and hard-ridden motorcycle. He'd been talking about buying one but I never thought he would. The feeling of impending disaster filled the late Saturday afternoon air.

Several weeks ago we'd talked motorcycles over a couple of cold beers at the club. Ben's theory was that he could buy a second-hand bike, fit it with a sidecar and trailer, and use it for short hops around town and save big bucks on his gasoline bill. Seemed to me it would take a lot of gas saving to cover all that, but Ben was convinced. The subject had since died and I was sure Martha had talked him out of it.

Ben gunned the engine into a high-revved throaty roar and hastily shut it down. He looked up at me and grinned. "Throttle sticks a little," he explained.

He told me how he'd bought the bike down at Marvelous Marvin's Motorcycle and Watch Repair Shop for \$75.99 plus tax and dealer prep. From

the looks of the thing, dealer prep was a pint of gas and new spark plugs. Ben had invested in a good helmet though. But that did little to dispell the misgivings that kept building inside of me.

I declined to take it for a spin around the block as Ben pronounced the sticky throttle cleared up with two squirts of spray lubricant. I was even more skeptical and said he should take it off and do it right.

He put on the helmet with a wraparound visor—looked like he was wearing a fish bowl. Little did I know. The feeling of disaster became overwhelming as Ben kicked the engine into a roaring, sputtering semblance of a motorcycle. Fact is, that thing ran like a pig on stilts. As the engine warmed up a little, I asked about his experience on this thing. His reply was something about having it mastered because of Marvin's briefing and the fact that he'd rode it home with no problem.

Ben turned left on Harmony Lane and headed towards the highway around the public golf course. As he shifted to third gear, three things combined to make the feeling of disaster a reality. The motor suddenly started running pretty good so Ben opened it up, the throttle stuck wide open, and

Ben panicked. Ben was racing down Harmony Lane heading straight at a group of golfers on the eighth green and the water hazard on the other side. I yelled "FORE" as loud as I could, but I guess the roar of the runaway cycle is what made the golfers scatter.

I could hear Ben screaming "Gee," "Haw," and "Whoa" even over the roar of the engine. He must have confused the poor thing 'cause it was headed for the water hole like a thirsty duck.

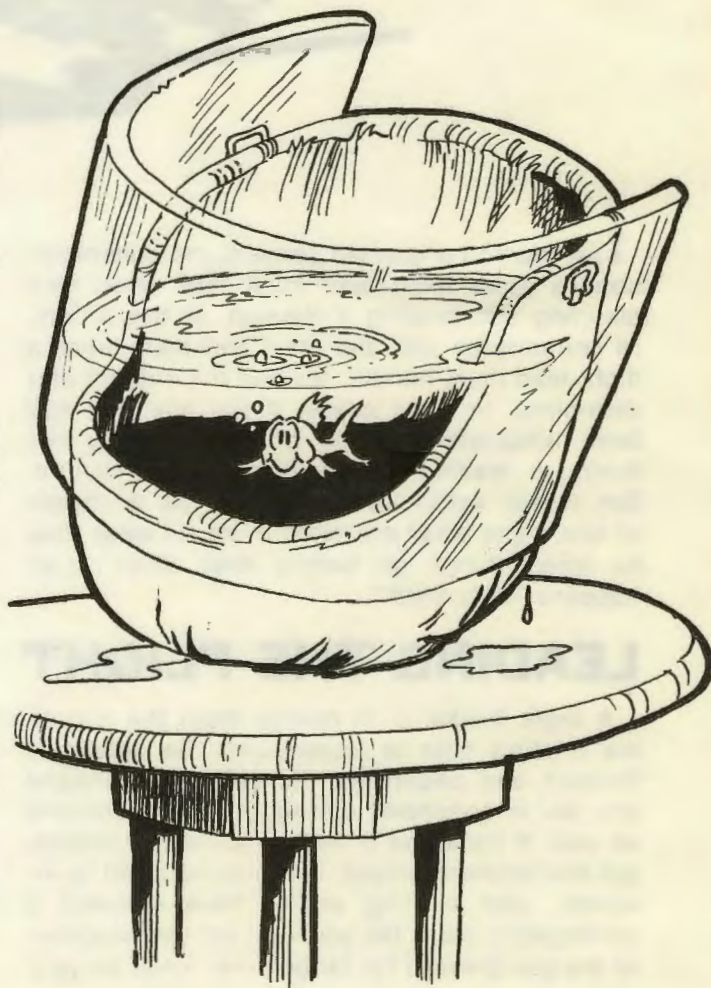
One hardy golfer putted out just in time to miss being run over. I was running towards the golf course as Ben disappeared in a wall of water.



