TAC ATTACK

SEPTEMBER 1986

Some thoughts on flying excellence... Pg. 4 KELVIN Tylon



Does the challenge make the mission, or does the mission make the challenge? Good arguments on both sides, but I'd have to say the challenge makes the mission. Here's why.

First and foremost, the former line of reasoning works equally well in peacetime and combat, regardless of the mission. Obviously dangerous missions provide plenty of incentive for attention to detail. But then again, what's your attitude when you've flown the same mission 100 times? Routine, right?

In Vietnam, we called them "tree busters" and "milk runs." Not much of a challenge at all. You would fly the patrol or go drop the pig iron and then head back to the hooch. What we didn't realize at the time was that this perceived lack of a challenge allowed the enemy to keep chalking up aircraft destroyed without firing a shot. However, some of the smart fighter pilots understood this and began to put some real teeth back into every mission-the challenge to be the best you could be. This type of flight leader had to be tough. The mission might be a Sky Spot in I Corps or flying CAP over downtown Hanoi-regardless, the leader issued a challenge for every flight member that was in effect from step time until engine shutdown. You worked, and worked hard at being the best.

Here's an example: one pilot thought he was invincible and his set of rules were the only ones to go by, regardless of his position in the flight. Every mission over enemy territory was a piece of cake until . . . he was taxiing out one day with his new flight commander for a "no-sweat" mission over the South. Instead of pulling into the arming area, his flight commander called for clearance to taxi down the runway. Keying the mike on tower frequency, #2 asked his leader if he had a problem. The reply



from the flight lead went something like this—"Hawk lead is Code 1; however, we are not going to fly until Hawk 2 taxis in the position briefed." As you might expect, the challenges for that mission were only just beginning. The important thing was, no matter what phase or how difficult the mission, this leader established a realistic challenge and demanded the performance required to meet it.

Where are those kinds of leaders today? The tougbones. They're out there, all right—but are we encouraging them to establish the challenges and set the examples that are needed today? Are we giving them the time they need to actually fly and fight? Or is their time spent in the IP column only? Do we have our best people overloaded with other duties which limit their ability to be creative and establish challenges with the people they are responsible for? Are we concerned, really concerned, about every mission or do we only become concerned when the mission presents the challenge? A significant number of "combat losses" and the vast majority of our peacetime mishaps dictate that we need to keep the challenge in front of the mission.

One last thought—you don't have to be a pilot to establish challenges for your people and demand excellence. But if you are and you don't, you're in the wrong business. What's your angle of attack?

Echel A. Nit

EDSEL J. DE VILLE, Colonel, USAF Chief of Safety

TAC ATTACK DEPARTMENT OF THE AIR FORCE





FEATURES

4 Some Thoughts on Flying Excellence

Lt Gen Charles J. Cunningham, Twelfth Air Force Commander, shares his personal views on how TAC aircrews should train to be ready.

7 Beware the Intake's Reach

What can a jet intake do to you if you get too close?

10 The Enemy

Doing the TAC mission well requires a vigilant attitude and dedication to the job at hand. We must watch for the enemy that can injure or kill us.

18 Night Flight or Night Fright: The Eyes Have It

Night flying demands the utmost in airmanship and pilot capabilities.

24 It's Hurricane Season

What should you do if a hurricane is headed your way? Take a few minutes to make sure you're prepared.

29 A Case for Seatbelts

Seatbelts save lives. A "There I Was" from one of our TAC folks that lived to share his experience.

DEPARTMENTS

- 8 Chock Talk
- 12 TAC Tips
- 14, 30 Safety Awards
 - 16 In The Center
 - 21 Short Shots
 - 22 Down to Earth
 - 27 Aircrew of Distinction
 - 28 Fleagle Salutes

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Some Thoughts on Flying Excellence

Lt Gen Charles J. Cunningham Commander Twelfth Air Force

t's been pointed out that no one has discovered a new way to crash airplanes and lose pilots. Fortunately, that's true. But some of our recent TAC aircraft mishaps continue to remind us that there are still many ways available to stub our toes. We need to take time periodically to review the basics of our business. Air discipline, complacency and supervision are just a few of the things that demand the attention of our aircrews and supervisors every day if we are to ensure that we continue to fly safely and effectively.

FLIGHT DISCIPLINE

Whether or not overall discipline is better than it used to be is not an issue. It is the occasional lapse in discipline and judgment that leads to problems. Flight leaders and flight commanders are the key to well disciplined aircrews. Personal discipline is a full-time program with no room for momentary deviations, particularly in combat. Our training wings have the earliest opportunities and responsibilities to hammer this home with our young aircrews. Unfortunately, it's not always the young aircrews that demonstrate these momentary lapses. We have seen too many mishaps caused when experienced aircrews knowingly violated established procedures and minimums, resulting in their deaths

Personal discipline is a full-time program with no room for momentary deviations, particularly in combat.

and the loss of their aircraft.

Since the first aerial engagement, the importance of discipline has been stressed as absolutely essential in combat. Take time to read about the leading aces, enemy or ally, of previous wars. The one thing they all stress is discipline. During peacetime we learned the hard way that discipline could never be compro-



mised. Look at any flying unit in the world and where you find superb airmanship, you will find solid discipline. There's no way to have one without the other. It goes without saying: when you do find a unit that is high on airmanship and flight discipline, they always have an enviable record.

RADIO DISCIPLINE

I consider good, sharp radio calls a valid indicator of good flight discipline. Sloppy, unnecessary radio use can lead to confusion and start a sequence ending in a tragic mishap. The addition of a second radio in many of our trcraft certainly doesn't mean that you have a dedicated frequency for your flight's use with no need for strict radio discipline. The use of full call signs and precise terminology by our aircrews serves as an example for the same professionalism by our tower and

I consider good, sharp radio calls a valid indicator of good flight discipline.

radar controllers. We need to practice the same radio procedures we will use in combat but not hesitate to use the radio to correct a flight member when necessary. Again, flight leaders must insist on this basic airmanship principle.

COMPLACENCY

There is a tendency to let down after the demanding part of the mission or during the routine events. Recent mishaps demonstrated that this can lead to disastrous results. Routine bomb checks, formation procedures and instrument approaches are examples of areas where complacency or a lack of attention started the chain of events leading to a mishap. Complacency showed up during another mishap where the pilot allowed the situation to con-

SOME THOUGHTS ON FLYING EXCELLENCE

trol him. In this case, the pilot, involved in a midair collision, flew an inappropriate approach when tower and radar controllers were obviously overloaded and not passing traffic advisories or controlling the recovery of numerous aircraft. When it comes to complacency, the soundest rule is as basic as this: the flight isn't over until after the debrief.

SUPERVISION

Flight commanders are our key leaders, but who's leading the flight commanders? We must be careful not to overload them with needless additional duties or to allow them to let themselves be overloaded with commitments which may interfere with their primary job.

