TAC ATTACK

JUNE 1986

ANGLE OF ATTACK

Dropped objects. A problem that's been creeping into our deep six for quite a while, and it's just waiting for the right time to really get our attention. Well, it has my attention, but it's *yours* that really counts.

In 1985 we had 686 items that should have remained on our aircraft but didn't for one reason or another. So far this year, we're surging ahead with 333. What's really disturbing are the causes. The prime cause is people—the ones who wear the TAC patch. Of course, materiel failures are also a cause; but, no matter how you check six, the real bandit in the dropped object problem is people.

The same old culprits called "lack of proper supervision and failure to follow checklists" are the major ingredients. Sure we harp, wail, gnash our teeth and say, "You can tell 'em and tell 'em and tell 'em again but. . . ."

But what? I can't accept the current reasons (or excuses) for all this metal rain that seems to fall almost daily. The raindrops are mostly panels and weapons-related items. The pure materiel failures will occur, but I won't accept these failures as the cost of doing business. You shouldn't either. We can turn this trend around, but first we have to want to.

As I see it, we have a choice. Our unit leadership can wake up to the real risk involved; or we can continue to doze, hoping that when something does fall off, it will land in "no man's" land or a sparsely populated area.

Here is the real risk: Something like a panel falls off an aircraft from *your* unit and it injures someone that's not wearing a TAC patch. That's the risk. It's just a matter of time before it happens if we don't wake up to the real risk we're taking. Then the problem will be fixed; you can count on it. But one of the things I worry about when someone not wearing a TAC patch fixes a problem for us is how much realistic training and combat readiness we might lose as a result.

What's your angle of attack?

Edsel J. DeVille

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

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DEPARTMENT OF THE AIR FORCE

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DEPARTMENTS

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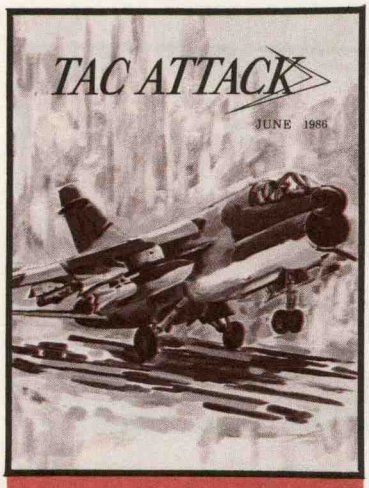

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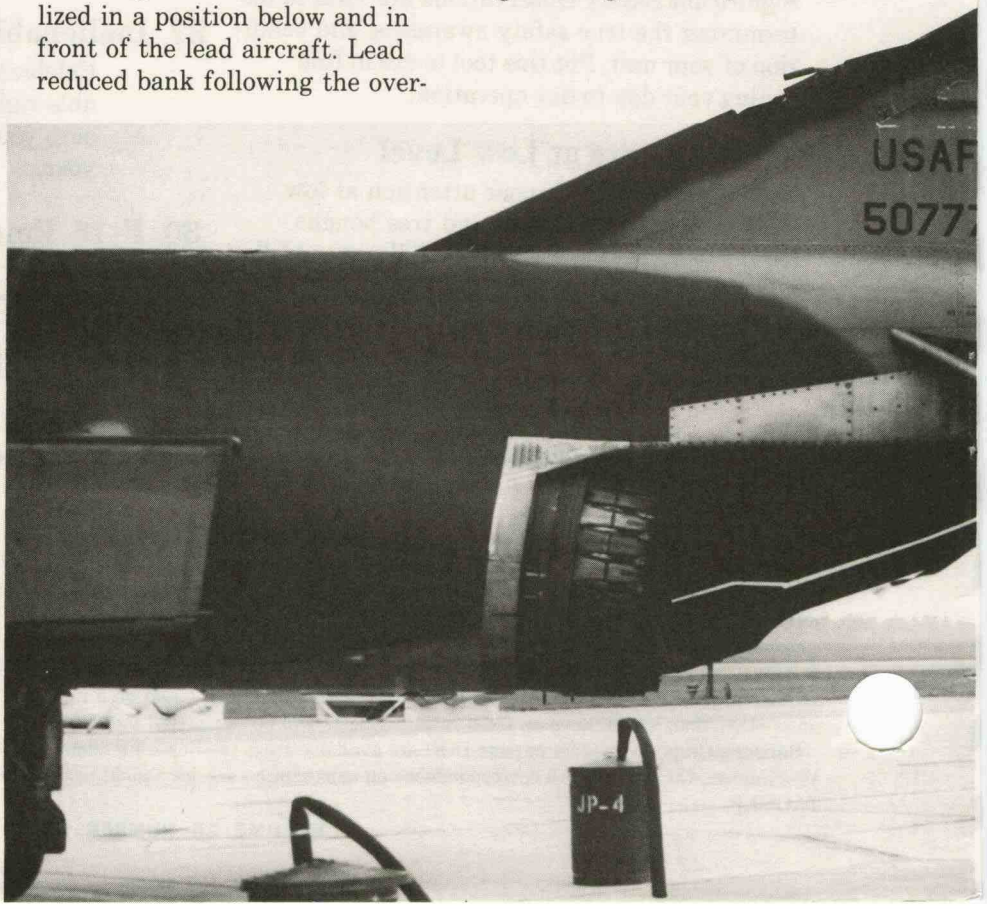
WHO (OR WHAT) ARE WE GOING TO RUN INTO NEXT?

Maj Harley Davidson
TAC Flight Safety

Two F-16s, inbound to the IP at low altitude, were attacked by a baron. While they maneuvered to negate him, the two F-16 pilots lost sight of each other and collided. Both aircraft went down and an observer in the lead aircraft was fatally injured.

Two F-4s were performing a left turning rejoin out of traffic. The wingman overshot and stabilized in a position below and in front of the lead aircraft. Lead reduced bank following the overshoot, placing him on a collision vector with his wingman. The wingman failed to see the rollout until too late and the aircraft collided. Two aircrew members were fatally injured.

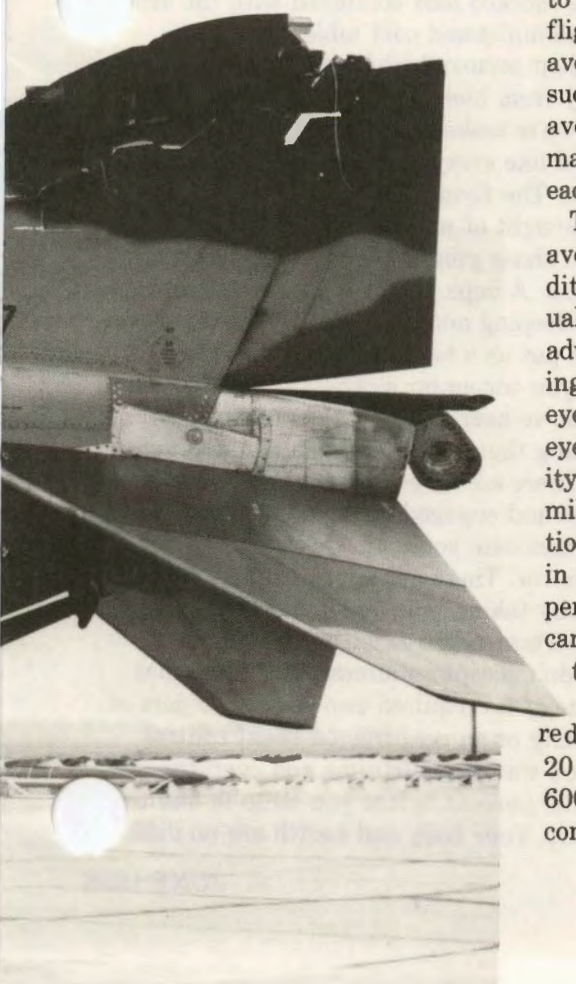
An A-10 pilot was flying a published low level route when he attempted to miss a flock of birds by rolling to 120 degrees of bank and pulling down into a narrow valley. Unfortunately, a nearly invisible aerial cable (grounding wire suspended above



h tension power lines) was in aircraft's path. The aircraft impacted the aerial cable, suffering severe damage, and later departed controlled flight when the pilot maneuvered to land. The pilot ejected safely.

A second A-10 pilot was flying low altitude tactical navigation when he struck guy wires supporting a 400-foot radio tower. Fortunately, the aircraft wasn't seriously damaged and landed without incident.

A CH-47 Chinook went down after running into an electrical transmission wire. A second CH-47 was dispatched after dark to assist the crew of the downed aircraft. Approximately a mile from the downed bird, the rescue chopper struck the same set of power lines, cutting off the main rotor blades, and resulting in a crash and injuries to everyone on board.



While all these incidents involved different aircraft and varying missions, they have a common thread—failure to "see and avoid." Many pilots are unaware that the "see and avoid" concept is more complicated than just looking out the window while flying. It means looking at your map before and during the flight to plan ahead and avoid obstructions like aerial cables, guy wires and other aircraft. It means being smart enough to climb or alter your course when a known obstruction is in the area and you can't see it. "See and avoid" also means using available ground or aircraft radar as an additional pair of eyes to locate other aircraft before they become a midair threat. Staying clear of other aircraft by adhering to established ROE and by listening to outside radio transmissions are also vital steps to insure deconfliction of your flight path. Finally, "see and avoid" means knowing how to successfully use the greatest avoidance device known to man—the standard issue, two each, MK-1 eyeball.

The smart pilot recognizes and avoids, when possible, those conditions leading to degraded visual acuity. For example, **fatigue** adversely affects vision by slowing the muscular action of the eyes. **Glare** overstimulates the eye and causes loss of sensitivity. **High altitude** can result in mild hypoxia causing constriction of visual field and difficulty in focusing. **Positive Gs** reduce peripheral vision. **Reduced light** can make 20/20 vision degrade to 20/40 at night. **Smoking** 30 minutes prior to flight can reduce visual acuity by more than 20 percent when flying above 6000 feet. While these are all conditions you should try to avoid or at least be aware of, there are also a number of things you can do to help yourself see and avoid more effectively.

1) Insure the windscreen is clean.

2) If you need glasses, get them and wear them.

3) Don't assume your IFR clearance will provide separation.

4) Minimize "heads down" time in the cockpit.

5) Be aware of, and fulfill, your part of the contract for deconfliction between members of the same formation.

6) If other traffic is sighted, don't fixate. Always scan for additional traffic.

