

THE COMBAT EDGE

JULY 1992





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ACC SP 127-1

VOLUME 1

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ABOUT THE COVER

The selection of the name "Thunderbirds" by the Air Force's air demonstration team was a natural choice. When the team was first formed in 1953, it was based near Phoenix, Arizona, an area rich in Indian lore. Their stylized logo of the Thunderbird -- in traditional red, white, and blue -- echoes our national colors.

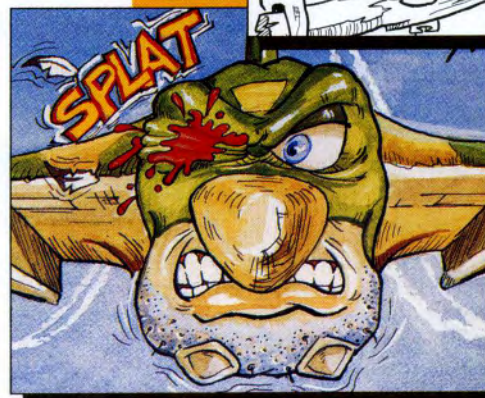
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Air Combat Command
Safety Magazine

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ACCent on Safety

Colonel Bodie R. Bodenheim
Chief of Safety

Summer is here, and with it comes the many activities families, friends, and coworkers enjoy. It's quite a switch to be on the job one day and vacation the next. Sometimes, there's the temptation to do too much too soon. When we try to wring the last drop of enjoyment out of every situation, we may ruin the good times by overexerting ourselves. In addition to the fun things, there are the inevitable PCS moves, TDYs, deployments, and exercises. It may not seem to be, but the summer season is typically long enough so that there's plenty of time to enjoy everything. We should plan our on- and off-the-job activities and vacations accordingly.

More people will be traveling during the summer. Ensure our people who go on leave, PCS, or even TDY receive a special safety reminder. Topics such as pre-trip planning, seat belt use, and the dangers of speed, fatigue, and alcohol should be emphasized.

Sunburns are often an undesirable by-product of summer fun. To avoid ruining a perfectly planned vacation, watch your exposure time and use sunscreen lotions for added protection. Remember, you can get a sunburn whether the sun is shining or not.

Water activities such as boating, water skiing, swimming, fishing, scuba diving, and snorkeling are all popular summer endeavors. Ensure our people know what they are doing and are properly equipped. Again, the dangers of mixing alcohol with these water activities should be emphasized. Our last two off-duty fatalities were boating mishaps.

Most sports contain some element of danger, but preparation, warm up, and the right equipment can minimize the danger. Sports often involve a great deal of personal exertion, physical contact, and quick decisions followed by fast action. Mishaps most often occur in the heat of battle. If we try to go from couch potato to super star without some sort of conditioning program, there's a good chance we're going to hurt ourself. Watch out for over-exuberance, over-exertion, and heat exhaustion.

For the fliers, this is the time of year when thunderstorms and sudden rains are a fact of life in many parts of the country. Coping with the adverse weather, winds, and lightning while airborne is not the end of it. Remember the moisture that's waiting for you on the runway when you return to base or divert. Hydroplaning is a real possibility. When in doubt, don't hesitate to put the tailhook down if you have that option.

Summer is a time for enjoyment, relaxation, and fun. With a little bit of forethought, planning, and common sense it will stay fun.



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Contributions, comments, and criticisms are welcome. Write: Editor, *The Combat Edge*, HQ ACC/SEP, Langley AFB, VA 23665-5563, or call DSN 574-3658/commercial (804) 764-3658. The editors reserve the right to edit all manuscripts for readability and good taste.

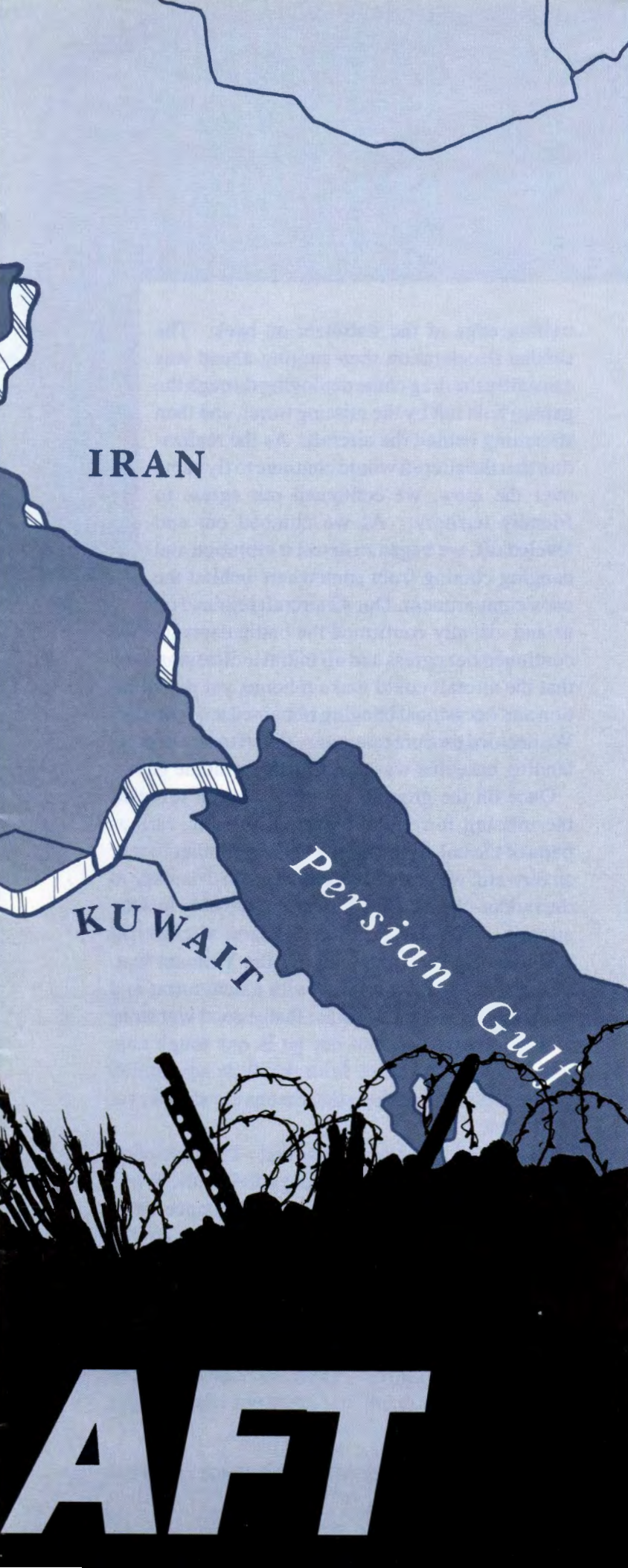
Distribution: F(X). OPR: HQ ACC/SEP. Distribution is controlled through the PDO, based on a ratio of one copy per 10 persons assigned. Air Force units should contact their base PDO to establish or change requirements. DOD units other than USAF have no fixed ratio; requests will be considered individually by the OPR. Subscriptions for readers outside DOD are available for one year at \$17 (domestic) and \$20.25 (outside the U.S.) from the Superintendent of Documents, Government Printing Office, Washington D.C. 20402. All non-DOD correspondence on subscription service should be directed to the Superintendent, not to HQ ACC/SEP.

The Combat Edge (ISSN 0494-3880) is published monthly by the Air Combat Command, HQ ACC/SE, Langley AFB, VA 23665-5563. Second-class postage paid at Hampton, VA and additional mailing offices. Postmaster: Send address changes to *The Combat Edge*, HQ ACC/SEP, Langley AFB, VA 23665-5563.

*By Captain Bob Deasy
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FLY THE AIRCRAFT



A B-52 DESERT STORM MISSION

Did you know that you can hear AAA exploding outside the aircraft if it's close enough? In over 3,000 hours and 9 years of flying, there aren't many sounds that have penetrated my ears above the din inside a B-52. We were flying near the limit of performance at 400 feet Above Ground Level (AGL), and the explosions and shock waves that rocked the airplane were unmistakable.

The mission was to take out a POL facility in Iraq. We flew a low level ingress as lead in a cell of three. As we turned IP inbound, we were already configured for release.