When things are going well, minimal supervision is required. But when things start to slide, we must rely on experienced leaders to return them to normal. Our flight leaders and supervisors of flying serve as our front line of defense in providing that stabilizing experience factor. They must be able and willing to turn the situation around when things start to go downhill.

These thoughts shouldn't be construed as criticism of the overall fine job that our folks are doing throughout the command. Our aircrews are better prepared and more ready than ever. As I mentioned in the beginning, our mishaps must serve a useful purpose by reminding us that we must return again and again to the basics and review the lessons learned. The old saying of "Brief what you fly and fly only what's briefed" is as true as ever.

One last thought: It is only by passing along the hard lessons we've been forced to learn that we can ever hope to fly better, smarter and safer. Let's get the word out!



BEWARE THE BERGE THE CONTRACT OF THE PROPERTY OF THE PROPERTY

Is the F-16 intake large enough to suck a man inside? You bet! Four years ago one of our weapons troops was fatally injured after being pulled inside the aircraft. While the F-16's intake looks deceptively innocent as the aircraft sits idling on the ramp, the rush of air needed to feed that F100 engine is like a hungry animal. An occasional safety pin ingested should remind us of the real danger lurking there but unfortunately, we almost had another fatal demonstration of how unforgiving the F-16's intake can be.

An F-16B aborted its takeoff and the fire/rescue folks responded to the aircraft as it pulled onto the taxiway. Since the EPU (emergency power unit) had been activated, the rescue personnel approached the jet with their full breathing equipment on. After chocking the aircraft, the crew safety-pinned both gear. When one of the men on the left side of the aircraft decided to cross to the right, he thought he could take a shortcut beside the nose gear of the aircraft and still stay behind the lip of the intake. As he ducked under the aircraft, he was suddenly lifted off the ground and sucked up to his knees inside the air intake. The only thing that saved him was the added bulk of his self-contained breathing equipment which made him too big to fit any further inside the intake. The engine was shut down immediately and the fireman escaped injury, but his headset and tool kit were ingested, causing damage to the engine.

This incident is a graphic reminder to everyone working around the Falcon that the power and reach of its intake can be treacherous. For example, when you are within one foot of the F-16 intake and the engine is at idle power, the wind velocity is about 116 miles per hour, equaling 300 pounds of pulling force. There's simply no way you can provide enough resistance to keep from being drawn inside by that kind of power.

Both the maintenance and aircrew tech orders depict the intake hazard area which stretches from the forward edge of the engine intake outward in a 15-foot arc at idle power (25-foot arc at mil power).



The only way to be safe is to make sure you're not anywhere within that area while the jet's cranked up.

Under current operating procedures, there shouldn't be any need to get near the F-16's intake area while the engine is running. The former requirement to pin the nose gear before engine shutdown is no longer a necessary precaution on TAC's F-16s with the completion of TCTO 1F-16A-1121. If you must go near that area for some reason, make sure you approach from behind the intake and stay behind it. Any other crossing from side to side should be done outside of the hazardous area or somewhere behind the nose gear wheel.

Two of the simplest and safest principles to practice around a running jet are to use the minimum number of people and keep the loose objects in your hands or pockets to an absolute minimum. If you have to go near the aircraft, make sure that everything is either firmly in your grasp or attached to you.

Being sucked into an engine intake isn't just an F-16 problem. Regardless of what aircraft you work around, this near tragedy should be a sharp reminder that all jet intakes must be treated with great respect.



INCIDENTS AND

Bent out of shape

A n F-4 was being placed on alert status and all of the Aero 7 rack and rocket motor safety pins were in place. About 50 seconds into the missile tuning process, the crew chief notified the aircrew that smoke and hydraulic fluid were coming from the left forward AIM-7 guidance and control unit. They immediately shut the aircraft down and hopped out.



Inspection of both the missile and the aircraft after the incident revealed that some bad connections had caused the problem. Following maintenance on the aircraft radar system, the radar set control box was removed and replaced. When it was reconnected, several connector pins were bent, allowing incorrect voltages to be present in the system.

Electronic connecting devices don't take kindly to brute force treatment. When a plug doesn't seem to fit, ask yourself why. Is a part of the connection out of proper alignment or are you trying to put "a square peg into a round hole"? If you succeed in forcing the plug or part into place, you may end up with more serious results later on.

Bad air

During a KC-135 preflight, the boom operator noticed that one of the portable oxygen bottles had dropped to 100 psi. He refilled the oxygen bottle using one of the aircraft recharging outlet hoses. As he did so, he noticed a very strong odor of paint thinner or glue in the air that leaked out of the bottle. When all the remaining bottles were checked, three more were found that contained contaminated oxygen.

The contaminant was identified as methyl ethyl ketone (MEK), an agent that had been used to strip away paint from the bottle. During the process the fluid had leaked into the bottles. After the treatment, the bottles were completely repainted and the technician doing the maintenance hadn't realized that there had been a leak. There were no governing tech orders or directives for this type of repair work and no one could determine when the procedure had been started. Supervision assumed that the repaint procedures were correct because it had been done that way for so long that nobody even questioned it.

Are you doing anything that you assume is right because that's the way it's always been done?

INCIDENTALS WITH A MAINTENANCE SLANT

Do it, then sign it off

When an F-15 returned from its mission, the crew chief noticed that a panel was missing. The pilot hadn't noticed anything abnormal during the flight. Fortunately, most of the mission was over water, so the panel probably fell in the ocean.

Several hours before takeoff, the right engine ad been removed and replaced by workers on midshift. While reinstalling the engine bay panels, a crew chief noticed two fasteners missing from panel 128. He told the midshift expediter. The expediter said he'd get the fasteners and put them in the panel himself. He signed off and released the aircraft forms.

Afterwards, the expediter was interrupted several times. Soon it was time for shift change, and he forgot about the fasteners.

The two hooks on the top of the panel kept it in its normal position. Neither the day shift crew chief nor the pilot noticed the missing fasteners. The hooks probably held the panel during low-G flight but failed when the maneuvering got harder.

The solution to the problem seems simple: Don't sign off what hasn't been done. Otherwise, the aircraft forms don't mean much.

A long nose

A n F-4 unit, converting from F-4Cs to F-4Es, was moving all of their aircraft back onto the ain parking ramp after it received a thorough ceaning. Two different length tow bars were available to use, but a maintenance tow team incorrectly selected a short one to move an E-model. They were able to hook the tow bar to the aircraft because the nose gear was turned about 45 degrees to the left. As the aircraft was initially moved forward and the nose gear straightened out, the pitot tube struck the cab of the tow vehicle. The pitot tube was bent and the radome had to be replaced.



