

TAC ATTACK

FEBRUARY 1990



ANGLE OF ATTACK

I have to walk carefully to cross the coating of black ice in the parking lot. The local schools are discussing how to make up for the numerous days lost to snow and power outages, and not one of my fighter jocks has driven a convertible sports car to work in over two months. Winter weather — virtually no one in TAC escapes its impact. From the extremes of deployment to Europe or the below freezing temperatures and ice that have hit the South recently, we all must practice our appropriate bad weather techniques and procedures.

For you flyers, the option of off-station training (OST) may let you travel to a location with better flying weather. With some good coordination and planning, you can make that OST the best flying training you'll get this month or maybe even this half. But before you start developing a multi-ship game plan with another unit or two, when was the last time you reviewed the regulations and rules which apply for OSTs? What level of supervision is required at the temporary location? For the training you desire, is a flight lead sufficient or is a flight commander required to participate? Who reviews and approves your OST plan? Whose approval is required for any changes to the schedule after you've departed the home drone? What about the Transient Alert folks who will turn your aircraft? Do you know how to help them accomplish all those little extra things which will ensure your jet is not just airworthy, but will be a "good flyer"?

For your other flights this month, be sure to use all the advantages of flying from your home air patch. One of those advantages is ready access to the Supervisor of Flying (SOF). I can still remember hearing the ATIS recording say 30 percent chance of



precip as we shut down the engines just before the snow storm hit. Thanks to weather radar — augmented by some good pilot reports — the SOF had recalled us and gotten us and the others down before the surprise winter wonderland appeared. He's not there because of his rank, but because of his demonstrated experience and ability to make good judgment calls. He's an expert operator who knows the jet, the field, the regs, and has either been directly involved with or at least discussed almost any emergency or problem you could think of. If you communicate with him, he can use that information to help not only you, but the other aircrews as well. However, if you don't tell him, he may not know that while you were off frequency your initial emergency situation was compounded by . . . He won't try to fly your jet — that's your job — but because he isn't distracted with flying the jet, he can sure back you up and give you the good info you need to make the right choices.

Happy Valentine's Day, pardner.

Jack Gawelko
JACK GAWELKO, Colonel, USAF
Chief of Safety

TAC ATTACK

DEPARTMENT OF THE AIR FORCE



26.



4.



18.

FEATURES

4. TO PUNCH OR NOT TO PUNCH

The ejection decision is a personal process we all have thought about since pilot training.

15. PCP AND WOODEN PALLETS

The hazards of older wooden pallets and crates treated with pentachlorophenol.

18. A HUNTIN' WE WILL GO

I also got a "How to Hunt Book" since this was going to be my first hunting trip.

26. DRAGONS - THEN AND NOW

Without the proper guidance, it's almost a sure bet that a slash from a sharp tail or a flaming blast from a pair of mighty nostrils will win.

DEPARTMENTS

8. WEAPONS WORDS

10. FLEAGLE SALUTES

12. TAC TIPS

14. AIRCREW OF DISTINCTION

16. IN THE CENTER

20. FLEAGLE

21,24. AWARDS

31. TAC TALLY

TAC SP 127-1

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FEBRUARY 1990



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TO PUNCH OR NOT



TO PUNCH

Capt Joey Kindelin
51 TFW/SE
Osan AB, Korea

The decision to eject is something we all hate to think about. If we do have to jettison an aircraft, we all hope it's a black and white decision, not one of those gray areas where thinking comes into play. The ejection decision is a personal process we all have thought about since pilot training. Abandoning a crippled aircraft has been ingrained in us, so we don't think too much about it. The black and white decisions are pretty straightforward; i.e., if your aircraft hit something attached to the ground and most of your jet is not accompanying you at 480 knots, well, it's quite clear what you'll do.

But what about those times when you haven't got sound advice from the trusty ole Dash 1. For instance, you're feeling great about the mission you've just completed. You come to TAC initial, pitch out and land. During the aerobreak, your right main landing gear collapses causing your wing to scrape on the runway yawing the jet towards the unprepared

In the landing gear section of the Dash 1, it recommends ejection if you have a nose gear and one main gear.



surface. What are your options? Think fast — time remaining from this moment to when the aircraft starts to become a used parts store is about six seconds or so.

What sort of decision can you make? For starters, ride it out. What?!? But doesn't the Dash 1 have a small little paragraph in the front of the emergency section describing what will happen if the aircraft departs the prepared surface? Well, for those who can't find that small paragraph, it describes how the breakup of, cockpit structure may occur. The Dash 1 indirectly tells you to eject verses "riding it out." In the landing gear section of the Dash 1, it recommends ejection if you have a nose gear and one main gear. A recent change has added something new to consider. Depending on your configuration, other options of riding it out are available.

So you decide to ride one out. What sort of journey have you put yourself on? Historically, runway departures have varied in out-

If you don't have anything else to worry about while they are trying to cut you out, you remember that there is some 2,000 lbs of JP-4 strapped to your back with the EPU still running.

comes of guys who rode it out. Did you have two external tanks or a center line? These little extras have saved many mishap boards from convening. Staying with your high speed tricycle poses the question "will it flip over or not?" This outcome has varied also. As you can see, there are many factors to consider once your "top heavy tricycle" leaves the runway. The Viper jet has flipped at a relatively low taxi speed. Once this has happened and the engine is still running (main gen on line),



To Punch Or Not To Punch

The faster you go may not allow the finest seat in the world to get you up high enough to get a full chute.

If you leave the disabled aircraft, chances are better if you do it early before something else happens.

you will have 20,000 lbs of General Dynamics strapped to your bottom. Oh, by the way, your EPU has fired with no way to turn it off — **WOW!** Now the rescue guys have to cut you out of that one inch plastic that is surrounding you from freedom. If you don't have anything else to worry about while they are trying to cut you out, you remember that there is some 2,000 lbs of JP-4 strapped to your back with the EPU still running. If you're lucky and don't flip over, ground egress is usually quite simple. No need for the fire department to get you a ladder. Just raise the canopy and step out.

If you haven't looked at your airfield and the surrounding topography, your decision could be an easy one. Usually the areas around the runway are relatively flat. But have you noticed the drainage ditches and obstructions near the runway? What causes the F-16 to flip is sometimes assisted by the surface of the ground. Is the dirt hard or has it rained recently causing soft mud to form? If the missile rail digs in, the momentum of the jet will cause it to flip at a relatively slow speed. External wing tanks have prevented the wing tips from digging in. There are many factors involved in staying with the jet. Some guys who rode it out have been fortunate, but the guidance in the Dash 1 is a bit unclear.

What happens if you do decide not to embark on this journey? Same example, the right wing tip is still pulling your viper jet off the

runway and you know from previous mishaps that the jet will flip or break up.

What's a good airspeed to get a good chute? The ACES II is a great seat, but there are many variables to successfully eject from a situation like this. If you've listened to your egress training, you know if you are sitting in the jet in the hot pits and you pull the handle, where you will go — chances are you'll land 100 feet to the right and in front of the burning aircraft. All single-seat F-16's have a right drift on ejection. The family model has a divergent system. The pitter goes to the left and the nose gunner goes to the right.

With this bit of information, what will happen if you eject with the right wing tip on the ground? Physic majors can figure that the bank angle is close to 23 degrees or so. Okay, what airspeed? This is probably the determining factor if you live or die. The faster you go may not allow the finest seat in the world to get you up high enough to get a full chute. The height needed varies at different airspeeds and bank angles. This range is from approximately 50-150 knots and 30-90 degree of bank.

If your left wing tip drags the ground and you decide to leave your jet, the height generated by the ejection will be greater. Chances of getting a good chute are better because of right upward trajectory. Remember the actual height varies at different airspeeds and bank angles. There is no published chart that can describe each



situation.

The chart in the Dash 1 only covers different low-level seat performance which leave a "gray" area between 0 and 60 degrees of bank and 0 to 120 knots. This guidance leaves a lot to interpret.