All the NAV and I had to do was kill the timing, aim the offsets, and avoid the ground. As we turned down the river valley that approximated our ground track, search lights along a road that paralleled the river swiveled skyward. At about 90 seconds TTG (Time to Go), the search lights found us and the AAA

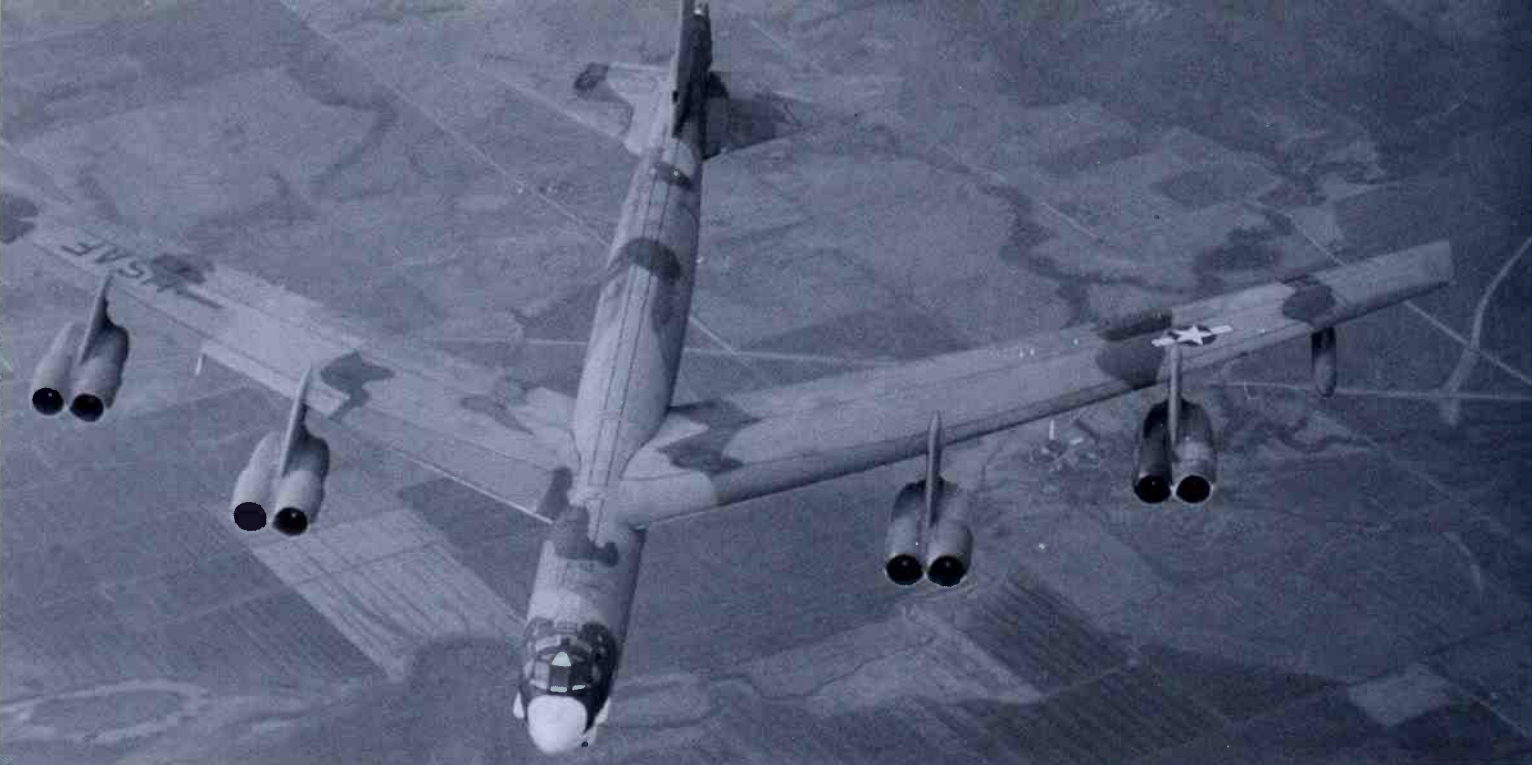
began. At first it seemed more distant with an explosion coming every 4 to 5 seconds. As we passed 60 TTG, the intensity of the ground fire increased -- an explosion every 1 to 2 seconds I'd say. Then we flew into a layer of fog that blanketed the river valley and the target. The night sky absolutely erupted with fire and explosions. The AAA was continuous, and I couldn't distinguish one blast from the next. The Steerable Terrain Avoidance System was stowing and unstowing from the flashes, and the shockwaves were hitting the aircraft from all sides.

Three out of 4 offsets showed well, and the target was a boomer on the scope. Our timing was right on and our track was within two degrees of planned. Not bad for all the maneuvering we were doing as we dodged the AAA. The TTG finally reached zero, and our full load of 750-pound M-117R's left the aircraft with a shudder. The enemy defensive fire continued until about 30 seconds past the target, gradually diminishing as we egressed. We continued to exit Iraq and were about 3 to 4 minutes out from the target when the aircraft was rocked by a single explosion. My head was thrown against my headrest, and the inertia reels of the EW and Gunner were locked by the force of the impact. "We're hit, we're hit," came the calls over the interphone. After the initial impact and being thrown backward in my seat, I felt a sudden deceleration and thought that we had lost most, if not all, of our engines. Then, just as quickly, the aircraft surged ahead. Unknown to the crew initially, we had lost the entire turret section of the aircraft from about 1 foot behind the

trailing edge of the stabilizer on back. The sudden deceleration then surging ahead was caused by the drag chute deploying through the gaping hole left by the missing turret, and then streaming behind the aircraft. As the realization that the aircraft would continue to fly came over the crew, we continued our egress to friendly territory. As we climbed out and leveled off, we began to detect a vibration and banging coming from somewhere behind the crew compartment. Our #2 aircraft rejoined on us and visually confirmed the battle damage. We continued our egress and all initial indications were that the aircraft could make it home, yet the vibration and occasional banging remained unidentified. We decided on a precautionary divert to an alternate landing base that was closer than our home base.

Once on the ground, visual inspection revealed the missing turret and shrapnel holes in various parts of the tail. If the blast had been another foot or so forward, we probably would have had damage to the rudder-elevator hydraulics and possibly lost the aircraft. I later learned that this same aircraft had sustained SAM damage during the Vietnam war. The aircraft will be refitted with a new turret and returned to service. So, other than a good war story and the knowledge that our jet is one tough customer, what did I learn from this little adventure? After all is said and done the lessons are simple, yet profound.

First of all, the training works! The discipline learned from training sorties pays dividends. When you have the chance to maximize or enhance training, take it. Challenge yourself in your job, so that your job is second nature. This discipline will carry you through when fear comes knocking on your door. The discipline gained through training keeps fear in check. Mind you, a little fear is healthy. It focuses your abilities. There are things we can change to enhance and maximize our training; and



these changes will come, but rest assured your training works.

Second, I have been guilty of underestimating the AAA threat -- not so much the radar directed variety, but the optically guided/barrage kind. There were 11 batteries in the target complex alone. We were maneuvering aggressively, but with that volume of fire it isn't a question of if you're going to be hit, but when. We were lucky that the gunners on the ground weren't that good and that the weather cloaked us to some degree. By the same token, being in IMC at 400 feet, we were unable to tell where the AAA was coming from, so we were simply performing random maneuvering. It works both ways. The lesson is to plan your training low level with many simulated AAA batteries and continuous maneuvering on the bomb run; and the next time the EW calls AAA at an STR, think about how you'll react.

Third and perhaps the simplest: Fly the plane. At low level, ground avoidance is a full-time job (especially challenging while under fire). Make sure at least one person upstairs and downstairs is actively working terrain avoidance. Radar Navs, this means getting your navigators to call terrain now and then so they automatically pick it up as you're aiming at offsets. Do not allow yourself to get distracted from this task. Even with thousands of hours of experience inside the aircraft, the terrain avoidance job demands someone's full time attention, especially when someone outside the aircraft is actively trying to kill you.

I found war terrifying and challenging all at once -- I hope I never see another one. But because of our training, I know that we're ready. As always, we can only hope that being ready is enough to prevent the next one. □

Even with thousands of hours of experience inside the aircraft, the terrain avoidance job demands someone's full time attention, especially when someone outside the aircraft is actively trying to kill you.

Capt Walt Anderson
4315 CCTS
Vandenberg AFB CA

SAFETY

Means success

When I decided to become a missilier almost a decade ago while in AFROTC, I had no idea of the magnitude of responsibility crew duty entailed. Upon my initial assignment to the crew force, I realized the nature of the destructive power that was entrusted to me and, like all missiliers, hoped I'd never have to use it. With the prospect of a second crew tour on the horizon for me, I recently took some time to reflect on my previous crew experience. Robert Wyckoff's poem, **Missileer**, generally summarizes missile duty the way I remember it, although he failed to mention code change, foil packs, and late-night missile procedures trainer rides. Indeed all missiliers may think of Wyckoff's poem as their own--as a kind of bonding element to the crew fraternity. Another aspect of crew duty we can all relate to is the Predeparture Briefing and some "Safety" words. Success as a crew member is due to a number of different reasons, but probably the most important reason is safety awareness.

One measure of safety we should all be aware of is missile safety. The Discovery Channel is carried by most cable systems and, occasionally, will run a program on rocketry or ICBMs. For some reason, the test rockets that explode in flames always get more "air" time than those that are successful. As viewers, we may only speculate on the reasons for these fiery mishaps as the narrator never explains why the missiles fail. Considering the various fuels, engines and boosters of missiles, we understand it is a challenging business. Again, the test launches I alluded to were most likely under optimum conditions for the day. An explosion at an operational launch facility (LF) today would be an utter catastrophe resulting in degraded alert capability as well as loss of a multi-million dollar weapon. In addition, the potential for releasing toxins into the air or water is another, perhaps even greater, threat to the environment and local communities. These consequences compel both operators and maintainers to ensure strict compliance with technical order safety precautions to avoid missile mishaps and disasters. Those of us in the missile field are not always working with ideal weather conditions or time constraints, so we live safety at all times.

Another area of concern is personnel safety. Missile crews are



LETY

cess to me

remotely located from the LFs for which they have responsibility and have limited capability to monitor maintenance activity. Although the missile crew's ability to oversee the maintenance activity is impeded, they are not relieved of monitoring personnel safety. Once, while on a particularly busy alert, I received status indications for the presence of sulfur dioxide at a manned LF. Sulfur dioxide is related to the Minuteman Extended Survival Power (MESP) battery system and is extremely toxic. I quickly notified the maintenance team of the situation and, fortunately, their tests revealed the indication was false. My urgent reaction and the team's expert ability in testing for hazardous toxins ensured their safety and allowed them to continue with their important work. Remember, the ultimate responsibility for ensuring maintenance teams comply with safety rests with the capsule crew.