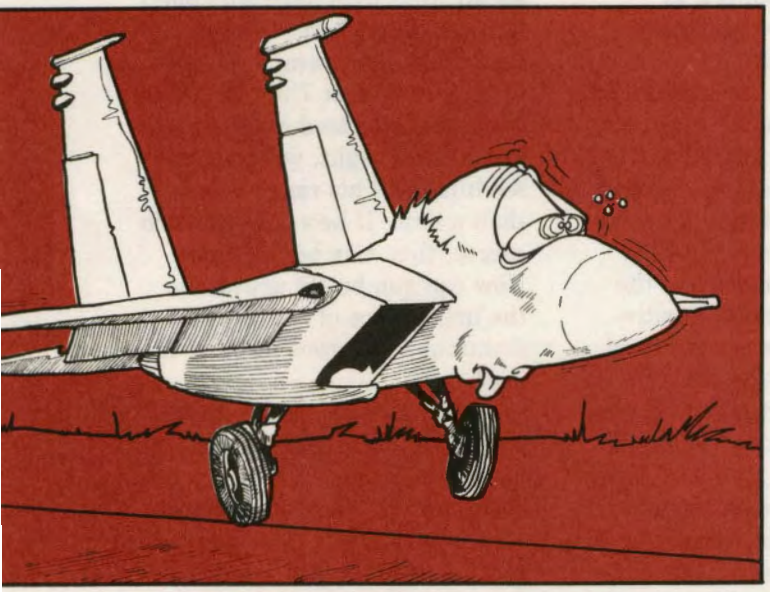
7) Pay attention to other transmissions on the radio.

8) Develop an appropriate scanning technique. You can see an aircraft or other obstruction at the greatest distance when you look directly at it. If the object is only 10 degrees to the side, and you're looking straight ahead, your eyes have only one-tenth of the distance sighting capability. For example, if you pick up an F-4 at 7 miles and his wingman is located only 10 degrees to the right, you may not see him until his range is less than a mile. If he's on a collision course, that may be too late. Now can you better appreciate the importance of continually scanning a different piece of the sky?

Development of ROEs, radios, radar and other cosmic devices have done much to keep the average pilot from running into a variety of undesirable objects; but the last and best line of defense, whether in war or peacetime, is still your own eyeballs, and they're only good when they're peeled.

Affected in the head

An F-15 driver was passing 4000 feet during climbout for a DACT mission when he turned to watch his wingman cross under from right to left. When he looked forward again, he suddenly experienced tumbling vision followed by uncontrollable rapid eye movement. He immediately leveled the aircraft, put it on autopilot and went to 100 percent oxygen. After 15 to 20 seconds, his vision returned to normal, so he declared an emergency and returned to base.



The pilot had recognized for at least 48 hours before the flight that he was suffering from the symptoms of an upper respiratory infection. Instead of taking himself off the flying schedule and going to the flight surgeon, the pilot took an over-the-counter cold tablet about 6 hours before his takeoff and pressed on with the mission.

After the mission, the flight surgeon found that both of the pilot's ears were blocked. The tumbling vision and vestibular disorientation had been a result of his blocked ears combined with the effe of the self-administered cold tablet.

This incident occurred while the unit was deployed away from home station. That's usually the time when we're tasked with a healthy sortie load and may feel like every warm body is needed to fill the schedule. The flying is so good that we can't stand the thought of missing a ride, but we shouldn't let those pressures force us into making unwise moves. A deployment is just the time when changes in sleeping and eating habits can catch up with us and put us a bit "under the weather."

Whether you encounter sickness at home or on the road, you've heard over and over since initial flying training that self-medication and aviation don't mix. There are *no* exceptions. When you're on flying status and engaged in regular flying activities, don't medicate yourself. That's what flight surgeons are for. There are a lot of things we could say about why taking pills and flying don't mix, but the important message is DON'T DO IT.

You wouldn't accept an aircraft for flight that only had one of its required two engines, a part of a wing missing or an uncorrected flight control problem. You want the airframe and everything inside to be 100 percent before you strap in and tr your life to it. Your body and health are no diffe

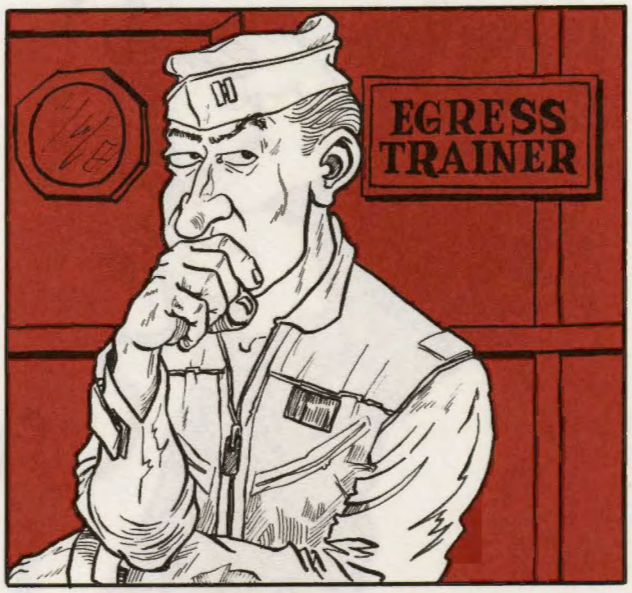
ent. You're a critical part of the flight. If you're not feeling 100 percent, take yourself off the schedule and get the medication, the rest or the physical maintenance that you need to ensure that you're ready to go when your aircraft is.

The big scramble

How did you feel after your last session in the egress trainer? If it left you with the uncomfortable feeling that you still needed practice, you could be in trouble. Getting out of a sick airplane on the ground isn't like a successful ejection where you have a lot of things working for you. An emergency ground egress involves only you, working alone.

Before you fly again, think about any new systems incorporated into your aircraft that may affect the snugness of your cockpit and your ability to get in and out safely. Being able to release leg restraints, lap fittings and shoulder harness connections is your ticket to survival. You can't let a radar or weapon system pedestal be the factor that changes a quick orderly egress into a desperate scramble to save your life.

The periodic training we receive is an excellent tool in preparing for this emergency. Consider also the actual setting in the aircraft which will decide the intensity of the situation complicating your ss. Take 30 seconds every now and then to your ground egress procedures while actually



sitting in your aircraft. Face it—if your actions are not second nature in a ground emergency situation, you might be too far behind the power curve to negotiate an escape from a dark cockpit at night.

Know the conditions under which egress is pending and those when it's immediate. Being able to immediately assess the difference could save your life.

If you are caught in a moment of indecision, you lose seconds if it turns out that you should egress. Then, if you have to think about *how* to get out of the aircraft, you might not have time to do so.

Know your egress procedures. You're professional enough to get into the aircraft. Be professional enough to know how to get out in any situation.

Adapted from an article by Lt K. M. Trombley,
U.S. Navy Weekly Summary of Aircraft Mishaps

BE ALERT
IT'S YOUR LIFE

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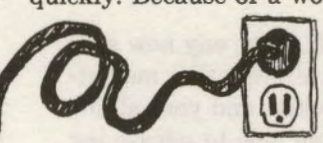
There I was, the sun was out, the air was fresh and I had a couple of days off. It seemed like the right time to give my ol' yard a much needed manicure. After mowing the grass and trimming the shrubs, it was time to use the weedeater and trim around the house and trees. What a job, but was as easy as pie. After I finished, it was time to hit the golf course across base as soon as I put away my yard tools.

After unplugging the weedeater from the extension cord, I stepped up on my back porch and began wrapping the extension cord around my arm from elbow to hand. Suddenly I was stunned stiff with electrical current running violently through my body. I couldn't move an inch, it happened so quickly. Because of a worn spot on the extension cord, it was fused to my arm. There was no one around, and I physically couldn't yell for help.



The Lord must have been watching over me that day. The next moment my weight shifted and I fell backwards off the porch, the electrical cord jarred loose from the outside outlet. I was saved.

This all happened because I forgot to unplug the extension cord from the socket before wrapping it up, and because I hadn't taken a good look at the condition of my equipment. Fortunately I lived to share the experience. It happened to me, don't let it happen to you. The lesson I was reminded of is "Be alert. It can mean your life."

AIRCREW OF DISTINCTION

On 25 Nov 85, First Lieutenant Tom Bauer and the crew of his CH-3E helicopter were providing a jump platform for 30 ground FACs. After the successful deployment of the first "stick" of jumpers, the helicopter crew was cleared for their second run at 90 KIAS, 1500 feet above the ground.

As they flew over the drop zone, the crew heard the flight engineer call "One's away" and then felt the aircraft lurch to the right. They had a hung jumper. Lieutenant Bauer immediately started a climb to 3000 feet at 70 knots with the jumper precariously tethered 20 feet under the helicopter. Maintaining their position over the drop zone, the crew completed their emergency procedures and coordinated with the appropriate agencies.

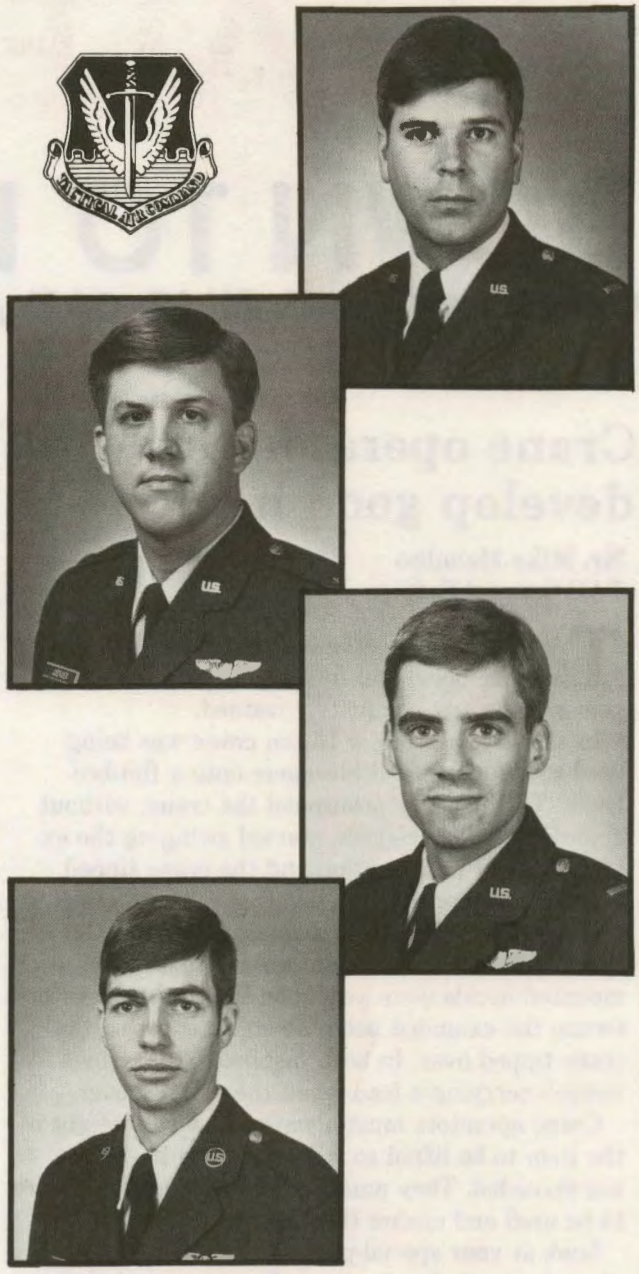
The jumper signaled that he was injured and desired to be cut away. DZ Control, however, asked the crew to try to pull the jumper into the aircraft before attempting to cut him free of the fuselage. The jumper couldn't be moved and they found t his static line had wrapped around his equipt, out of the jumper's reach, and had forced the rucksack to completely cover his reserve parachute. If he were cut loose, the chances of successfully deploying the reserve chute were remote.