I arrived in time to see Ben surface looking like the Loch Ness monster. He pulled his helmet off and more water cascaded down over him. He announced to everyone's relief that he was OK, but a man could drown in one of those helmets. As we wheeled the bike back towards Ben's house, he reasoned we probably would have had to rebuild the engine anyway. There was that inevitable "we" again.

Several days and many bucks later, we had the thing running and looking pretty good. I sat Ben down for a little talk. I told him I didn't know much about motorcycles, but it seemed to me he ought to take it real easy until he'd gained some experience and knowledge of bike riding. I told him about the course we had available at the base and that we had a man running it who had been to a Motorcycle Safety Foundation Course. Ben agreed with all I'd said and much to my surprise, promised to get to the next class.

Ben showed me a new helmet he'd bought as he took me into his house to see the old one. You know, it really didn't make a bad goldfish bowl!





Last month I discussed some of the considerations a good flight lead must take when he's planning and briefing a mission. In this article, I'll continue on with the other two main areas a flight lead must handle: leading the mission and debriefing. In most cases, if the planning has been adequate and the briefing concise but thorough, leading the mission should be routine. But, things aren't always routine. As a matter of fact, flight leads are rated more on what they do when things go wrong than when it all happens "as briefed."

LEADING THE FLIGHT

A flight leader is in charge from the minute the briefing door is closed until the debrief is finished and paperwork complete. That means you are in command during ground operations as well. If someone is having aircraft problems, get the problem solved; if a ground abort is involved, your briefing should have included a contingency plan. Do you wait for the wingman or are you pressed for range time? Insist on your

flight being the best looking and sounding flight on the ramp. Everyone on the airpatch notices the really sharp flight. Sixty million dollars worth of machinery, all configured alike, evenly spaced, with professional crews, is an impressive sight. If someone doesn't perform up to standard, note it for the debrief.

Know every flight member's fuel all the time. There is never a good reason for pushing fuel—no excuses either. If wingman calls joker, execute the prebriefed maneuver to join-up and depart the range. Calling for one more pass is an invitation to run someone low on fuel. Keeping a mental note of fuel status permits early adjustments. If a wingman ends up 1,000 pounds below the rest of the flight, you must stay on top of the situation. He might have a fuel transfer emergency. You can adjust other parts of the mission to accommodate the lower fuel status.

Emphasize air discipline. If you briefed fingertip, insist on fingertip formation—use the radio if required. If you permit loose route to become the standard, air discipline is on the decline. If you briefed tactical, ensure everyon

MISS

knows and does his job. Remember, everyone's job is to clear the flight, fore and aft. Whoever said, "Never look back, someone may be catching you," never flew fighters. Insisting wingmen fly the prebriefed position is not only an important practice of air discipline, in combat it is a life or death matter. A wingman out of position may not be providing you required mutual support and is probably leaving himself uncovered. In formations designed to take advantage of ECM protection, a member out of position may highlight himself and the flight, increasing exposure to an engagement from a SAM battery. Onebacker II was an example of the importance of air discipline. Pilots were returned to the CONUS for breaking formation to attack a lucrative MIG. Leaders who were successful in combat had one thing in common, they were strict disciplinarians in the air.

If you haven't briefed it, don't fly it. There are exceptions to this rule, but briefing a new event over the radio is generally not one of them. However, if fuel is available for two ILS patterns instead of the briefed one, feel free.

Demand mutual support. As flight lead, insist wingmen give you the support required to successfully meet mission objectives. An air-to-air engagement should not be planned as an every-man-for-himself free-for-all. The enemy is best defeated when met with surprise and force. A free-for-all may surprise him, but the decline in force brought about by individuals attempting to accomplish individual objectives will likely lose the battle. Wingmen should not be allowed to engage a target until cleared by the leader. If it were his choice about which target to attack, he would be the leader. Likewise, it is the leader's responsibility to make his intentions crystal clear. If you intend for the wingman to

engage a target while you support, make sure that intent is clearly transmitted, non-verbally if necessary. Any deviation must be duly noted and thoroughly debriefed.

Every flight you lead should exercise combat skills. If you didn't plan your flight that way, you have planned the waste of JP-4. Maximize that principle every flight, and you'll see a marked increase in combat readiness. Don't fly high level formation if low level skills need polish. On the other hand, don't let medium or high altitude interdiction formation skill lapse because you enjoy low levels. You will need expertise in more than one area to win the next war.

Expect the unexpected. A flight will seldom, if ever, go exactly as briefed. A mature, qualified leader is required to make decisions quickly on how to cope with changing situations. Unexpected weather, emergencies, and FAA delays, must be handled expeditiously and efficiently if the flight is to be effective.