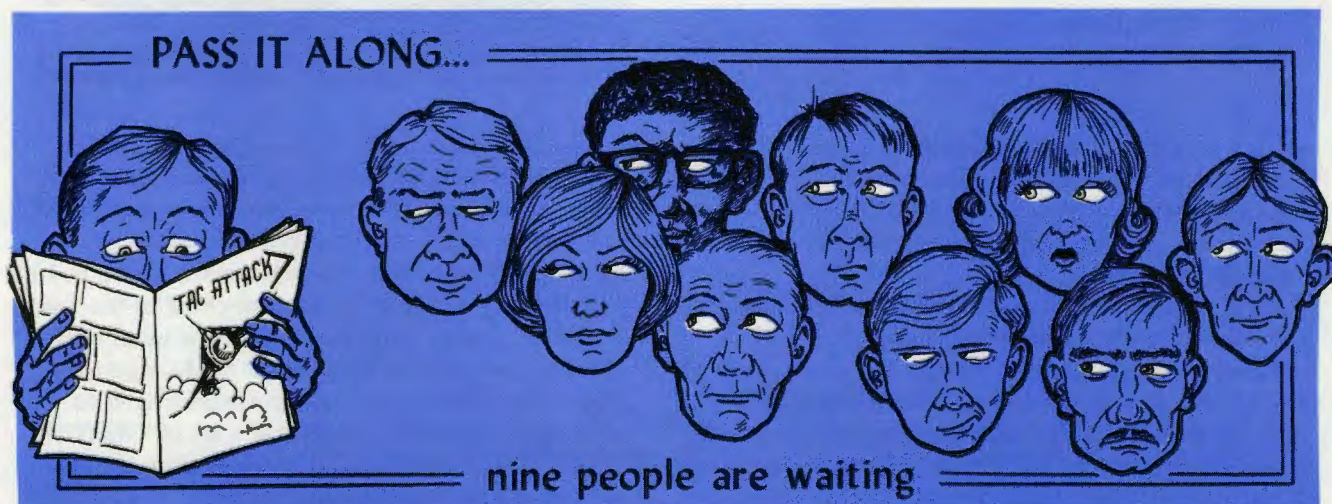
Will you make it if your right wing tip is scraping the runway and pull the handle going, let's say 80 knots? But, what about that drain-

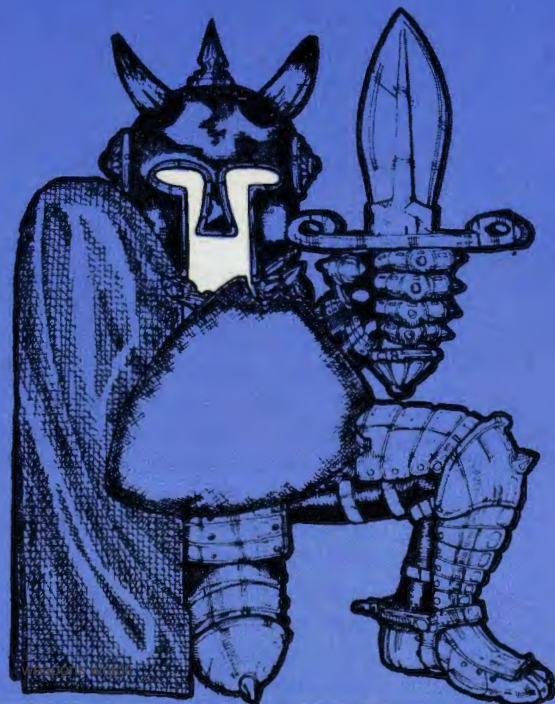
age ditch that your jet is about to hit? Will you survive the impact or will the F-16 come apart in your hands?

As you can see, it is a rough decision no matter what circumstances you may be faced with. There is so much to consider — **WHETHER TO PUNCH OR NOT TO PUNCH.** The ACES II is a great seat, but it does have limitations.

The F-16 can kill the target it is faced with, but when it becomes a highspeed tricycle "baja"-ing through the infield, it doesn't fair very well. No one can tell you to punch or not. You have to make up your mind before you are faced with a decision in that gray area. Riding it out verses ejecting are the only two choices you have. It is that simple. If you leave the disabled aircraft, chances are better if you do it early before something else happens. The unknown journey your Viper jet will make won't care if you're along for the ride or not. If you have the choice, the unknown quantity of ejection is probably the better course of action. You really don't know what that jet will do once it leaves the prepared surface. But like everything else in the fighter business,

IT DEPENDS!!!" ➤





WEAPONS WORDS

To evacuate or not

SMSgt Denis Jones
HQ TAC/SEW

Oh no! An MK-82 just rolled off of the forklift onto the ground. Shouldn't we evacuate the area after a mishap involving munitions? Let's get out of here." Do you know the right answer? The right thing to do?

All of us 46X's (weapons/ammunition personnel) have been taught to follow the emergency procedures in the Technical Orders, Checklists, and Job Guides in the event of a mishap involving munitions. Let's review those steps and see if what we have been taught is right, and if we understand what we have been taught.

1. Fight fire: remove munitions, if possible.

Pretty straightforward: if a fire starts, we are to fight the fire and remove the munitions so they won't become engulfed in the flames.

2. Call _____ and give location. (The _____, in this case, is for the fire department.)

We want to notify the fire department as soon as possible to get them rolling to our location (where the fire is).

3. Evacuate nonessential personnel to _____.



This is pretty straightforward also except for the part about nonessential personnel. Just who are nonessential personnel, and what are they doing at a location where munitions are being handled? The answer to these questions can be best answered by the munitions crew chief on the scene (initially) and by the fire department upon their arrival. The point of this step is to start getting excess personnel out of the immediate area as soon as possible. We don't want a lot of "WATCHERS/RUBBER NECKERS" at less than the prescribed evacuation distance.



4. Record the time flame envelopes munitions.

This is to set the time in which evacuation will start in the next step. Evacuation does not begin when the fire starts. If it did, the first step would be to evacuate and let whatever is on fire burn.

5. Withdraw to _____ feet within _____ minutes after fire envelopes munitions or after arrival of firefighters, whichever occurs first.

The time the flame envelopes the munitions is very important; all munitions have been tested in a fuel fire environment, and the response times are based on the shortest reaction time and the average reaction time of all the munitions items tested. For example, the 45 sec criteria is the shortest reaction time and the 2 min criteria is the average reaction time of all the munitions tested. Until the munitions are enveloped in flames, it is safe (a relative term) to fight the fire. However, once the flames envelop the munitions, it's time to "beat feet."

These five steps cover emergencies involving fires; however, there is one more step in the emergency procedures which we need to cover.

6. For drop or collision, call _____ (local number on checklist).

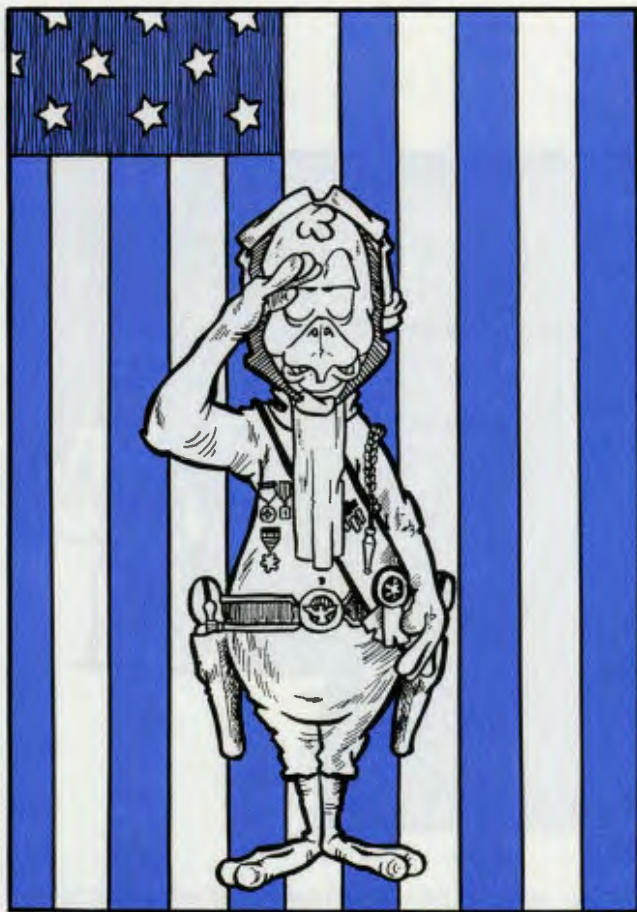
This is where we have the most of our problems!

Do we call the fire department and evacuate to the distance specified in the T.O.? The answer to that is: unless the munition starts a fire, no mass evacuation is required. However, personnel should stop the operation and move away from the immediate area of the dropped munition (supervisor's call) and call the number identified in step #6.

These are six of the most familiar checklist steps; in fact, even if you haven't been active in munitions maintenance recently, you probably can still quote these six steps from memory.

Dropping of munitions is dangerous and should be avoided; but unless there are other outside influences, a dropped munition is best left where it fell until a competent authority declares it safe or directs the evacuation. Until the evacuation order is given, the immediate area should be isolated, but no mass evacuation is required.

So why is this article being written? It's because, over the past few months, several mishaps have occurred in which munitions (inert MK-82s) were dropped and the load crew chief/supervisor forced an evacuation to 2000' which stopped all maintenance activities on the flight line. To err on the side of safety is commendable, but not knowing when to carry out the emergency procedures is like the boy crying wolf.