When you're preparing to tow different models of aircraft, whether they're your own or transients, take a couple of minutes to make sure your towing gear is the proper length to do the job. Don't stop there, however. If you've made the wrong choice, it's only common sense to watch the aircraft as you start to tow it and make sure it's clear from all obstacles, especially your tow vehicle.

THE ENEMY

Sgt Kelvin Taylor Staff Artist TAC ATTACK

weat dripped from my eye-Dhrows and blisters ate through my feet. The oppressive heat and humidity seemed to press down on me like a weight. This was my last rescue mission in this hellish jungle and then I could go home. I could hear the helicopter hovering just above the trees about a hundred vards behind me. Pararescue was my job and Southeast Asia my office. I was on the ground to retrieve a couple of F-4 pilots who had ejected from their flaming aircraft an hour before. The jungle reeked of burning jet fuel and plastic from their crashed jet. Broken tree limbs and foliage were scattered all over the ground and smoke filtered through the trees ahead of me. My heart was pounding in my chest and a gnawing fear gripped the pit of my stomach. This was the most dangerous. part of the rescue. The enemy liked to hide near the wreckage and wait for rescuers to arrive. I centered all of my attention on the job at hand.

Snap! A dry branch shattered the silence. I dove to the ground under the cover of some tall growth, hiding myself from the enemy's view. My breathing came rapidly and I could barely suppress the urge to get up and

run as fast as I could back toward the helicopter. As I laid there, I heard a voice cry out, "Help! Help me, I'm wounded." Slowly I rose to a kneeling position. There a few feet away was one of the pilots I was searching for. I quickly ran over to him and checked for any injuries. He had a broken arm, a lacerated face and several bruises. He said the other pilot was dead. I radioed our position to the helicopter and sat back to wait for the jungle penetrator to be lowered to us.

As I began to give the injured airman first aid, I felt the muscles in my body relax and a wave of relief wash over me now that the hardest part of my job was over. What a difficult year this had been. I was looking forward to going home soon. As the minutes slipped by, my thoughts turned to my wife, my '67 Chevy and a good night's sleep at last. How nice it would be to ...

Brrrrp-Brrrr-Brrrrp.

Bullets splattered into the ground surrounding us. The enemy had found us. We were caught off guard, out in the open. Why hadn't I been paying attention?

1

The airman in this story had two enemies: the enemy soldiers and his own lack of concentration. After completing a very difficult part of his job, he began to let down and relax as though the mission were complete. His surroundings were just as dangerous; but, with the hard part of the task over, he began to feel more familiar and comfortable. Suddenly the enemy spotted his weakness and attacked.

So it is today. A pilot returns from a realistic training mission



10



to a simple overhead pattern and fails to lower the landing gear. Weapons loaders, after a long exercise, cut a few corners while downloading MK-82s. A 702 dives into a shallow pool during a PCS party and suffers a broken neck. None of us in the Air Force is immune to mishaps or accidents. The enemy is waiting on and off duty to find our weak points. One potential weakness is letting down after the most difficult part of a mission or job before the task is completed. We're tempted to put our fine-tuned technical minds and attention on autopilot and begin to think of other things. The enemy is unforgiving of errors. It's true; we cannot nor should we give 100% attention to just the job. There must be times when we can relax for a few minutes, even in the workplace. The problem is when we become too relaxed at the wrong time, and during the wrong circumstances.

Time limits, peer pressure and lack of awareness contribute to accidents as well. Whose job is it to follow safety rules? Everyone's. Bad safety practices not only affect the violator but also the people around him or her. We not only injure ourselves but also our best friends and acquaintances.

The enemy waits for us. He conceals himself cleverly so he can catch us out in the open—off guard. Don't let him catch you.

TAC ATTACK

Timing is everything

A n F-15 pilot was leader of a two-ship en route to the working area for a syllabus BFM ride when he heard a loud thump that sounded like an engine problem. He immediately checked his engines but didn't notice any apparent problems. He continued the flight and flew three BFM engagements without noting any flight control problems.

After the last engagement, the Eagle pilot directed a rejoin for a routine battle damage check. The upgrading pilot saw that the leader's aircraft was missing most of his right rudder. An emergency was declared and the F-15 was brought back for a successful straight-in approach.

What is the purpose of a battle damage check?



It's not just a "mission complete" square to fill. You don't have to wait for the end of mission to do your battle damage assessment if you suspect a problem, such as an obvious but mysterious thump on your airframe. Check your airframe out anytime the circumstances indicate a need for it.

INTERESTING ITEN

Misguided power

A n F-16 was parked in the arming area, preparing for a night mission, when an RF-4 taxied from an adjacent parking spot. After making an initial right turn, the RF-4 stopped with its engine exhaust pointed toward the EOR marshaller standing in front of the F-16. As the RF-4 pilot applied power to resume taxiing, his exhaust blew the ground communications headset off the marshaller's head and past the front of the Falcon. The headset communications cord came off and was sucked down the F-16's intake.

The RF-4 pilot felt that he used normal or even less power than usual when he prepared to resume taxiing. Regardless, he was unaware of who his exhaust was pointing at when he stopped to await takeoff clearance. The arming area marshaller, directing his attention primarily toward the F-16 arming operation, was also unaware of the possible hazard from the RF-4's exhaust and was caught by surprise when his headset was blown off.

Situational awareness is crucial to a safe operation, no matter where you are—in the air or on the ground.

AS, MISHAPS WITH MORALS, FOR THE TAC AIRCREWMAN

Missing something

When an AIM-9 captive missile was returned to home base after a two-week DACT deployment, the weapons troops downloading it noticed that the gas grain generator had been fired. The dummy adaptor plug, designed to prevent such an incident, was missing.

When the F-4s and captive AIM-9s had first been deployed, the incident AIM-9 had been reported as inoperative by the aircrew. The missile was moved to a different rail on the same aircraft and later to an entirely different jet. During both of the missile switches, the weapon loaders failed to notice that the dummy plug was not in place. On each of the sorties flown, the aircrew failed to notice the plug's absence during their Dash 34 missile preflight. As a result, the gas grain generator and thermal battery worked as advertised during one of the air engagements. The missile had to be removed from use until the necessary repairs could be done.

Skipping stones

A n F-4 pilot was in the pulloff from his final strafe pass when something struck the left quarter panel, causing a 4- by 2-inch hole. The front seat was showered with bits of plexiglass, but the pilot was able to make a normal recovery at home base.

The initial cause of the windscreen damage was thought to be a birdstrike, but there was no evidence of that. A ricocheting bullet seemed the next most likely candidate for blame, but the pilot's firing parameters and ceasefire distance were well within the established criteria designed to prevent such problems from occurring.

The strafe pits were in good shape that day because they had been disked just that morning and inspected by a highly experienced range officer.

So what caused the windscreen to be shattered? We don't know for sure, but the obvious point is this: you've got to have a plan for the times when you do everything RIGHT. Even then a stray bullet, a rock hit just right or a lucky BB can jump up and get your attention.