A flight lead responsibility on which you'll seldom see written direction is knowing when to



FLIGHT LEAD RESPONSIBILITIES

quit what you are doing, join up, and go home. This situation will occur all too frequently, but a good leader knows the minute things start to get out-of-hand and calls a knock-it-off. If the situation is not guaranteed to get better, join it up and go home. If things can be straightened out by setting up for another engagement, do it early and orderly. In any case, a leader cannot idly watch things happen to or with his flight that are not in his total control. As many former flight leads can tell you, inaction invites disaster.

DEBRIEFING

The debriefing is where the payoff comes from a well-led flight. It is not necessary to relive every gory detail, but it is important to ensure that mistakes, problems, and lessons learned are thoroughly debriefed. Now is not the time to be bashful or thin-skinned. If someone in your flight didn't perform up to your expectations, make certain they know it. Be patient with slow learners, but don't put up with an excuse-maker. If you made an error, admit it. You won't get away unnoticed—someone in your flight will have caught you. Your credibility will be considerably improved if you debrief your mistakes right along with everyone else's.

• • •

Are you ready to test the water? By regulation, you are highly qualified and experienced. You are familiar with the myriad of directives and know the mission. Demand air discipline, adhere to ROE and minimums, and conduct a professional, thorough briefing and debriefing. Add one more important ingredient, common sense, and you are ready. Combine all these ingredients, add a few of your own, and the effectiveness and safety of TAC training can be vastly improved.





TAC

SAFETY AWARDS

INDIVIDUAL SAFETY AWARD

Technical Sergeant Kenneth M. Dunn, 35th Aircraft Generation Squadron, 35th Tactical Fighter Wing, George Air Force Base, California, is the recipient of the Tactical Air Command Individual Safety Award for October 1980. Sergeant Dunn has identified and eliminated many safety deficiencies within his flight during the last year. He has become personally involved in all aspects of flight operation and has made countless improvements in working methods and conditions. His safety consciousness and dedicated work qualify him for the Individual Safety Award.