FLEAGLE SALUTES

Staff Sergeant Lyle M. Henson, 116th Consolidated Aircraft Maintenance Squadron, 116th Tactical Fighter Wing, Dobbins AFB, Georgia, was performing minor repair to a sleeve bushing of an MD-4 universal aircraft tow bar. When the repair was completed, Sgt Henson then proceeded to inspect the rest of the tow bar. During this inspection, he found the left hand arm adjustment nut mount bolts were stripped. The adjustment arms close in and attach to the nose wheel of an aircraft for towing. If pressure had been applied to the tow bar in this condition, the arm could have broken loose from the aircraft, possibly causing severe damage to the aircraft nose landing gear and injury to surrounding personnel. Sgt Henson immediately notified his supervisor of this hazardous

condition, and a more thorough inspection was performed of the remaining tow bars for the same problem. One other tow bar was found to have stripped bolts on the towing arm adjustment. Sgt Henson's knowledge and initiative to go beyond the required job prevented possible costly damage to aircraft and equipment, and personal injury, and have earned him a Fleagle Salute.

Captain Mark A. Sherrier, 27 TASS, George AFB, CA, was number two in a four-ship of OV-10s; when immediately following the flight's rejoin after takeoff, he experienced a massive right engine failure. Indications were an immediate sound of engines out of sync and

a yaw to the right. Capt Sherrier noted zero torque and rising EGT, with no response to power or condition levers. He transmitted a knock-it-off, feathered the right engine, turned towards the airfield, and established the best single engine rate-of-climb speed. With optimum rudder and aileron against the asymmetric thrust, the aircraft experienced a rapid drift down due to the high density altitude. Capt Sherrier needed to jettison all external stores to make the field, but was aware that he was over buildings in a populated area. Having climbed to approximately 1,400 feet above field elevation at the point of engine failure, Capt Sherrier was forced to descend to 850 feet AGL before he could clear the buildings, principally an elementary school. He was then able to jettison the full 230 gallon external fuel tank, two rocket pods with ten white phosphorous rockets, and an empty bomb-rack. With the descent rate now significantly reduced, Capt Sherrier was able to intercept a normal approach glide path by one nautical mile on final and execute a single engine landing opposite traffic. Landing and rollout were uneventful. The airmanship skill and timely decisions of Capt Sherrier saved a valuable combat aircraft, prevented damage or injury to the civilian population, and earned him a Fleagle Salute.

TAC'S OUTSTANDING AIRMEN

On 12 April 1989, 1Lt **Kenneth E. Lacy**, 354 TFW, Myrtle Beach AFB, SC, was number two of a flight of two A-10's on a surface attack tactics training mission. During a planned low altitude air-to-air defensive engagement while en route to the range, Lt Lacy's aircraft struck four black vultures. Lt Lacy immediately started a climb and initiated a knock-it-off call. While scanning his engine instruments and master caution advisory lights, Lt Lacy noted all engine instruments reading normally except for the right hydraulic pressure which was rapidly decreasing toward zero. Lt Lacy began a turn to the nearest suitable airfield, MCAS Cherry Point, declared an emergency, and requested his lead go to a chase position. After completing checklist procedures for hydraulic failure, Lt Lacy visually inspected his aircraft for structural damage and found a basketball size, jagged hole torn in his right wing leading edge immediately outboard of the gear pod. Fluid was seen vaporizing from inside the hole. The left engine nacelle intake and external skin were also observed to be severely dented and torn. With the possibility of losing partial or total performance from his left engine, Lt Lacy determined an approach using single-engine approach procedures would be flown. Having completed appropriate

checklist procedures for single-engine approach, landing, and go-around, Lt Lacy aligned his aircraft for a straight-in approach to Cherry Point's runway 05R. Lt Lacy landed in the first 1,000 ft of runway and applied antiskid braking to bring his crippled aircraft to a stop on the 7,000 ft runway. Heavy antiskid braking was needed because of the unavailability of speed brakes.* After his landing roll, Lt Lacy had Crash Rescue personnel examine his aircraft for possible hot brakes in addition to safing his landing gear and ordnance. Lt Lacy's skillful and timely actions prevented the loss of a valuable aircraft and earned him a Fleagle Salute.

*Editor's comment: Yes, for the A-10, the speed brakes make a difference in the landing roll-out. There is even a chart in the Dash One for "Wheel Brake Energy Limits" with and without speed brakes.

The sustained superior performance of **Technical Sergeant Donald Christopher**, 33 CRS, 33 TFW, Eglin AFB, Florida, reflects the professionalism and skill associated with his position as the 33

CRS Additional Duty Weapons Safety Representative. He has established an aggressive mishap prevention program and has been the driving force behind his squadron's perfect weapons safety record. Sgt Christopher's determination, hard work, and perseverance have taken a low profile program and brought it to the forefront. By implementing a vigorous spot-inspection program coupled with in-depth training of all affected personnel, the squadron's program has become a model for other 33d Tactical Fighter Wing agencies to follow.

As the weapons safety representative, Sgt Christopher renovated the weapons safety continuity book, ensuring that all personnel requiring safety information have a ready source of pertinent material. His diligent efforts resulted in upgrades to shop facilities and equipment; i.e., new lockers for storage of serviceable and unserviceable munitions items, installation of ground reels in work areas and the explosive storage room, and local manufacture of ejection seat maintenance stands. These accomplishments have greatly enhanced the safety and maintenance of his section.

Sgt Christopher is a dedicated, reliable NCO, who has proven himself a valuable asset to the mishap prevention program. His unselfish actions and unrelenting safety efforts have not gone unnoticed and have earned him a **Fleagle Salute**.

TAC tips

INTERESTING ITEMS, MISHAPS WITH MORALS, FOR THE TAC AIRCREWMAN

Alcohol use and the bottle to throttle rule

Maj Al Green
HQ TAC/DOS

Every TAC crew member is familiar with the AFR 60-1, TAC Sup 1, 12-hour "bottle to throttle" rule prohibiting the consumption of alcohol within 12 hours of planned takeoff. However, this 12-hour window is not an absolute guarantee your body will be free of the effects of alcohol. There's a big difference between a glass of wine 12-1/2 hours prior to takeoff and the squadron party survivor who single-handedly finished the last of the grog bowl.

Recently, TAC has experienced two mishaps where the involved crew member flew or was sched-

uled to fly within the 12-hour window. It seems every year the TAF loses valuable resources due to the delayed effects of alcohol. The problem is more than just slower reflexes in the cockpit. Many critical mission decisions are made within this 12-hour window; routes are planned, fuel requirements established, and release altitudes computed. Are you willing to bet your life on "fuzzy" figures?

The bottom line is lay off alcoholic beverages when you're within 12 hours of preparing for tomorrow's mission and use common sense when your next day's schedule enlists you in the dawn patrol.

Trashing out your office

An AT-38 pilot was scheduled for an upgrade ride in the instructor pilot checkout program. As the aircraft taxied out of the parking area, both pilots heard a loud noise, followed by high EGT indications, so they immediately shut down the problem engine.

What happened? FOD — but it wasn't a bolt, screw, or nut left in the engine or something sucked up off the ramp. It was the upgrading pilot's helmet bag that ended the sortie prematurely and sent the engine back for repairs. The pilot had left the helmet bag next to his ejection seat headrest, and it fell out of the cockpit and was ingested as they taxied out.

Being an instructor means setting the best example possible for others. Cockpit management is a vital part of the flying business. Where you put the myriad pieces of essential fly-



ing gear you need — checklists, in-flight pubs, mission information **and your helmet bag** — is an important part of successfully completing the mission. FODing your jet with a helmet bag or any of those other items before you get off the ground does not get the bombs on target.

F-16 kisses the ramp

An F-16 pilot from another command returned to his base after a routine sortie. The landing was good, and normal aerobraking was utilized. Rollout was routine until the pilot attempted to actuate the nosewheel steering (NWS) and discovered it didn't work. Using differential braking, he began his left turn off the runway. While continuing the turn at a normal taxi speed, he again attempted to activate the NWS. The F-16 tipped up **momentarily** causing the right wingtip to scrape the ramp. Maintenance was called and towed the jet back to parking, but they could not duplicate the NWS problem. An FCF pilot accomplished a taxi check, and the Falcon passed with flying colors.