Finally, we must ensure our own safety. We are all extremely vital assets to the missile business, and personal safety is the responsibility of each individual. Whether preparing to go on alert or to field dispatch, allow yourself plenty of time to arrive at work safely. Hazardous winter driving conditions may exist on the roads between the base and your LF/LCF and accidents most often occur on the way to/from work. Use extreme caution when driving government vehicles because, chances are, the vehicles performance and maintenance history will be unfamiliar to you. On the drive out for one alert, I saw a wheel come off of a crew vehicle ahead of me. Apparently the lug nuts had not been properly tightened. Had the vehicle been moving at a faster speed, this mishap may have ended in personal injury or death.

As I look back on my first crew tour, I suspect it was filled with many of the same events that have or will happen to many of you. I managed to survive all of those things we associate with the rigors of crew duty as, hopefully, will all of you. Little did I know ten years ago that I would be considering a second crew tour, but at least I am already aware of the responsibilities inherent in day-to-day crew duty. If given the opportunity to pull alert again, I don't expect crew life will be much different than before, as long as I continue to remember...safety and mission go hand in hand. □



Maj Ed Brownstein
HQ ACC/SEF
Langley AFB VA

Who's in

We have suffered a rash of midair collisions over the past year. When we try and tackle the question of why, we attempt to find some common threads in all of them. A study of all midairs in the TAF since 1986 showed that every one of the Class B and C midairs occurred during some sort of administrative phase of flight. The Class A mishaps were split fairly equal between administrative and tactical phases of flight. Another common factor in many of these mishaps was confusion as to who was in charge.

One of the first things I was taught at flight school was the importance of identifying who is in charge. Every pilot remembers learning, well before the first flight, "the shaker is the taker" for transferring aircraft control. At the time, I thought this was something that could be forgotten once I got to my single seat fighter. Of course, this was not to be. The concept of who's in charge during formation flight is extremely critical. It seems like such a simple idea -- only one person can be in charge at a time. Unfortunately, we still experience breakdowns in this concept and it sometimes leads to disastrous results.

We recently lost a fighter aircraft as a result of a midair collision with a tanker aircraft. The aircraft was one of several fighters being escorted by two tanker aircraft during an ocean crossing. After one of the refuelings, the fighters were transferred from one tanker to the other. The tankers were preparing to separate their formation so that one of them could leave for another destination. Unfortunately, it was not a proper and decisive formation breakup. Many things went wrong, but the bottom line is that both tankers thought the other was responsible for aircraft separation. One of the tankers flew across the formation and struck one of the fighters flying on the wing of the other tanker.

How can something as simple as a formation breakup go so wrong and have such disastrous consequences? This simple-sounding procedure has been a longtime problem that has plagued formation flying and has been the cause of many midair collisions. With the rash of recent midairs, maybe it is time for everyone to review formation breakup procedures. I won't bother to do that here, nor will I offer clever new procedures or techniques. What we have works when it is exercised properly. It's one of those routine procedures we do almost every flight, but sometimes fail to give the proper significance. Formation breakups have got to be decisive, clearly understood, and done by the book. If you are unsure of your present formation status -- ask! Never make the assumption that the

Charge?

other party knows what's going on until you have a definite verbal or visual acknowledgement.

There are many other times when the lack of a clear understanding of who's in charge can get us in trouble. BFM/ACT has some obvious pitfalls as does flying coordinated attacks with another flight. A less obvious situation is during upgrade sorties when the IP flies as a wingman. The IP must always remember that although the upgrade lead is calling the shots, the IP has ultimate responsibility for the safe outcome of the flight. A breakdown of this responsibility resulted in another of our recent midairs.

The mishap flight was a flight of two A-10s. The mission was a flight lead upgrade checkride for number one with the squadron operations officer as number two. The upgrading flight lead was considered one of the best of the younger squadron pilots, and number two was a highly experienced instructor pilot. The mishap flight appeared to have gone smoothly until both pilots lost sight of each other during an egress from a simulated attack. Several things went wrong at this point. Had they both applied the established procedures for loss of visual contact, there wouldn't have been any problem. The upgrading lead, however, did nothing to ensure separation. Just as important though, the IP did not step in and do what had to be done. He continued to let the upgrading flight lead call all the shots, even when the upgrader failed to do what was necessary. The IP failed to remember who was ultimately in charge. The IP should have taken command and ensured altitude deconfliction until visual contact could be regained. Unfortunately, in this instance the "big sky" theory failed and we lost two good pilots and two combat assets.

Both of the incidents I have described had common threads. In both mishaps there was a failure of all participants to realize or remember who was in charge. Both of these happened in the past year. Some of you might be saying that confusion was also evident in both of the described mishaps and you are right. Confusion, however, is a result and not a cause. Confusion occurs when it is not clear who is in charge. I could point to many more mishaps where this seemingly simple concept has been the root cause. While we struggle to come to grips with a recent string of midair collisions, it would do us all well to sit back and think of our own responsibilities in the flight and how we safely transfer these responsibilities when necessary. □

MYTHS

that may make you drown

Drowning is a preventable tragedy. One thing you can do is become aware of and help dispel some of the water safety myths that can kill you. Try this true/false quiz to test your knowledge of some common water safety myths.

1. Drowning victims will wave frantically while they yell for help.

False. Breathing is the drowning victim's main concern, so speech and yelling for help become secondary, if not impossible, during the short periods that the head is above water. A drowning victim will thrash the arms in a pattern like an upward breast stroke, causing him or her to bob vertically in the water. The head is tilted back. The mouth is open, but only rarely is the victim able to yell for help.

2. Wait at least 30 minutes after you have eaten to swim.

False. Overeating before any strenuous exercise is dangerous, but a moderate amount of food before you swim will keep you warm and provide energy.

3. If your boat capsizes, leave it and swim to the nearest shore.

False. Most boats won't sink even when over-

turned. If you stay with the capsized boat, you'll have something to help keep your head above water and be easier for rescuers to spot.

4. A drunken person will sober immediately when he or she hits water.

False. Once you've consumed alcohol, nothing but time will sober you. Alcohol affects both the muscles and the brain.

5. If you fall into the water with your clothes on, take them off so they won't weigh you down.

False. Water doesn't weigh more than water. In other words, the water that fills your clothes does not increase your weight in the water. In fact, clothes can actually help you float. The more layers of clothing you wear, the more you are supported by the air trapped in the clothes. Just float on your back and don't struggle. Clothes also keep you warmer in cold water. And if you keep your clothes on, you won't use precious energy in the struggle to get the clothes off. □

GIBS STRIKES AGAIN

"I've seen this done a hundred times, and I was trying to save us time and avoid asking for help," said GIBS.

Sadly, this is how people respond to investigators when asked, "Why did you do that?" The most recent incident goes like this.

Four security police members were assigned to be the bad guys during an exercise. They were issued 29 ground burst simulators (GBS), slap flares, 5.56 and 7.62 blank ammunition. Armed to the teeth, they were turned loose for the 2-day exercise. Twenty-two of the GBSs failed to function, 20 in one day.

After the exercise, a security team member collected the duds and began disposing of them. Disposal consisted of cutting the container open with a knife and scattering the explosive material over a broad area with the help of the wind (an approved method I'm sure!). When he had disposed of

all but 2, he decided to have an explosives demonstration.

The demonstration consisted of cutting open the GBSs and forming a trail with the contents. To make a fuse, he took a 7-inch piece of string and sprinkled it with some of the GBS contents. With the demonstration set, he ignited the fuse and the PHOTOFLASH ignited, as its name implies, with a flash. He received second degree burns to his face, arms and one leg. This demonstration successfully conveyed to the individuals watching that explosives are dangerous.

Why did this happen? Prior years of experience exercising with GBSs and observing GBS disposal operations by trained Explosives

**SMSgt Denis Jones
HQ ACC/SEW
Langley AFB VA**

Ordnance Disposal (EOD) personnel strongly influenced the decision-making process. Although they had taught weapons safety and knew disposal operations were EOD's responsibility, they believed they were qualified to dispose of the dud GBSs. In actuality, their lack of training and knowledge of explosives allowed them to create an unauthorized demonstration, resulting in personnel injuries. Don't fall into a similar trap! Be sure explosive disposal is handled by EOD personnel. And watch out for GIBS.

EXERCISE REALISM

and training munitions

Capt David D. Adolf
HQ PACAF/SEW
Hickam AFB HI

We are always looking for ways to simulate and interject realism into our exercise scenarios. One way of doing that is the use of ground burst simulators (GBS) and smoke producing devices. While they do add to the combat atmosphere, they are as dangerous as the real thing if not handled properly.

Because they are "training munitions," they are often perceived as Non-Hazardous. However, many incidents prove the opposite; from third degree burns to hearing loss; shattered windows to lost fingers; you shouldn't take "training munitions" for granted.

AFR 127-100, Explosives Safety Standards, paragraph 2-17, establishes the requirements to be followed when using smoke grenades, flares, and ground burst simulators.

First, you must be trained. Only

individuals who have received training IAW AFR 127-2 are allowed to handle, transport, and activate these devices. Secondly, smoke grenades, smoke pots, and flares give off a dense smoke and, when inhaled in high concentrations, can be very toxic. They also present a significant fire hazard. Finally, the GBS presents a blast hazard to personnel, vehicles, and facilities. AFR 127-100 sets certain restrictions for use with GBSs. The area surrounding the location where the GBS is to be thrown will have a 10-foot radius free of combustibles. A GBS, because of its fragmentation characteristics, will not be initiated within 125 feet of any person, vehicle, or building with facing windows. Likewise, the following distances must also be maintained when actuating GBSs: 100 feet from a building without windows; 100

feet from POL storage; 100 feet from aircraft in the open; 200 feet from explosives loaded aircraft; 200 feet from explosive operating locations and open storage.