Technical Sergeant Kenneth M. Dunn

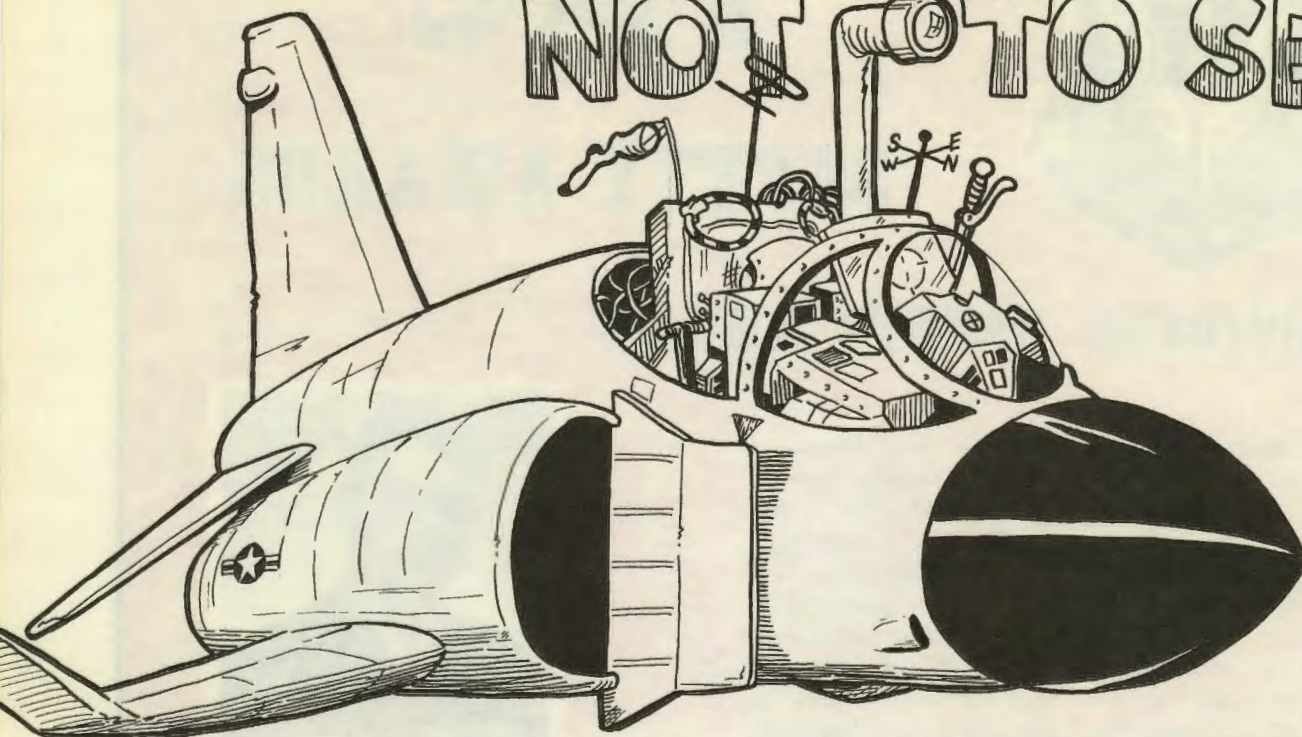
CREW CHIEF SAFETY AWARD

Airman Ronald Jung, 49th Aircraft Generation Squadron, 49th Tactical Fighter Wing, Holloman Air Force Base, New Mexico, is the recipient of the Tactical Air Command Crew Chief Safety Award for October 1980. Airman Jung was riding the cockpit during a recent F-15 towing operation. During the towing, the tow bar broke and the F-15 began rolling backwards toward an aircraft alert shelter. He quickly pulled the emergency brake handle and applied smooth braking to bring the plane to a stop. His quick thinking and correct reaction during this emergency qualifies him for the Crew Chief Safety Award.



Airman Ronald Jung

TO SEE OR NOT TO SEE



**By Maj Tom Shaughnessy
Capt Mike Shub
4 TFW/SEF**

"Gropo 21 is cleared to Fighter AFB via the Claw I departure. Climb and maintain 6,000 feet; expect higher five minutes after departure. Squawk 4121 on departure. Departure control frequency is 362.7."

"Gropo 21 roger."

"Well," thought Harry Hamphist as he cinched up the lap belt and set in the squawk, "as soon as the quick-checkers get done, I'll be on my way. What a week! I'm beginning to believe the only piloting I get to do around here is to take my paper work and pile it in the out basket."

"The jet sure has become complex since I was a young fighter jock," he thought as he surveyed the array of dials in front of his face. Over 20 years of modifications had taken nearly every bit of available space on the glare shield, around the canopy

bow, and even around the windscreen. The sophisticated electronic gear made his Phantom a super jet, truly fit to be called an all-purpose fighter. He did miss however, the sensation of flight created by the ability to see out the front window! It seemed as if each new mod took away another chunk of visibility. About the only place he could clearly see was at his right 2 o'clock slightly high and at left 10 o'clock slightly low. Under the nose? In the "E?" No way friend. Oh sure,, you can see out front—through three inches of glass and a gunsight... but you can see. Sometimes it seemed as if the only place you could see well is where you've already been.

"Well, would ya look at me?" thought Harry, "here I am complaining about a little visibility restriction: It's a beaut of a day and here I am about to take off on the best \$5 carnival ride anyone ever had. Some of my civilian buddies would give up their wife and kids to fly this hunk of machinery."

"Hey Bear," Harry called over the intercom to his pit boss, "Looks like we're a go for this one. Ready with the checklist?"

"Roo-jay Hoss. Here goes," replied Bob Phum-
phingers. As he mechanically accomplished
the checklist items, Harry's mind drifted to the
upcoming departure. "Let's see," he thought,
"right turn after takeoff at 2,000 feet, then to a
heading of 180 degrees and climb to 6,000 feet
'till we're cleared higher. Now Harry boy, let's not
forget any of the calls lest Bear back there think I've
been desk bound too long. What's that, Bear? Oh
yea. . . button 3, and I'll call for it now. Fighter
tower, Grope 21 is number one."

"Grope 21, wind 250 at 14. Cleared for takeoff."

"OK Bear, let's go button 4 and get the checklist."

"Roj."

"Runnin 'em up-looks good-ready Bear?"

"Roger, let's do it."

"Fighter departure, Grope 21 rolling in 20
seconds," Harry called as he shoved the throttles
into the upper left quadrant and scanned the
gauges.

"Grope 21, departure. Traffic on takeoff 10
o'clock, four miles, altitude unknown, crossing left
to right."

"Grope 21 roger," Harry responded as he heard
the familiar "off the peg-100-130" from Bear. "OK"
he thought, "rotate we're flying—gear up, flaps
' . Now where's that traffic?"

"Departure, Grope 21 passing 1,000 for six."

"Grope 21, Radar contact, traffic 12 o'clock, two
miles, VFR squawk, no altitude readout."

"Grope 21, no joy—looking. Got anything on the
scope Bear?"

"I'm working on it Hank. Is he high or low?"

"Not a clue Bear—but I'm sure he ain't out front."
At 2,000 feet, Harry started his right turn. "Still
nothing on that traffic departure, say again
position."