Lieutenant Bauer decided that the best course of action was to fly the hung jumper back to the ground. This is a last resort, since below 500 feet there is insufficient altitude for the parachute to deploy if the jumper falls free.

Choosing a landing site that permitted a shallow approach angle, Lieutenant Bauer carefully entered a descending spiral over the DZ. Executing a smooth approach, Lieutenant Bauer brought the aircraft down to where the jumper was 20-25 feet above the ground while maintaining sufficient forward airspeed to keep the jumper streamlined into the wind and tension on the static line.

As the aircraft slowed and entered ground effect, the downwash of the rotor blades released the twisted static line. The main parachute deployed and the jumper fell approximately 20 feet to the ground. Lieutenant Bauer reacted immediately by maneuvering the aircraft to avoid entangling the parachute in the rotor blades. The crew then picked up the injured jumper and flew him back to Shaw AFB for medical assistance.

Lieutenant Bauer's demonstration of outstanding airmanship and the professionalism of his crew saved the life of the forward air controller and the loss or damage of a valuable combat aircraft.



1st Lt Thomas A. Bauer
1st Lt Glen G. Joerger
2nd Lt Joseph R. Sherman
A1C Charles W. Drown
703 TASS, 507 TAIRCW
Shaw AFB, South Carolina

DOWN TO EARTH

ITEMS THAT CAN AFFECT YOU AND YOUR FAMILY

Crane operators need to develop good habits

Mr. Mike Mehalko
TAC Ground Safety

TAC recently experienced two crane mishaps because personnel failed to deploy the outriggers and weren't adequately trained.

In the first mishap, a 15-ton crane was being used to load ball field bleachers onto a flat-bed truck. The operator positioned the crane, without deploying the outriggers, started swinging the extended boom into position and the crane tipped over. The second mishap involved a rental crane. A sergeant was training an airman to operate the crane; however, no tech data other than dash-mounted decals were available. When the operator swung the extended boom about 90 degrees, the crane tipped over. In both instances, the cranes weren't carrying a load when they tipped over.

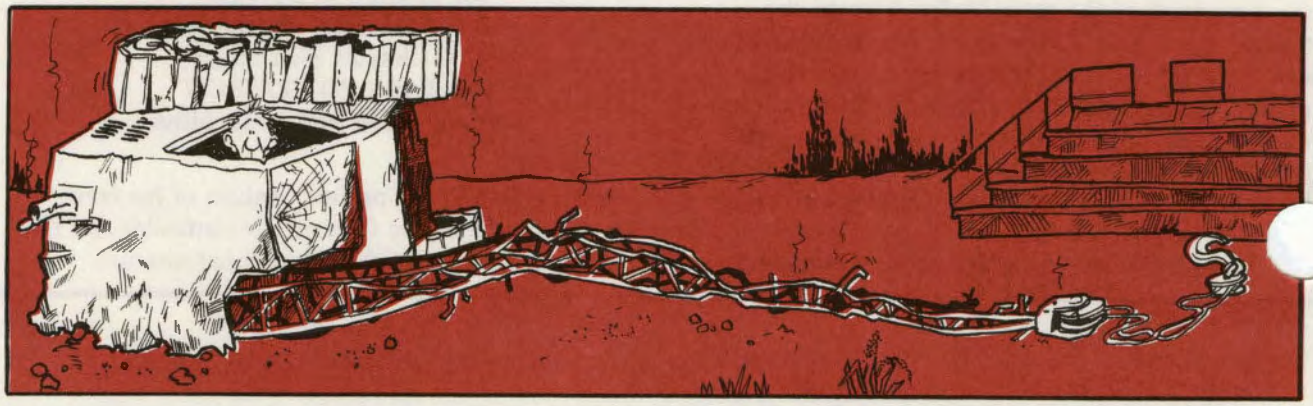
Crane operators must always know the weight of the item to be lifted so safe operating limits are not exceeded. They must know when outriggers are to be used and ensure they are deployed.

Look at your special-purpose vehicle training plans to see if changes or updates are needed. Remember, the cranes tipped over even though they weren't lifting anything; so you may want to review operating instructions or technical data to determine if outriggers are needed even when positioning the crane boom under certain conditions.

When units obtain special-purpose rental vehicles, adequate technical data should be available to conduct comprehensive training. Equipment operation training conducted by the rental agency is generally not enough and needs to be expanded to meet Air Force training needs.

Incidently, another command also had a similar crane mishap. The operator misread the weight of a container. He picked up the container with the crane, which was within limits of "no outriggers," and began to swing the load. As the load moved about 15 degrees—you guessed it—the crane tipped over. The container didn't have a proper weight indicated nor was technical data locally available to determine it.

Weight and balance are key elements when operating cranes. The operational constraints must be followed to protect our personnel and equipment resources.



When reflexes aren't enough

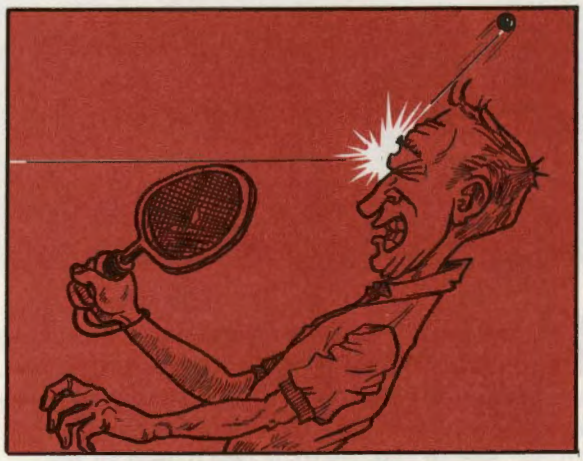
Mr. Leonard A. Sorrentino
24 AD/SEG
Griffiss AFB, New York

Do you play racquetball or squash? Tennis or badminton? Do you wear protective eyewear when you play these sports? If you answered yes to ... of the first questions but no to the last one, ... could be setting yourself up for a serious eye ...jury. According to the National Society to Prevent Blindness, one-third of all sports-related eye injuries are suffered by racquet sports players between the ages of 25 and 64. That's easy to understand since a tennis ball travels 50 to 80 miles an hour and a racquetball even faster.

Don't think that racquet sports are the only source of eye injury. In aggressive sports like football and basketball, a finger, fist or elbow can strike the eye with great force when players collide.

Most of the eye injuries that occur during sports are preventable. The answer is safety eyewear. Regular prescription eyeglasses don't necessarily protect your eyes during athletic activity. They meet certain standards of impact resistance required by the Food and Drug Administration, but they do not offer the protection that is needed in most sports. If you wear contact lenses, never participate in a racquet sport unless you put on protective eyewear. Contacts provide zero protection against impact.

Due to the force behind traveling balls and swinging racquets during active play, the American Society for Testing and Materials has developed ...ndard F-803 that covers protective eyewear for ...uet sports. For other sports, the following



safety eyewear is recommended by the National Society to Prevent Blindness.

- Industrial-quality safety glasses which meet the requirements of American National Standard Z87-1.1979. These safety glasses should have rigid nose pads and plastic lenses, which can be prescription or plain. Glasses with polycarbonate plastic lenses offer the most impact resistance. These glasses should be worn with a headband to hold them in place.
- Sports eye protectors, often goggle-type, are available with or without lenses. Polycarbonate plastic lenses offer the most protection. Without lenses, a high-speed ball can squeeze through the opening to the eye. If you require prescription lenses, many of these guards can be made up with your prescription by an optician.

Make it a point to obtain eye protection appropriate for the sport you enjoy. Protect your eyes now, so you can see later when you play.

WHO'S THE EXPERT?

CMSgt Ronald C. Christiansen
Chief, TAC Ground Safety

Editor's Note: In the May issue, we published an article called "COMPAS Is Here." This sequel covers Significant Safety Observations that play a vital role in the Combat Oriented Mishap Prevention Analysis System (COMPAS). This tool is not only useful to the safety professional, but as a commander or supervisor, you can use the SSO to find out how things are really going in your unit.

In most cases, a safety professional's perceptions of the hazards and potential mishaps of a specific job are different from those of the person who does that job every day. Past experience with Significant Safety Observations (SSO), part of the Combat Oriented Mishap Prevention Analysis System (COMPAS), proves that is true.

The SSO involves asking people what job hazards occur in their work areas and what the most significant accident potentials are. "Isn't that just part of the normal job?" you ask. Yes—but how often do you really do it? An SSO can be effective only if you develop a standard set of questions (5-10) and ask them of a representative percentage of the workers, so you can achieve some level of confidence in the responses. Safety professionals may believe they accomplish this during routine inspections, but that's far from true. There are many philosophies on how to conduct safety inspections, but rarely do they include sampling the safety awareness of supervisors and workers.

The SSO sampling system can help your program. It lets you target a specific operation or task where the supervisors and workers tell you there's trouble. Here are some questions we ask during SSOs:

- What task or job presents the greatest chance of an accident occurring?
- What job hazards occur most frequently?
- Are the functional manager and supervisor aware of these problems?
- Have you brought these conditions to their attention?
- How often do the commander and supervisors visit your area?
- What is the safety policy in your unit?
- How did you get job safety training and who gave it to you?
- Do you have daily or weekly safety briefings?
- How often do you receive information from your commander involving safety?

We asked different versions of these questions to each level of management, supervision and workers. The results were often eye-opening. There usually is a distinct disagreement about accident and hazard levels as perceived by management and workers. What is believed to be a good information flow may prove to be very poor. The most common hazards often haven't been identified by outside inspectors, and the workers haven't bothered to report so-called "near misses." Safety programs may not have zeroed in on unit weaknesses. Goals might be too general and not meaningful.

When this information is correlated with data from other agencies, you can provide senior leadership with recommendations on how to counter the problems.