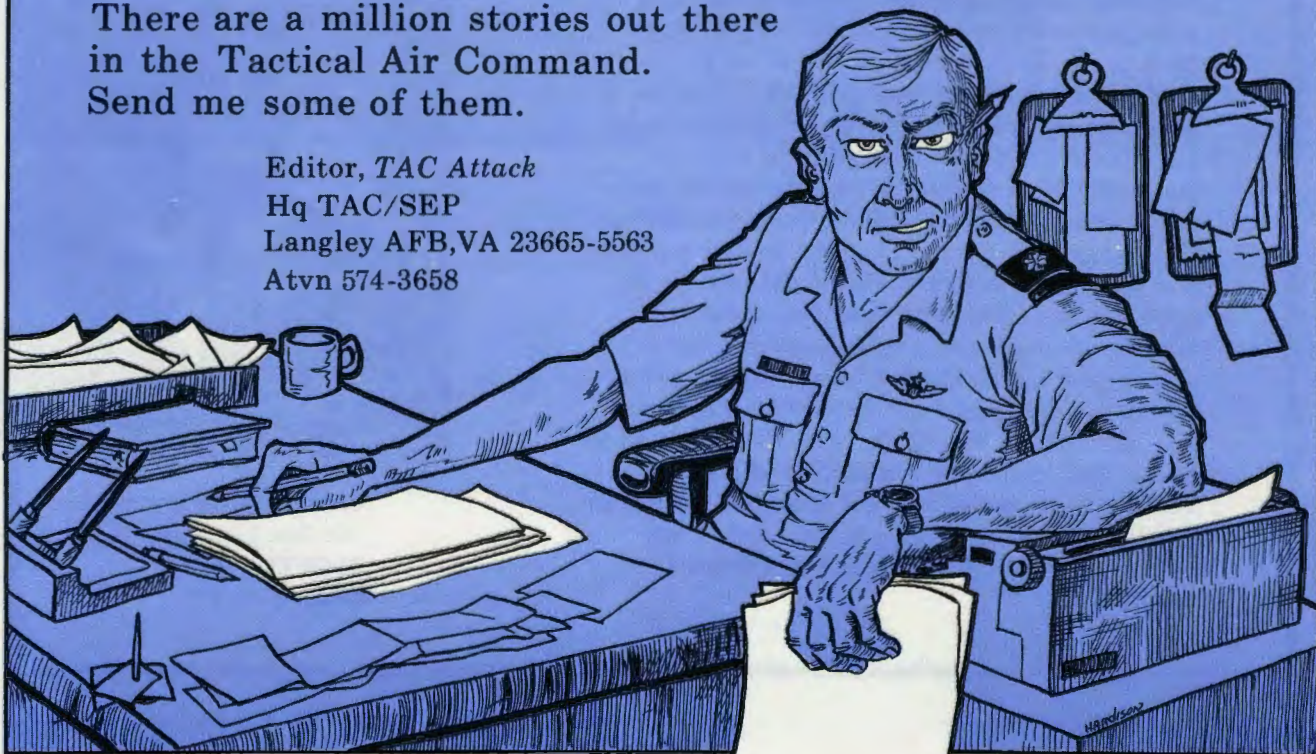
Lessons learned: First, the F-16's narrow wheel base makes its ground handling very similar to a top



heavy tricycle. Second, even at slow taxi speeds, always ensure the rudder pedals are neutral before engaging the NWS. Third, use extreme caution when trying to use a system that didn't work properly earlier in the mission. Fourth, that airplanes somewhat like automobiles often refuse to malfunction in the presence of a qualified mechanic.

There are a million stories out there
in the Tactical Air Command.
Send me some of them.

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TAC AIRCREW OF DISTINCTION

On 21 September 1989, 2Lt Dee Conger, upgrading F-4E pilot, and Captain Phillip S. Hyde, F-4E instructor pilot, 21st Tactical Fighter Training Squadron, George AFB, California, were number two in a four-ship surface attack tactics B-course syllabus mission. While on downwind for their seventh weapons delivery pass, their aircraft experienced total utility hydraulic system failure. Capt Hyde initiated a knock-it-off, informed the rest of the flight of the problem, turned toward George AFB, and declared an in-flight emergency. Emergency checklist accomplishment proceeded normally until the front cockpit emergency gear lowering handle was pulled. The nose and right main gear extended normally, but the left main landing gear indicated unsafe. The chase aircraft confirmed that the left main gear was still in the up position with only the inboard gear door open. All attempts to extend the left main gear were unsuccessful. With Lt Conger flying the aircraft and Capt Hyde carefully monitoring the approach from the rear cockpit, a perfect landing on the right main and nose gear was accomplished and a successful approach end cable engagement made with the aircraft coming to rest near the center of the runway. Damage to the aircraft was limited to the left outboard multiple ejector rack, the center line fuel tank, and the left stabilator and was considered minor. The outstanding airmanship and crew coordination exhibited by Lt Conger and Capt Hyde greatly reduced the damage to a valuable USAF aircraft and highlights them as TAC Aircrew of Distinction.



Captain Phillip S. Hyde
2Lt Dee L. Conger, Jr.
21 TFTS
George AFB CA

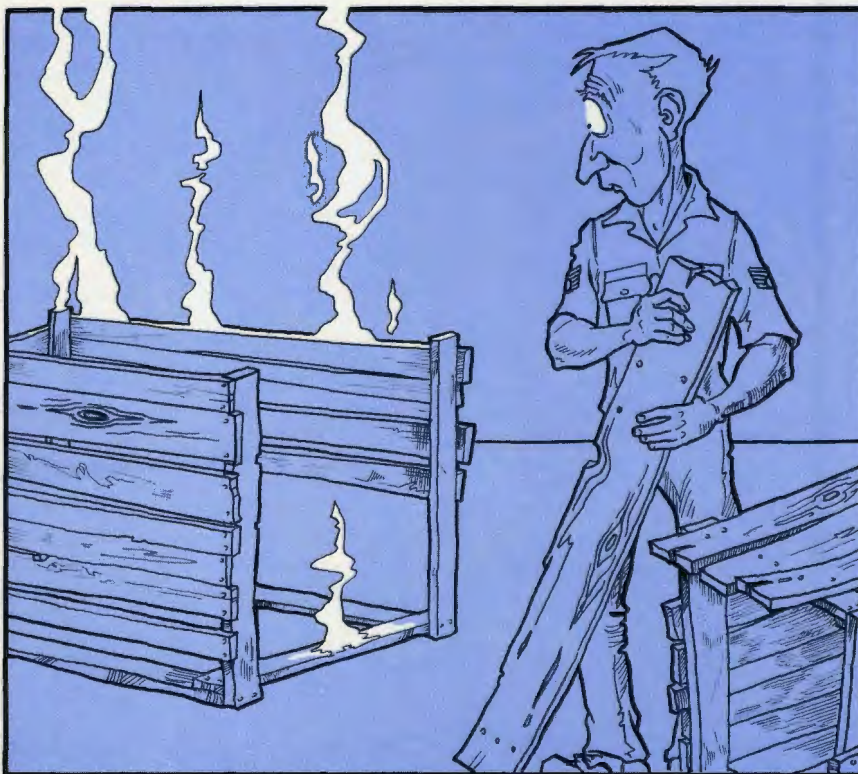
PCP and wooden pallets

MSgt Gary R. Reniker
442 TFW/SEW
Richards-Gebaur AFB, MO

A message from HQ AFISC recently reminded me that many of the older wooden pallets and crates used to transport and store conventional munitions were treated with the fungicide/wood preservative called pentachlorophenol (PCP). PCP is a toxic chemical compound and skin contact should be avoided.

The procurement of wooden pallets and crates treated with PCP was stopped in FY 82 and the last deliveries were in FY 84. Some, **but not all**, of the crates were marked with a P to identify that they were treated. The lack of markings in conjunction with the limited records about the treated pallets has compounded the situation. Today, the actual number of PCP treated wooden pallets and crates on hand at DOD installations is unknown.

Over the years, these PCP treated wooden pallets and containers may have made their way outside the munition areas. Agencies such as Transportation, Base Supply, Fuels, Flight Line Maintenance Shops, etc., may have an occasional or heavy use for wooden warehouse pallets. As such, they may have obtained reusable wooden munition crates/boxes to fill the void. Therefore, this potential problem is not limited to just munition



handlers.

Appropriate Air Staff agencies are presently studying the applicability of Federal Environmental Laws to the presence of PCP treated wooden items on Air Force installations. These agencies are specifically studying the applicability of the Hazard Communication Rule (29 CFR 1910.1200 and AFOSH 161-21) and have recently proposed limitations on landfill disposal of certain wastes under the Hazardous and Solid Waste Amendments of 1984.