Whether at Base X or in the munitions storage area, procedures must be followed for the safe handling and transportation of smokes and GBS. After expending the GBSs or smoke, the residue will be allowed to cool and then picked up for proper disposal.

If you suspect a dud or if a simulator or smoke does not function, mark the item's location and call EOD. Remain in the area to keep all personnel away until EOD properly disposes of the malfunctioning item.

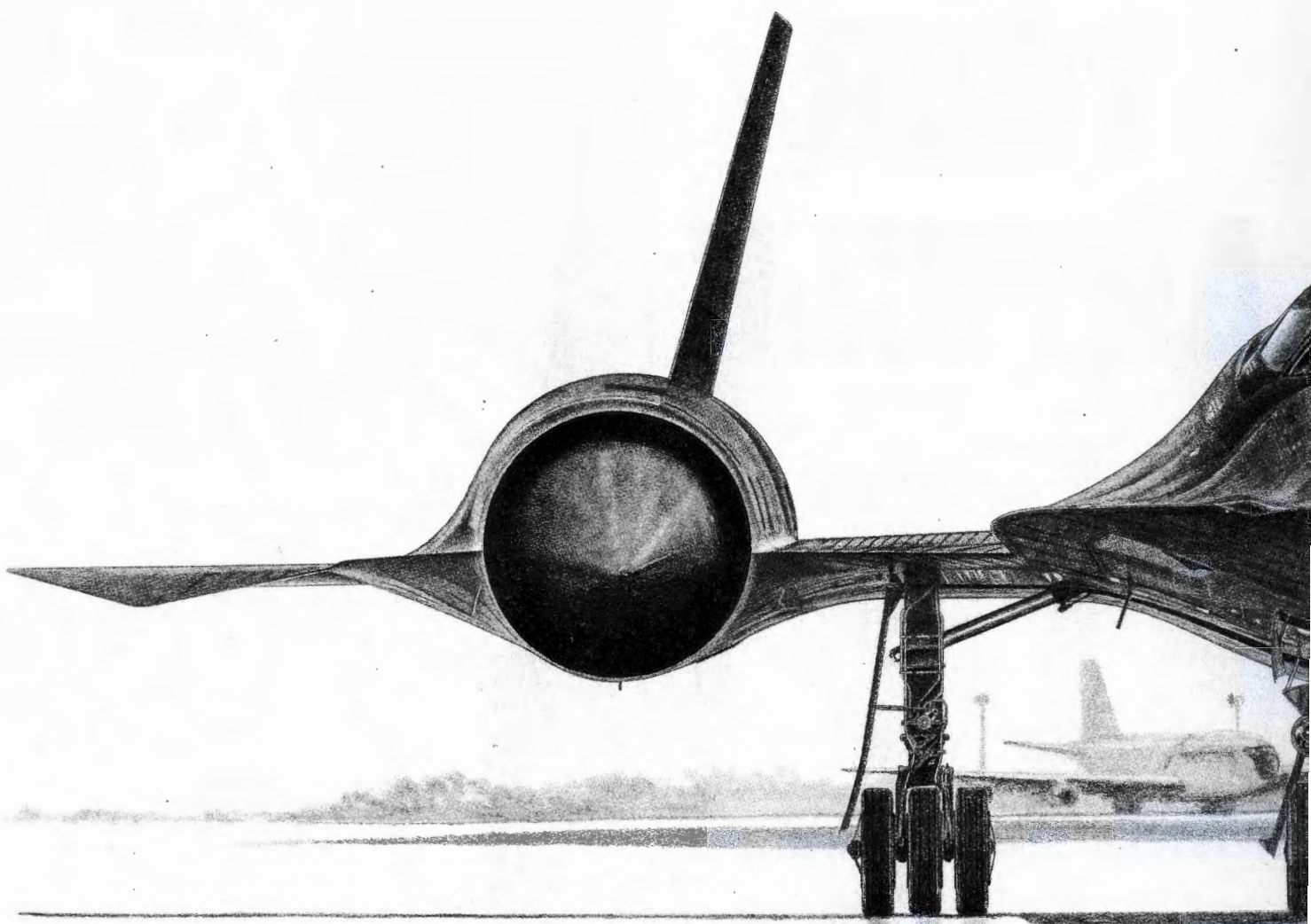
While we want as much realism in our exercise scenarios as possible, we must ensure only qualified personnel use and activate training munitions. □

I WANT YOUR ARTICLE

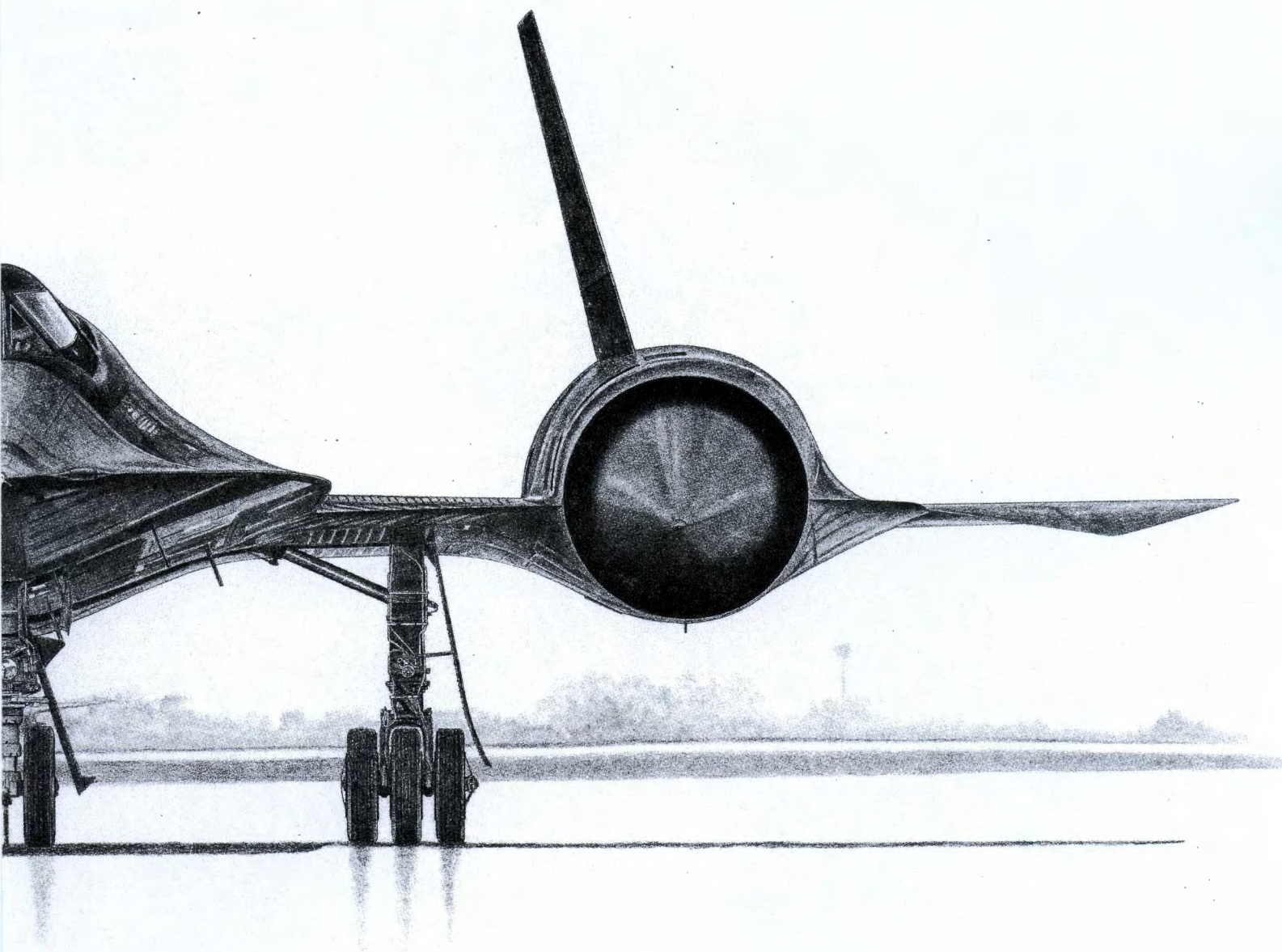


**There are thousands
of stories out there
in Air Combat Command.
Send them to me.**

**Editor, *The Combat Edge*
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SR-71 Joe Plummer, 1989 ©





Boating
Doing it Safely

Mr Mike Mehalko
HQ ACC/SEG
Langley AFB VA

Regardless of how good a swimmer you are, if you are struck by a moving boat or its propeller, you most likely will be injured or totally incapacitated and unable to help yourself. A Personal Floatation Device may save your life and give rescuers enough time to bring you back on board.