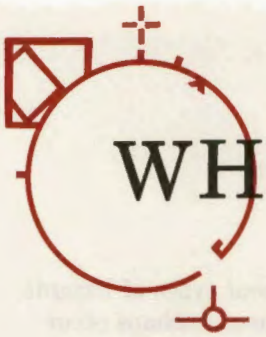
You should also question 75 percent of the workers in a specific area about any problems or hazards they believe present a significant risk. By talking on their terms rather than about types of hazards, you might discover that frequent mishaps occur without causing damage or injury, but are potentially catastrophic. They involve such items as failure to include maintenance actions on forms, not using technical data and using the wrong method to do a certain job. These recurring problems expose job changeover crews to mishaps and reveal weaknesses in training. In one case, we found a history of 17 near-misses in 11 months; but since no damage had occurred, no one had reported them. Normally, you find out about these near-misses during the post-accident investigation when it's too late.

SSOs work and can be a vital part of the "proactive" or prevention function of your safety program. The tool can be used by safety personnel as well as functional managers to find the true state of safety in your operation.

)s: How to Ask the Right Questions

Squadron Commanders

- Who from the squadron attends monthly safety meetings? Combined safety council meeting?
- What grade is your collateral duty safety officer/NCO?
- Do you have night shifts? If yes, what is the grade of the officer and NCO on duty?
- Do you feel your unit or a portion of your unit is overtasked?
- How many "7" level and "9" level personnel are you authorized? How many are assigned?
- Do you have a published—over your signature—squadron safety policy?
- How often do you visit your shops and duty sections? What about your senior officers/NCOs?
- How often do you visit your activities during evening hours? What about your senior officers/NCOs?
- Do safety communications flow satisfactorily from you to the worker? Have you been able to verify communications effectiveness?
- What do you feel are your five most critical safety problems?
- Do you do anything unique when acting on quality assurance detected safety violation reports?
- What are the most hazardous operations in your squadron? How are personnel trained and made aware of these operations?
- How would you rate your squadron's safety program?
- What improvements, if any, are you planning to make?
- Have you had to sacrifice safety for mission accomplishment?
- Is technical order discipline practiced within the squadron? What methods of enforcement and education are used to enhance use?



WHO'S THE EXPERT?

Supervisor

- What are the commander's policies on safety?
- What percentage of your time is spent away from supervising, doing additional duties?
- Do safety communications flow in both directions? What methods do you use?
- How do you accomplish job safety training? When do you provide it?
- Do you get out to evaluate evening and night duty performance?
- Do you make any spot inspections?
- How do you handle detected safety violations found during quality assurance evaluations?
- What are your five most critical safety problems?
- What are the most hazardous operations in your activity? How do you train and make personnel aware of them?
- How often do you see your commander? Are the commander and other senior personnel out during the night?
- If you had to predict where your next accident would occur, where would it be?
- How often do you see the base safety personnel?
- How would you assess the attitude and morale of your personnel?
- What safety improvements would you like to see made?
- Are you or your personnel overtasked?
- Do you and your assistants enforce technical order use? What is done about violators?

Worker

- What are your commanders' and supervisors' safety policies?
- Have you received job safety training? How was it accomplished? What was covered?
- Do you feel supervisors act to correct unsafe practices?
- How would you characterize, from a safety point of view, your supervision? Undersupervised? Adequate? Oversupervised?
- Do you feel you are being trained to do the job safely?
- Has safety been sacrificed to accomplish the job? How?
- What do you feel are the most critical safety problems in your job?
- What are the hazards of your day-to-day work?
- Where do you feel the next accident will occur?
- Is there good safety communication in your unit? How is it done?
- Do you see your commander and supervisor in the workcenter? How about at night?
- What safety improvements do you think are needed?
- Does your supervisor have an open door policy?
- How would you report a hazard?
- How often do you see a member of the base safety staff?
- How do you rate the attitude and morale of your branch or shop? Good? Fair? Poor?
- Do you think safety interferes with mission accomplishment? What rules would you like to see changed?
- Is technical order discipline enforced?

Give the SSO a try in your outfit and see if the quality and perceptions of your safety program at different levels match up with where you think they are. Hopefully they'll be very close. If they're not, you'll have some concrete ideas on where to make changes and improvements in order to upgrade your safety program and unit operation.

Are you allergic to stings? About one million Americans are so allergic to hornet, wasp, yellow jacket or honeybee venom that one sting can be fatal. Many of these people don't even know they're allergic. Some danger signs of an allergic reaction—

- Itchy red welts on the skin, especially some distance from the site of the sting.
- A feeling of throat constriction or difficulty breathing after a sting.
- Sudden nausea, vomiting, stomach pain or fainting.

If you suffer these reactions, get to a doctor immediately. Your doctor may prescribe an antidote kit to carry with you.

Going on a picnic? Be sure to keep food either hot (above 130 degrees F) or cold (below 40 degree F) to prevent **food poisoning.**

A cigarette can ignite some **aerosol sprays.** Don't smoke while using hair spray, deodorant or any other aerosol product. Watch out for the **hair creams** too. A hair cream that contains petroleum derivatives, such as petrolatum, petroleum jelly or petroleum oil, are flammable. Some people have been severely burned when their hair, treated with these hair creams, caught fire from a cigarette or while cooking.

Ultraviolet radiation—whether from the sun or a sunlamp—doesn't appear to cause *immediate* harm if used properly, but doctors aren't sure about long-term effects. If you decide to take the risk and tan with a sunlamp, follow these tips:

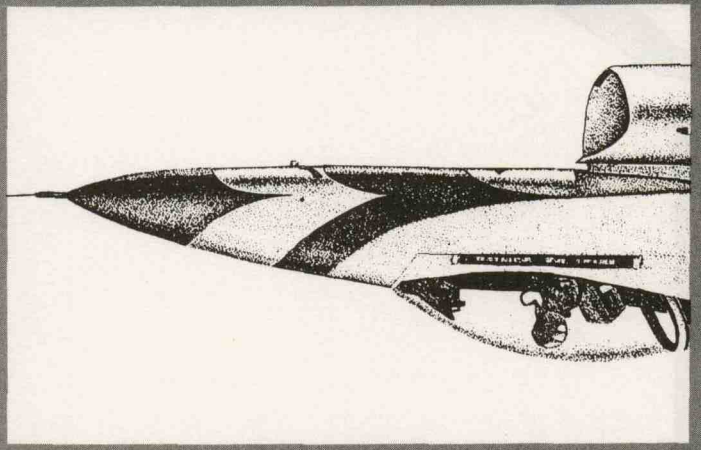
- Make sure the lamp has a timer to shut off automatically in case you fall asleep.
- Use eyeshields or goggles. It takes only a few seconds' exposure to a sunlamp to burn the eyes.
- Follow manufacturers' exposure-time limits and how far you should be from the bulb when it's turned on.
- Avoid lamps that contain only a bare mercury tube in a metal reflector. Use one with a filter that blocks short-wave-length radiation.
- If you're taking medication, check with your doctor to make sure the medication won't increase your susceptibility to burn—some do.