While these studies continue, there are certain recommended actions which should be taken by all Air Force personnel who

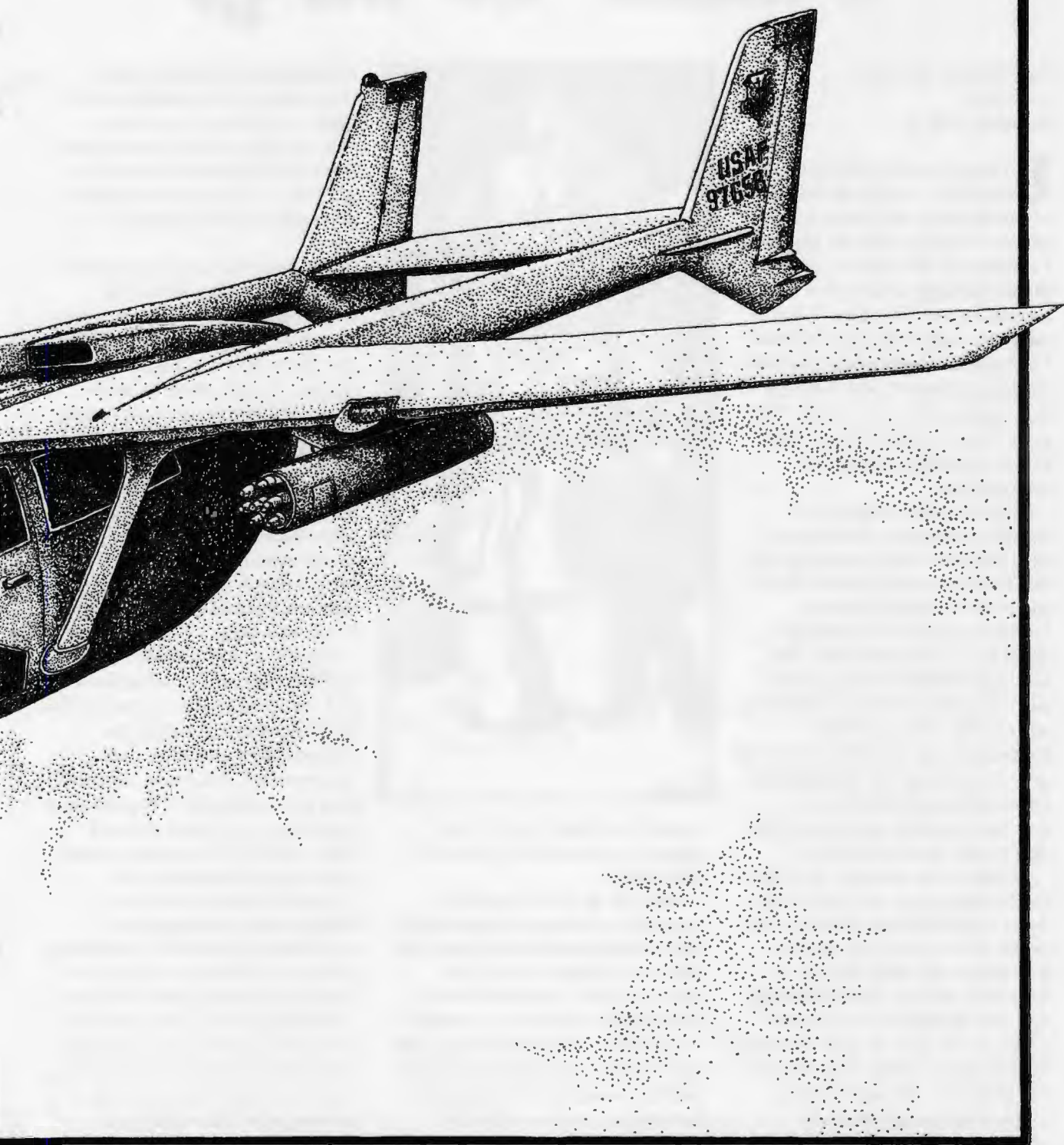
handle PCP treated wooden pallets, crates, or containers:

- don't take them home to burn in your fireplace! The fumes are toxic.
- wear long-sleeved clothing or protective coveralls and gloves while handling any wooden shipping/storage containers and pallets (not all PCP treated wooden products are marked with the "P").
- the disposal of wooden munition shipping and storage containers must be fully coordinated with the installation's environmental office.

Further guidance will be forthcoming when the studies have been completed. ➔

O-2A SKYMASTER





a huntin' we will go

TSgt Robert Vazquez
1 AF/SEG
Langley AFB VA

It's been several years now, however, I would like to share a hunting story that happened to me and will stay with me till I die. I could taste the venison catch before hunting season even arrived. In the meantime, I did all the right stuff in the early summer. I had gotten all my gear to include clothing, camping gear, ammunition, orange hat, even a rifle. I also got a "How to Hunt Book," since this was going to be my first hunting trip.

Several friends suggested I needed to practice shooting my new rifle, and that I should invest in a hunter's safety course. Well, I did all of it. Hunting season couldn't get here fast enough. Then I got to the final step, the hunting PERMIT! Feeling pretty sure of myself, I knew I could pass any test the Fish and Game Department of New Mexico would give. I went into the Alamogordo City building and found out no test was required, and I could get this permit almost anywhere.

Finally D-day arrived - first day of hunting season and my friend Buck (appropriately named) was at the door ready to go up the mountains and help me get my first deer. He had started hunting last year and had lots of stories about all the deer he had seen and how he knew where they would be. However, last year he had come home empty handed, although he swore he had just



missed two large racks (I was hopeful he meant deer and not car racks).

Well, off we went into the mountains in search of deer. Buck and I finally reached our camp site and set up camp just like the pictures in the "Hunter's How To Book." Buck decided we needed to talk about our plan of attack for the next day. As night grew darker and the temperature dropped, the plan was set and we called it a night. Well friends, let me tell you,

it really gets cold up in those mountains. In the middle of the night, I decided it was time to start the camp heater, but no luck. Buck had forgotten to bring the fuel. So, of course, we roughed it and ended up sleeping in the truck.

The next morning we gathered our gear and started into the woods and up the mountain. The higher we climbed, the colder it got. As the snow got deeper and deeper, my breathing became more difficult. Several hours later, we reached a good huntin' spot. We arrived cold, wet, and exhausted.

Buck and I both were starting to feel the affects of the cold and the high altitude on our bodies. We also realized that we weren't in proper shape to be hunting since minutes seemed like hours and hours like days.

The afternoon seemed like it would never arrive, but when it did our efforts were rewarded. We spotted a small group of doe followed by a good size male, horns and all. Buck and I decided that we would split it regardless of who shot it, so I took aim and fired. BANG!!! The smoke cleared, and the buck was ours. We climbed down into what we thought was a small gully to secure our game, but it turned out to be a hill. Then I realized how far we really were from the deer.

By the time we got to the deer, it was now pretty dark. Suddenly, I remembered how far we had to go to get our catch back to camp. It's amazing how little things go through your mind such as

warmth, hunger, and the problem of carrying a large carcass of meat with horns several miles through the snow back to camp. Buck and I looked at each other, then proceeded to drag the massive animal several miles over the hills through the deep snow. The weight of the deer seemed to grow with every step we took. As we reached the top of the next hill, I remembered something I had read about field dressing in the "Hunters How To Book." So we got out our hunting knives and dressed our first deer. We must have reduced the weight of our load by half. Looking back I could have kicked myself for not thinking of it about 3 miles sooner.

Hours later at the camp, we

changed into drier clothes and got warmer. Parts of my body ached and then my legs went numb. Needless to say, Buck ended up taking both the venison and me back home and, eventually, taking me to the emergency room. The doctor had some good words to tell me after he told that I had pinched a nerve in my back. He told me I was not in proper shape to be up in the mountains hunting. He claimed that I came close to pulling every muscle I had in my back and that I was lucky that all I got was a pinched nerve.

I never thought that being in good physical condition would make a difference while hunting. But think of all the torture you put your body through — lifting,

pulling, and climbing in extreme temperatures — which can cause the old body to give out. The following year, I remembered my lesson and started my fitness program with jogging to build endurance, aerobics for flexibility, and a lot of weightlifting for strength and most of all watching my diet. I also learned that the mountainous areas will play havoc with your body because of the changes in altitude, so I started a lot of hiking to get used to the changes in altitudes. The best advice I can offer in preparation for the hunting season is getting in shape, making sure you have what you need, and know where you're going. Last, but not least, be a safe and considerate hunter. ➤



TAC Personnel Who Have Made Noteworthy Accomplishments To Unit Effectiveness

Major Stephen W. Topper
465 TFS, 419 TFW
Tinker AFB, OK

SSgt Donald W. Byers
1 EMS, 1 TFW
Langley AFB, VA

A1C Allen Heizer
4 AGS, 4 TFW
Seymour Johnson AFB NC

TSgt Robert L. McCulley
405 EMS, 405 TFW
Luke AFB AZ

SSgt Leon Sharks
405 AGS, 405 TFW
Luke AFB AZ

TSgt Artie G. Wiles
347 AGS, 347 TFW
Moody AFB GA

1Lt Scott A. Durham
128 TFS, 116 TFW
Dobbins AFB GA

SSgt Larry F. Edwards
Sgt Kent D. Brady
Sgt David M. Laswell
49 CRS, 49 TFW
Holloman AFB NM

Capt John P. Deceilio
358 TFS, 355 TFW
Davis-Monthan AFB AZ

SrA Jeffrey M. McClaine
74 TCS
Langley AFB VA

Sgt Michael J. Yakin
Amn Kevin J. Cooper
Amn James R. Dewey
4 AGS, 4 TFW
Seymour Johnson AFB NC