Ground Safety Award of the Quarter

Sgt Edwin J. Rodes was appointed as the Ground Safety NCO for his squadron in January 1985. His selection was based on his demonstrated ability as a supervisor and his safety conscious attitude, both on and off duty.

Sergeant Rodes has built a versatile safety program. The squadron has maintained a "zero" onduty injury rate, while reducing military lost workdays from 7 to 4. Military accident rates have also decreased from 20.4 to 10.4, exemplifying the acceptance of his safety practices throughout the squadron.

In the workcenters, where hazards are greatest, Sergeant Rodes updated and developed squadron and branch safety inspection checklists. He also provides detailed information concerning the specific industrial and electronic hazards to all supervisors.

Sergeant Rodes routinely conducts inspections throughout the squadron. These inspections consist of a bi-monthly inspection of the hazard abatement files, safety management books, safety bulletin boards and work areas. He personally checks each branch safety monitor's program and conducts monthly safety council meetings with his monitors to identify and correct potential hazards.

Sergeant Rodes developed and implemented the risk exercise sports registration and inspection pro-



SSgt Edwin J. Rodes 325 CRS, 325 TTW Tyndall AFB, Florida

gram to ensure the latest safety information is made available to all risk exercise enthusiasts. Again, squadron statistics indicate the program has been very successful with only one minor sports related injury during the entire year.

His motorcycle safety program consists of quarterly meetings that focus on vicinity travel, danger zones, passenger and operational safety equipment and vehicle safety inspection criteria.

Sergeant Rodes' motto is worth passing along—it earned him this award: "There will be no unsolvable safety hazards."

Weapons Safety Award of the Quarter

A s the loading standardization crew chief, TSgt Scott C. Radcliffe sets load crew standards for the entire wing. A dedicated professional, he has worked diligently to improve the quality of missile load procedures while striving to provide a safer environment for loading operations.

When load crews were experiencing missile umbilical cord shearing during captive AIM-9 loading and unloading operations, Sergeant Radcliffe identified the problem and wrote corrective procedures that reduced the frequency of incidents by elevating the level of care taken when handling the missile.

Of almost 9000 loading and unloading operations this quarter, only one incident required depot level



TSgt Scott C. Radcliffe 405 AGS, 405 TTW Luke AFB, Arizona

repair. When an incident did occur, his recovery procedures reduced the repair cost from a \$76,000 depot repair bill to a \$156 local repair bill. Additionally, there have been 800 AIM-7 loading and unloading operations this quarter without a single incident. Consequently, the wing has experienced a significant decline in reportable and nonreportable missile mishaps, a 40- to 50-percent decline in the past 24 months.

His procedures to restrict the movement of equipment and personnel in high hazard areas following uncommanded fuel dumping during integrated combat turn (ICT) refueling operations prevented possible flash fires.

Responsible for the training of load crews throughout the wing, his quality training programs

Flight Safety Award of the Quarter

Capt Fred M. Clemovitz has been an exemplary safety officer in his squadron since its inception. Starting from scratch, he organized the squadron's safety program into the best one at Luke Air Force Base. A recent Twelfth Air Force staff assistance visit concluded that the squadron safety program is a "model." Its success is measured in the squadron's record of no Class A or B mishaps in the F-16C/D in over 6000 hours.

During Captain Clemovitz's tenure, the squadron started the Air Force's first F-16C/D squadron, trained over 250 students, represented the wing in the most recent Gunsmoke and deployed to WSEP. As the squadron suffered through growing pains, he anticipated many problem areas and worked closely with squadron leadership to ensure that the unit performed safely and effectively.

Captain Clemovitz's mishap investigations have been superior. His reports identified problems in the grounding point of the EMER DC number 1 bus in the F-16D. Vibration from the gun was causing loss of the EMER bus, a serious emergency in the F-16C/D.

Captain Clemovitz's strong aircraft tracking program has helped make pilots and supervisors aware of "problem jets." This tracking program helped identify the DC number 1 problem due to the same malfunction occurring on several different aircraft.

The internal workings of the squadron safety proram reflect the extra effort that Captain Clemovitz gives to make the safety program work. Safety as well as ICT procedures have enabled this wing to perform 105 ICTs this quarter, more than twice required by the command, without a single incident or accident. Furthermore, the crews loading during those ICTs completed the loads in an average of 31 minutes, 14 minutes better than the command requirement.

Finally, Sergeant Radcliffe's successful management of the squadron explosives safety program culminated in an excellent rating during the semiannual air division inspection, a second consecutive excellent rating for Sergeant Radcliffe's program. The team noted during the outbrief that Sergeant Radcliffe was the catalyst for the successful rating and, as a result of his dedicated involvement, safety was commonplace about the flight line.



Capt Fred M. Clemovitz 312 TFTS, 58 TTW Luke AFB, Arizona

meetings are thorough, informative and useful. His spot inspection program has helped find and rectify problem areas that might be expected in a new squadron. There is a strong maintenance liaison program designed to recognize and reward the efforts of superior maintenance personnel. Captain Clemovitz also designed a board to help keep up with suspenses for inspections, investigations, schedules, etc., which has become a wing standard.

Captain Clemovitz's work at the wing has shown the same positive note that is reflected at the squadron. He is always ready to lend assistance and can be counted on for quality work on annual and spot inspections throughout the airdrome. His assistance on several Class A interim boards was invaluable. Many of his ideas helped lay the foundation for the wing's recent safety day.

EF-111 RAVEN

Capt Fred M. Chanevitz 312 TFTS, 69 TTW Lube AFG, Arkens

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NIGHT FLIGHT OR NIGHT

1st Lt Scott Norris 21 TASS Shaw AFB, South Carolina

Have you ever found yourself on the night flying schedule and thought, "Why me?" To most TAC pilots, night flying is probably not their idea of a good time; but with the increased use of night sensors and systems such as LANTIRN, we'll certainly be doing more of it in days to come. In the meantime, we've got to make the best use of the equipment we have. In many cases, it's basically your instruments and your two eyeballs. A pilot, by nature, always wants to step to his aircraft equipped with the best in both hardware and knowledge. Since your night vision is a critical part of your night flying equipment, why not make the most of it?

One of the first steps to improving good night vision is understanding the difference between how we see in daylight and dark. If you think they're the same, read on and you'll find out how to ensure you have the best night vision possible.

Your eyes use two types of light receptors: rods and cones. The cones are primarily for day and color vision while the rods serve you during the night and peripheral vision. The rods are about 1000 times more sensitive to light than cones, but that sensitivity costs you in color and definition.