HEADS UP

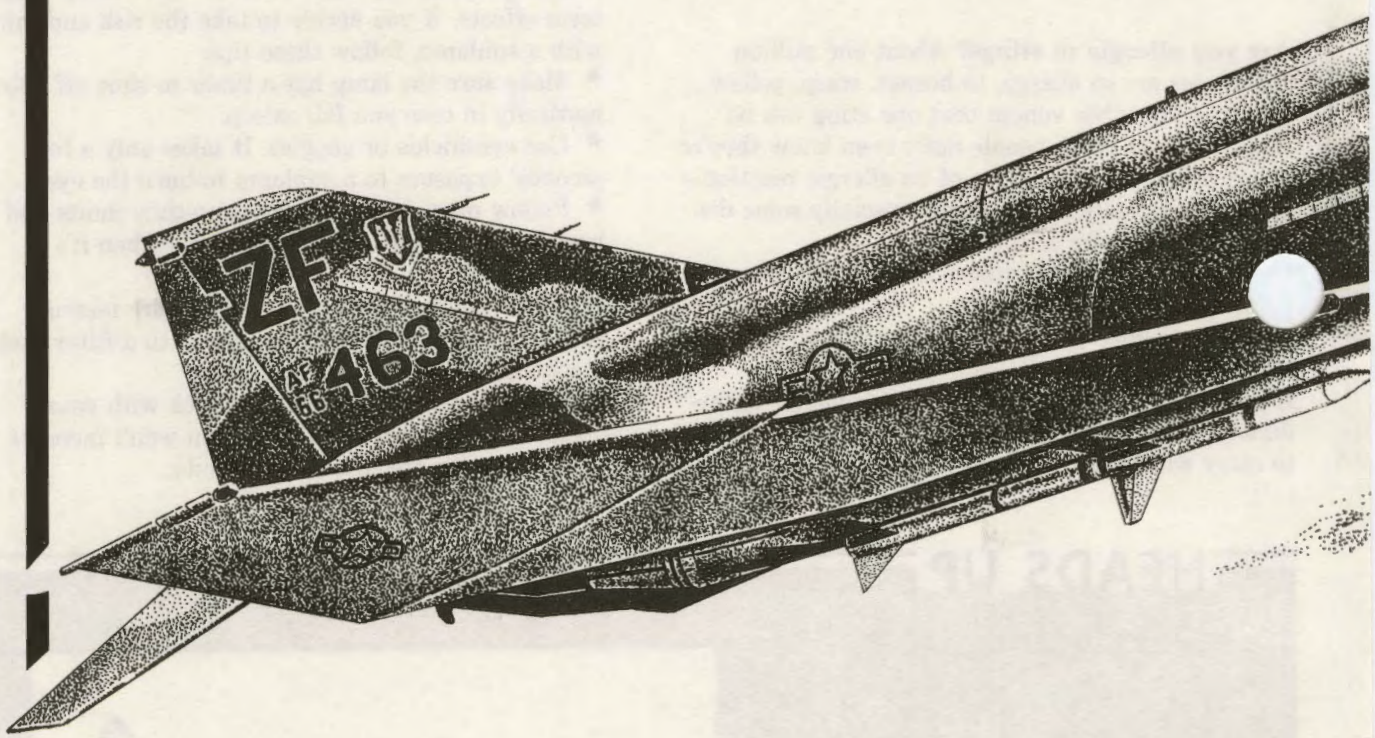
Next month, in the

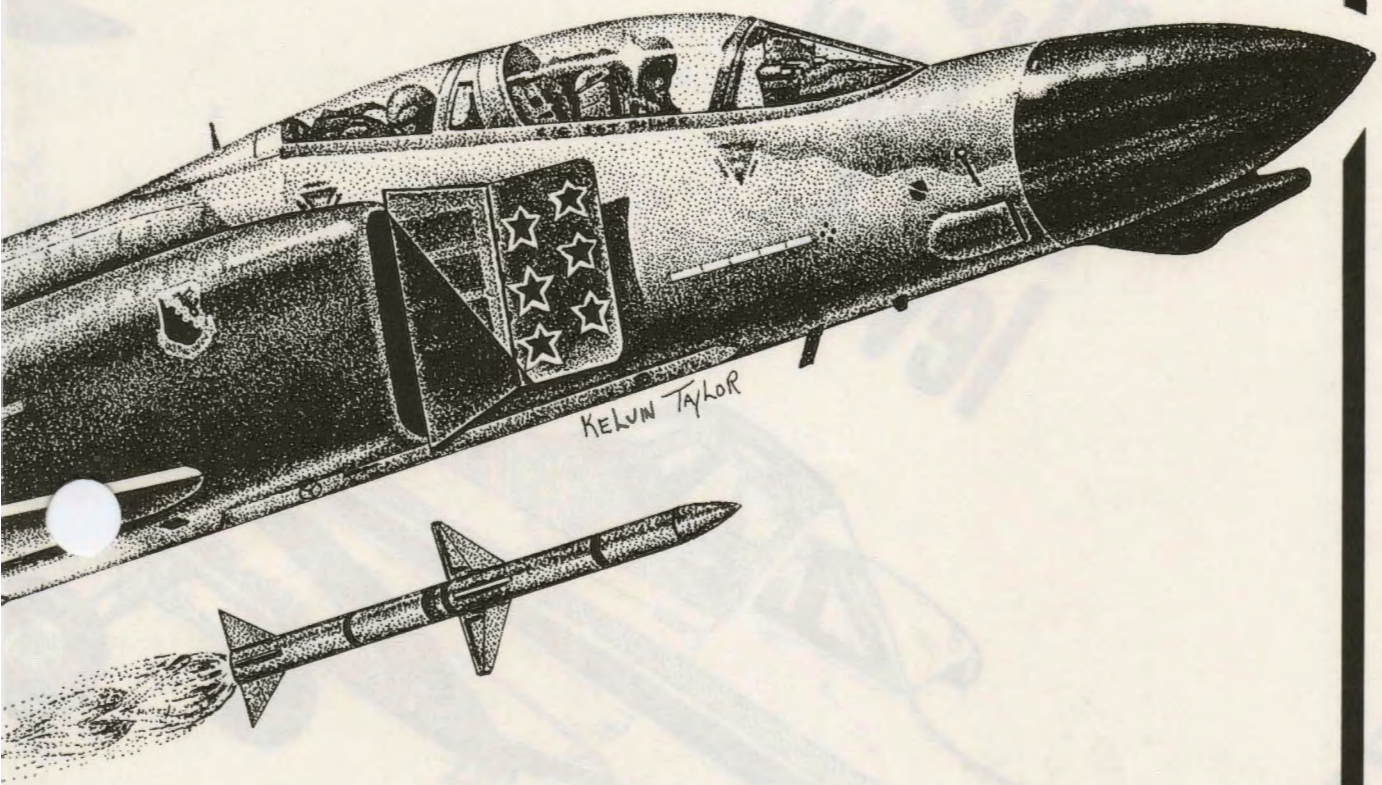
JUNE

issue of *TAC Attack,* you can look forward to seeing SrA Kelvin Taylor's stipple rendition of the Thunderbirds IN THE CENTER.



F-4D/ AIM 7

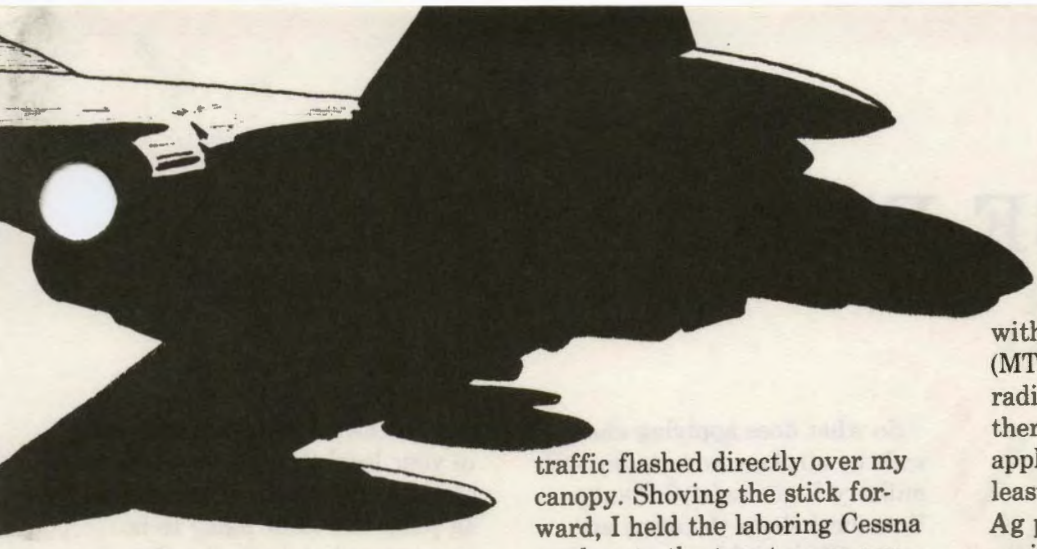


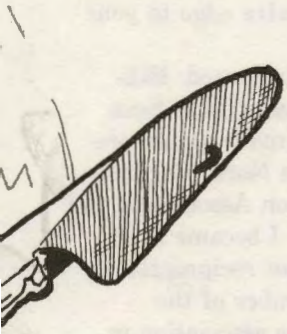

KELVIN TAYLOR

close encounters at low level

Maj Marvin L. Payne
USAF (Retired)

A 1984 "Broom Hilda" comic strip by Russell Myers showed Hilda and several cohorts flying aboard her broom. Suddenly—dead ahead—there was a mountain over which they had to climb, but the broom was overloaded and underpowered. Going full throttle, and with much shouting and sweating, they just made it over the top when disaster struck. They collided with an overflying airline and spun from the sky.





It was a very funny strip when I first saw it, but personal experiences have taken the edge off the humor. I had a similar experience in 1980 only it wasn't a mountain I faced but trees; the other ingredient in the episode was an F-4.

Flying a Cessna 188 Ag Truck, I had just started working a field of soybeans with enough insecticide onboard to treat 85 acres. The temperature was in the mid-90s and, with a high gross weight, my airplane's performance was definitely marginal. Flying about a foot above the crop, I was intent on maintaining the swath track, watching for obstructions to my next pass and, of course, clearing the tall trees at the end of the spray run. At the last moment, I shut off the spray and started my pull up. Suddenly I heard a horrendous noise coming from behind me and, a second later, traffic flashed directly over my canopy. Shoving the stick forward, I held the laboring Cessna as close to the tree tops as possible and prayed that I wouldn't hit wake turbulence or other traffic. When the nose lowered sufficiently for me to see ahead, I spotted an F-4 (branch of service unknown) just above the trees. I immediately checked for other traffic and picked up a second F-4 about 300 feet to my right. I have no idea if the F-4 pilots ever saw me.

I've had some moments of concern in my flying career, but this incident was absolutely frightening. A difference of one or two seconds could have spelled doom for one or both of us. I circled over my target field for several minutes before regaining sufficient composure and concentration to complete my assignment.

I wish I could say that this incident closed the chapter on near misses for me, but it hasn't. I frequently pull up from a spray run and find myself eyeball to eyeball with a variety of military fighters from all the services. Most of the time, I spot my bogie and take evasive action. On some flights, however, I never see traffic, but farmers watching me work their fields tell me about them later.

To give you some idea of the potential for problems, my area of operations in the northeast counties of North Carolina is representative of many throughout the nation. The area is laced with military training routes (MTR) and, within a 20-mile radius of my base of operation, there are currently nine aerial application operators flying at least 12 sprayers. Many fellow Ag pilots tell me of similar experiences in their areas. Why don't we report more of these near misses? Probably for the same reasons that you don't report us, such as: (1) lack of positive identification, (2) too much trouble, (3) both parties are flying legal operations in a VFR "see and avoid" environment. Unfortunately, the resulting lack of statistical data leads to the false conclusion that there isn't much of a problem. Based upon my experience, I believe there is significant potential for problems that could cause the loss of airplanes and fliers if we ignore it.

Although the problem extends to all LBFs (little bitty fellows), let's assess the situation from the Ag operator's position as well as some possible recommendations. There are approximately 7300 aircraft dedicated to aerial applications in the United States. As sure as the seasons change, these specialized aircraft, flown by hungry pilots coming out of winter financial hibernation, swarm all over rural America. Generating about 2.1-million flying hours per year, these men and machines serve as partners in agriculture. Their roles include protection of forests and crops from fire, insects and disease as well as application of fertilizer and seed. "Bug bombers" come in a variety of sizes and types.

CLOSE ENCOUNTERS

So what does applying chemicals by airplane have to do with military flight safety? Plenty. You and I share the same airspace. We both have a necessity to operate in the low level environment. Both Ag pilots and military aviators must recognize that other legitimate and essential air activities are taking place in the same airspace.

What are the answers to this problem? Here are just a few suggestions on how we can operate in the airspace more safely together:

1) During the planting and growing seasons, stay well above the trees in agricultural areas. Ag pilots usually stay below 250 feet AGL while working a field. Therefore, bumping your enroute altitude up above that will add some measure of safety without significantly degrading your low level navigation training.

2) Be especially observant during the application season in your area. Expect an Ag airplane to pop up from behind a tree line.

3) Be aware of potential spots in your local flying area where crops are being grown and where Ag pilots are most likely to be encountered. A little "heads up" on where you might find us can add that little extra edge to your visual lookout.

4) Lastly, be informed. Military flying safety officers from area bases have made safety presentations to the North Carolina Aerial Application Association every year since I became a member. Why not reciprocate and invite a member of the aerial applicators association in your state to speak at your flight safety meetings?

Let's work together to prevent close encounters of any kind from occurring. Fly safe and have a good season.

Both Ag pilots and military aviators must recognize that other legitimate and essential air activities are taking place in the same airspace.

The author is pilot/manager of an aerial application ("crop dusting") business and an officer in the North Carolina Aerial Applicators Association. Flying since 1953, he has over 14,000 flying hours, 9000 of those logged during 22 years in the USAF, and holds several FAA ratings.

Editor's comments: The author makes some good points regarding actual and potential conflicts between agricultural aviation and Air Force low altitude operations. These conflicts are often overlooked in our day-to-day operations. As noted in the article, agricultural aviators operate almost exclusively below 250 feet AGL. Realistic training requires Air Force units to operate in this arena as well. To minimize conflicts, both sides must work together and effective cross-tell briefings are definitely a good start. Units should review the low altitude training routes they fly and identify potential conflict areas. "See and avoid" is still the rule to live by, and it takes on added importance when flying at low altitudes during the busy spring and summer months.