TSgt Ralph M. Wong
27 EMS, 27 TFW
Cannon AFB NM

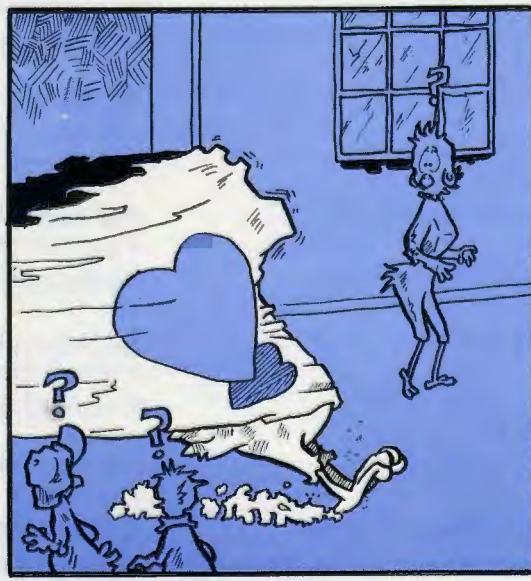
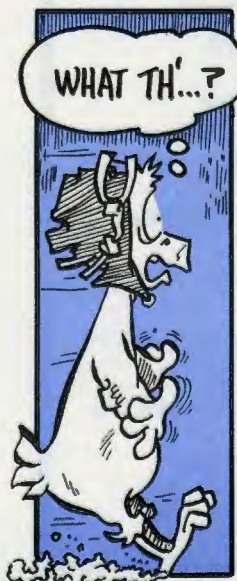
Capt John A. Male
Capt Todd M. Post
524 TFS, 27 TFW
Cannon AFB NM

SSgt Robb L. Urie
325 AGS, 325 TFW
Tyndall AFB FL

SSgt Larrell E. Ferguson
4 AGS, 4 TFW
Seymour Johnson AFB NC

Sgt Tamara Foster
4 AGS, 4 TFW
Seymour Johnson AFB NC

SSgt Carey W. Casey
823 RHCS
Hurlburt Fld FL





TAC CREW CHIEF SAFETY AWARD

Staff Sergeant Bobby Kirkham of the 357th Aircraft Maintenance Unit, 355th Aircraft Generation Squadron, Davis-Monthan AFB, was assisting with a normal A-10 defuel operation as the monitor of the -86 power unit which supplies the electrical power for the aircraft's boost pumps during the defuel. The defuel truck was connected and electrical power was applied to the aircraft. When the aircraft's boost pumps were activated, Sgt Kirkham noticed massive amounts of fuel pouring from the number two engine pylon. He immediately shut down the power unit, slowing the flow of fuel from the aircraft, and directed the defuel team member in the cockpit to turn off battery

power and evacuate the aircraft. Sgt Kirkham then noticed the aircraft on the adjacent spot being refueled and quickly instructed the truck operator to disconnect the truck and drive out of the area. Then Sgt Kirkham secured a fire extinguisher and positioned himself on the opposite side of the defuel truck to ensure all vehicles and personnel were diverted away from the scene until the fire department arrived.

Sgt Kirkham's quick and decisive response to a very dangerous situation prevented damage to equipment, serious injury to personnel, and the possible loss of the aircraft. The results of his professional response have earned him the TAC Crew Chief Safety Award.



Staff Sergeant Bobby J. Kirkham
355 AGS, 355 TTW
Davis-Monthan AFB AZ



PHYZ-BIZ PHYZ-BIZ PHYZ-BIZ



Lt Col Hap Tucker
Editor, TAC Attack

In another command, the Functional Check Flight (FCF) pilot read through the aircraft forms in preparation for the flight. The A-10 was scheduled for a routine FCF following a double engine change earlier in the week. The Captain completed his normal preflight and takeoff. The initial FCF checks were uneventful and the pilot annotated only a few minor discrepancies on the FCF card. He climbed to 35,000 ft MSL to begin the cockpit pressurization checks. In straight and level flight he advanced the throttles to max and selected max flow with the flow control knob. The cockpit pressure read approximately 22,000 ft and remained within the prescribed limits so the pilot continued to the next step. The throttles were retarded to idle and the flow control knob was set to min. The cockpit immediately depressurized. The pilot advanced both throttles and set the flow control knob quickly back to max flow. As the engines accelerated, the cockpit repressurized. The pilot was in an unpressurized cockpit for 15 to 30 seconds. The remaining checks were completed and an uneventful landing was accomplished.

Maintenance later would discover that a B-nut on the service air line in the gun bay had worked loose due to normal vibrations from the gun being fired. That line supplied air to the canopy seal and, at low power settings with low flow selected, the seal allowed the cockpit to depressurize. The last maintenance on the nut was performed six months earlier.



The pilot had now completed the debrief and was preparing for his next sortie of the day, when he began to notice a tingling sensation in his fingers accompanied with stiffness in his joints (primarily his hands, elbows, and shoulders). He notified the Flight Surgeon who immediately met and transported the pilot to the clinic. The symptoms were diagnosed as decompression sickness/the bends. He was placed on 100 percent oxygen, temporarily removed from flying status, and placed under observation for 72 hours.

How long does it take for nitrogen bubbles to be released in the tissues and blood and to cause decompression sickness? In this case, only 15 to 30 seconds of exposure to the low air pressure at 35,000 ft resulted in enough nitrogen bubbles being formed. It then took an additional hour for the bubbles to merge with other bubbles and become large enough and severe enough for the pilot to notice any symptoms. In another incident, an F-15 pilot, also flying an FCF, experienced cockpit depressurization at FL 300, but did not feel any symptoms until he had gone home for the evening.

Is that the norm? What should the average aircrew expect if the cabin depressurizes? The research for this article indicates that the experts can't give you a firm answer of 10 minutes at 35,000 ft will or will not always result in decompression sickness. For that matter, even if the same pilot had the same rapid decompression a month later on another FCF, he may or may not experience the bends. But the experts do agree that *increasing* one or more of the following factors increases your susceptibility to decompression sickness:

a. Cockpit altitude above 18,000 ft. (Before the advent of pressurized cabins, decompression sickness was a frequent occurrence among aircrews flying above 25,000 ft. The higher the altitude, the more likely the incidence of sickness.)

b. Increased time spent at altitude. (This is cumulative time, so if you fly two or more sorties with a high cabin pressure in the same day, you have increased your chances at winning the decompression sickness lottery.)

c. Exercise. (In layman terms, that's similar to shaking up the coke bottle — the trapped gas tends to come out quicker and the bubbles get larger faster. Yes, an ACM engagement qualifies as exercise.)

d. Aircrew age.

e. Being overweight. (Nitrogen is roughly five times more soluble in fat than in water, which means the more fat you have, the more stored nitro-

gen your body contains.)

f. Individual susceptibility.

g. SCUBA diving within 24 hours of flight.

If you have a rapid decompression or fly for prolonged periods above a cabin pressure of 18,000, be aware that decompression sickness can occur. Follow the Dash-1 guidance. Note that most of the Dash-1s recommend you descend below 25,000 ft (IAW AFR 60-16) for loss of cockpit pressurization, but the recent guidance from the Aerospace Physiology Training courses recommends 18,000 ft or below, if fuel and mission permits. The most important thing to remember is if you detect any decompression sickness symptoms, select 100 percent oxygen, don't try to move or massage the affected joints, declare an IFE, descend as low as practical, land as soon as possible, and contact qualified medical attention immediately (preferably a flight surgeon).

So what are those symptoms? Glad you asked! The most common symptom is the bends, which are mild-to-severe, aching pains usually in and around the joints. In mild cases, it is similar to the stiffness you might expect if you had driven or flown for four or five hours. In severe cases, you will be unable to move the joint due to the intense pain. Skin manifestations can occur such as a creeping or itching feeling. Less common symptoms are the chokes, neurological manifestations, and circulatory shock. The chokes are a deep, sharp pain under the breast bone/sense of suffocation (caution: false chokes can be caused by breathing 100 percent oxygen for an extended period of time). Neurological manifestations can produce headaches, flashing lights, blind spots, paralysis, and hearing/speech problems. Circulatory shock produces paleness, sweating, and can cause fainting. For detailed descriptions, please see AFP 160-5.