"Grope 21, merged plot—no information availa-
ble. Grope 21 departure. How do you read? Radar
contact lost."

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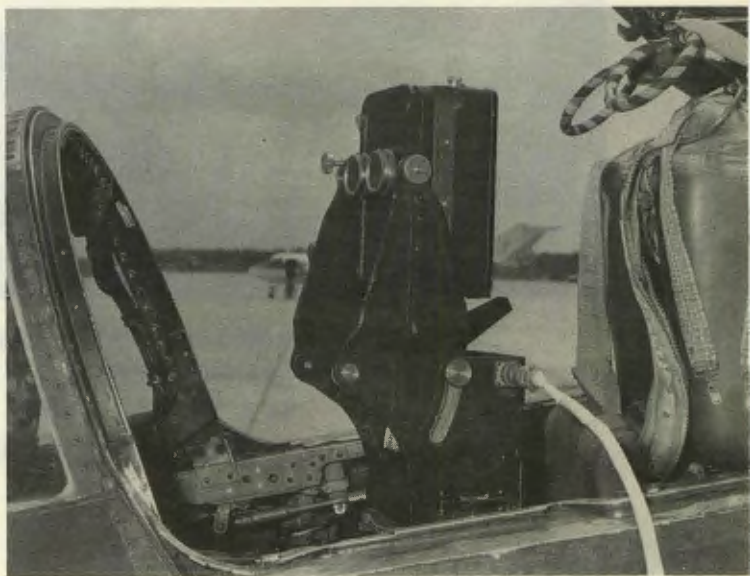
In 1979 alone, USAF crews reported 302 near
mid-air collisions (less than 500 feet separation).
Most occurred between military and general avia-
tion aircraft. 231 occurred within terminal areas on
arrival and departure. Half took place below 3,000
feet AGL. The primary cause factor in these near
misses was the failure of see-and-avoid.

Expanding technology pointed up some of the
deficiencies in the human sensory organs in main-
taining orientation. As we began to use trans-
portation which moved faster than a walking

pace, we started running into things which we
failed to see in time to react. It's a simple reality that
the human senses and reaction time are geared to
a much slower pace than needed to successfully
maneuver at today's flight speeds. Since Kitty
Hawk, many aviators put their trust in the "Big Sky"
theory. The odds were overwhelmingly in favor of
the pilot when airplanes were relatively scarce. As
the number of air machines increased, the odds
began to turn against us to a point something had
to be done. Enter the air traffic control system and
its highways in the sky, reporting points, manda-
tory altitudes, instrument procedures, radars, and
so on. Did that end the "big sky" concept or midair
collisions. The answer is no to both. As advanced
as our system is, with the mix of VFR and IFR traffic
and the rules for each, conflicts are still highly
probable. And no matter what system you're using,
in VMC conditions the primary responsibility for
collision avoidance is still the aircrew's—to see
and avoid.

As we all know, the reliance on see-and-avoid
has several drawbacks. First, the air traffic control
system is based on the successful mixture of IFR
and VFR traffic in the same air space. Second, the
use of IFR caused us to devote time inside the
cockpit during instrument cross-check and
navigation—at the expense of visual clearing. The
third problem which has the greatest effect on
see-and-avoid operations and on which the rest of
the article will dwell—cockpit visibility.

We all know, the incident at the beginning of this
article overstated the visibility limitations of the F-4.
You can see out the front—if you know where to
look. In mid-1979, the 4 TFW flight safety division,
in conjunction with the FAA National Aviation
Facilities Experimental Center (NAFEC), produced
the first binocular photo study of the F-4E. This



TO SEE OR NOT TO SEE

process facilitates the study of visibility problems by closely reproducing imagery available to any crew member's eyes at any given crew position. The camera used is unique and is the same one used in previous visibility studies such as the midair over San Diego in 1978.

The panoramic photos produced data which, though not startling to any Phantom Phront seater or GIB, confirm the jet's degraded visibility. The following factors were used as a basis for all analyses:

- O Ref point (FCP) is the pilot design eye position—44.4 inches above the floor and 24 inches aft of the instrument panel.

- Search pattern is 25 degrees up, as far down as aircraft structure permits, and 60 degrees either side of center.

- The remainder of the full circle search is totally obstructed by airframe and has not been included in the base scan area.

- The photos were taken at zero angle of attack (aircraft static). Any change in positive angle of attack will decrease visibility below the airframe (i.e. on final approach).

