

THE COMBAT EDGE

AUGUST 1992



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THE COMBAT EDGE

Air Combat Command
Safety Magazine

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ABOUT THE COVER

This aircraft, an F-4D, was flown by Captain Steve Ritchie during the Vietnam War. On 28 August 1972, Captain Ritchie became the Air Force's only pilot "ACE" of the war, after downing his fifth MiG-21.

AUG 92

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Accent on Safety

Complacency has been variously defined as: Smug satisfaction, not caring, no need to do something better. Obviously in the minds of many, complacency seems almost synonymous with poor discipline, sloppiness or doing things your own way in clear disregard of established procedures and directives.

However, a more appropriate definition might be: Self-satisfaction accompanied by unawareness of actual or pending danger or deficiencies. According to this definition, complacency is something that each of us can fall victim to at any moment -- no matter how good we think we may be. There's nothing in our definition that says you have to be in a bad mood or feeling reckless in order to be complacent. You just need to be satisfied with the way you **think** things are right now and oblivious to the threats that are lying in wait for you. In fact, success and experience contribute more to complacency than adversity. When everything is going well -- too well -- **beware!**

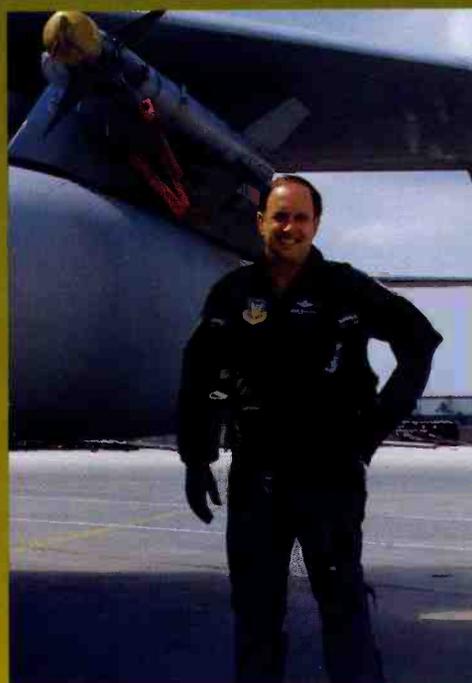
Last year was a banner year in the safety business. Unfortunately, most of this year's indicators are on an upward swing. We've had more off-duty ground fatalities in the current 101 Critical Days than last year and our flight mishap rates are also higher. Did we become complacent with last year's success? Did we lose our focus on the programs and initiatives that proved so successful? There is little doubt something

has changed. Complacency must be considered one of the possibilities.

How do we combat complacency? Through involvement, recognition and constant awareness. Commander/supervisor involvement is the key to an effective safety program. When commanders and supervisors are directly involved in safety and recognize people for their efforts, the safety program and initiatives are alive and vibrant. If key leaders and supervisors are satisfied with the status quo, the workers will be too.

Complacency is particularly dangerous for those of us in the flying business. As Colonel Steve Ritchie said in a recent interview, "It must always be emphasized that in this business, there's never a time to be less than fully cognizant of the machine and the constantly changing environment. For one's own safety and the safety of the entire effort, one has to have the personal discipline to constantly stay aware."

In the air or on the ground -- stay aware and stay alive!



Colonel Bodie R. Bodenheimer
Chief of Safety



PREPARATION TEAMWORK LEADERSHIP INTERVIEW WITH AN ACE

Despite its divisiveness and unpopularity, the Vietnam war had its high points and heroes. On 28 August 1972, Capt Steve Ritchie downed his fifth MiG-21 to become the Air Force's only pilot ace of the war. In a recent interview now Colonel Ritchie (AFRES) shared his memories and thoughts with us. According to Col Ritchie, his most exciting flight occurred not on 28 August (20 years ago this month) but on 8 July 1972 -- when he downed two MiG-21s in a minute and 29 seconds.

We did not fly the first seven days in July due to weather. The 8th of July started out as if it would be another one of those days. We were scheduled as the egress flight. Egress was the last MIG CAP flight inbound with a full load of fuel and armament intended to provide protection for the initial flights coming out low on fuel. There was normally little action for the egress flight. MiG activity generally occurred early on. We (Paula flight) were grouching about having to get up at 0330, go through all the briefings, prepare ourselves, the airplanes and weapons, suit up for combat, refuel en route to North Vietnam, jettison the centerline tanks, coordinate with Red Crown and Disco, take a chance of getting shot down and probably not even have the opportu-

nity to engage, and the weather still looked really scroungy.

Paula flight headed inbound with everyone assuming it would be a routine mission. We'll get in and out, and tomorrow we'll be on the schedule as the ingress flight. About 60 miles from Bullseye (Hanoi), #4 in one of the MIG CAP flights was damaged by a hit-and-run MiG attack. He broke formation, headed out and announced on Guard his position, heading, altitude and the fact that he was losing hydraulics, thus violating a cardinal rule and definitely attracting the attention of the North Vietnamese air controllers. We immediately changed course and headed in that direction.

About 30 miles Southwest of Hanoi we began

getting calls from GCI that there were two Blue Bandits (MiG-21s) in the area. At approximately 5,000 feet on an easterly heading, Paula flight received the "heads-up" call. "Heads-up" meant the MiGs had us in sight and had been cleared to fire.



That information was at least 40-60 seconds old, and we had no visual on the MiGs. At this point the Disco controller, some 150 miles away, looking at his radar scope, dispensed with the normal

lengthy radio procedure, and announced, "Steve, they're 2 miles North of you." I made an immediate left turn to North, picked up a "tally ho" on the lead MiG-21 at 10 o'clock; then rolled further left, blew off the external wing tanks, went full afterburner and passed the MiG at about a thousand feet, just under the Mach. At this point we only saw one MiG, but we knew there were two. I rolled level, pushed the nose down and waited. Sure enough, the second MiG was about 6,000 feet in trail.

As we passed #2, I came hard left into a nose down slicing turn, about 6.5 Gs, and lost sight of both MiGs. About halfway through the turn we were very surprised to see the #2 MiG high, in a level **right** turn. To reduce the high angle-off, I barrel rolled left to his low 5 o'clock position and at about 6,000 feet maneuvered to put the target in the gun sight, achieved a quick auto-acquisition lock-on (one pulse) and fired two Sparrow missiles. There was a 4 second wait from radar lock-on until trigger

squeeze and another 1.5 second delay until the missile launched. Over 90 electronic and pneumatic steps had to take place in sequence before the missile would fire. A 4 G turn was necessary to keep the MiG in the radar field of view as he turned down into us. (The book said 3-4 G's max for a successful launch.) The first missile came off at about 4,000 feet and more than 40 degrees angle-off. We were at minimum range and maximum performance conditions for the Sparrow. The lead missile hit the center of the MiG's fuselage and the second went through the fireball.

At this point, Paula #4, pulling as hard as he could, managed a radio call, "Steve, I've got one on me!" The lead MiG had made it all the way around the circle and was almost in Atoll firing position behind Tommy Feezel. We unloaded over the top of the fireball, after a piece of debris from the MiG nicked the leading edge of our left wing, selected full afterburner and cut across the circle to gain a rear quarter position on the remaining MiG, again at about 5 o'clock low. The angle-off was very similar to that on the first MiG, but we were closer. The lead MiG-21 was highly polished with bright red stars (every other MiG I saw was a dingy silver). The MiG pilot saw us, forgot about Tommy, and started a hard turn our way. He was a lot better than his wingman and rotated the airplane very quickly. I fired at about 3,000 feet with almost 60 degrees angle-off (the radar breaks lock at 60 degrees) pulling about 5 Gs. Only one missile was fired because we were inside minimum parameters with minimum probability for a hit. The missile appeared out in front, snaking back and forth like a sidewinder, and seemed not to guide. All of a sudden the missile pulled every available G (approximately 25) and hit the MiG dead center in the fuselage at just about missile motor burnout which accelerated the 435 lb Sparrow to approximately 1200 MPH above launch velocity. "SPLASH TWO!"