We see with three kinds of vision, depending on the intensity of light available. The first, photopic vision, is our day (bright light) vision. As you can guess, this is the best. Under daylight conditions, you use your peripheral vision to detect objects but view them primarily with your central (cone) vision. The second, mezopic vision, is what we use in mid-intensity light (dawn or dusk, for example). Our visual acuity degrades and continues to



FRIGHT: THE EYES HAVE IT

get worse as light levels decrease. Due to the gradual loss of cone (central vision) sensitivity, greater emphasis should be placed on off-center viewing as available light drops off. The last is scoptic vision where many things are lost. Color vision is greatly reduced, and visual acuity drops to 20/200 or less. A central blind spot is much more pronounced due to the loss of cone sensitivity. Because of that, the natural reflex to look directly at an object must be reoriented at night. If you continue to stare at a dim image, it will fade · bleach out after a few sec-

ds

Another important step to



good night vision is dark adaptation. This process allows your eyes to adapt to low levels of light. Different people adapt to dark conditions in varying degrees and rates. During the first 30 minutes of darkness, the sensitivity of the eye increases 10,000-fold. Maximum adaptation is reached in 30 to 45 minutes under minimal lighting conditions.

After you are adapted for night vision, there are some conditions which will destroy your night vision in a heartbeat. What are they? Surprisingly, high energy pulses of light such as strobes have minimal effect. but exposure to a flare or other steady lighting can have a significant impact on your night vision. Remember, if the light is bright enough that you can easily distinguish colors, it will affect your night vision. Smoking also has a marked effect on your night vision. A smoker effectively loses about 20 percent of his night vision capability at sea level. HUD illumination lighting at mid-intensity will have a minimal effect on your night vision.

What can you do to protect your night vision? First, minimize repeated exposure to bright sunlight. If you don't, the effect can persist for up to five hours. If night flight is expected, you should use military neutral density sun glasses (N-15/standard Air Force issue) or equivalent filter lenses during the day before the night flight. This will maximize your dark adaptation at night and improve your night vision.

Fatigue can also have an effect on your night flying performance. Unfortunately, sometimes when you night fly, it tends to be at the end of your work period. Even slight fatigue can cause you to not use good night vision techniques.

Dark adaptation is only the first step to seeing well at night. Applying good night vision techniques will enable you to overcome some of the physiological limitations of your eyes that I've mentioned.

Good scanning ability is essential at night. To do it effectively, scan from one side to the other using a slow, regular movement. Although day and night searches both employ scanning movements, it is essential that you avoid looking directly at a faintly visible object when you are trying to confirm its presence. If you use central vision to view an object at night, you may not see it. This is due to the night blind spot, caused by high cone concentration for central color vision. To compensate for this limitation, use off center vision. This requires you to view an object by looking 10 degrees above. below or to either side of it, rather than directly at the object. Even when off center viewing is practiced, an object viewed longer than 2 or 3 seconds tends to bleach out. By shifting the eye from one off center point to another, you will continue to



pick up the object.

Because visual acuity is reduced at night, objects must be identified by shape or silhouette, and your awareness in this area improves greatly as night experience is gained.

Good night vision techniques

all boil down to the old cliché of making the best use of the equipment you've got (personal as well as GI issue). Your ability to do this can markedly affect your ability to operate at night; and maybe take the fright out of night flight.

Lieutenant Scott Norris is an O-2 FAC with the 21 TASS at Shaw AFB, S.C. Prior to becoming a USAF pilot, he was an Army aviator flying AH-1 Cobra aircraft. His night experience comes from the AH-1 using night vision goggles. Lieutenant Norris has over 1800 hours total flying time, with over 150 hours of might vision goggle time.



A few comments from the Flight Surgeon

Capt Tom Koritz, MC/FS USAF Hospital Langley AFB, Virginia

• In addition to smoking and fatigue, mild hypoxia can severely reduce night vision. Dropping the mask with an 8000-foot cabin altitude could prevent the tally during night ops. This could lead to obvious consequences.

• Objects are seen at night only by being either lighter or darker than their backgrounds. These contrast differences are reduced by light reflected by canopies, fog, haze, etc. Any transparent medium through which the flyer must look should, therefore, be spotlessly clean for night ops.

• Red light in the cockpit and/or use of red goggles during preflight promote night vision. By keeping one eye closed if required to look into bright light, you can maintain night vision in at least one eye. • Remember, only practice improves performance. To feel more comfortable with night ops and the subsequent reduced visibility, delayed closure rate perceptions, and delayed reaction times, we may have to fly at night more frequently than the required "fill-the-square" sorties for the half.

Dr. Tom Koritz is a USAF flight surgeon and also actively flies the F-15 Eagle, in which he has over 900 hours.



Although most child pedestrian-traffic accidents occur during April, May and June, we want to remind you that kids are going back to school this month-please take extra caution when driving past that school zone-the one that says "Slow When Lights Are Flashing." Also, going back to school is a change just like getting out of school. Be aware that a child could dart out from between parked cars. Each year, 450 to 600 children, ages 3 to 5, are killed in pedestrian-traffic accidents. Most of these deaths are caused from darting out from between parked cars. The second leading cause happens at an intersection where children run into the street without looking for cars. And honking a horn could provide the wrong signal: many small children interpret a horn as a sign that it's OK to cross the street.

Call the poison control center first when your child ingests a possible poison—it can save an unnecessary trip to the hospital, according to an arti-) in *Pediatrics*, the journal of the American Acadny of Pediatrics. Parents who called the center rst often found that the child could be treated

TAC ATTACK

with liquids or syrup of ipecac, without going to an emergency room. Of those parents who rushed their children to hospital emergency rooms, 95 percent had not called the poison control first.

How do law enforcement officers **spot intoxicated drivers?** Here's a list so you'll know what to look for:

- Turning in a wide radius.
- Straddling the center or lane marker.
- Weaving and swerving.
- Driving on an other-than-designated roadway.
- Driving too slowly.

• Stopping without apparent cause in a traffic lane.

- Following too closely.
- Braking erratically.
- Signalling inconsistent with driving actions.
- Slow response to traffic signals.
- Rapid acceleration or deceleration.
- Driving with headlights off.

So what? you might say. National Highway Traffic Safety Administration statistics show that half of all Americans will be involved in an alcohol-related accident during their lifetime—whether intoxicated or not.

The National Highway Traffic Safety Administration (NHTSA) amended its child car safety seat performance standard (No. 213) to require that all child safety seats provide equal crash protection. The amended standard calls for child safety seats designed for use with a tether to provide crash protection equal to child safety seats not equipped with a tether. (A tether is a strap which supports some safety seat designs by anchoring the top of the seat to the vehicle structure.) In other words, all seats will be required to pass a 30 mph crash test secured by a lap belt only. The reason for the change is because NHTSA studies show that more than 80 percent of the child safety seats requiring a tether are not installed properly, usually because the tether is ignored. And all Graco GT 1000 child safety seats will be recalled because of a possible problem with the lever that adjusts the seat. Owners may call Graco's customer service division toll-free at 800-345-4109 (Pennsylvania residents may call collect at 215-286-5951) for more information.