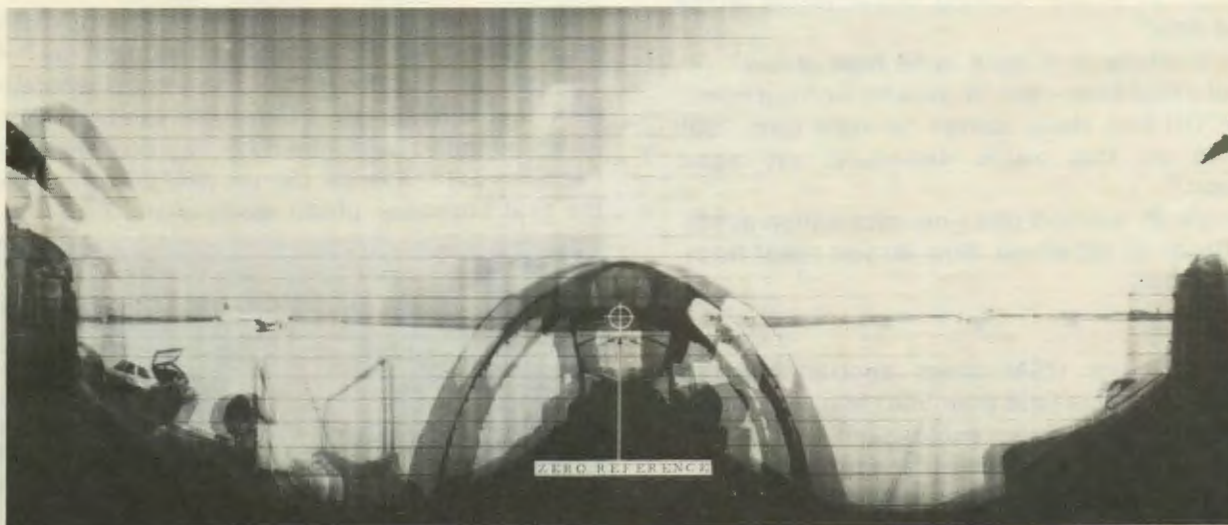
- Any movement of design eye position will alter visibility to some degree.

- Photos were taken in bright sunlight, and all reflections were considered areas of partial obstruction.

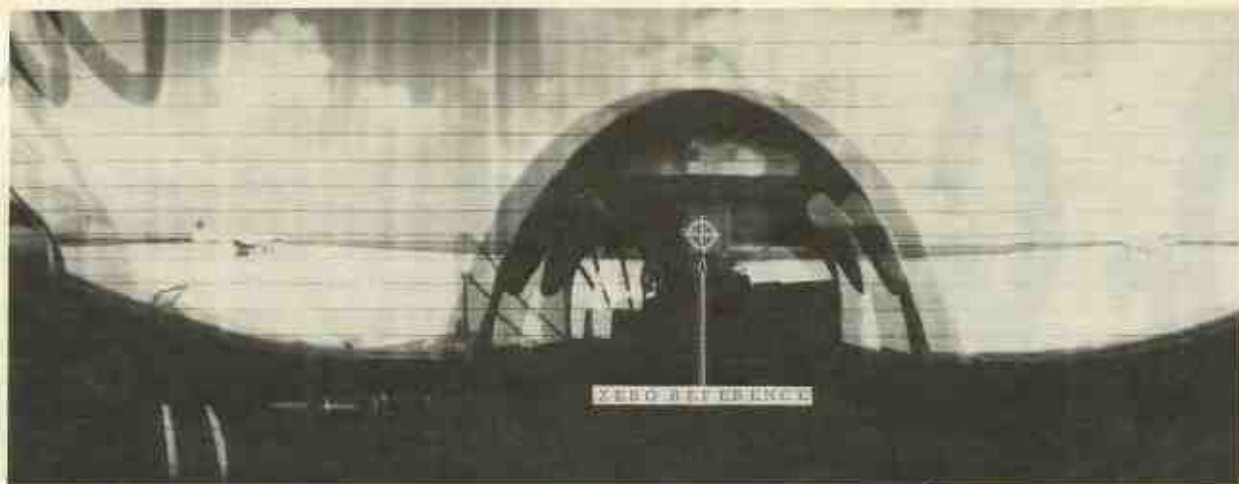
- No analysis of visibility limitation based upon pilot visual acuity, visor design, cleanliness of canopy, or environmental conditions other than those present when photos were taken is attempted.