Remember, decompression sickness won't get better while you remain at altitude! The number of decompression incidents is low, with six reported cases involving fighter aircraft during a nine year period. However, half of those occurred between FL180 and FL250. As Blue Four in a redeployment, our cockpit air conditioner decided to go full cold. We descended with number three down to FL 250, went through the checklist and pulled the emergency vent knob. We continued on for 2.1 hours happily thinking about the better fuel flow we were getting at FL 250 rather than at a lower altitude. Next time I see a high cabin pressure, I think I'll try FL 180 or below. What about you? ➤



325th Equipment
Maintenance Squadron
Tyndall AFB FL

TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

"holiday volunteer driver program," "courtesy vehicle inspection" and the "calling card system." Also, the motorcycle safety council continued to develop its program through FY 89. Quarterly meetings were held as well as fun trips that were designed to give the young less experienced riders some supervised time under veteran motorcyclists from the squadron. Further, the **"WE CARE ABOUT YOU"** program is incorporated into the commander's newcomers briefing as well as the work center's safety in-brief. A serious effort is made to insure all newcomers are familiar with both the hazards on base and in the local area. Finally, EMS is proud of its significant improvements in its self-inspection program, culminating with an overall satisfactory rating in ground, flight and munitions safety in the annual ADWC/SEG inspection. From the squadron safety initiatives down to the individual awareness of the lowest ranking maintenance technician, it's well known that **"SAFETY IS NOT AN EXTRA EFFORT, BUT PART OF EVERY EFFORT."** The squadron's distinctive accomplishments have earned it the TAC Outstanding Achievement in Safety Award.

The 325th Equipment Maintenance Squadron, USAF Air Defense Weapons Center, Tyndall AFB, FL, made significant improvements on its already superb safety program in fiscal year 1989. With the introduction of a new commander's safety policy, this squadron has been emphasizing the phrase **"SAFETY: NOT AN EXTRA EFFORT, BUT PART OF EVERY EFFORT."** The increased safety consciousness has produced outstanding results in our diversified, industrial related aircraft and munitions maintenance branches. This squadron's responsibilities span from the flight line with engine runs, sheet metal work, "red ball" or quick fix maintenance, and munitions delivery to in-shop maintenance such as aircraft, armament systems munitions, and ground equipment maintenance, industrial chemical use and radiation. All these activities present the greatest possibility for severe life and/or

property threatening mishaps. Because of our extensive safety program and supervisor/worker involvement, this squadron had one of its lowest mishap rates and its best inspection results in its history.

The safety statistics for FY 89 have been phenomenal considering the type and amount of work that is done by the 450 Air Force and civilian personnel in this squadron. Only two reportable mishaps occurred during 753,480 on- and off-equipment manhours this year. The two off-duty mishaps combined for a total time and monetary loss of twelve days and \$4,510. Further, there were no reportable GMV or property damage mishaps.

Off-duty, the squadron significantly reduced POV mishaps and DULs through the **"WE CARE ABOUT YOU"** program. This new program has been implemented in a variety of ways in this squadron. The program first kicked off with a



TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

While performing a basic post-flight inspection on a squadron aircraft, Senior Airman Matthew J. Williams, 335th Aircraft Maintenance Unit, 4th Aircraft Generation Squadron, 4th Tactical Fighter Wing, Seymour Johnson AFB, NC, noticed the left outboard gear door rubbing on the tire. Had this condition gone undetected, it could have resulted in a main tire failure. This could have been particularly hazardous had failure occurred during takeoff or landing. On another

occasion, while assigned to aircraft F-4E 74- 0657, Amn Williams identified a hydraulic leak in the left wing. Further investigation revealed a pinhole in a slat retract line. An undetected leak in this area could have caused an in-flight hydraulic failure with resulting loss of aircraft and aircrew. Amn Williams' professional attitude, attention to detail and strict adherence to technical orders have earned him the TAC Outstanding Achievement in Safety Award.



SrA Matthew J. Williams
4 AGS, 4 TFW
Seymour Johnson AFB NC



TAC COMMANDER'S AWARD FOR FLIGHT SAFETY

The TAC Commander's Award for Flight Safety honors a numbered air force for promoting flight safety. Selection is based on the lowest command-controlled

Class A and B flight mishap rate of active units in a fiscal year. Twelfth Air Force is the recipient of the TAC Commander's Award for Flight Safety for fiscal year 1989.



DRAGONS-

Stan Hardison
TAC Attack

It was quiet in the little town of Willabee. All the maidens had finished with their milking, and all the geese had been shut up for the night. The young men of this quiet little village had all gone down to their favorite pub for their nightly fill of stout and grog. When the effects of drink gained control of the conversation, they would spin endless yarns of their manly feats and daring deeds, most of which existed only in their imagination. The blacksmith told of once shoeing a wild stallion; the keeper of the local dairy shared the time that he stopped a stampede all by himself and the shepherd's age old tale of the time he fought off a pack of hungry wolves to save his flock. The stories would go on-and-on until the eyes would no longer focus and the thickness of the tongue made speech difficult. The young men of Willabee would then retire to their homes for some much needed rest and a guarantee of a headache come first light.

Willabee was a 16th century village and, like most villages of this time, was located on the bank of a large river. It would hardly be noticed by a passerby, picked as a vacation spot or wor-



Then and Now

ried that it would ever be a threat to upset the natural order of things. Willabee had no police or anything that resembled a city council.

The small castle on the big hill west of the village had always run the area and was the only government that the small village had ever known.

The people liked their little old king. He had never demanded great payments from them or taken over any of their land. He was as fair as any king could be. But he was getting very old and the heir to his throne was his young, skinny son who had been, to the best of their knowledge, instructed in the best schools and taught by the old king to run the small village in the fair way of his father. They had unlimited trust that the old king had prepared him well to take over the law of the land.

It was early spring when the old king died. It was a sad time in Willabee. The little man that had taken care of them for many years was no longer with them. They would now learn for sure if the skinny prince would rule them as fair and well as his father had.

It was late fall of that same year when it happened. Without warning, a dragon of unknown origin decided to come down from the nearby mountains and take up residence in the never

used dungeon of the castle, forcing the young, skinny king to move out. Nothing like this had ever happened in Willabee, and the village had no idea how to handle it. The tall tales were no longer told in the local pub at night, and fear of the fire breathing beast in the dungeon of their castle cut down on the nightly consumption of stout and grog. The drop in sales didn't make the pub owner happy one little bit. In fact, it upset him to the point that he demanded the young king, who was now living in his summer house on the other side of the river, to do something about it. The blacksmith was the next to demand action because he was convinced that

the presence of the dragon made his horses nervous and hard to shoe. This, of course, blew a few holes in his story about his ability to shoe a wild stallion. In just a few days, the whole village was lined up behind the pub owner and the blacksmith demanding that the young king rid their land of the life threatening beast.

The next morning word went out for all the people of Willabee to meet in the village square to hear the king's words and, hopefully, his plans to get rid of the dragon. They knew that the old king would have taken care of it without delay, and they hoped the young son would do the same. The meeting started.





DRAGONS - THEN AND NOW

"Good people of Willabee. I stand before you as a very confused king. Nothing like this has ever happened in our little village before and I'm having trouble handling it."

"What are you going to do about it, Your Highness?" The pub owner was the first to speak.

"Yes, how are you going to save us?" the rest of the village joined in.

"I have sent a messenger to a nearby kingdom that has a history of dragon trouble and asked for advice on how to rid the village of this problem. I have heard that they possess an easy to follow set of rules and directions on the subject."

"When will you have an answer?" the blacksmith called out.

"Tonight and there will be another meeting here the same time tomorrow, and I'll report to you my plan of action." This seemed to satisfy the villagers and ended the meeting. They went to their jobs with a hope that a solution would come from the nearby kingdom.

The next morning came, and the village people were again assembled in the square to await their king and the plan to deal with the dragon. Much to their surprise, the young king appeared on the royal balcony dressed in bright, shiny armor and holding a very official looking roll of parchment.

"I have received an answer from our neighboring kingdom.

They have sent us a list of tried and proven rules to follow in dealing with dragons which I will share with you at this time." The skinny king proceeded to unroll the parchment.

"First, determine the type dragon that you're dealing with. Some are a lot more complicated than others and require special handling.

"Second, some dragons breathe fire from their two nostrils instead of a single source of heat from their mouth. It is good to know that the nostril fire dragon creates almost twice the danger zone than the ones using only mouth heat.

"Third, pay close attention to the size of the beast and determine how much space it takes for him to turn around. Be sure to include the length of the tail because, in most cases, the rear can be as deadly as the front.

"Fourth, know the spots on the body of the beast that are tender and should never be stepped on should climbing aboard the dragon become necessary."

"Why are you wearing the royal armor, Your Highness?"

"It was strongly suggested by our neighboring kingdom that protective equipment be worn at all times when dealing with a situation such as this."

"Surely you don't plan to take on this beast singlehandedly?"

"Yes, it's the duty of your king to handle these things and protect the kingdom. My father

would have handled it no differently."

"But judging from the stories that come out of the local pub each night, the village has many strong, able bodied men who would be more than glad to step forward and help you with this most important task," a young woman spoke up from the back of the crowd. Her statement appeared to make a lot of the men nervous, and some even looked like they were trying to hide behind the person next to them for fear that the king would select them to face the dragon with him.

"I have heard of such stories, and I'm proud that my village displays so much bravery and manhood; but I still can't subject



them to the dangers of dragon slaying. This is a job for your king." During the thunder of cheers and applause, the young king disappeared from the royal balcony to study the parchment and better prepare himself to face the fire breathing dragon and rescue the castle.