DOWN TO EARTH ITEMS THAT CAN AFFECT YOU AND YOUR FAMILY

Ten commandments for hunters' field safety

The National Rifle Association suggests the following ten "commandments" for your hunting safety:

1. Be positive of your target's identity before shooting.



2. Take time to fire a safe shot. If unsure, or if you must move too quickly, pass up the shot. When you have to wonder whether you should shoot—DONT.

3. Use the right ammunition for your firearm. Carry only one type of ammunition to be sure you will not mix different types.

4. If you fall, try to control where the muzzle points. After a fall, check your unloaded gun for dirt and damage and make sure the barrel is free of obstructions.

5. Unload your gun before attempting to climb a steep bank or travel across slippery ground.

6. When you are alone and must cross a fence, unload your firearm and place it under the fence with the muzzle pointed away from where you are crossing. When hunting with others and you must cross a fence, unload the guns, so that your companions may cross safely.

7. Never use a scope sight as a substitute for binoculars. (Imagine how you would feel if you discovered you were being looked at through a scope mounted on a gun.)

8. Alcohol, drugs and hunting do not mix. Drugs and alcohol may impair your judgment. Keen judgment is essential to safe hunting.

9. Beware of fatigue. When you are so tired that hunting isn't fun anymore, go back to camp. Fatigue can cause carelessness and clumsiness, which, in turn, can cause accidents. Fatigue can also cause you to see things that aren't there.

10. When you have finished hunting, unload your gun before returning to your vehicle or camp.



HERE ON THE GROUND

Fairy tales

How many of these fairy tales have you told? I don't need a safety belt when I'm traveling at low speeds or going on a short trip.

More than 80 percent of all accidents occur at speeds less than 40 mph. Fatalities involving nonbelted occupants of cars have been recorded at as low as 12 mph. That's about the speed you'd be driving in a parking lot. Three out of four accidents causing death occur within 25 miles of home. I'm uncomfortable and too confined when I wear a safety belt.

Belts are designed to allow you to reach necessary driving controls, and the newer shoulder belt retractors give you even more freedom. When reaching for things that will take you away from the steering wheel, it's safer to pull off the road or ask your passenger to help. You'll probably find that any initial discomfort caused by safety belts soon goes away. Eventually, you may even feel more comfortable wearing safety belts.

I might be saved if I'm thrown clear of the car in an accident.

Your chances of being killed are almost 25 times greater if you're thrown from the car. The forces in a collision can be great enough to fling you as much as 150 feet—about 15 car lengths. Safety belts can keep you from plunging through the windshield; being thrown out the door and hurtled through the air; scraping along the ground; or being crushed by your own car. In almost any collision, you're better off being held inside the car by safety belts.

If I wear a safety belt, I might be trapped in a

burning or submerged car.

Less than one-half of one percent of all injuryproducing collisions involve fire or submersion. But if fire or submersion does occur, wearing a safety belt can save your life. If you're involved in a crash without your safety belt, you might be stunned or knocked unconscious by striking the interior of the car. Then your chances of getting out of a burning or submerged car would be far less. You're better off wearing a safety belt at all times in a car. With safety belts, you're more likely to be unhurt, alert and capable of escaping quickly.

It takes too much time and trouble to fasten my safety belt.

In reality, fastening your safety belt may take some time and trouble—but not too much. It all depends on how complex your belt is; how well you know how to use your belt; and how difficult it is to find the belt ends. That much time and trouble you can live with.

When I have my lap belt fastened, I don't need to fasten my shoulder belt.

It's true that a lap belt will protect you from serious injury. But a shoulder belt provides important additional protection. During a crash, a shoulder belt keeps your head and chest from striking the steering wheel, dashboard and windshield. A lap and shoulder belt offers you the best possible protection in the event of a crash.

But we'll live forever.

Well, your chances are better if you buckle up.

-Department of Transportation

of water blown up to the property lines or porch steps. Evacuate in response to civil defense sirens and radio warnings? Why bother? They were enjoying it. But by morning the bridge was

But by morning the orlige was out. They were stuck. Record 200-mile-per-hour-plus winds shredded their homes, splinter by splinter, as they cowered in upper floor back bedrooms, clinging to mattresses.

Then a mighty storm surge plowed inland; its giant winddriven waves over 200 feet high, strewing devastation and finishing what the wind had statted. Could this happen to you?

Enter the season prepared— If you live in a coastal area, plan a flood-free evacuation

F or those who haven't felt the force of a hurricane... It was pleasant... a breezy Indian summer Sunday evening. As the hurricane approached the beautiful saucer-deep bay, longtime residents sat on their patios and sipped tall drinks. The last serious hurricane was only a dim memory. When one of the storms hit in recent years, it never amounted to more than a splash route. Your community's hurricane preparedness plan should include designated safe areas, areas to be evacuated during hurricane emergency and safe evacuation routes to shelter. Get information on emergency planning in your area by contacting your local civil defense or emergency services office.

Hurricanes can cause extensive flooding, not just along the coastline, but far inland as well. Flood insurance is valuable financial protection. You should be aware, however, that your homeowner's policy does not cover damage from flooding. Check into the availability of flood insurance through the National Flood Insurance program by contacting your local insurance agent.

Your annual preparations for the hurricane season should include checking to see that you have a supply of nonperishable food, first-aid kit, fire extinguisher, battery-powered radio and extra batteries and flashlights.

Advisories and warning-

The National Weather Service can usually provide 12-24 hours of advanced warning. Advisories are issued by the Weather Service of NOAA (National Oceanic and Atmospheric Administration) when hurricanes approach land.

A hurricane *watch* is issued whenever a hurricane becomes a threat to coastal areas. Everyone n the area covered by the *watch* should listen for further advisories and be prepared to act promptly if a hurricane warning is issued.

A hurricane warning is issued when hurricane winds of 74 miles an hour or higher, or a combination of dangerously high water and very rough seas, are expected in a specific coastal area within 24 hours. Precautionary action should begin immediately.

Getting ready for the hurricane-

Keep tuned to a local radio or television station for the latest Weather Service advisories as well as special instructions from local government.

... a number of other harmless items become deadly missiles in hurricane winds.

Check battery-powered equipment. Your battery-operated radio could be your only source of information, and flashlights will be needed if utility services are interrupted.

Keep your car fueled should evacuation be necessary. Also, service stations may be inoperable after the storm strikes.

Store drinking water in clean bathtubs, jugs, and bottles and have portable cooking utensils on hand because your town's water and gas systems may be contaminated or damaged by the storm.