Based upon the preceding assumptions, the front cockpit forward visual scan area consists of 238, 5-degree squares. Within this area we found the following:

| | |
|---------------------------------|-----|
| Unobstructed-52 squares | 22 |
| Partially obstructed-74 squares | 31% |



**AIRCRAFT RAMP LEVEL
CAMERA "NORMAL" AT PILOT'S EYE POSITION:
44.4 INCHES ABOVE FLOOR
24.0 INCHES AFT OF INSTRUMENT PANEL**



**AIRCRAFT RAMP LEVEL
CAMERA "NORMAL" AT COPILOT'S EYE POSITION:
42.6 INCHES ABOVE FLOOR
21.0 INCHES AFT OF INSTRUMENT PANEL**

Obstructed-122 squares 47%

In the rear seat, as all fighter gibs know, you may as well fly instruments. Here are the stats based on the same scan area:

Unobstructed-32 squares 13%

Partially obstructed-44 squares 19%

Obstructed-162 squares 68%

Well now, as you see—or don't see—these figures should certainly give us cause for concern where "see and avoid" is the only method of preventing midair collisions. When you take this certainly-less-than-optimum starting point and add task saturation, carelessness, self-imposed and external stress, and an increased number of aircraft, the resultant conclusion can be: we've got problems. A flock of F-4s in the pattern can be akin to a bunch of moles burrowing along at 300 miles per hour hoping they don't run into one another. In other words, the "big sky" theory may be alive and well—if you just sit back and relax. The theory doesn't have to be the only thing affecting your fate!

Remember our fictional friend Harry Hamphist? He only made one mistake, one we make all too often; he failed to know his limits. He thought he could see a lot better than he really could. We can easily be lulled into a false sense of security by ATC radar, good weather and the unconscious impression that what we can't see won't hurt us. Radar separation from VFR aircraft is nice to a point, but I wouldn't bet my family's life style on it.

Now let's face facts about what we can and can't see. There have been hundreds, maybe thousands of articles which explain every visual problem known to man. Reading even one should convince you your 5 mph eyesight is not a perfect instrument. Else, why do people walk into wires, holes, etc? Also, have you ever nearly hit someone in a car and thought afterward—where did they come from? Or what about the optical illusions involved in magic? We could go on for days, but you should have the point by now—on a clear day you can't see forever.

The bottom line? Well, here 'tis—3 points to guide you...

1. Know the visibility in your air machine.
2. Practice disciplined search techniques whenever you're in VMC.
3. Use all available ground and airborne aids to look for traffic on every flight, and never stop looking till you're in the chocks.

Remember above all, in order to see and avoid, you must first SEE! ➔

Major Shaughnessy and Captain Shub are both flight safety officers from the 4 TFW at Seymour Johnson AFB. Major Shaughnessy has over 1,600 hours in the Phantom. Captain Shub, who has written several other articles for TAC ATTACK recently moved to the 31 TFW at Homestead where he is upgrading to RTU instructor.

Dr Sam

THROW A NICKEL ON THE GRASS

There I was. . ."

"If it hadn't been for. . ."

"How many times does that have to happen before. . .?"

War stories, gripe sessions—I'm sure you've picked up a few pointers there—pieces of information which you used to get yourself out of a touchy situation sometime later. The old heads might have passed on pointers on how to find a particular switch, knob, or whatever, even though it's in a dark awkward corner of the cockpit and was never designed to be activated by a guy wearing a poop suit. Have you ever wished you could participate in the direction of human factors research in the Air Force? Impossible, you say? Well standby one fellow aviator. Some of you are going to have a chance to "throw your nickel on the grass." Others may well have the same chance in the future.

The USAF School of Aerospace Medicine is testing a program this fall in three TAC wings. The 4th at Seymour Johnson, 31st at Homestead, and the 347th at Moody. This program, dubbed "Nickel," is designed to collect information on human factors involvement in "almost" mishaps. The program defines "human factors" as events relating to input, processing, and/or output of the stick/throttle servo actuators—you the aircrews. Possibly the best aspect of Nickel is the information isn't chopped up, rewritten, reworded, and otherwise garbled before it gets to us since the fliers put it directly into the computer.

Direct communication to the computer at USAF-SAM is provided through remote terminals located at each squadron. Using these terminals, aircrewmembers can "talk" directly to USAFSAM's PDPII/70 and it will "talk" back, displaying information on previous reports of near mishaps and possibly involvement of such factors in actual mishaps. The inputs will be on completely anonymous and voluntary basis. The computer does want to know who you are. The information will be reviewed and analyzed by the professionals at USAFSAM and data will be forwarded to HQ TAC for their information and action.

Yes, you'll have to type the information into the system, but that shouldn't be a real problem for you nimble-fingered aircrews. Not only that, we'll make some ancillary programs available on the computer system for users in the field to help with data processing or information retrieval—as recommended by participating squadrons.

The concept is quite different from anything tried before. Its purpose is to gather data which can be used to help reduce human factors-related mishaps. It is a fact that many of our mishaps are caused by human factors and that some level of human factors are involved in all mishaps. What we want is to gather information from the crewmembers who have experienced near mishaps—not to have to take our best guess from this side of hangar row.