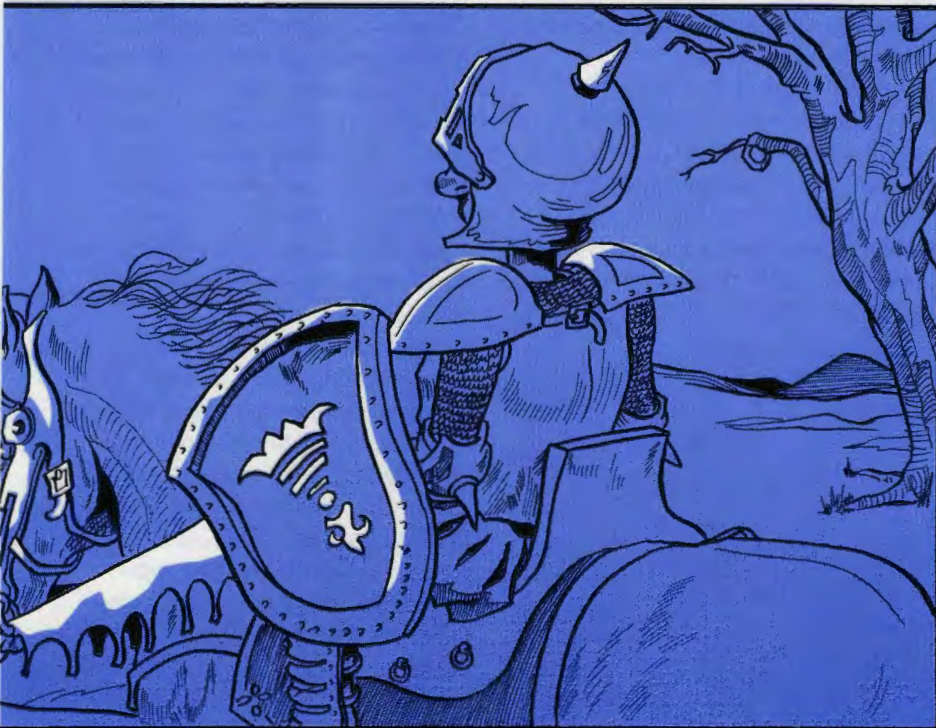
It was foggy the following morning and there was a chill in the air. This all went unnoticed by the young king as he climbed the hill toward the dark castle that was once his home. His white, high stepping steed was clad in battle dress complete with village colors; and the king had added sword, shield and lance to the royal armor. He felt sure that his father would have been very proud of him.

When he arrived at the front gates of the castle, he could hear the loud breathing of the mighty beast. "It must still be asleep," he thought. "I don't remember anything in the parchment about sleeping dragons. I better dismount and double check to make sure that I haven't missed anything in my study of the rules and directions."

The young king climbed down from his royal white steed and walked over to a familiar section of the castle courtyard. He unrolled the parchment and started to read. He became so engrossed in the many pages of instructions that he failed to notice that the dragon was now awake, out of the dungeon and checking the source of noise in

the, until now, quiet courtyard. Without making a sound, the big beast moved close enough to the skinny king to see what it was that claimed full control of his attention. When the big beast from the mountains recognized the parchment filled with the many ways and means of exterminating him, he was angered. All the sources of heat in his mighty body came alive and both nostrils turned beet red. The cracking and snapping caused by the fast rising heat got the skinny king's attention. He quickly turned to see where it was coming from, but not in time to move out of the danger zone of the blistering, deadly nostrils. The royal armor melted exposing the skinny frame of the little king. Death came quickly for the brave little man; and as the living furnace turned and lumbered back to the dungeon to resume his nap, he smiled as he smelled the burning parchment.

When the people of Willabee learned of the fate of their little king, they were both sad and angry. There was talk of revenge, but no one knew how this could be done against such a beast. This was the first tragedy to come to the quiet village. It was their first rub with real fear. The people were sure that it would be just a matter of time before the fire breathing beast got restless and tired of the castle dungeon and moved down into the village. The farmers started working the fields





DRAGONS - THEN AND NOW

very near their homes, so they could better watch over their loved ones. The pub discontinued its evening and night hours because so few people ventured out after dark. The sound of children playing in the yards of their homes was no longer heard. Willabee was for the first time without leadership.

Many years have passed since the death of the little king, and Willabee is no better off. Many of the villagers have moved away to escape the fear of the mighty beast who still occupies the dungeon of the now decaying castle. The pub and the blacksmith shop have long since been boarded up, and the large farms have been reduced to mere gardens in the backyards of the small cabins. The village still has no leadership.

Every once in a while, when the fire breathing beast moves out of the dark dungeon onto the wide and level castle courtyard to sun himself, some brave soul decides to take him on and free the small village of Willabee

from his fiery grip. But without the proper guidance, it's almost a sure bet that a slash from the sharp tail or a flaming blast from a pair of mighty nostrils will win.

No records show what happened to the people of Willabee. Some speculate that one by one the dragon consumed them. There's no evidence that they ever regained leadership of any kind. Accurate historical records about the dragon also disappeared — destroyed by a fire. However, certain events were unofficially recorded and passed down by word-of-mouth and certain letters which survived the ravages of time. Dragons of all shapes and sizes descended from the area near Willabee. During the 19th century, many of the dragons were domesticated. A Scottish engineer named James Watt successfully used many of them to heat water and produce steam for his famous engine. Those which remained in the wild were pretty much killed off when

“leather dragon shoes” became a rage.

Today, descendants of those domesticated dragons can still be found flying through the skies or moving about large flat concrete areas called “ramps.” Although they have been out of the “wild” and serving mankind for over 300 years, they still require great skill on the parts of their flyers and keepers. Fortunately, the “king” is no longer the only one who is expected to handle the care and feeding of the dragons. In fact, over the years, it was discovered that leaders who delegated the responsibility of caring for the dragons to the keepers and flyers were much more effective than those who tried to handle the entire job by themselves. The dragons still have soft areas marked no step and fiery blasts which are still as hot as ever. But with today's leaders, flyers and keepers, who are armed with the proper training and tools, the dragon is a mighty servant, instead of a mysterious threat.

But some things haven't changed. You can still hear the flyers and keepers telling tales (which almost sound too astonishing to be real) about how with only one dragon a flyer defeated seven others, or how a combat turnaround was completed before the dragon turned off the runway, or there I was.... ➤





TAC TALLY

	Total			TAC			ANG			AFR		
	DEC	THRU DEC		DEC	THRU DEC		DEC	THRU DEC		DEC	THRU DEC	
		FY 90	FY 89		FY 90	FY 89		FY 90	FY 89		FY 90	FY 89
CLASS A MISHAPS	2	6	6	1	4	5	1	1	1	0	1	0
AIRCREW FATALITIES	3	6	1	1	2	1	2	2	0	0	2	0
• IN THE ENVELOPE EJECTIONS	0/0	2/0	3/0	0/0	2/0	2/0	0/0	0/0	1/0	0/0	0/0	0/0
• OUT OF ENVELOPE EJECTIONS	0/0	1/1	0/0	0/0	1/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0

• (SUCCESSFUL/UNSUCCESSFUL)

TAC'S TOP 5 thru DEC 1989

1st AF		9th AF		12th AF	
CLASS A MISHAP-FREE MONTHS		CLASS A MISHAP-FREE MONTHS		CLASS A MISHAP-FREE MONTHS	
47	57 FIS	55	507 TAIRCW	27	24 COMPW
26	48 FIS	30	1 TFW	24	355 TFW
7	325 TFW	26	4 TFW	23	366 TFW
		22	347 TFW	21	405 TFW
		13	354 TFW	15	388 TFW

ANG		AFR		DRUs	
CLASS A MISHAP-FREE MONTHS		CLASS A MISHAP-FREE MONTHS		CLASS A MISHAP-FREE MONTHS	
229	110 TASG	112	482 TFW	159	552 AWACW
204	138 TFG	102	924 TFG	29	USAFTAWC
186	177 FIG	90	906 TFG	15	28 AD
181	114 TFG	64	507 TFG	1	AFTFWC
145	155 TRG	51	917 TFW		

CLASS A MISHAP COMPARISON RATE

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

TAC	FY 89	1.7	2.7	3.0	3.2	2.6	2.4	2.3	2.9	2.6	2.5	2.6	2.4
	FY 90	1.8	2.8	2.5									
ANG	FY 89	0.0	0.0	1.5	2.3	2.8	3.1	3.2	2.8	3.0	3.6	3.2	3.3
	FY 90	0.0	0.0	1.4									
AFR	FY 89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	FY 90	20.4	10.4	6.9									
Total	FY 89	1.2	1.8	2.5	2.8	2.5	2.5	2.4	2.7	2.5	2.6	2.6	2.5
	FY 90	2.4	2.5	2.5									
MONTH		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