Board up windows or protect

them with storm shutters or tape. Danger to small windows is mainly from wind-driven debris. Larger windows may be broken by wind pressure. Although tape may not keep a window from breaking, it is an effective way to prevent flying glass.

Secure outdoor objects that might be blown away. Garbage cans, garden tools, toys, signs, porch furniture and a number of other harmless items become deadly missiles in hurricane winds.

Moor your boat securely before the storm arrives or move it to a designated safe area.

Leave early from low-lying beach areas that may be swept by high tides or storm waves. Leave mobile homes for more substantial shelter—they are particularly vulnerable to overturning in strong winds.

Be aware that some areas may flood long before the arrival of the storm. Your escape may be further complicated by the fact that the density of population in some areas makes it mathematically impossible for the few roads to accommodate everyone within one day. Don't get caught by the hurricane in your car on an open coastal road.

If local government advises evacuation of your area, do so immediately. Keep your car radio on to listen for further instructions, such as the location of emergency shelters.

If you live inland away from the beaches and low-lying coastal areas, your home is well con-



HURRICANE SEASON

structed and local authorities have not called for evacuation in your area, stay home and make emergency preparations.

Be alert for tornado watches and warnings as tornadoes are often spawned by hurricanes. Should your area receive a tornado warning, seek inside shelter immediately, preferably below ground level.

During the hurricane-

Remain indoors during the hurricane. Blowing debris can injure and kill. Travel is extremely dangerous. Be especially wary of the eye of the hurricane. If the storm center passes directly overhead, there will be a lull in the wind lasting from a few minutes to half an hour or more. At the other side of the eye, the winds will increase rapidly to hurricane force and will come from the opposite direction.

After the hurricane has passed-

If you are in a public shelter, remain there until informed by those in charge that it is safe to leave.



Keep tuned to your local radio or television station for advice and instructions from local government about emergency medical, food, housing and other forms of assistance.

Stay out of disaster areas that could be dangerous and where your presence will interfere with essential rescue and recovery work.

Do not drive unless you must. Roads should be left clear for emergency vehicles and debris filled streets are dangerous. Along the coast, soil may be washed from beneath the pavement, which could collapse under the weight of a car.

Avoid loose or dangling wires and report them immediately to your power company or local police or fire department.

Report broken sewer or water mains to the water department.

Prevent fires. Lowered water pressure may make fire-fighting difficult.

Hurricanes moving inland can cause severe flooding. Stay away from river banks and streams until all potential flooding is past.

If power has been off, check refrigerated food for spoilage. Don't drink the water until officials tell you that it's OK.

Make your plans and preparation for a hurricane emergency the subject of a family discussion. Share your family's plans with friends and relatives. Hurricane preparedness is a team effort for everyone in the neighborhood and community.

AIRCREW OF DISTINCTION



C aptain James A. Trinka was leading an F-16 formation takeoff when his aircraft was struck in the engine intake by a large bird, resulting in immediate catastrophic engine failure. Despite the relatively low altitude and airspeed, Captain Trinka cleared his wingman, performed a zoom maneuver to gain more altitude and determined that he could return to land opposite the direction of traffic.

While he skillfully maneuvered his powerless aircraft, Captain Trinka informed tower of his intentions and requested that the departure-end barrier be raised for his landing. Minimizing altitude loss by optimum angle of attack control and smooth flight control inputs, he aligned

the aircraft with the runway and lowered the landing gear with the emergency system when landing was assured. After touchdown, Captain Trinka steered the aircraft to the centerline for a successful cable engagement. Captain Trinka's skillful use of emergency procedures and expert airmanship saved a valuable combat aircraft.



Captain James A. Trinka 311 TFTS, 58 TTW Luke AFB, Arizona



FLEAGLE SALUTES

Tsgt Jim D. Gobin, 67 TRW, Bergstrom AFB, Tex., identified a potential for a serious mishap. He noticed that when people move equipment or walk on plastic liners for pickup trucks, they would sometimes receive a shock from static electricity. At the time, people were transporting electrically primed munitions in these vehicles. TSgt Gobin initiated a local restriction for using these vehicles to transport munitions and notified TAC Safety of the problem. Action was taken and the regulation is being changed.

A1C Dennis O. Myers, 4 TFW, Seymour Johnson AFB, N.C., has been a consistently outstanding performer and a superb assistant crew chief. His last five quality verification inspections have all been rated excellent and his F-4E aircraft is one of the finest maintained aircraft on the flight line and was selected as "high flyer." He has received many "attaboy" debriefing critiques from aircrews on the outstanding condition of his aircraft and the superior manner in which he performs his launch and recovery tasks.

A1C Dale E. Richer, 474 TFW, Nellis AFB, Nev., is a superior assistant dedicated crew chief. His conscientious attitude has averted serious foreign object damage (FOD) and saved many dollars. He has identified broken pavement on the ramp and reported it quickly for repairs. He has consistently checked the tires of dispatched aerospace ground equipment for FOD. In one incident, A1C Richer found 17 rocks in the tires of a single jammer. He removed the rocks and used this incident to educate others about the presence of foreign objects. He stopped a taxiing aircraft and removed a foreign object that had the potential to cause serious damage. Another time, he stopped a vehicle from entering the parking ramp because he had just seen the vehicle driving on loose gravel. He made the driver check the tires before entering the ramp. He maintains a keen eve for safety violations and sets an outstanding example.

TSgt John D. Klopp, 115 CAMS, Wisconsin ANG, has prevented at least three possible mishaps through his thorough quality control verification inspections on A-10 aircraft. On one occasion he discovered a crack in an upper "L" bracket that holds hydraulic tubing next to the fuel cell. Had the bracket failed, the tubing would have eventually cracked, causing a hydraulic failure. Another time he found a crack in an ACES II ejection seat arming lever pin hole. If undetected, the arm would have weakened until eventually the seat could have been in an armed condition even though the pin was installed. The seat could then have been inadvertently fired, causing considerable damage. He also discovered a main landing gear mount bolt head broken off. If uncorrected, increased strain would have been placed on the remaining mount bolt. Ultimately, the gear could have folded forward during takeoff, landing or ground operations, causing extensive damage and possible injury.

Capts Kevin S. Lawrence and Douglas L. Shave, 56 TTW, MacDill AFB, Fla., were 15 minutes into an instrument sortie when they heard a loud noise and felt an engine vibration in their F-16B. They immediately declared an emergency and turned toward the nearest suitable airfield. Despite the absence of abnormal engine indications, the engine still vibrated intermittently as they set the throttle to mid-range and climbed to FL290. With weather unsuitable for a normal SFO pattern, the pilots penetrated through IMC and flew a precautionary straight-in approach, using the speedbrakes to control their airspeed. Captain Lawrence flew a smooth approach and took the departure-end barrier after landing. As the throttle was moved to off, the engine seized; subsequent inspection indicated that the engine had suffered catastrophic bearing failure. The timely decisions, coordination and superb flying skills demonstrated by Capt Lawrence and Capt Shave averted the loss of a valuable combat resource.