TAC SAFETY AWARDS

CREW CHIEF SAFETY AWARD

Sgt Richard L. Wilson's performance has been superior as dedicated crew chief. Through his dedicated efforts and attention to safe "by-the-book" procedures, his aircraft had no aborts, no in-flight emergencies and maintained a 100-percent fully mission-capable rate.

The drive, dedication and determination displayed by Sergeant Wilson mark him as a true professional. While performing an integrated combat turn, he spotted a bird strike that had gone unnoticed by the pilot. His discovery prompted action so the aircraft could fly safely on its next mission. He has, on other occasions, stopped pilots from taxiing because he spotted foreign objects on the taxiway. Another example of his safety awareness was demonstrated when he was working at the end of runway and noticed a fuel leak in the engine bay of an aircraft. The engine was shut off and the fuel leak fixed.

Sergeant Wilson also conscientiously inspects all aerospace ground equipment prior to using it and always turns in all unserviceable equipment to prevent accidents. He instructs all newly-assigned personnel on the hazards of foreign objects because of the potential for serious damage.

Sgt Richard L. Wilson
474 AGS, 474 TFW
Nellis AFB, Nevada

INDIVIDUAL SAFETY AWARD

During the phase inspection of an F-15, SSgt Joseph P. Miskech discovered that the main support bracket for the air conditioning system was cracked on both the right and left air conditioning systems. If this problem had not been found, failure of the aircraft air conditioning system in flight or rupture of system lines could have seriously jeopardized operational safety.

Sergeant Miskech was inspecting the air conditioning package when he discovered the brackets were cracked. After he found the problem, he took it upon himself to inspect two other nearby F-15s and found they each had a cracked bracket. He next called two other F-15 bases and discovered they were experiencing the same problem. At that point, quality assurance personnel from each of the bases began working with each other. Due to his actions, a one-time inspection was initiated at Nellis AFB and a search for the cause was started.

Vibration was found to be the attributing factor for the cracks. Since the item is locally manufactured, no MDR or QDR actions could be taken; however, procedures were developed for local repair.

Presently, Sergeant Miskech's identified problem is being reviewed for a possible TAF-wide fleet inspection, and all F-15 aircraft at Nellis AFB going through phase inspection are now regularly checked for this item due to his discovery.

SSgt Joseph P. Miskech
57 CRS, 57 FWW
Nellis AFB, Nevada

EMERGENCY RECOVERIES AT CIVILIAN AIRPORTS

Maj Douglas Lynch
56 TTW/DOX
MacDill AFB, Florida

Mr. Terry I. Platts
Chief, Fire Protection Branch
MacDill AFB, Florida

MacDill AFB and the 56th Tactical Training Wing's mission is pilot upgrade training for the F-16 Fighting Falcon. These aircraft are assigned to four separate training squadrons and, as the aircraft depart MacDill AFB, they use training areas along the west coast of Florida to practice air-to-air tactics and the Avon Park Air Force Range for air-to-surface training. Selected civilian airports are also used for traffic pattern work and simulated flameout approaches.

From a fire protection standpoint, the F-16 is a highly complex aircraft that requires a high degree of professional aircraft handling. As with any aircraft, if an airborne emergency arises, which requires an immediate landing, there is a high potential of landing at a civilian airport. During recent months, the MacDill AFB fire department and the 56th Tactical Training Wing have provided academic and practical training to airport personnel in the local flying area where aircraft could possibly land. The sites selected were the Fort Myers Regional Airport as well as the international airports in Fort Lauderdale, Palm Beach, Sarasota, Saint Petersburg/Clearwater, and Tampa. Two additional locations used by MacDill units for exercise training were also included.

MacDill fire protection supervisors gave classroom instruction for the first three days which consisted of aircraft egress and cockpit entry procedures, hydrazine fire fighting techniques, landing gear and armament safing, emergency power unit (EPU) operation, engine shutdown procedures, ejection seat

F-16 Static for "Hands-on" Training

Civilian Firefighters Receive Egress Training

safing, aircrew removal, taxiing and marshaling procedures, approach routes, aircraft hot brake procedures, barrier operation and general aircraft dangers. To supplement training, the instructors used sound-on-slides, 16mm movies, and videotape cassettes.

On the fourth day of training, a static display F-16 aircraft was used to provide hands-on training and to reinforce the procedures which had been taught in the classroom. The three days of academic training prior to the aircraft arrival were necessary to provide complete training to the departments. These civilian fire departments work three, 24-hour shift operations. For the day of hands-on training, the civilian agencies made arrangements for all their people to attend the sessions of practical instruction during one day which gave all the fire fighters a chance to put to use what they had learned in the classroom.

On the fifth and final day, the fire chief met with various airport support agencies, such as airport management staff, flight operations, security, medical officers, public affairs office, local fire protection investigators, explosives ordnance disposal technicians as well as representatives from the other county organizations/departments. A briefing and general discussion of the information taught during the three classroom days and the one day of practical training was given. The local television and newspaper media were also invited to attend.

Upon completion of the training program, the scope of training and the capabilities of each local fire department were provided to the 56th Tactical Training Wing deputy commander for operations and to each airport. This information will also be included in the local pilot's aid used by 56th Tactical Training Wing pilots. The pilot aid provides an instant reference guide covering many areas for the pilots. Fire department training information will make a pilot's decision to land at a civilian airfield if necessary a little less complicated.

The purpose of all this training was to make the civilian airports better prepared and capable of dealing with complex military aircraft such as the F-16. Armed with that knowledge and "on-the-job" familiarization, the civilian airports in the MacDill area will be ready and able to safely recover and protect both the aircraft and the pilot if that need ever arises.

MAKE IT A SAFE VACATION

Mr. Mike Mehalko
TAC Ground Safety

Now that warmer weather is here, many of us in the TAC community will be taking time off for a little rest and relaxation—a vacation. This period of warmer weather, from Memorial Day to Labor Day, is known as the "101 Critical Days of Summer" because, historically, we experience the majority of our off-duty mishaps during this time.

Following are a few things you may want to consider when planning your vacation.

Try to plan a day of rest before you start your vacation. Adequate rest is essential. If you're taking any medication, consider how it may affect your ability to drive safely.

When you get on the road, plan on no more than 10 hours of driving a day; any more and you are subjecting yourself to road fatigue. You also need to include rest stops about every two hours for at least 10-15 minutes. You really need the break. Have you made arrangements for a place to stay at the end of each travel day? Motel and camping grounds are going to be full.

Now inspect your vehicle. Are your tires, brakes, exhaust system, drive belts, windshield wipers, fluid levels and steering/suspension in good condition? Do you have a travel kit? It should contain tools, such as pliers, screwdrivers, and a crescent

wrench, spare drive belts, a flashlight and road flares or a lantern/emergency light. Road maps should be included just in case you get *lost*.

With the roads full of summer travelers, your exposure to accidents increases. You may be a very safe driver, but there are others on the road who may not be. Be alert and apply good defensive driving techniques. Seat belts and child safety seats are a must. They increase your survivability in case of an accident and, in many states you'll be driving through, they are mandatory.

Taking too much on a vacation can be unsafe. This may be fine if you have a vehicle that is large enough to safely handle the extra weight, but overloading your vehicle does affect vehicle performance, suspension, tires, braking and, most importantly, the handling characteristics.

Now let's talk about your boat or trailer. If your trailer has been in storage, make a thorough check before putting it on the road. Check the trailer tires for proper air pressure and cracks due to age and weather (don't forget the spare). Also take a look at the brake system, wheel bearings, lights and electrical system (battery) and the trailer hitch. Is it secure and does the locking mechanism work? Look for leaks in the water system and gas bottle.

Now look for the same items on the boat including leaks in the fuel tank, damaged hoses or hull and trailer securing devices. Life-saving equipment should be available and in good condition. (Check local laws for specific requirements.)

Now for the fun part: If you go to the beach, take your sunbathing protection to prevent sunburn. If you're going into the mountains, take creams or sprays to combat the various poisonous plants and insects. You should know how to recognize poisonous plants and shrubs, so you can avoid contact.

Check local restrictions before you use a charcoal grill for cooking. And don't use it or any other cooking device as a heater for personal warmth: they produce carbon monoxide, which can be deadly. Whenever venturing out into the woods or isolated beaches, rivers, etc., make sure someone knows where you are going and when you should return. Locate the nearest phone and have the correct change in case it's a pay phone.

If you're going to do any swimming, fishing, or boating, check on any local area hazards and ensure you have the proper safety equipment. Beware of the casual dip in a local waterhole. Many people are injured or drowned in these seemingly nice quiet bodies of water. Unless you have surveyed the area, or it is a properly posted swimming area, you need to exercise extreme caution: tree stumps or rocks may be hidden below the water line.

The main ingredient needed to have a safe vacation is you. Use safety equipment, take frequent rest stops, check out your vehicle before you start and don't overextend your abilities.

One last reminder: Be sure you have your driver's license, vehicle tags and registration for the car, trailer and boat, and insurance information.

Have fun, and please return safely. →

MANDATORY CHILD SAFETY SEAT LAWS*
All states and the District of Columbia

MANDATORY USE OF SEAT BELTS*

California	Louisana	New Jersey	Texas
Connecticut	Massachusetts	New Mexico	District of
Hawaii	Michigan	New York	Columbia
Illinois	Missouri	North Carolina	
Indiana	Nebraska	Oklahoma	

DRINKING AGE*
21 in all states except:

Age 18 in	Age 19 in	Montana
Hawaii	Idaho	Wisconsin
Louisiana	Iowa	Wyoming
Vermont	Minnesota	

Varies in
Colorado (age 18 for 3.2 beer, 21 otherwise)
Ohio and South Dakota (19 for beer, 21 liquor)
District of Columbia (18 for beer, 21 liquor)
West Virginia (19 state resident, 21 out-of-state)

*Information current as of 31 Dec 85. Laws for mandatory seat belt usage and drinking age are currently in legislation. Doublecheck by calling the U.S. Department of Transportation public affairs office at (202) 426-9550 before starting out.