This mission was the classic example of teamwork! All of the elements for success came together. The radar and computers worked perfectly. The call from the controller over 100 miles away watching the battle develop on his radar scope came at the

On this mission, and on others to varying degrees, everything that I ever learned or experienced during my then 30 years came together in just a few seconds. It required drawing on every life experience during that 89 seconds of time. Years of preparation, teamwork, and discipline made the difference for Paula flight on the 8th of July twenty years ago.

precise moment... Three perfect missiles worked beyond design specification... Split second crew coordination.

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for Paula flight on the 8th of July 20 years ago.

There are many complex elements and decisions that go into an air combat sortie; each interrelated and all critical to the success of the mission. Team-

work is the only way to make all of the pieces come together.

Every morning before takeoff, I called the Air Force and Navy controllers on the secure phone. I gave them our names, call signs, where we planned to orbit and a brief description of the mission. We even flew to Korat just to meet with the Disco controllers and pilots. I felt that this first name basis and face-to-face time with the people who were looking at our arena from a 100-150 mile vantage point was very important. On the 8th of July, 1972, this AWACS type information was absolutely critical!

For several weeks prior to 8 July we had been observing our own radar contacts and receiving bandit position information from Red Crown and Disco, only to arrive in the area where MiGs were supposed to be and not find anyone. As it turned out, the MiGs had dropped from their normal 15-20,000 ft orbits to low altitude (approximately 5,000 ft). Intelligence told us that if the MiGs weren't in a bearing of aircraft formation (our fighting wing), they would be in trail. These two crucial pieces of information set the stage for the 8 July engagement. We purposely descended to low altitude after our



course change and resisted the natural reaction to turn immediately when the first MiG was spotted.

It is extremely important to work with the intelligence people every day due to the constantly changing environment. Current information is fleeting but essential for success.

The AIM-7 was notorious for a poor probability of kill (Pk) which was around .11 for the entire war (not including 200 plus attempted launches where the missile never left the aircraft). I had a .55 Pk. We worked with our people who took care of the missile. We insisted that all Hanoi area qualified crews spend time at the missile shop, the radar shop and with the load crews. We came to know them by their first names and they knew us. Thus, they took better care of the missiles. Everybody understood that the way the missile was maintained, handled, loaded and armed was very important to how successful we were in the air.

The people in the radar shop, the radio shop, the missile shop, the load crews, the arming crews, the crew chiefs, etc., all felt like a part of the mission. They felt as if they were with us every time we went up and they were anxiously waiting to know how everything worked when we returned.

We downloaded the Sparrow after every 10 flights and sent it back to the missile shop for a complete checkout. This procedure put an increased work load on our missile maintenance people. But, they were happy to do the extra work because they knew what it meant to our success.

Pilots historically don't spend a lot of time in the maintenance areas; but we did and that's one of the reasons for the tremendous success of the 432d (approximately 25 MiGs destroyed in 1972 by Udorn crews). We didn't have many of the normal maintenance problems because everyone felt proud to be a part of the team.

The first order of business after returning to Udorn from the fifth

victory was go to every organization on base to express our sincere thanks. We let them know that without all of their work, it would not have happened.

The downing of five MiG-21 enemy airplanes was the result of the efforts of many, many, brave and dedicated people. I was in the right place at the right time. I survived, everything worked and I am very proud to have received much of the credit which belongs to so many others.

Teamwork was essential to our mission and it was a tremendous team effort -- front and back seat in the airplane, the eight men in the flight of 4, the two hundred plus members of the strike force, the refueling tankers, the rescue forces, ABCCC, the Army, the Navy, the Marines, and all the various individuals, organizations, and agencies that worked together to ensure the successful conduct of the mission. Some two hundred people were directly involved in the launch and recovery of a flight of F-4s, and thousands more were indirectly involved. Had it not been for these individuals who were proud of their work and performed it in a professional and outstanding manner, I would not be a fighter ACE and I might not be alive.

I really believe that in a career, whether it's the fighter business, bomber business, tanker business, airlift business, missile business or in any other career field, one tends to create opportunities through preparation, attitude and tempered aggression. In other words, the harder we work, the luckier we get.

Boots Blesse wrote a book entitled No Guts, No Glory. However, a corollary to that is "too many guts, no glory." If you lose control of the airplane, you lose the opportunity plus you could kill yourself or someone else. To be prepared requires training, discipline, and judgment.

Despite having the best

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Top left photo: AC, Captain Steve Ritchie, CC, Reggie Taylor, WSO, Chuck DeBellevue

Top right photo: Captain Ritchie returns after downing his fifth MiG-21

Bottom: Buick Flight, 28 August 1972

training available, the **first time** I saw an unlike airplane was a MiG-21 in combat near Hanoi! As good as our training was, it was inadequate, especially in the air-to-air arena. By the time I arrived at Udorn in 1972, I was an experienced fighter pilot: 195 combat missions from the 1968 tour, Fighter Weapons School graduate and 2 years as an instructor. However, compared to the training available today, ours was substandard. This was partly due to the feeling that it was unsafe to train the way we would need to fight, i.e., we were not allowed to fly dissimilar air combat. We dropped live ordnance, and fired live missiles very infrequently.

Of course, we now realize that safety is using your head, being smart and training in a realistic manner. Training the way we plan to fight will never be completely safe. However, if we take a step-by-step, building block approach, ultimately we reach a point where an even greater degree of safety and training can be achieved. If we teach people to fly the machine to its maximum performance, they will, in the long run, be safer pilots and have fewer accidents. TAC had a much lower accident rate last year than in 1970, and yet the training is better than ever.

During my first tour at Da Nang in 1968, I was fortunate to be in the initial F-4 Fast FAC (Forward Air Controller) program and flew the first official F-4 FAC mission.

There were established minimum altitudes depending on the area being worked. In high-threat areas there was a one pass rule.

When multiple passes were required, the rules were: Never enter or exit using the same direction; employ curvilinear approaches and departures; strictly observe the minimum altitude rules; enter and exit as fast as possible using as much G as possible. If a close look was necessary, go away, observe key landmarks to assist in the precision of the return, wait awhile, and come back as fast and unpredictably as possible. When we followed these few basic safety rules on a regular basis, we took relatively few hits. The losses in the Fast FAC program almost always took place when the rules were violated.

When you get sloppy about following basic rules, you endanger yourself, your crew, your team and your machine. The only time I was hit as a Fast FAC was during the tenth pass in a fairly high threat area -- violating the rules and procedures I had written.

In the period when I was being trained, we limited operations in the name of safety; and yet over 20 years later we're training the way we plan to fight and the accident rate continues to decrease. If we teach people how to fly the airplane to its maximum performance, we produce safer pilots who have fewer accidents. The more realistic the training, the safer we will be in the long run.