Capt Harry H. Lade 318 FIS/SEF McChord AFB, Washington A CASE FOR SEAT BELTS

I'm writing this article because not too long ago I rolled my car down an embankment. I was not speeding nor had I had any liquor to drink the night of the accident. My wife and I were returning from a broker's investment meeting when I swerved to avoid running over an animal. Our car went over an embankment and started to roll. Luckily, we both were wearing our seat belts.

I got into the habit of wearing seat belts when I learned to drive in high school. Ironically, growing up, I never wore seat belts. I was just plain lucky to never have been involved in an accident. My habit of wearing seat belts was reinforced when I attended the Air Force Academy and also during pilot training: I had to wear safety belts and harnesses while flying.

My wife didn't wear a seat belt until she met me. I would not start the car until she (or anyone else in my car) buckled up that safety belt.

About our car. We were driving a 1979 Datsun 210. It was totaled in the wreck. Even though it was a small car, staying inside the vehicle provided us with safety. Everything, and I mean everything, that was in the car with us was thrown clear and strewn along the side of the embankment. It was an eye-opening experience when I had the car towed up the embankment. The tow-truck operator said to me, "Sure is a serious wreck. I'll bet those poor people are seriously injured if not killed." He couldn't believe it when my wife and I told him we were inside. The look on his face was a sobering experience.

So are safety belts worth it? And is it worth the effort to hassle your loved ones or your friends to wear their seat belts? You bet it is, because without seat belts all you have is luck: If you're a little lucky, you stay with the vehicle, but you get bumped around quite a bit. And if you're quite lucky, you get thrown partially clear of the vehicle and it rolls on top of you. If you're extremely lucky, you get thrown clear of the vehicle, but you'd better hope you land on something soft.

To close this article, I'll tell you why I sound a bit xtreme about seat belts: It's because I know seat elts save lives; they saved mine and my wife's.



Individual Safety Award

Sgt Dennis R. McNally's safety program has raised the safety awareness of all assigned personnel, on the job as well as in the home. His program includes weekly safety bulletins, displaying posters throughout the organization's facilities and consistent safety inspections and briefings.

His identification of hazards and his ongoing grounds maintenance program ensure the safety of NATO base personnel in and around his unit's facilities. This was most important from January through March when high winds and extreme weather conditions prevailed. During this time, while construction was in progress throughout the squadron work areas, Sergeant McNally ensured the hazard area was properly cordoned, coordinated safety matters with Navy public works and Icelandic contractors and publicized the hazards to unit personnel.

When assigned as additional-duty ground safety NCO, a squadron weapons safety program was nonexistent. Sergeant McNally established a weapons safety program and has successfully managed to bring the program up to standards. He was commended by security police evaluators for conducting an exceptional class of instruction on weapons



SSgt Dennis R. McNally 4557 SPS, AFI NAS Keflavik, Iceland

safety for 60 augmentees during a local exercise. His work resulted in a no-mishap exercise with previously untrained personnel.

During a recent enlargement project in the squadron armory, he provided a constant check of the Icelandic and U.S. workers to ensure proper storage and protection of squadron munitions.

Sergeant McNally believes that his unit should set the example for safety, and he works hard to accomplish his goal.

Crew Chief Safety Award

T Sgt Michael J. Rueter was performing a last chance maintenance inspection on a flight of F-4C aircraft when he heard a noise that was foreign to the usual mixture of sounds from the Phantom. Almost to the point of whistling, the noise he heard sounded like rushing air coming from the right engine bay of one of the aircraft.

He called for a second opinion. Sergeant Rueter and another NCO compared the difference in sounds between two aircraft until they were certain that the noise was unusual. The Phantom was sent back to the ramp for closer inspection.

Further investigation of the aircraft's right engine revealed a one-quarter-inch crack extending almost the entire circumference of the five-inch diameter bleed air duct. This crack was allowing 600-degree Centigrade air from the engine compressor stage to bleed into the engine compartment.

Both operations and maintenance supervisors



TSgt Michael J. Rueter 131 CAMS, 131 TFW Missouri Air National Guard

agreed that Sergeant Rueter saved an airplane. Most discrepancies are visually discovered during the last chance inspection; but Sergeant Rueter takes his inspections one step further and listens for discrepancies.



CLASS A

PS.	-
MISHAPS	

AIRCREW FAIALITIES
TOTAL EJECTIONS
SUCCESSFUL EJECTIONS

T	F			T				
	ΓΑΟ			ANG	3		AFF	2
1111	THRU	JUL		THRU	JUL		THRU	JUL
JUL	1986	1985	JUL	1986	1985	JUL	1986	1985
2	16	11	0	4	9	0	0	0
1	7	7	0	0	6	0	0	0
0	11	9	0	6	6	0	0	0
0	11	7	0	6	6	0	0	0

ANG								
1111	THRU	JUL						
JUL	1986	1985						
0	4	9						
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0	6	6						
0	6	6						

AFR								
THRU JUL								
JUL	1986	1985						
0	0	0						
0	0	0						
0	0	0						
0	0	0						

TAC'S TOP 5 thru JUL 1986 9th AF

lst AF									
class A mishap-free months									
176	84 FITS								
112	48 FIS								
71	318 FIS								
21	49 FIS								
17	USAFADWC								

clas	s A mi	shap-free months
41	33	TFW
20	4	TFW
14	507	TAIRCW
13	23	TFW
12	56	TTW

12th AF								
class A mishap-free months								
39	366 TFW							
23	355 TTW							
21	479 TTW							
21	27 TFW							
20	37 TFW							

ANG								
clas	s A mishap-free months							
204	182 TASG							
188	110 TASG							
163	138 TFG							
145	177 FIG							
140	114 TFG							

		AFR	
a	ss A m	ishap-free	months
1	926	TFG	
	482	TFW	
)	301	TFW	
	924	TFG	
	419	TFW	
			S. T. M. 27,881

	DRU's
clas	s A mishap-free months
184	USAFTAWC
118	28 AD
63	24 COMPW

CLASS A MISHAP COMPARISON RATE (CUM. RATE BASED ON ACCIDENTS PER 100,000 HOURS FLYING TIME)

TA	1986	4.8	6.8	5.4	4.4	4.1	3.7	3.6					
AC	1985	3.2	3.4	2.7	2.4	2.9	2.7	2.5					
AN	1986	4.3	2.4	3.1	2.3	2.7	3.0	2.6				Bay 1	
NG	1985	4.8	4.8	3.0	4.3	4.2	4.9	5.4					
	1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
FR	1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	E.L.	IAN	FER	MAR	APR	MAY	IIIN	1111	AllG	SEP	000	NOV	DEC

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