Two recent mishaps highlight the need to emphasize the use of Personal Floatation Devices (PFDs) and proper seating when boating. In both mishaps an individual was ejected from a moving boat. In the first mishap, the operator lost control of the boat while operating at cruise power. The boat went into a spin and the mishap individual, standing in the rear of the boat, was thrown overboard. The spinning boat then passed over him and the propeller struck his upper body. The individual went under, and personnel were unable to locate him for several days. In the second mishap, the individual was riding the bow of the boat when it hit a wave, and he was thrown into the water. The operator stopped the boat and jumped into the water to help the individual. The mishap individual panicked and began fighting the rescuer, causing both of them to go under. The rescuer broke free and came to the surface and asked for help. A second person jumped in but could not locate the mishap person, who was found the next day by search and rescue personnel.

In each of these mishaps, PFDs were available in the boat but not used. Although we may not be

required to wear PFDs at all times, it would certainly be prudent to wear one in a moving boat. Had these individuals been wearing a PFD, they would most likely be alive today. Riding in a boat without proper seating is just plain risky. There are just too many instances where you can lose your balance or grip and be thrown into the water. You then add the risk of being struck by the boat. In congested waters, there's also the chance of being hit by another boat. Personnel need to be in a proper seat whenever the boat is underway. When sitting on surfaces such as the bow or standing in the rear of the boat, you are at risk. Should the boat encounter rough water, the wake of another boat or have to make a sudden turn, your chances of being thrown overboard are greatly increased. In both mishaps, the individuals were known to be good swimmers. Regardless of how good a swimmer you are, if you are struck by a moving boat or its propeller, you most likely will be injured or totally incapacitated and unable to help yourself. In these situations, a properly worn PFD may save your life and give rescuers enough time to bring you back on board.

In addition to a PFD for each person, every boat should have a ring life buoy that can be thrown to an individual in the water. This will help keep the individual afloat until they can be brought on board. By doing this, you do not risk another person in the water. Something to remember while pulling up to or alongside a person in the water is to place the transmission in neutral to avoid possible injury from a turning propeller.

As with any activity, the more boating you do the more proficient you become. Training by the US Coast Guard Auxiliary will also provide valuable information you need to safely operate a boat. We encourage this training because individuals who attempt self-learning or learning from a friend may pick up incorrect habits.

The question of who's in charge or who is responsible in case of a boating mishap may vary from state to state. However, in most states, the operator is responsible for damage and/or injuries caused by his/her negligence. The owner can be cited if he/she knowingly allows a person who is impaired by drugs/alcohol to operate his/her boat and he/she causes injury or damages. If operating a vessel on navigational waters under the jurisdiction of the Coast Guard (CG), you must submit a written report within 48 hours to your CG district headquarters if, as a result of an accident, a person dies, disappears from a vessel, or is injured and requires treatment beyond first aid. In addition, a written boating accident report must be submitted within 10 days if a vessel is lost or damage to the vessel or other property exceeds \$200. Public Law 92-75, Federal Safe Boating Act, was signed into law in 1971 and

In the "We Care" initiative, we ask that if you intend to drink alcohol, get someone who doesn't drink to be a "Designated Driver." The same applies while operating a boat; someone should be the "Designated Operator."

provides for fines up to \$1,000 and imprisonment of not more than one year for the criminal offense of reckless or negligence operation of a vessel which endangers the life or property of any person. Local laws may vary. As the old saying goes, "Ignorance of the law is no excuse."

We strongly recommend that you know the laws which apply to you before you operate your vessel on any waterway.

We all know about "Drinking and Driving" laws, right? Did you know that all 50 states have an "Operating Under the Influence (OUI)" law for boat operations? (See page 21.) As with operating a vehicle, the operator of the boat should not consume alcohol. In the "We Care" initiative, we ask that if you intend to drink alcohol, get someone who doesn't drink to be a "Designated Driver." The same applies while operating a boat; someone should be the "Designated Operator."

The operator is responsible for ensuring passengers are seated when underway, the boat capacity is not exceeded, and PFDs are worn as required. The fact that you are a good swimmer should not be the determining factor as you may be injured or incapacitated and unable to help yourself.

Recreational boating, swimming, etc., should be fun and relaxing. Don't place yourself or others in the boat at risk. You should always be prepared for the unexpected. You may be the safest operator on the water; but, just as on roads, there are others who may not be "safe" operators. The summer months are here; let's enjoy them, relax and have fun, but not place ourself or others at risk. □









SUMMARY OF STATE "OUI" BOATING LAWS









SEPTEMBER 1991

	BLOOD ALCOHOL CONCENTRATION STANDARD	BEHAVIORAL STANDARD	FIELD TEST METHODS DEFINED	IMPLIED CONSENT LAW	MAXIMUM PENALTIES FIRST OFFENSE	SUSPEND OPERATOR PRIVILEGE
ALABAMA	-	NO	NO	NO	\$500/6 MOS.	YES
ALASKA	.10	NO	NO	NO	\$500/6 MOS.	NO
ARIZONA	.10	NO	YES	YES	\$1000/6 MOS.	NO
ARKANSAS	-	YES	NO	NO	\$500/6 MOS.	NO
CALIFORNIA	.08	NO	YES	NO	\$1000/6 MOS.	NO
COLORADO	.10	YES	YES	YES	\$1000/6 MOS.	YES
CONNECTICUT	.10	NO	NO	NO	\$1000/1 YR.	YES
DELAWARE	.10	NO	NO	YES	\$1000/16 MOS.	YES
FLORIDA	.10	YES	YES	YES	\$500/6 MOS.	YES
GEORGIA	.10/.12	YES	YES	YES	\$1000/1 YR.	NO
HAWAII	-	NO	NO	NO	\$2000/1 YR.	YES
IDAHO	.10	NO	NO	NO	\$300/30 DAYS	YES
ILLINOIS	.10	YES	YES	YES	\$1000/1 YR.	YES
INDIANA	.10	YES	YES	YES	\$500/6 MOS.	YES
IOWA	-	YES	YES	NO	\$1000/1 YR.	NO
KANSAS	.10	NO	YES	NO	\$500/1 YR.	NO
KENTUCKY	-	NO	NO	NO	\$100	NO
LOUISIANA	.10	NO	YES	YES	\$500/6 MOS.	YES
MAINE	.08	YES	YES	YES	\$500/6 MOS.	NO
MARYLAND	.07/.10	NO	YES	NO	\$500	NO
MASSACHUSETTS	.10	NO	YES	YES	\$500/6 MOS.	NO
MICHIGAN	.10	YES	NO	NO	\$500/90 DAYS	YES
MINNESOTA	.10	YES	YES	YES	\$700/90 DAYS	YES
MISSISSIPPI	-	NO	NO	NO	\$250/30 DAYS	NO
MISSOURI	-	NO	NO	NO	\$500/6 MOS.	NO
MONTANA	.10	NO	YES	YES	\$500/6 MOS.	NO
NEBRASKA	.10	NO	YES	YES	\$1000/6 MOS.	YES
NEVADA	.10	NO	YES	YES	\$1000/6 MOS.	NO
NEW HAMPSHIRE	.10	NO	YES	YES	\$1000/1 YR.	YES
NEW JERSEY	.10	NO	NO	YES	\$1000/6 MOS.	YES
NEW MEXICO	-	NO	NO	NO	\$500/30 DAYS	NO
NEW YORK	.10	NO	YES	NO	\$350	NO
NORTH CAROLINA	.10	NO	NO	NO	\$500/6 MOS.	NO
NORTH DAKOTA	.10	YES	NO	YES	\$500/30 DAYS	YES
OHIO	.10	YES	YES	YES	\$1000/1 YR.	YES
OKLAHOMA	-	NO	NO	NO	\$1000/6 MOS.	NO
OREGON	.08	YES	NO	YES	\$2500/1 YR.	YES
PENNSYLVANIA	.10	NO	YES	YES	\$5000/90 DAYS	YES
RHODE ISLAND	.10	NO	NO	YES	\$1000/1 YR.	YES
SOUTH CAROLINA ⁵	.10	NO	NO	NO	\$200/30 DAYS	YES
SOUTH DAKOTA	-	NO	NO	NO	\$1000/1 YR.	NO
TENNESSEE	.10	NO	NO	YES	\$2500/1 YR.	YES
TEXAS	.10	YES	NO	YES	\$1000/6 MOS.	NO
UTAH	.08	NO	YES	YES	\$1000/6 MOS.	YES
VERMONT	.10	YES	NO	YES	\$750/1 YR.	YES
VIRGINIA	.10	NO	NO	YES	\$1000/1 YR.	YES
WASHINGTON	.10	NO	NO	NO	\$1000/90 DAYS	NO
WEST VIRGINIA	-	NO	NO	NO	\$300/90 DAYS	NO
WISCONSIN	.10	NO	YES	YES	\$200	NO
WYOMING	.10	NO	NO	NO	\$750/6 MOS.	YES
AMERICAN SAMOA	-	NO	NO	NO	\$1000/1 YR.	YES
DC	-	NO	NO	NO	\$300/10 DAYS	NO
CNMI	-	NO	NO	NO	\$1000/1 YR.	YES
GUAM	-	NO	NO	NO	\$1000/1 YR.	YES
PUERTO RICO	.10	NO	NO	NO	\$500/2 MOS.	NO
VIRGIN ISLANDS	.10	NO	YES	YES	\$1000/1 YR.	NO

NOTES:

1. Unlawful in all States to operate a vessel under the influence (OUI) of alcohol or drugs.
2. Blood Alcohol Concentration (BAC): Where the column shows two figures, this indicates the State has established progressively stiffer penalties for different levels of intoxication.
3. Implied Consent Law means that refusal of a boater to submit to a test for intoxication (e.g. breathalyzer, blood test, etc.) may be introduced in court as evidence of intoxication; and in some States, it may be considered as a separate offense.
4. Field Test Methods Defined means that the general method of determining blood alcohol concentration, or other standard of intoxication, is prescribed in the law or regulation.
5. Applies to operators in reportable accidents.