The flying environment is a high risk, challenging arena that very few people ever experience. When the combat element is added, it becomes the ultimate challenge. To live and excel in this arena requires a person who is a risk taker... with the education, skill, training, attitude, determination, and tempered aggression to operate right up to the edge of their capabilities and the capabilities of their machines. Due to the complicated deadly nature of the business, there is no room for anything less than highly trained professionals with the discipline to do the right thing every time.

Judgment allows us to determine where the line falls between "no guts, no glory" and "too many

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guts, no glory" and keeps us from crossing that line. Judgment comes with age and experience and is often commensurate with the responsibility a person is allowed. When a flight of four was my responsibility, I was a more responsible risk-taker. After the fourth MiG, I was even more cognizant, more diligent and more attentive to all of the responsibilities of a flight leader. I wanted to engage, but the mission was not to shoot down MiGs. The mission was to keep MiGs from attacking the strike force.

I personally believe that the idea of being the world's greatest pilot has led to mishaps due to

overconfidence and complacency. Good judgment must always prevail. In the air, no matter how good you think you are or how ready you are, the possibility of an unknown combination of circumstances developing to present the most difficult test always exists.

Leaders like General Charlie Gabriel, General Jerry O'Malley and General Jack Vessey believed that the people in the combat unit who were the most proficient and most qualified were the ones who should be out there at the point of the sword leading the units and making the necessary decisions. By-in-large they were captains and majors. When you get right down to a combat situation, relatively young people are empowered to make decisions and are given huge responsibilities.

After returning from a combat mission in the spring of 1972 in which Col Charlie Gabriel had flown as #3 in my flight he said, "Steve, I think I'll lead tomorrow." I replied, "Yes, Sir." We arrived at the 5 o'clock briefing the next morning and checked the scheduling board. It showed Ritchie as lead and Gabriel as #3. Obviously the schedulers had not received the word that the Wing Commander was going to lead the flight. I said, "Boss, I thought you were going to lead today?" He looked at the board, thought for a moment, then said, "I had

planned to; but you do a better job, you go ahead.” How about that... from a Wing Commander to a Captain? That kind of leadership inspires the utmost in loyalty and determination to do ones very best... to do everything possible to justify such confidence.

It is precisely what Gen McPeak and Gen Loh are attempting to accomplish in ACC. The effort is to give people at the operating level the ability and authority to get the job done. And, of course, with such responsibility there is accountability.

Why were leaders like General Gabriel, General O’Malley and General Vessey so successful? Because they understood people. They knew exactly what Patton was talking about when he said, “We win wars with people.” The ability to inspire in others a desire for excellence and a passion for achievement is the key to successful leadership.

Great leaders know the tremendous power of positive discipline. It inspires and instills a desire to achieve, to win, to be the best one can be. Positive discipline requires sacrifice; but sacrifice is a willing result as subordinates, inspired by their leader, self-impose the highest standards in their professional lives. Positive discipline requires simple, common sense rules that are based on reason, judgment and experience.

Positive discipline leaders make only a few very important rules. These rules are explained in terms of why they were made, based on what experiences and why they are important. If you make only important rules and ensure they’re followed, people understand the reasons for the rules and they will follow because they want to and they will insist that others follow the rules too.

We are at a great transition point. High tech combat was initiated in S.E. Asia. Now we enter a new, dynamic, uncharted era for the world, our nation and our combat forces.

When we get through this period of reorganizing and restructuring, the Air Force will be better than it has ever been. It will be a highly trained, highly disciplined, well organized, serious, professional, lean fighting force. Its people will operate at a higher level of efficiency and effectiveness. We cannot control the exact size of our future Air Force,

but we can and will control its shape.

Whatever the challenge, from whatever direction, when it comes, the Air Force of the future will be as ready as it can possibly be to meet that challenge.



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The Air Force in the New World Order



*Col Howard G. DeWolf
Commander, 91 MW
Minot AFB ND*

We've seen a number of significant changes over the last few years — the Berlin wall fell, the former Germanies united, the Warsaw Pact crumbled, and the Soviet Union disintegrated. The long-fought Cold War finally came to an end. The men and women who made up and supported our SAC alert forces can look back with pride at the part they played in maintaining the strategic deterrent that helped assure victory over Communism.

Even as the former Soviet empire was facing its death throes, we witnessed a resurrection of the United Nations as a serious player in international affairs. The world body stood united decrying the outrage of Saddam Hussein's incursion into Kuwait and endorsed military action to right the wrong that had been perpetrated. In a situation that would have been unimaginable only a few months prior, nations from around the world — east and west, African and Asian, and former middle-Eastern antagonists —

joined together in a coalition of forces to oust Iraqi forces.

We've experienced what President Bush has referred to as a New World Order — a significant change or shift in geopolitical relations. But this shift impacts other than the international scene. The New World Order, I contend, impacts both you and me — the New World order I'm speaking of consists of an Air Force that is not only restructured but also smaller. The Air Force in the New World Order

is what we need to come to grips with as we contemplate the remainder of 1992 and, perhaps, as we contemplate our future in the military.

The Air Force in the New World Order means a lot of things — the end of SAC, TAC and MAC, the creation of Air Combat Command and Air Mobility Command, VSIs, SSBs, SERBs, and

RIFs. A lot that we've grown accustomed to is changing. These changes raise a lot of potentially troublesome questions for all of us. How will we be treated by a new Air Force and our new command? Will we be competitive in a new command? Will we even get a chance to find out if we are competitive with the RIF or SERB breathing down our necks? What's the future to bring?

I'd say the answers to these questions and any other concerns associated with the Air Force in the New World order are straight forward — keep on performing your job the best you can, as professionally as you can, with your eye always focused towards excellence. Perhaps the Army's phrase "Be all that you can be" sounds trite, but there's validity in that phrase.

What is this Air Force in the New World Order? It's a force that must continue the standards of excellence proven throughout the Cold War and tested during Desert Storm. Those who remain must continue to produce quality work all the time.

The New World Order, I contend, impacts both you and me — the New World order I'm speaking of consists of an Air Force that is not only restructured but also smaller. The Air Force in the New World Order is what we need to come to grips with as we contemplate the remainder of 1992 and, perhaps, as we contemplate our future in the military.

They won't be able to survive by just keeping the seat warm in the capsule or in the cockpit or at the desk. The restructured Air Force will be retaining the quality professionals who knuckle down, who give every effort their best shot, and who can work together as teammates.

If we nurture those characteristics, I believe

we'll enhance the quality of our service beyond that which exists even today. As members of a total quality team, we won't need to be concerned about the protection of a command to which we had grown accustomed. Adjusting to a new Air Force and new command will be an exciting opportunity rather than a threat. If we go about our business professionally, seeking total quality in every challenge we face, the Air Force in the New World Order will respond to the world's changes and challenges even more effectively than ever before.

There's no denying that the Air Force will be cutting back. But each one of us can serve with the right frame of mind, with the right outlook toward our every day job. Attitude, focus, professionalism, teamwork. These are essential attributes of any winner. Whether you intend to transition into the Air Force that will exist in the New World Order or exit into the civilian sector, they'll help you stand out and ensure you're a winner too. ■

COMPETENCY VS COMPLACENCY

Competence, according to Webster, means “having sufficient resources for a comfortable existence.” In career fields where explosive operations are a daily fact of life, this means completing our jobs safely using the available resources. Many resources define the way we do business. The most measurable of these, the human resource, is possibly the most important. As individuals, we must ensure that we are mentally and physically capable of handling the challenging task of working with explosives and explosives loaded aircraft.