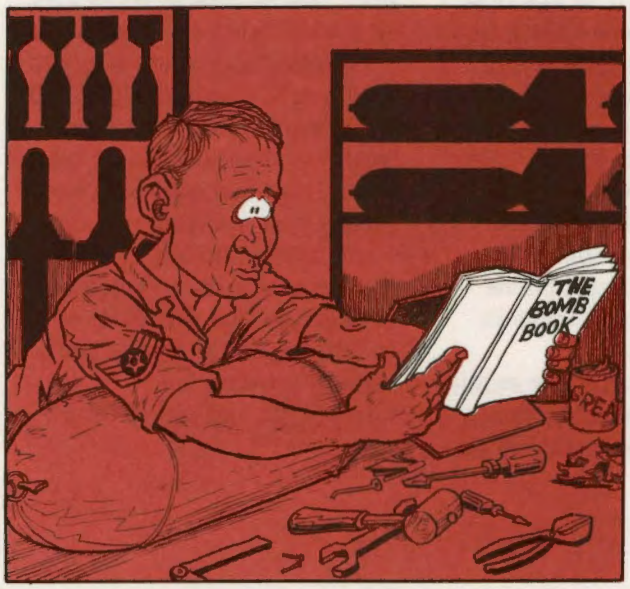
WEAPONS WORDS

Explosives safety training

Mr. Jimmy Campbell
1 AF/SEW

Most supervisors know the requirement in AFR 127-100 that everyone who works with explosives must get explosives safety training before they start such work. The training must be repeated each year and also documented for each person. However, there are also two other areas of training related to explosives safety that must be given before a person can work on an aircraft.

All maintenance personnel who may be dispatched to work on or in an aircraft must *first* receive egress familiarization training. That training should educate the aircraft maintenance specialist on the hazards of the egress seat, canopy removal system or capsule escape system. It identifies where the hazards are and where the safety pins are to be installed. The training also must explain what to do if there is a seat-related safety problem. The training is required by AFR 66-51 and must be repeated annually. A specific course must be developed and given for each type of aircraft that the maintenance specialist is likely to work on such as the F-15 and the T-33.



The third element of the explosives safety-related training program covers how to identify an armed aircraft, sometimes referred to as "TO 11A-1-33 training." The same folks who get egress should also receive this familiarization training. Subjects that must be covered include AFTO Form 781 entries, armament placard entries, location of armament safety pins, location of ejection cartridges a procedures for sealing unarmed ejection cartridge locations. Training must contain a general overview of the armament that can be expected on the aircraft such as missiles, captive missiles, and gun ammunition, etc. The training should also discuss the safing devices installed in the aircraft gun system. Information about the armament and stores jettison control system (switches) should be included. Although this training is required before beginning any maintenance duties, the frequency of refresher sessions is up to the unit.

Documentation of egress familiarization training and armed aircraft identification training may be accomplished either by MMICS or in the individual training records. The specific method used is up to unit supervision and MAT; however, the training must be documented in some form. Many units have developed sound-on-slide presentations to assist in this training.

Quality training programs and frequent refreshers are vital to any maintenance program. Working with or around explosives increases potential risks of the operation. Well trained people can control those risks. Do you and all of your people know where the explosives are located on your aircraft?

Inalienable Rights: An explosive issue

SMSgt Ed Hartman
HQ TAC/SEW

Next month we celebrate our Nation's birthday. The 4th of July is a joyous and patriotic occasion, filled with parades, picnics, flag waving and fireworks. It can also be a sad occasion. For several people, it could be the last 4th of July they ever see because they will be seriously injured or killed by mishandling fireworks. Mishaps such as these have caused most communities and states to either limit the types of fireworks for sale or to ban their use completely. Regardless of state or local laws, personal fireworks are almost universally banned on Air Force bases.

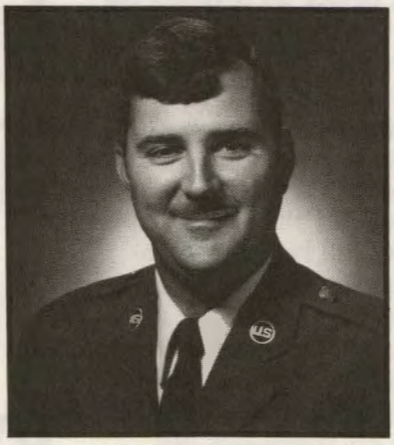
For those who feel they can't be "patriotic" without setting off some fireworks, the following information is provided:

- Until the end of the 18th Century, fireworks were handled by the military because they had exclusive use of explosives. The only remnant from those days is the gun or cannon salute used today to honor individuals.
- Fireworks are really miniature versions of weapons of war. The only difference, other than size, is that they usually inflict injury or death to individuals handling them rather than an enemy.
- Rockets, Roman candles, etc., are unguided. No matter what direction they are aimed, they have the ability to head towards groups of people or combustible buildings.
- Fire crackers, cherry bombs, etc., when thrown in sandy areas, become fragmentation grenades. They spew gravel in all directions. The fragments hurt when they strike the skin but, more importantly, are notorious for blinding people.
- Duds which are approached soon become time bombs. They can explode just as you reach for them or pick them up. They appear to be set off by the approach of humans. Seriously, don't go near unexploded fireworks until you have allowed several minutes to pass.
- Homemade cannons fabricated from pipes and using black/gun powder as the propelling charge are the most hazardous. They rarely work as the designer intended. They blow up like a bomb and the fragments are hazardous even at significant separation distances.
- Children should never handle fireworks. If they do, they should be supervised by adults who know the hazards.
- Set up "fountains" and other ground functioning fireworks in a noncombustible area; never on dry grass or near buildings.
- Have a first-aid kit, hospital emergency phone number, fire extinguisher and fire department number immediately available. You will probably need one or all of them before the day is over.

Fireworks can be safe if properly handled. People that get injured are the ones who think they are pyrotechnic and explosives "experts" for one day each year. Thousands of years have gone into the design and manufacture of explosives, yet they are still as dangerous and destructive today as that first powder was.

What *should* you do on the Fourth this year? Go to the parades and enjoy your picnics. At night, go to an approved fireworks display, watch the rocket's red glare, wave your flag and live to see another celebration of our great Nation's birthday—all inalienable rights.

FLIGHT SAFETY AWARD of the QUARTER



TSgt Joseph A. Chambers
33 TFW
Eglin AFB, Florida

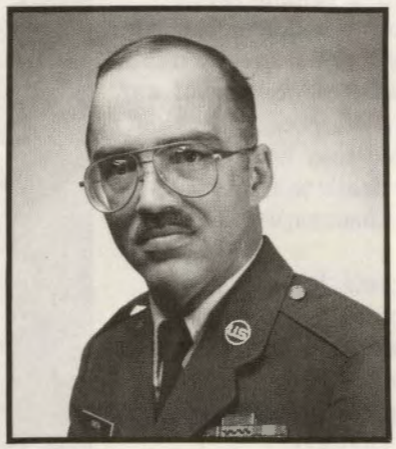
As the wing's flight safety NCO, TSgt Joseph A. Chambers made significant contributions to its program. His investigations were innovative and thorough to the last detail.

His initiative was responsible for the discovery of a deficiency in the procedures for tracking water entrapment and disbondment irregularities in the F-15 vertical stabilizer. Further, he discovered a previously unknown problem in canopy rigging at the factory. He authored a bird migratory report as part of a birdstrike mishap that was praised by numerous units as well as TAC safety. All the above saved the Air Force thousands of dollars, increased combat readiness and possibly prevented loss of life and aircraft.

Sergeant Chambers consistently strives to make things better. Through his involvement in the MDR program, he suggested the use of an MDR stamp in the aircraft 781A forms. This suggestion was adopted by maintenance and is now used in the debriefing process. He provided guidance to the wing landing gear working group that led to a reduction in the number of in-flight landing gear emergencies. He also established emergency procedures and actions to be taken in the event of an emergency during ground engine runs. These procedures were incorporated into a quick reference placard used during all ground engine maintenance runs.

Sergeant Chambers is a model flight safety NCO. His professional approach to safety has given him the reputation for being one of the best flight safety NCOs in the command.

WEAPONS SAFETY AWARD of the QUARTER



MSgt Bruce J. Smith
868 TMTG, 836 AD
Davis-Monthan AFB, Arizona

MSgt Bruce J. Smith's safety accomplishments are characterized by his professionalism and a strong commitment to duty.

Recognizing a special need for the weapons safety protection of GLCM student personnel (over 1800 students were trained in 1985), as well as permanent party personnel, he initiated several innovative programs to head off potential weapons mishaps and related problems. Sergeant Smith implemented new operating procedures that ensure the on-base GLCM training dispersal area is safe at all times. At the training dispersal area, GLCM students are required to live in the field for six consecutive days under combat conditions. They additionally engage in realistic "mock" battle scenarios and are required to use blank ammunition to protect the flight against enemy "aggressor forces" (GLCM instructors) who use assorted weaponry such as ground burst simulators, booby trap simulators, smoke grenades and flares. Sergeant Smith observes the battle exercises for potential safety mishaps and hazardous situations, and ensures dangerous debris, shell casings and other munitions fragments are removed from the area during flight roll-up procedures.

As a result of his aggressive efforts, the 868 TMTG enjoys an enviable record—no weapons related student injuries.

Sergeant Smith's work as weapons safety NCO has made a definite impact on the superb safety record of the 868 TMTG. He is an outstanding NCO.

GROUND SAFETY AWARD the QUARTER

First Lieutenant Glenn R. Erb has put the spotlight on safety awareness in the civil engineering squadron.

First, Lieutenant Erb relocated the safety office from an isolated, obscure area to a much more centralized location. This centralized location is much more conducive to visits from any of the 3 commanders and over 400 personnel within the organization.

He has made himself and the safety NCO available 24 hours a day for emergencies. This action was a precedent. Lieutenant Erb also made himself available to accompany the vehicle control officer to the scene of several accident investigations involving government vehicles and used his safety expertise to help investigate the accidents and determine liability.

Lieutenant Erb conducted comprehensive safety self-inspections of over 40 separate work centers and identified several major safety deficiency trends common to the majority of work centers. His efforts in this area were acknowledged by base safety during its high-interest inspection. All write-ups issued were minor and easily correctable. The pest control entry shop, usually having several discrepancies, had no safety write-ups; the entomology shop, a problem because of chemical storage, also had no write-ups.

1st Lt Glenn R. Erb
554 CEOS, 554 OSW
Nellis AFB, Nevada

When Lieutenant Erb took over the safety program, there was no efficient way to relay safety information; so he developed and began publishing a monthly safety newsletter that contains general safety tips, vehicle safety issues, current events in safety and helpful safety reminders.

In four months, Lieutenant Erb has turned safety into a top priority, high visibility endeavor with tremendous results.

TAC SPECIAL ACHIEVEMENT in SAFETY AWARD

Sergeant Nathan C. Berry, Senior Airman Gregory A. Nelson and Airman James E. Green turned a routine FOD walk into an in-depth investigation and prevented a serious mishap.