If this test program is successful, we may expand it to include all flying organizations, or adapt similar programs to other flying units. Help us out, and yourself and others too. If you get your chance throw your nickel on the grass. ➔

TAC ALLY



| | |
|----------------------|---|
| CLASS A MISHAPS | ▶ |
| AIRCREW FATALITIES | ▶ |
| TOTAL EJECTIONS | ▶ |
| SUCCESSFUL EJECTIONS | ▶ |

| TAC | | |
|-----|-----------|----------|
| AUG | THRU 1980 | AUG 1979 |
| 3 | 22 | 26 |
| 2 | 14 | 23 |
| 1 | 23 | 28 |
| 1 | 17 | 19 |

| ANG | | |
|-----|-----------|----------|
| AUG | THRU 1980 | AUG 1979 |
| 0 | 9 | 6 |
| 0 | 8 | 5 |
| 0 | 7 | 4 |
| 0 | 4 | 2 |

| AFR | | |
|-----|-----------|----------|
| AUG | THRU 1980 | AUG 1979 |
| 1 | 2 | 3 |
| 1 | 1 | 2 |
| 0 | 1 | 3 |
| 0 | 1 | 1 |

TAC'S TOP 5 thru AUGUST '80



| TAC FTR/RECCE | |
|----------------------------|--------|
| class A mishap free months | |
| 30 | 33 TFW |
| 23 | 1 TFW |
| 22 | 31 TFW |
| 16 | 4 TFW |
| 15 | 67 TRW |

| TAC AIR DEFENSE | |
|----------------------------|--------|
| class A mishap free months | |
| 105 | 84 FIS |
| 91 | 57 FIS |
| 44 | 5 FIS |
| 41 | 48 FIS |
| 22 | 49 FIS |

| TAC GAINED FTR/RECCE | | |
|----------------------------|-------------------|-------|
| class A mishap free months | | |
| 138 | 152 TRG | (ANG) |
| 100 | 188 TFG | (ANG) |
| 92 | 138 TFG | (ANG) |
| 91 | 917 TFG | (AFR) |
| 88 | 116 TFW (128 TFS) | (ANG) |

| TAC GAINED AIR DEFENSE | | |
|----------------------------|---------|-------|
| class A mishap free months | | |
| 97 | 191 FIG | (ANG) |
| 78 | 102 FIW | (ANG) |
| 74 | 177 FIG | (ANG) |
| 40 | 125 FIG | (ANG) |
| 23 | 119 FIG | (ANG) |

| TAC/GAINED Other Units | | |
|----------------------------|----------|-------|
| class A mishap free months | | |
| 133 | 182 TASG | (ANG) |
| 126 | 193 TEWG | (ANG) |
| 118 | 110 TASG | (ANG) |
| 113 | USAFTAWC | (TAC) |
| 109 | 919 SOG | (AFR) |

CLASS A MISHAP COMPARISON RATE 79/80

(BASED ON ACCIDENTS PER 100,000 HOURS FLYING TIME)

| TAC | 1979 | 6.9 | 7.0 | 5.9 | 6.6 | 7.4 | 6.2 | 7.2 | 7.1 | | | | |
|-----|------|-----|------|------|------|------|------|------|-----|--|--|--|--|
| | 1980 | 2.0 | 4.0 | 5.2 | 4.4 | 4.7 | 5.2 | 5.3 | 5.4 | | | | |
| ANG | 1979 | 0.0 | 11.4 | 9.0 | 9.7 | 7.6 | 6.2 | 5.4 | 4.6 | | | | |
| | 1980 | 5.0 | 7.6 | 6.6 | 7.1 | 6.5 | 6.2 | 5.8 | 5.2 | | | | |
| AFR | 1979 | 0.0 | 0.0 | 19.9 | 23.1 | 17.0 | 13.4 | 11.6 | 9.9 | | | | |
| | 1980 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.5 | 3.7 | 6.5 | | | | |

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

☆ US GOVERNMENT PRINTING OFFICE: 1980-635-083/5

FLEAGLE

GAS LEAK !



POP!



SSSSSS



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KABLAM!

HARRISON

AFR 127-101 EXPLOSION HAZARDS.
WELDING IS PROHIBITED WHERE FLAMMABLE GASES
OR LIQUIDS ARE PRESENT UNTIL THEIR PRESENCE
HAS BEEN ELIMINATED. IN CONFINED SPACES,
WELDING ITSELF MAY PRODUCE FLAMMABLE AND
EXPLOSIVE GASES.