Webster defines complacency as “smug self-satisfaction.” Achieving satisfaction in what we

do is important, but to allow ourselves to become smug and overconfident in our abilities is to INVITE disaster. Performing repetitive tasks successfully can lead to complacency. This may give one the false belief that the job is simplistic or consists of menial tasks without inherent dangers. Supervisors are directly responsible for ensuring the safety of their people and using them efficiently to get the job done. They must call upon the most qualified personnel available to complete the mission. They must also use the expertise of the skilled technicians to train newer troops or those who may have been away from the career field for awhile. Unqualified or unsure workers should

not be allowed to perform high risk tasks in an unsupervised environment. Accidents are preventable when trained, competent personnel are placed on the job. Complacency has NO place in the world of weapons operations.

Competence or complacency, the choice is ours to make. By applying the concepts of quality management through good supervision and training practices we can instill positive, heads-up attitudes among our people. This will reduce complacency and increase the competency of our work force making the workplace safer for everyone. ■

What About



*MSgt Richard P. Sirois
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It's not often that you read about weapons safety in the base paper. Our "articles" usually come out in the form of an investigation or an inspection report. Whether you're active duty, dependent, or civilian, you come in touch with some aspect of weapons safety every day.

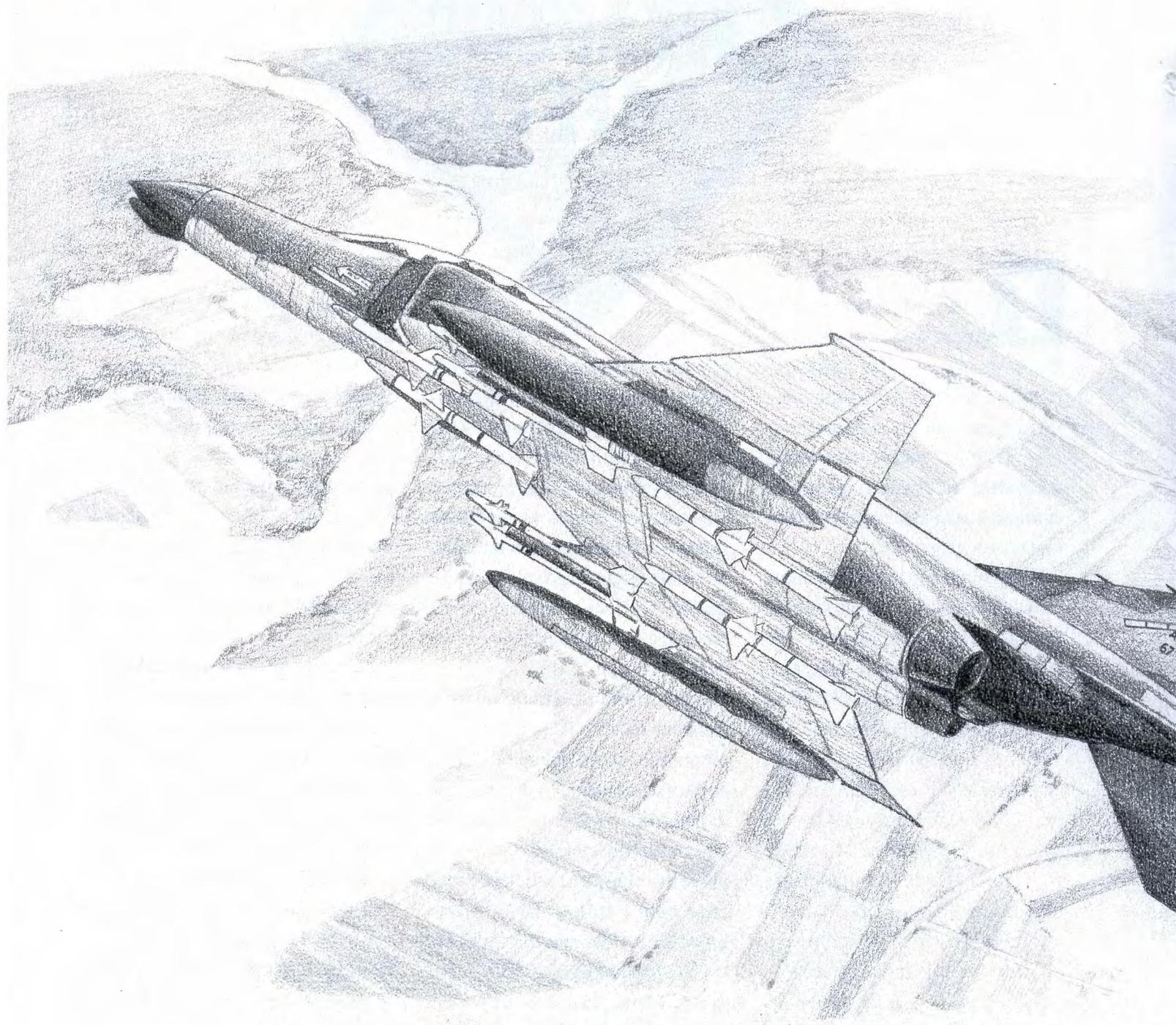
Weapons safety deals with much more than just bomb buildup or loading weapons on aircraft. We work closely with many other base agencies, such as: security police, civil engineers, pararescue, life support, transportation, supply, and even MWR (the base rod and gun club). We also work with operations schedulers to ensure we have enough live munitions loading locations to do the primary mission--train air and ground crews in a realistic environment.

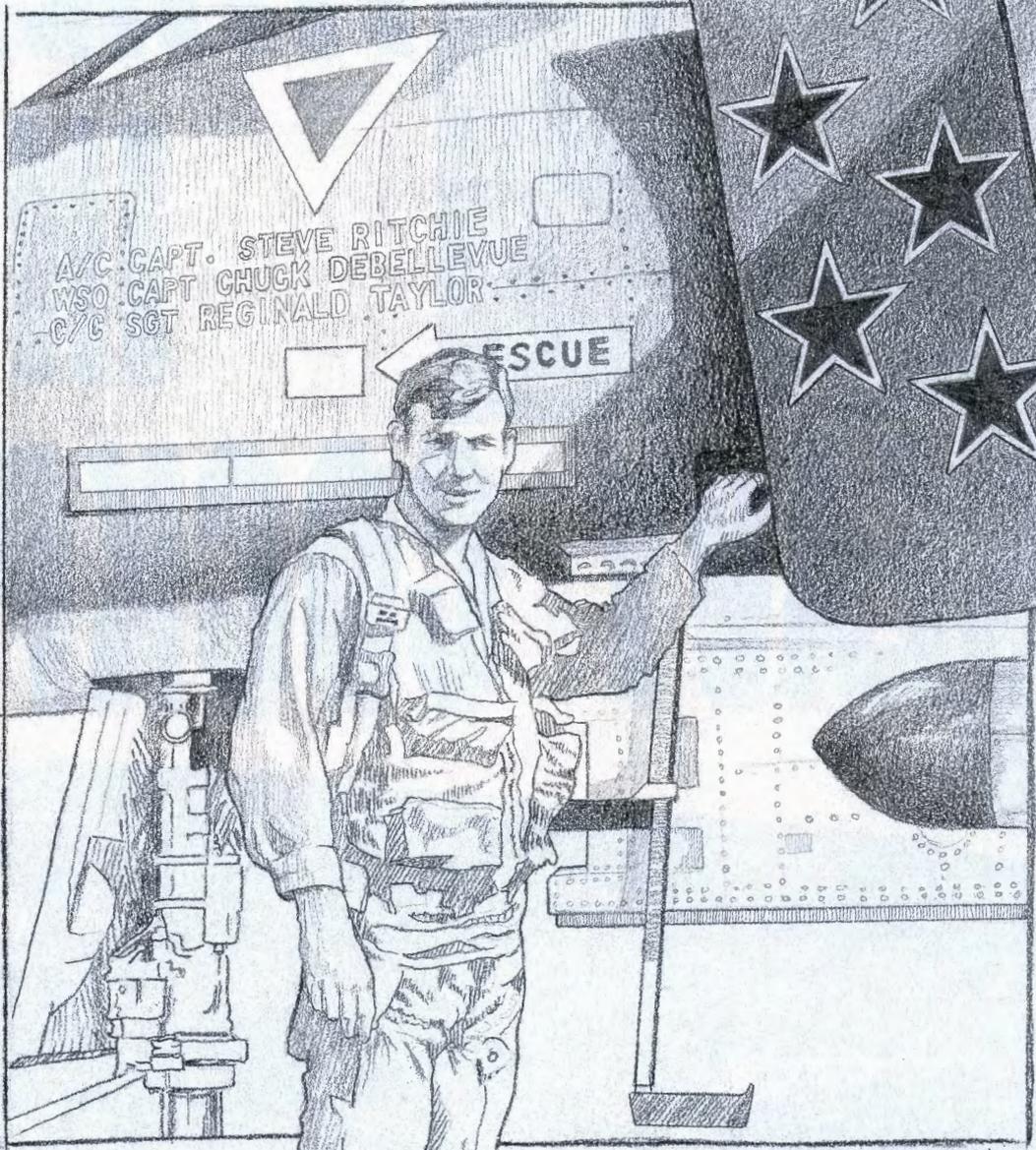
As you can see, our weapons safety mission is diverse. Unfortunately, weapons safety standards governing our mission are com-