During the FOD walk, Airman Green found a piece of metal approximately one and a half inches wide and three inches long. He showed it to Sergeant Berry and Airman Nelson; they determined the piece to be a part from an F100 aircraft engine. They also noticed a part number stamped on the piece of metal.

Instead of throwing the FOD away, they investigated further and identified the FOD as a piece of a number four bearing scavenge tube support bracket. They didn't know what aircraft engine it came from, but they knew this was an important part; so they immediately notified their supervisors.

All agencies were then notified and all aircraft were inspected. The broken bracket was from an aircraft that was undergoing an engine change.

Sgt Nathan C. Berry
SrA Gregory A. Nelson
Amn James E. Green
4487 AGS, 388 TFW
Hill AFB, Utah

F-15

EMERGENCY SITUATION TRAINING

Maj Steve Randolph
HQ USAF/XOXID

SITUATION: You're an instructor out doing area work with a student on his initial solo. After the last rejoin, you head for home, leaving your wingman in fingertip. He calls to say that you have a thin stream of vapor coming from the belly of your jet, and you're about 40 miles from your divert base.

The initial reaction is reflexive: you yaw him out to route, then tell him to look you over while you check the engine instruments. Nothing abnormal there—fuel flows match up, no engine surges, no fire lights, Betty's quiet. The fuel indicator seems normal—no rapid decrease; you check six and don't see any vapor at all. Your wingie calls to say that the vapor "Looks like it's coming from the right side."

CONSIDERATIONS: Is there a problem, or is your wingman imagining things? If there is a problem, how serious is it? Should you drop it into the divert field or press home? What to do with the wingman, bobbing around out there in route? If you divert, he either does a strange-field landing on his initial solo, finds his way home alone or you've got to orchestrate a pickup by another IP. Fortunately, the weather's good.

OPTIONS: A. Pull the power to idle to maintain redundant hydraulics and electrics; fly home, keep the wingman in close chase and have another IP chase him after you land.

B. Shut down the engine with the fire button, then throttle; divert; ask the wingman if he knows how to get home, and if he says yes, turn him loose.

C. Ask the SOF for guidance, since he's the one with access to a Dash One; meanwhile press on home with the wingman chasing you and land from a straight-in.

D. Press on with the profile.

DISCUSSION: Like any good fighter pilot, I cheated—none of these is right.

The Dash One procedure for fuselage fuel leaks was written in response to the massive leaks that caused one Class A and very nearly a second. There's a sizable community of Eagle drivers out there who think the procedure for a button-throttle engine shutdown is to be used only in such a serious situation as that. Fuselage fuel leaks resulting from a small source, such as a loose B-nut in a fuel recirculation line, can dump up to 35 pounds of fuel per minute into places in your jet's innards where it was never meant to be. Although the bypass helps keep the fuel away from engine hot air, you're only one short step away from a thrilling airframe fire. Although these small leaks are not as dramatic as those that pump out 14,000 pounds of fuel in three minutes, they are nearly as dangerous. So, execute the procedures as written. The fuel flow indicators will very likely not pick up any abnormalities, depending on the source of the leak.

The question of the divert seems to answer itself. You're down to half the engines you started with and you're dragging around unconfined fuel sloshing through your engine bay. You've already proved that you're not having a lucky day.

How about the wingman? I dragged him into this scenario mostly to re-emphasize the first rule of aircraft emergencies: keep track of him, take care of him, maintain control of the flight, but not at the expense of **maintaining aircraft control.** The considerations I mentioned above with the wingman are all valid, but all peripheral to your main problem: taking care of your jet. What to do with him is very scenario-dependent. The important thing is that he be prepared to act independently should this be necessary. Perhaps more important, and less often observed, is the requirement that the flight lead have some basic plan to handle this sort of contingency—to include, in this case, knowing who else is airborne that could be of assistance and ensuring, before ever stepping to the jet, that the wingman is capable of finding his way home and landing his jet. So often in planning this sort of mission all emphasis is laid on taking care of problems with the wingman's jet, and not in the equally likely situation where lead is the one with the problem. All these responsibilities rest with the wingman as well, of course; the initial solo is a classic time for Murphy's law to take effect and a bad time for the first-time soloist to turn the brain into the auto-glide mode.

TAC TALLY

	TAC			ANG			AFR		
	APR	THRU APR		APR	THRU APR		APR	THRU APR	
		1986	1985		1986	1985		1986	1985
CLASS A MISHAPS	1	11	6	0	2	4	0	0	0
AIRCREW FATALITIES	0	5	3	0	0	2	0	0	0
TOTAL EJECTIONS	1	10	6	0	4	3	0	0	0
SUCCESSFUL EJECTIONS	1	10	6	0	4	3	0	0	0

TAC'S TOP 5 thru APR 85

TAC FTR/RECCE		
class A mishap-free months		
38	33 TFW	(F-15) Eglin AFB, FL
36	366 TFW	(EF/F-111) Mtn Home AFB, ID
35	49 TFW	(F-15) Holloman AFB, NM
34	67 TRW	(RF-4) Bergstrom AFB, TX
20	355 TTW	(A-10) Davis-Monthan AFB, AZ

TAC AIR DEFENSE		
class A mishap-free months		
109	48 FIS	(F-15) Langley AFB, VA
68	318 FIS	(F-15) McChord AFB, WA
18	49 FIS	(F-106) Griffiss AFB, NY

TAC-GAINED FTR/RECCE		
class A mishap-free months		
160	138 TFG	ANG(A-7) Tulsa, OK
137	114 TFG	ANG(A-7) Sioux Falls, SD
123	180 TFG	ANG(F-7) Toledo, OH
115	124 TFG	ANG(RF-4) Boise, ID
101	108 TFW & 155 TRG	

TAC-GAINED AIR DEFENSE		
class A mishap-free months		
142	177 FIG	ANG(F-106) Atlantic City, NJ
108	125 FIG	ANG(F-106) Jacksonville, FL
91	119 FIG	ANG(F-4) Fargo, ND
75	107 FIG	ANG(F-4) Niagara Falls, NY
66	147 FIG	ANG(F-4) Ellington ANG, TX

OTHER TAC/-GAINED UNITS		
class A mishap-free months		
201	182 TASG	ANG(OA-37) Peoria, IL
185	110 TASG	ANG(OA-37) Battle Creek, MI
181	USAFTAWC	(many fighters) Eglin AFB, FL
173	84 FITS	(T-33) Castle AFB, CA
115	552 AWACW	(E-3, EC-130) Tinker AFB, OK

CLASS A MISHAP COMPARISON RATE

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

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TAC	1986	4.8	6.8	5.4	4.6								
	1985	3.2	3.4	2.7	2.4								
ANG	1986	4.8	2.5	3.1	2.3								
	1985	4.8	4.8	3.0	4.3								
AFR	1986	0.0	0.0	0.0	0.0								
	1985	0.0	0.0	0.0	0.0								

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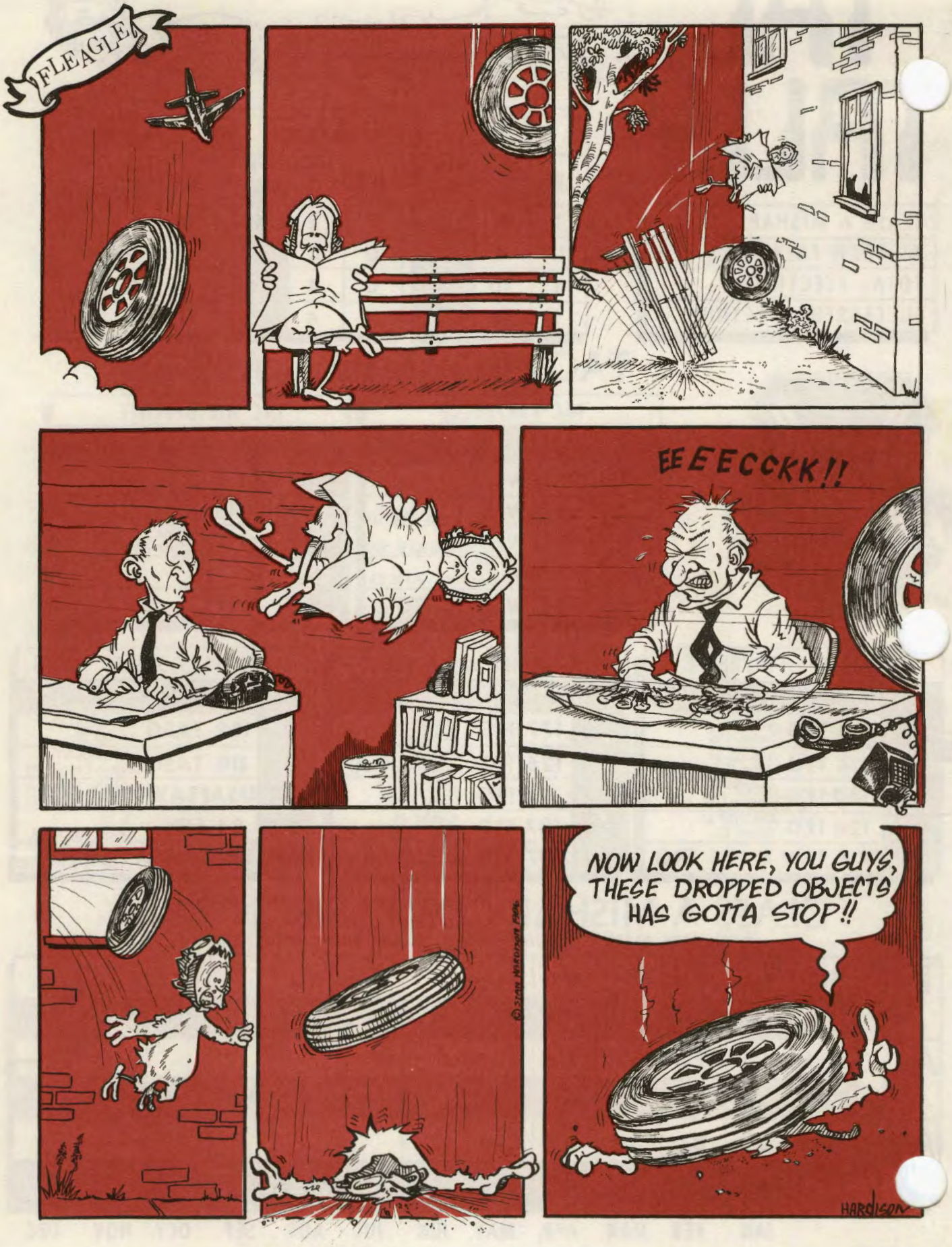
FLEAGLE
EEEECCKK!!
NOW LOOK HERE, YOU GUYS, THESE DROPPED OBJECTS HAS GOTTA STOP!!
HARDISON