	DESCRIPTION	HABITAT	PROBLEM
 <p>CHIGGER</p>	Oval with red velvety covering. Sometimes almost colorless. Larva has six legs. Harmless adult has eight and resembles a smaller spider. Very tiny--about 1/20-inch long.	Found in low damp places covered with vegetation: shaded woods, high grass or weeds, fruit orchards. Also lawns and golf courses. From Canada to Argentina.	Attaches itself to the skin by inserting mouthparts into a hair follicle. Injects a digestive fluid that causes cells to disintegrate. Then feeds on cell parts. It does not suck blood.
 <p>BROWN RECLUSE SPIDER</p>	Oval body with eight legs. Light yellow to medium dark brown. Has distinctive mark shaped like a fiddle on its back. Body from 3/8 to 1/2-inch long, 1/4-inch wide, 3/4-inch from toe-to-toe.	Prefers dark places where it is seldom disturbed. Outdoors: old trash piles, debris and rough ground. Indoors: attics, storerooms, closets. Found in Southern and Mid-western U.S.	Bites producing an almost painless sting that may not be noticed at first. Shy, it bites only when annoyed or surprised. Left alone, it won't bite. Victim rarely sees the spider.
 <p>BLACK WIDOW SPIDER</p>	Color varies from dark brown to glossy black. Densely covered with short microscopic hairs. Red or yellow hour-glass marking on the underside of the female's abdomen. Male does not have this mark and is not poisonous. Overall length with legs extended is 1 1/2 inch. Body is 1/4-inch wide.	Found with eggs and web. Outside: in vacant rodent holes, under stones, logs, in long grass, hollow stumps and brush piles. Inside: in dark corners of barns, garages, piles of stone, wood. Most bites occur in outhouses. Found in Southern Canada, throughout U.S., except Alaska.	Bites causing local redness. Two tiny red spots may appear. Pain follows almost immediately. Larger muscles become rigid. Body temperature rises slightly. Profuse perspiration and tendency toward nausea follow. It's usually difficult to breathe or talk. May cause constipation, urine retention.
 <p>SCORPION</p>	Crablike appearance with clawlike pinchers. Fleshy post-abdomen or "tail" has 5 segments, ending in a bulbous sac and stinger. Two poisonous types: solid straw yellow or yellow with irregular black stripes on back. From 2 1/2 to 4 inches.	Spends days under loose stones, bark, boards, floors of outhouses. Burrows in the sand. Roams freely at night. Crawls under doors into homes. Lethal types are found only in the warmest desert-like climate of Arizona and adjacent areas.	Stings by thrusting its tail forward over its head. Swelling or discoloration of the area indicates a non-dangerous, though painful, sting. A dangerously toxic sting doesn't change the appearance of the area, which does become hypersensitive.
 <p>BEE</p>	Winged body with yellow and black stripes. Covered with branched or feathery hairs. Makes a buzzing sound. Different species vary from 1/2 to 1 inch in length.	Lives in aerial or underground nests or hives. Widely distributed throughout the world wherever there are flowering plants--from the polar regions to the equator.	Stings with tail when annoyed. Burning and itching with local swelling occur. Usually leaves venom sac in victim. It takes between 2 and 3 minutes to inject all the venom.
 <p>MOSQUITO</p>	Small dark fragile body with transparent wings and elongated mouthparts. From 1/8 to 1/4-inch long.	Found in temperate climates throughout the world where the water necessary for breeding is available.	Bites and sucks blood. Itching and localized swelling result. Bite may turn red. Only the female is equipped to bite.
 <p>TARANTULA</p>	Large dark "spider" with a furry covering. From 6 to 7 inches in toe-to-toe diameter.	Found in Southwestern U.S. and the tropics. Only the tropical varieties are poisonous.	Bites produce pin-prick sensation with negligible effect. It will not bite unless teased.
 <p>TICK</p>	Oval with small head; the body is not divided into definite segments. Grey or brown. Measures from 1/4-inch to 3/4-inch when mature.	Found in all U.S. areas and in parts of Southern Canada, on low shrubs, grass and trees. Carried around by both wild and domestic animals.	Attaches itself to the skin and sucks blood. After removal there is danger of infection, especially if the mouthparts are left in the wound.

SEVERITY	TREATMENT	PROTECTION	
Itching from secreted enzymes results several hours after contact. Small red welts appear. Secondary infection may follow. Degree of irritation varies with individuals.	Lather with soap and rinse several times to remove chiggers. Severe lesions may require an antihistamine.	Apply proper repellent to clothing, particularly near uncovered areas such as wrists and ankles. Apply to skin. Spray or dust infested areas (lawns, plants) with suitable chemicals.	 CHIGGER
In two to eight hours pain may be noticed followed by blisters, swelling, hemorrhage or ulceration. Some people experience rash, nausea, jaundice, chills, fever, cramps or joint pain.	Report to a doctor. Bite may require hospitalization for a few days. Full healing may take from 6-8 weeks. Weak adults and children have been known to die.	Use caution when cleaning secluded areas in the home or using machinery usually left idle. Check firewood, inside shoes, packed clothing and bedrolls--frequent hide-aways.	 BROWN RECLUSE SPIDER
Venom is more dangerous than a rattlesnake's but is given in much smaller amounts. About 5 per cent of bite cases result in death. Death is from asphyxiation due to respiratory paralysis. More dangerous for children; major reaction for adults is pain. Convulsions may occur.	Keep victim quiet and call a doctor. Do not treat as you would a snakebite since this will only increase the pain and chance of infection; bleeding will not remove the venom.	Wear gloves when working in areas where there might be spiders. Destroy any egg sacs you find. Spray insecticide in any area where spiders are usually found, especially under privy seats. Check them out regularly. General cleanliness, paint and light discourage spiders.	 BLACK WIDOW SPIDER
Excessive salivation and temperature rising to over 104° may follow sting. Convulsions, in waves of increasing intensity, may lead to death. First 3 hours most critical.	Apply tourniquet. Keep victim quiet and call ambulance immediately. Do not cut the skin or give pain killers. They increase the killing power of the venom. Antitoxin, readily available to doctors, has proven to be very effective.	Apply a petroleum distillate to any dwelling places that cannot be destroyed. Cats are considered effective predators as are ducks and chickens, though the latter are more likely to be stung and killed. Don't go barefoot at night.	 SCORPION
If a person is allergic, more serious reactions occur--nausea, shock, unconsciousness. Swelling may occur in another part of the body. Death may result.	Gently scrape (don't pluck) the stinger so venom sac won't be squeezed. Wash with soap and antiseptic. If swelling occurs, contact doctor.	Have exterminator destroy nests and hives. Avoid wearing sweet fragrances and bright clothing. Move slowly or stand still in the vicinity of bees.	 BEE
In some foreign countries, yellow fever, malaria, encephalitis and other diseases. Excessive scratching can cause secondary infections.	Resist scratching. Lather with soap and rinse to avoid secondary infection. Apply calamine lotion to relieve itching.	Destroy available breeding water to check multiplication. Place nets on windows and beds. Use proper repellents. Avoid activities at dawn & dusk. Take anti-malaria pills as directed.	 MOSQUITO
Usually no more dangerous than a pin-prick. Has only local effects.	Wash and apply antiseptic to prevent the possibility of secondary infection.	Harmless to man, the tarantula is beneficial since it destroys harmful insects.	 TARANTULA
Some species can transmit Lyme disease, Rocky Mountain spotted fever, tularemia, Colorado tick fever.	Gently grasp head & tug gently upward with tweezers so none of the mouthparts are left in skin. Wash with soap & water; apply antiseptic. Do not heat or squash tick on the skin.	Wear blouse, pant legs, & roll down sleeves when in brushy areas. Use proper repellents. Closely inspect & remove ticks attached to clothes & body at end of day.	 TICK

NOTHING

Recently, I flew with a tanker crew on a “routine” training mission consisting of a three-ship Minimum Interval Takeoff (MITO) departure, air refueling, nav leg and transition back home. The ride was a pre-Pilot Upgrade Program (PUP) for the left seater with the right seat filled by a relatively new instructor pilot (IP). I got the honor of watching from the jump seat.

There’s always potential for things getting balled up on formation flights; so I thought I’d have ample opportunity to sit back, take copious notes and enlighten the crew during debrief with my experience and expertise.

At base ops, the first thing to happen was the formation briefing. It went rather well and covered everything in the briefing guide. Flight lead specifically covered how we would taxi in case any of the three tankers couldn’t make it for some reason. We also discussed how we would split the receivers considering that our airplane had a boom checkride

to complete.

During preflight, one of the three bombers broke. We sat tight while bomber lead laid out a plan; tanker lead got in a word to support us (number three) for our check. We never had to say a word.

Engine start and taxi progressed normally. Before taxiing, the IP briefed the PUP on takeoff normal and emergency procedures with emphasis on transfer of aircraft control during the initial phase of taking the runway. He also included coordinating timing procedures with the nav. We taxied out in proper order. Lead and two raised their

HAPPENED

Lt Col Eric K. Holck
42 WG/SE
Loring AFB ME

speed brakes to signal that they were stopping, and we stopped for our Foxtrot check. Fox was right where we had briefed him to be and the last chance inspection went smoothly.