plicated, in part because they are based on controlled scientific testing and mishap experience. And like most regulations, AFR 127-100 is subject to interpretation. One of our duties as weapons safety professionals is to interpret weapons safety standards for those dealing with weapons and explosives. Safety standards were not written to make life more difficult; but to provide a "safe" margin for error to save lives and equipment. We would like to think that none of us would be foolish enough to place our lives in jeopardy, but we constantly read about individuals being injured or killed because they didn't follow basic safety guidelines. The quote "familiarity breeds contempt" holds true far too often. Think about the last time you overlooked safety because you were rushed or did not think a particular procedure was

necessary. Why? Because you had never heard of or seen anyone get hurt for not following a particular step. Think about it, that safety device or tech order warning you ignored was probably placed there as the result of an investigation in which someone was injured or killed. Safety must be seen as a complement to the mission and, more importantly, as a life saver.

Our best tools are education, information, and teaching by conducting active safety training and mishap prevention programs. In all squadrons, most safety training programs are conducted by additional duty representatives. It is through squadron representatives and your common sense that we hope to achieve our goals of mishap prevention and saving lives. If you have any questions or are unsure of weapons safety requirements, please give your weapons safety office a call. ■





JOY
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B. Siley

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PITFALLS

IN A

HEAVY COCKPIT



There are mistakes all aviators have made and pitfalls all will experience if they stay in the business long enough.

Most of these mistakes are minor deviations from standard operating procedures that have limited potential for injury or damage. From thorough debriefs we can analyze these errors and learn how to prevent similar occurrences. Once your sortie is over, debriefed, and the paperwork is complete, your mistakes are all but forgotten until placed in a similar situation. However, if you screw-up bad enough and commit a potentially catastrophic error, the experience is likely to remain with you indefinitely. I'm going to relate one such incident that I will never forget!

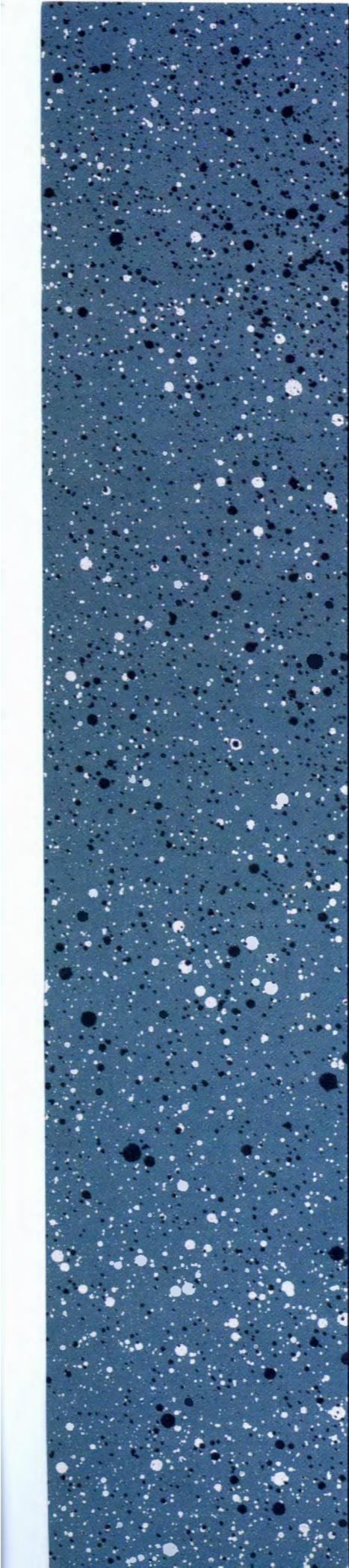
Throughout this article you will witness a sequence of pitfalls (i.e., habit pattern, channelized attention, rationalization, "Copilot Syndrome") that contributed to a takeoff attempt in an improperly configured KC-10. Thankfully, our takeoff warning horn worked as advertised and brought this situation to our attention. However, as we have witnessed before in incidents such as the fatal 1987 Northwest Airlines crash in Detroit, these warning systems don't always function properly. It will always bother me that because of the chain of events in the cockpit that day, the only thing that stopped us from taking off without flaps and slats properly set was a mechanical warning horn.

First, a little background on our very experienced crew. The Aircraft Commander (AC) was a highly respected instructor with over 18 years flying experience, 5,000 total hours, and 3,000 hours in the KC-10. He was recognized as an outstanding pilot. It was easy for me and others to think of this guy as "Mr KC-10." I, the "young" copilot had a total of 900 pilot hours including 600 in the KC-10. In

addition, I had 800 hours of navigator time for a total of 1,700 hours in my 6 years of flying. The other two positions were filled by "old head" instructors who would both retire within the year. The Flight Engineer (FE) and the Boom Operator (BO) together had accumulated well over 8,000 total hours including at least 3,000 in the KC-10 during their 25 years of flying. A "green" crew we weren't, so logically there was not too much that could get us into trouble -- or was there?

The mission was the third leg of a standard 3-hop cargo run that we made en route to our operating location at Zaragoza AB, Spain. After departure from home station, we proceeded to Dover AFB to upload cargo. Four hours later we departed the states and flew to Rhein-Main AB, Germany, where we downloaded cargo and remained over night. Although I don't recall the exact takeoff and landing times, I believe we had about 20 hours crew rest until report time for our eventful sortie the next day.

We were scheduled for a respectable takeoff time of approximately 1000 hours local. At Base Ops, we scanned the posted notices in the flight planning room for procedures that differed from stateside operations. With the information about clearance call procedures and departure slot times in hand, we headed to the aircraft. At the plane, everything from preflight up through engine start was uneventful. We obtained our taxi clearance and proceeded to the runway which was about 3 miles away. As per **habit pattern**, the AC called for the Before Takeoff Checklist as soon as we cleared the ramp and turned on to the taxiway. Dutifully, the FE called for me to set the flaps/slats. As I was reaching to do this, the



The FE called for me to set the flaps/slats. As I was reaching to do this, the AC intervened and said, "Let's hold off on setting them until we're closer to the runway."

AC intervened and said, "Let's hold off on setting them until we're closer to the runway." He thought he had read something about not taxiing with flaps down due to increased anti-hijack awareness in Europe. No one else could recall anything like this; but, nevertheless, we did not set them. We figured it was no big deal (or was it?) since we would have plenty of time to set them later. Besides, the boss said don't!

We continued to taxi and performed the next step in the checklist -- flight controls. As I moved the yoke through the motions to check for proper aileron/spoiler deflection, we noticed that our cockpit indicator was only showing half-deflection. The FE glanced at his hydraulic panel, and we rechecked the controls getting the same improper indications. The BO visually scanned the wings and reported that all controls appeared normal. So, as we continued to taxi along, we **channelized** our attention to the flight controls. We thought we had a problem. In actuality, this was a correct indication. When the flaps/slats are **NOT** set, the outboard ailerons are locked out. But at the time, none of us recalled this (despite learning it during training); and we pressed on trying to work the problem. Next came the discussions of whether to proceed or cancel the mission.

"**Copilot Syndrome**" refers to submitting to, or following another more experienced individual since he is obviously more knowledgeable and has the well being of the crew in mind. Undoubtedly, I and the rest of the crew fell victim to this syndrome. We were all somewhat hesitant to continue the mission due to our uncertainty about the flight controls and the fact that it was against all common sense to takeoff with this problem. However, the AC **rationalized** that since all systems appeared to be normal, it must be a gauge problem despite the fact that the internal self-test checked good. Furthermore, he felt that our lightweight, overpowered KC-10 would be able to overcome any potential minor flight control problem. We were definitely skeptical of this reasoning; but our AC had more ability, knowledge, and experience in this airplane than anyone else in the Air Force. We fell for it!

After taxiing and working the problem for 15 minutes, we made it to the runway hold line and completed the rest of the Before Takeoff check. But

As the throttles came up, it happened -- the takeoff warning horn blasted.

were we really complete? Our Dash 1 allows us to perform checklist items out of sequence, but the FE must go back and finish omitted items prior to calling the checklist complete. We had just spent the last 15 minutes reasoning that we really didn't have a flight control problem and that even if we did it was nothing we or the plane couldn't handle. But in doing this we forgot to perform the first step in the checklist; **flaps/slats-set**.

Tower cleared us for takeoff. We cleared final and checked the runway but never performed a configuration safety check. The AC lined up on the runway and called for takeoff power. As the throttles came up, it happened -- the takeoff warning horn blasted. As I was looking around for a silence button to push, the AC reached over and dropped the flaps/slats into a takeoff setting. We continued the takeoff and became airborne uneventfully.

Although it's been 3 years since this eventful sortie, I often look back and reflect upon it. The one positive thing that came from it is the **good** habit pattern I've developed for myself. Now that I'm an AC, I faithfully perform a configuration safety check before every takeoff. Few things get me more upset than to allow a distraction to make me overlook this. You never know what you might find after a quick "3 engines, gear, flaps/slats, spoilers, pressure, pneumatics."

As I stated earlier, there are many pitfalls to which we can all fall victim. However, if we're aware of these through in-depth debriefs and self-critiques, we can continually improve and reduce the potential for further serious incidents. The things we need to be cognizant of are: First, don't become a "creature of habit." If you don't want to perform a particular task right away, then don't initiate it. Next, if you're working a problem, take a moment to sit back and look at the big picture. Don't let one thing "channelize your attention" and force you to forget required items. Additionally, if something doesn't look right then there's probably a good reason for it. Don't "rationalize" your crew or airplane into a position that you shouldn't be in. Finally, no matter what your crew position on any airplane, don't contribute to the "copilot syndrome." If something isn't right or you have hesitations about anything, speak up. The bottom line is to use your experience and judgement to keep you and your aircraft from a position you may not recover from! ■

Drawdown and No Pain

I was rather horrified the other day when I came home and found my two-year-old son throwing himself down on the floor with a dull, hollow thump as his head met the hardwood. Since I'm still a "new" father, I struggled to remain calm as I asked him what the... he was doing.

"I hurt self," he giggled. No kidding! Luckily he didn't really hurt himself, but I started wondering why; after two years of his mother and me trying to teach him to **not** hurt himself, he was purposely ignoring our sage, parental advice. We spend our lives teaching our children the safe way to proceed through life, yet they invariably ignore or forget that advice and periodically do something to "hurt self." In the world of missiles, ignoring or forgetting that advice could be catastrophic.

Missile operations have changed significantly in just the last couple of years, and probably will continue to change even more as we draw down. The major threat to the US has changed and decentralized; weapons systems come and go at the whim of the planners and budget controllers; and people come and go almost on a constant basis. One constant, however, remains: the need for safe, secure operations and maintenance of our missile systems. This need may actually be more imperative now than in the past. What! How can that be possible?

Most of the students that I teach

go to one of two places: Malmstrom AFB in Montana, or Whiteman AFB in Missouri. Since the President's stand down order in September 1991, one question crops up in every class: "Sir, if the missiles are off alert, why are we going to be out there at all?" Besides our Emergency War Order (EWO) needs, the answer can only be one thing; to provide the safety, security and maintenance necessary when dealing with nuclear weapons. Mental attitude becomes especially important now. During our drawdown, it is going to be very easy for a crew member or maintenance team member to start thinking that they and what they do is less important. That kind of thinking **will** eventually impact your job performance, and sooner or later someone will let safe mission accomplishment slide. Evidence of this attitude is peppered through our history and has resulted in Accidents, Incidents, or Deficiencies (AIDs). The Titan explosion in Arkansas in late 1980 is just one example.

Safe mission accomplishment is our number one priority and even one mishap is too many. Instilling

the proper attitude starts with the instructors at the 4315th Combat Crew Training Squadron and continues through the line crew and squadron command sections. Safe mission accomplishment is necessary to complete our mission, whether it is alert duty, drawdown or anything else. There is **no** reason that the mission cannot be accomplished in a safe manner. We operators must maintain the awareness and alert attitude necessary to ensure safe mission accomplishment.

As we continue to face change after change, reduction after reduction, we must be aware of the gremlins waiting for the one time someone decides they or their missions are unimportant. Unsafe mission accomplishment cannot be tolerated; it costs equipment, money, and worst of all, lives. No matter how many times our parents, Air Combat Command, or whomever tells us to be safe, the threat of a mishap is always with us. We must constantly remind ourselves of this, always striving toward the zero mishap goal, and finish our drawdown with **no** pain!

■

Omni, Omni, Whose Training is it Anyway?

Remember way back to UPT? Okay, some of us have more trouble remembering than others. But hey, the mind is only the **second** thing to go, right?