Takeoff was great; timing was perfect. We followed our prebriefed headings and turn points on departure. We entered a cloud deck, and the nav started calling out positions off the radar. When we broke out, there were two tankers three miles ahead and high from us. As we caught up to them, I wondered if the DESERT STORM lesson learned about wake turbulence in cell would be a player. Even as I thought it, the IP displaced himself a few degrees off lead and two's six o'clock. As the cell reached its final block altitude, we climbed above lead and two, settled into cell formation, and returned to their six. No turbulence.

Air refueling in cell can be tricky, especially as number three. With a 15-degree turn into the cell coming up, I wondered how this crew would handle it. The IP started coaching the PUP to fall behind his normal position to anticipate the turn and talked about how the cell positioning would change in the turn. We didn't get backed up in time, and the PUP

got a graphic illustration of the IP's explanation. Cell break-up went according to plan (actually, "plan B" as we had only two bombers instead of three).

The nav leg and en route descent were easy enough; anticipated weather didn't materialize and we simply had a cloud deck to penetrate. Anti-ice was on early. Being pre-PUP ride number one, the IP chose to keep the practice approaches straight forward and flew exactly what was briefed during mission planning and in base ops. The full-stop landing and postflight were uneventful.

There were some minor deviations here and there for me to note. But during the crew debrief, the most I could really say was that they had a good basic plan and they had backup plans. They coordinated with all the players before and during the mission. They anticipated what was coming up and did not allow unwelcome situations to develop. My notebook was mostly empty. I was disappointed to not have the opportunity to drop any pearls of wisdom.

Nothing happened...but everything happened -- according to plan! □

Convenience A Potential

Maj Jonny J. Hepler
HQ ACC/SEW
Langley AFB VA

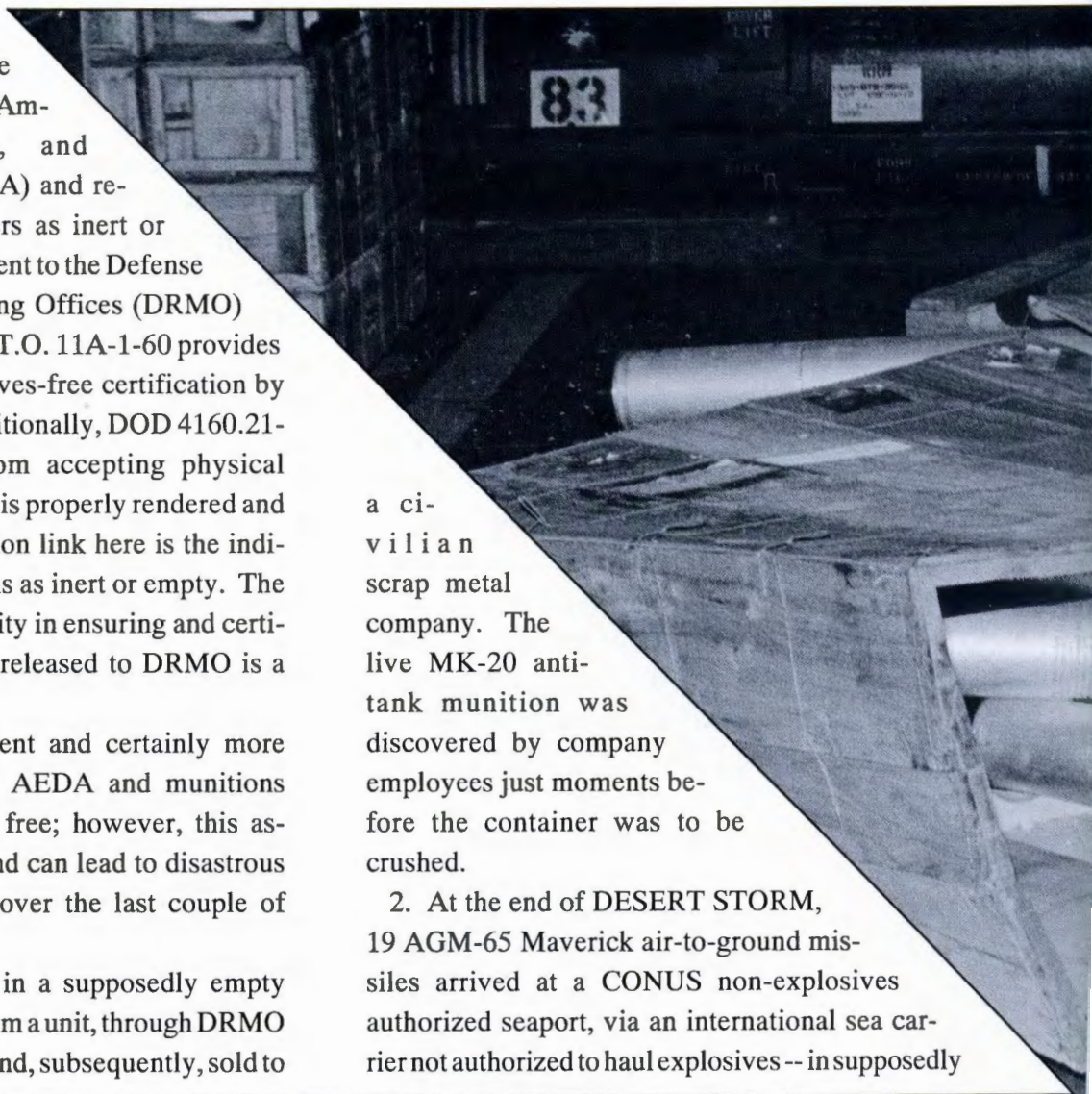
The topic is integrity in the certification of Ammunition, Explosives, and Dangerous Articles (AEDA) and residual munitions containers as inert or empty prior to their being sent to the Defense Reutilization and Marketing Offices (DRMO) to be sold for scrap metal. T.O. 11A-1-60 provides procedures for the explosives-free certification by munitions inspectors. Additionally, DOD 4160.21-M prohibits DRMOs from accepting physical custody of AEDA unless it is properly rendered and certified inert. The common link here is the individual certifying such items as inert or empty. The inspector's absolute integrity in ensuring and certifying only safe items are released to DRMO is a must!

It may be more expedient and certainly more convenient to assume all AEDA and munitions containers are explosives free; however, this assumption may be costly and can lead to disastrous results. Some examples over the last couple of years are:

1. A MK-20 Rockeye in a supposedly empty container was processed from a unit, through DRMO to an Air Logistics Center and, subsequently, sold to

a civilian scrap metal company. The live MK-20 anti-tank munition was discovered by company employees just moments before the container was to be crushed.

2. At the end of DESERT STORM, 19 AGM-65 Maverick air-to-ground missiles arrived at a CONUS non-explosives authorized seaport, via an international sea carrier not authorized to haul explosives -- in supposedly



or Integrity?

ly Dangerous Choice



empty containers. The seaport had to be closed and another ship at sea diverted to the nearest explosives authorized port, with its "suspect" cargo.

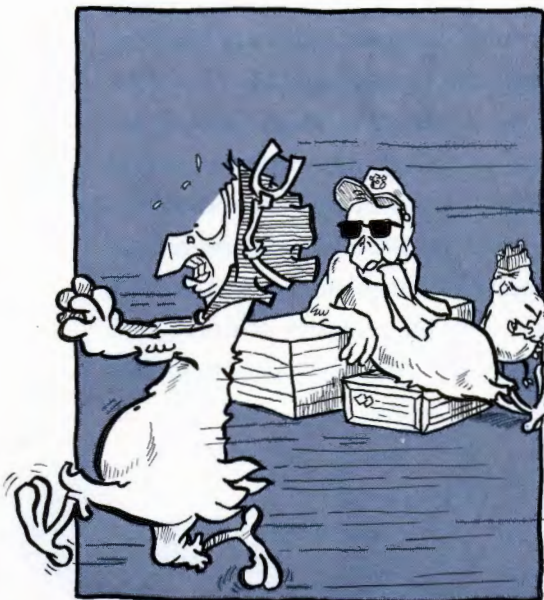
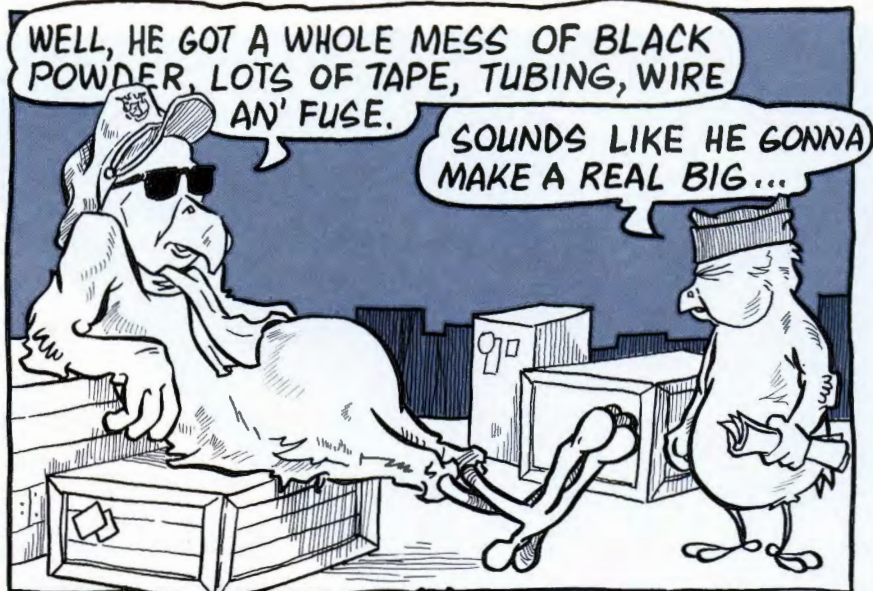
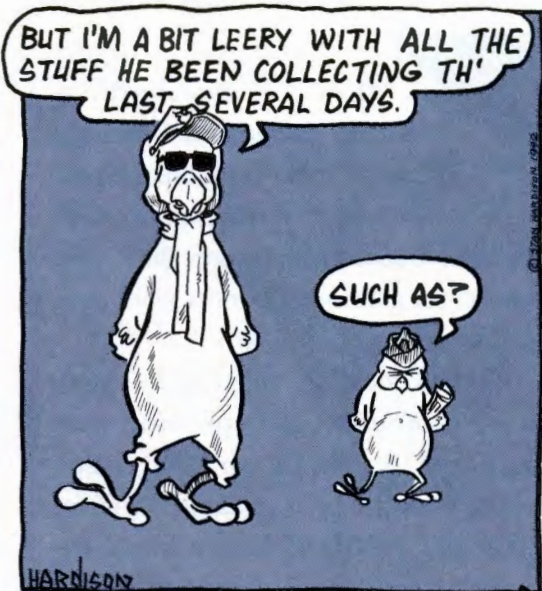
3. Sixty tons of supposedly expended/inert BDU-33 practice bombs were sold as scrap metal to a contractor. The contractor picked them up from the range (not DRMO) and, subsequently, sold about one-half of them to another contractor. During smelting

operations, 1 of the BDU-33s discharged! A Safety, Explosives Ordnance Disposal, and Munitions Inspection Team was dispatched to each location to locate and inspect the bomb! Twenty-eight additional bombs were confirmed to have charges in them.

4. At an overseas location, supposedly empty CNU-180 cluster bomb unit (CBU) containers were sold through DRMO to a local scrap metal dealer. During crushing operations, a container with at least 1 and possibly 2 CBU-71 bombs inside exploded. Results: 3 civilian employees injured, a 20-ton protective door blown off the steel press, 2 vehicles and 2 cranes damaged, adjacent building damaged and fragments extending out to 1640 feet.

This topic is not a new discussion item in the logistics community. In fact, it is so important that Maj Gen Logeman devoted an entire article to it in the Jan 92 *TAC Attack* special edition for munitions safety. When a munitions inspector certifies AEDA as inert or empty, only his integrity can prevent a mishap and ensure the correct selection in this potentially dangerous choice! □

Fleagle



The BUF & The BIRD



Lt Dennis Conn
20th Bomb Sq
Carswell AFB TX

Life was good. The weather was beautiful, and we had enjoyed a week of TDY at Offutt AFB in support of "Proud Visitor."

As we strolled out of base ops, covering our strange field operating procedures, the crew agreed it would be nice to see the home field again.

Little did we realize, however, that our "normal" training mission to home would erupt into an unexpected exercise in crew coordination and basic airmanship.

The mission was scheduled for air refueling, low level navigation (IR-502) and transition. The morning weather brief promised nothing but superb conditions for the entire sortie. Our only concern

remained the heavy bird migrations traveling through the Midwest at that time of year. We had been briefed extensively at home prior to our departure of two specific legs on the low level route

that had proved troublesome the weeks prior. This was our third mission of the week through IR-502, and we had encountered very minimal bird activity on the first two trips. Still, we realized flying



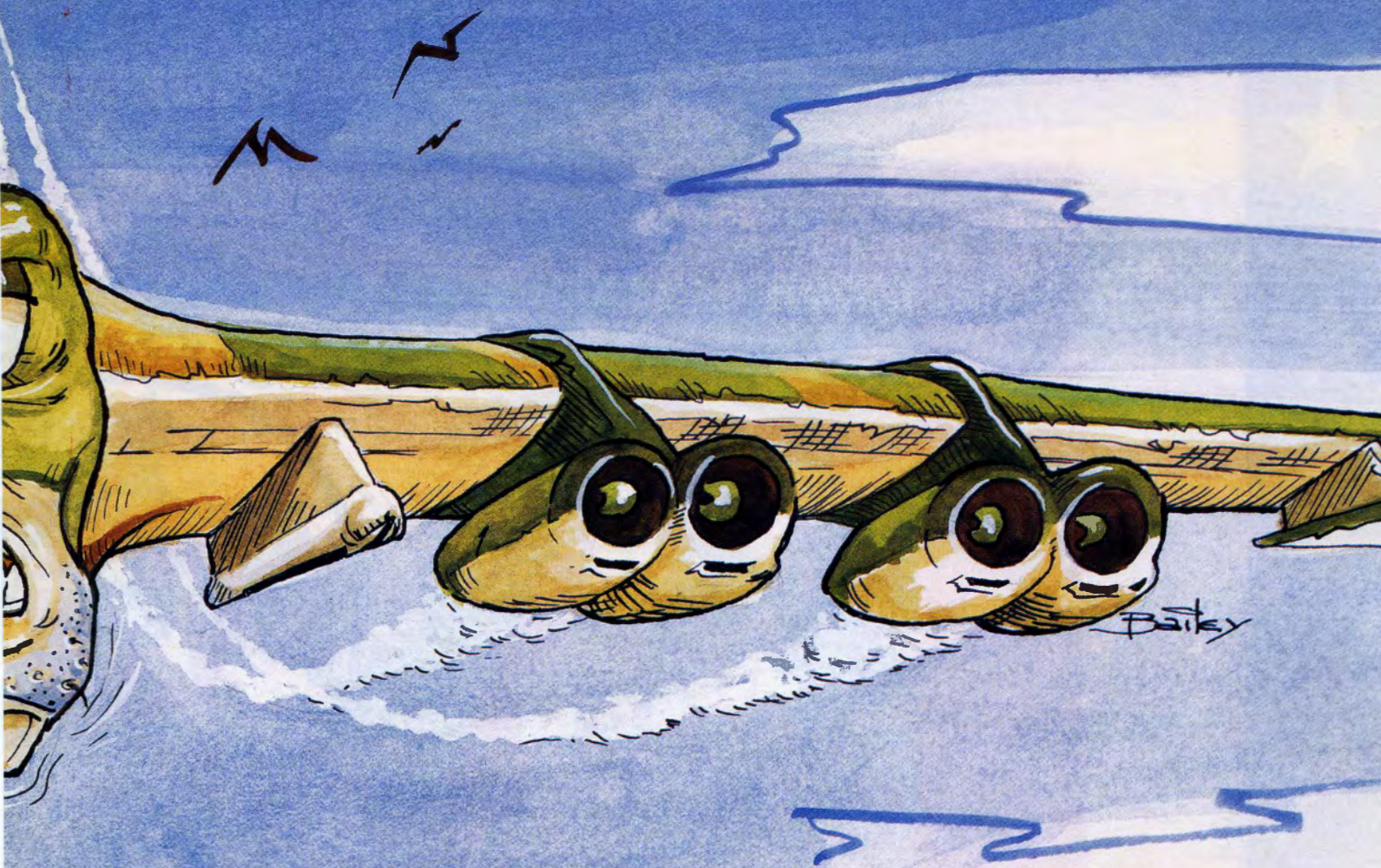
at mid-morning represented peak activity hours and demanded strict attention.

Air refueling and entry into the low level proceeded smoothly. Ten minutes into the route with the pilot flying the aircraft we entered the first suspected bird area. Both the copilot and navigator emphasized the importance of maintaining vigilance for birds on this leg. The pilot noted a small flock one mile off the left wing down low. Meanwhile the copilot was coordinating with the offensive team for a visual navigation

update. Focusing his eyes from down range to closer range, he noticed a lone bird in front of but slightly above the aircraft. As he grasped the interphone switch to warn the pilot, the bird dove and announced his untimely arrival with a powerful thud that shattered the copilot's front windscreen. "What was that?" broke an unsure voice over the interphone. Before the question could be answered, the pilot advanced the throttles and calmly told the crew that we had struck a bird, the copilot's window was

completely shattered, and that we were climbing to a safe altitude. Realizing a possible pressurization problem, he also announced that the aircraft would remain under 10,000 feet MSL.

Once safely leveled off, the crew took a moment to analyze the situation and immediately began to coordinate a recovery plan. Initial inspection showed both glass panes shattered with approximately a 4-inch hole in the lower left corner of the inner pane. With possible FOD suspected from the bird, engine problems were also



anticipated. As the pilots continued with all applicable technical order checklists and procedures, the offensive team briefed ETAs to possible divert airfields as well as Carswell. The Electronic Warfare Officer worked an immediate phone patch with the home unit. After careful consideration of all options and local procedures, the crew advised Command Post of our intentions to return home.

The recovery to base was flown at 8,000 feet MSL with all crewmembers on oxygen and visors down due to the uncertainty

of the window structural integrity. The landing and depressurization remained the only unanswered questions. Preparing for the worst, we constructed a make shift "glass-catch" using a flight jacket. The descent and penetration proceeded as planned. Much to our relief, the landing proved smooth and the remnants of the window remained intact.

I have never had a bird strike come so close to the cockpit, especially a strike right in the window. (Note: The 2.5 pound Red Tailed Hawk generated 31,335 foot

pounds of force when the B-52 impacted it at 380 KIAS. The window is designed to withstand a 2-pound bird at 200 KIAS, approximately 7,000 foot pounds of force.)

I give great credit to the crew for staying calm. What could have been an extremely difficult flight home became a well orchestrated recovery of a damaged B-52. □