(Just kidding, Sir.) Seriously though, those IP's in Training Command really were teaching us something about flying -- the ability to think for ourselves. And **THAT** sports fans is absolutely essential when flying airplanes. It doesn't matter what type. All airplanes require a driver who can think and make sound decisions regarding the safe operation of that aircraft. This article is actually about single seat responsibilities, but it does have some applicability to crew airplanes as well. For those lucky enough to have done it, flying single seat is a great feeling. It's a feeling of freedom, of being able to conduct one's cockpit affairs as one sees fit. It means never having to say "I'm sorry" to anyone except those **outside** your airplane. But it also means responsibility. It means there is no one else to blame for cockpit screw-ups; i.e. missed radio calls, switch errors, and other assorted buffoonery.

Flying single seat is a great challenge. No one is directly looking over your shoulder, but then again

no one is there to help fly the airplane while you deal with complex mission tasks or critical emergencies. Granted we don't normally run around single seat **and** single ship, and we normally have a SOF handy for local flying. But those facts do not relieve us of our responsibilities. My specific concern is with training and resultant proficiency.

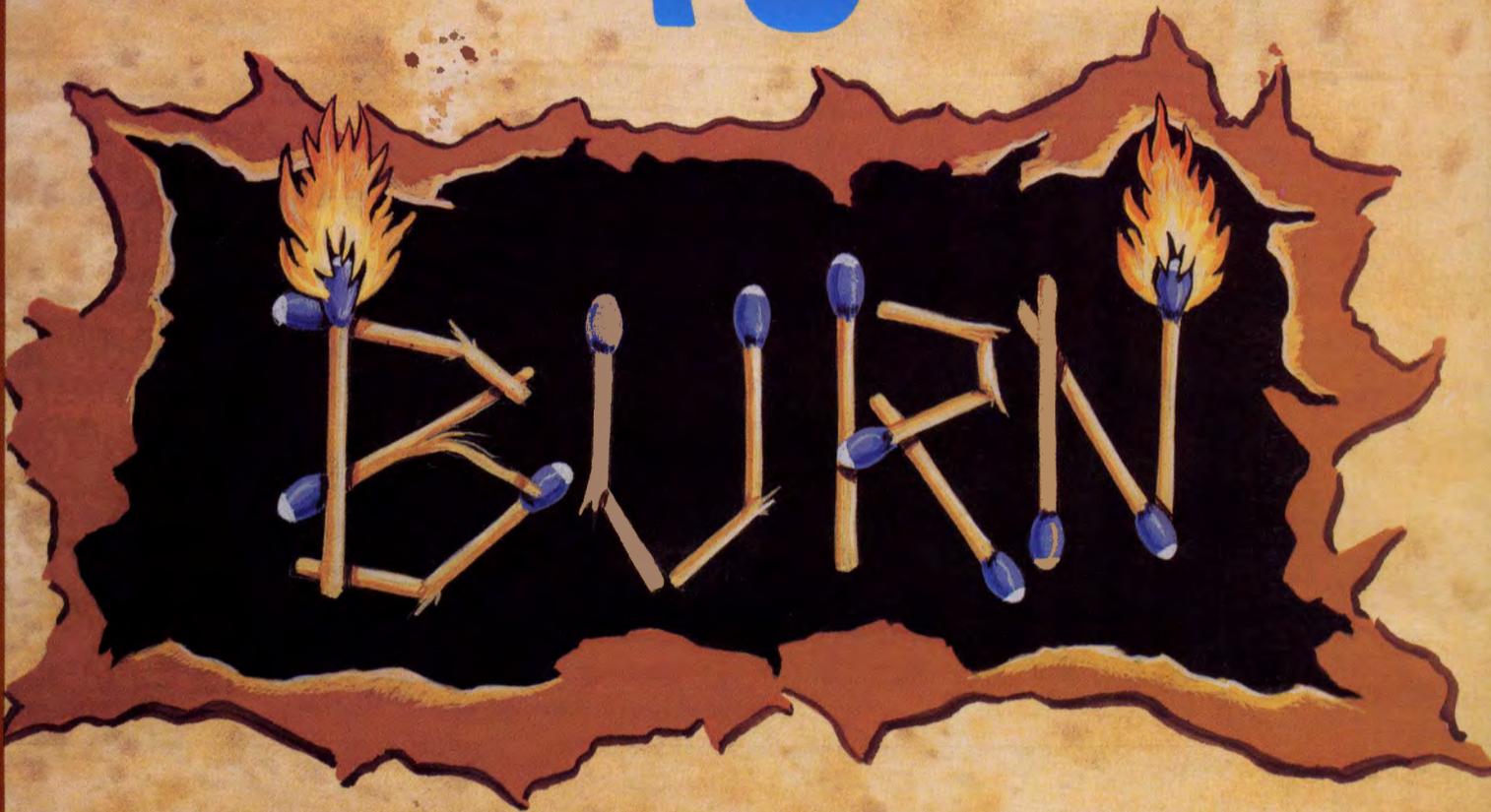
The one thing single seat guys absolutely must have is proficiency in everything they do. Failure to be able to perform any task which might be required, however remote the possibility, could be disastrous. Of equally grave potential is not knowing or understanding all of the systems of your flying machine. A lack of proficiency coupled with a lack of knowledge is a pretty darn good mishap recipe.

The path to proficiency is laced with good knowledge, and there is no substitute yet known for good old fashioned book-cracking study. Hey! We keep telling ourselves what smart guys we are - let's prove it.

That same path to proficiency is paved with good training. An important aspect of training is knowing when it is necessary. For single seat pilots that means we must be somewhat introspective of ourselves. Each of us has to be truly cognizant of our own proficiency and take appropriate steps to improve it when necessary. And we need to do that **before** a potentially serious situation arises which might require very high levels of proficiency. Those levels of proficiency must be there when called upon. Anything less adversely impacts the mission and, ultimately, could prove fatal. We, as single seat pilots, are directly responsible for our training; not the MAJCOM, not the Ops Officer, not the Tech Order. **WE** are.

I guess my message is: Hey, guys. When we go out and strap on that complex piece of machinery, we have to be ready for anything. If not, we are courting disaster. **Fly Safe and Check Six!** ■

LEARN NOT TO



T

his article was written purely with the intent of mishap prevention and lessening the effects of forces such as fire/heat and impact that may be exerted on mishap aircrews. People close to mishaps referenced here should not be offended. It is not my intention to point any fingers. Rather, in an attempt to “get the word out,” I’m extending a helping hand and possibly some words to live by.

Some of what I discovered after reviewing recent Class A mishaps made the hair stand up on the back of my neck. Observing fellow pilots all bandaged and gooped-up with all types of tubes attached to them reminds me of some of these initial lessons.

Some of what I discovered after reviewing recent Class A mishaps made the hair stand up on the back of my neck. I've had the benefit, or detriment if you will, of some aviation experience in another

branch of the military. I distinctly remember from my Army days a man who had considerable first-hand knowledge about fire and its effects on the human body. He was the Army's burn survivor. Looking at his disfigurement and listening to him reinforced everything I'd been taught about protective gear.

Later, I saw a film of the Air Force's burn survivor. Again, this drove home the point. Observing fellow pilots all bandaged and gooped-up with all types of tubes attached to them reminds me of some of these initial lessons.

Lesson 1: If you aren't 100 percent sure of the success of your emergency pattern, then eject. A mishap pilot (MP) made a decision to stay with his jet. The mishap aircraft (MA) hit hard with approximately 20-30 G forces. This impact caused a compression fracture of one of the MP's vertebra. The two ribs attached to that particular vertebra also broke under this force. OUCH!

Lesson 2: Our protective clothing will only protect us if it's worn properly. One MP didn't have his visor down. With no protective barrier (visor) to prevent flames from contacting his flesh, he received first and second degree burns on his forehead. OUCH AGAIN!

Lesson 3: Some types of clothing detract from your protection. The MP was wearing polyester blend running shorts over his cotton briefs. His flight suit did not burn through, but a portion of his

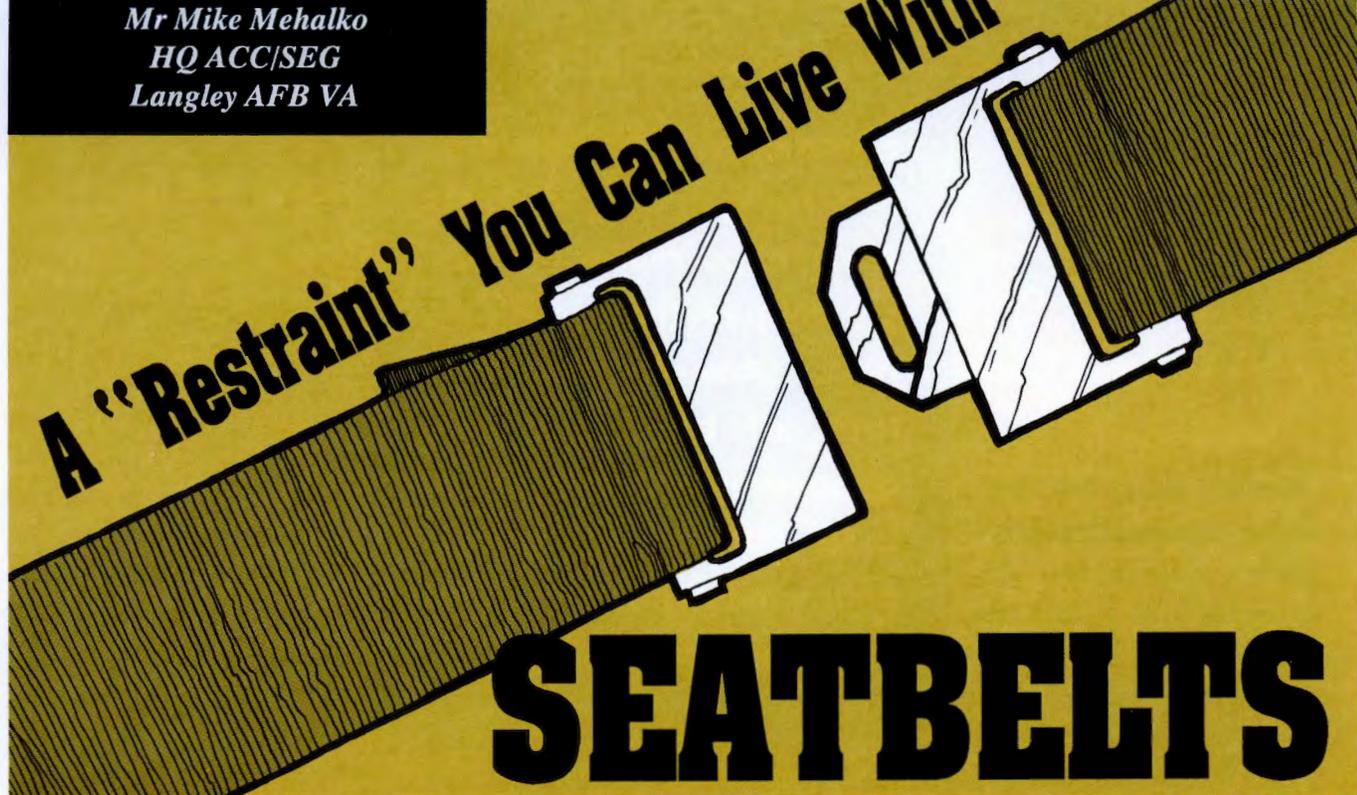
running shorts melted to his fanny.

Lesson 4: During an emergency ground egress, if fire is present, keep the canopy closed until you are fully unstrapped and untangled. In one mishap, when the canopy was opened, it created a chimney effect funnelling the flames right into the cockpit.

Lesson 5: Critical Action Procedures are just that -- critical. The MP was pulled back into the seat by his G-suit hose when he tried to stand up. I am not faulting the MP's actions. He had just been on the ride of his life with a 20-30 G jolt to his body and all the associated skidding and bumping, not to mention being in shock. However, if ever there was a time to be sure you did "belt, kit, harness, G-suit release," this was it.

Lesson 6: Portions of the cockpit may compress after impact. The MP's right foot was caught in the right leg well after a portion of the panel above his right foot collapsed. The dash one mentions cockpit break-up may occur after departing a prepared surface. Break-up/compression; what the captain meant to say was think again before riding it out. The inside of an accordion is not the place to be.

My clue bag is larger now and continues to grow. I hope you'll add these lessons learned to your clue bag and learn not to burn. ■



Seatbelt use has created more than its fair share of controversy. As with any issue, there are those who support it and those who feel it is an invasion of their rights.

The Air Force and Air Combat Command have consistently encouraged all personnel, military, civilian, dependents, contractors, etc., to use seat belts as a proven means to reduce injuries and above all "Save Lives."

There are those who complain that seatbelts are confining, that they may keep you from escaping a vehicle that is on fire or has gone into a body of water. Here are some thoughts that overshadow these situations. Your seatbelt will allow you to survive and remain conscious in a vehicle mishap. In a mishap, you will be thrown around the interior of your vehicle if you are not restrained by a seatbelt. You can be knocked unconscious; unable to help yourself. When your vehicle goes through violent maneuvers, such as a rollover, you could be injured to the point you could not free yourself when it is on fire or sinking in water. The interior of your vehicle provides the best and safest "space" to survive and regain your senses to help yourself. It would be less than honest to say that seatbelts will guarantee survival. Each and every mishap is different. Some mishaps are just so violent that serious injury cannot be avoided. How-

ever, these mishaps are rare. Seatbelts are like an insurance policy; they are designed to lessen the hardship endured in any loss. Some say they are uncomfortable. Well, so is paying an insurance premium, but we still do it. The seatbelts installed in today's vehicles are more comfort oriented and, in some instances, passive. However, some of the new passive systems have a limitation, you still need to buckle the lap portion of the belt. We have experienced mishaps where the Air Force person failed to buckle the lap belt and sustained serious injury after sliding out from under the shoulder belt.

Older, three-point systems where the lap and shoulder belts are attached to a single buckle are often used improperly too. Many people feel it more comfortable to place the shoulder strap under their arm. The shoulder belt is designed to distribute the force across the entire chest area. With the strap slung under your arm, the entire force is applied to only one or two ribs. The force causes the ribs to snap and results in injuries to the heart, lungs and or liver.

Remember, you may only need that "perceived" uncomfortable seatbelt once. But when? Which is better, being slightly uncomfortable wearing the seatbelt or dealing with the pain inflicted by serious injury? The choice is yours! ■



FIRST AID KITS

DO YOURS COME FIRST?

SSgt Steve Vogel
442 CES/SE
Richards-Gebaur AFB MO

How long has it been since you have seen your first aid kit? Is it in its rightful place, or is it hidden where it may not be found in an emergency? What does it contain; and of its contents, how much of it is outdated or expired?

These are all questions that those of us who are involved in safety should ask ourselves on a regular basis. I never thought of these questions myself until recently, when my alternate Safety NCO and I were conducting our quarterly unit self inspection and found that the unit to which we belong had not been in compliance with AFOSH standards or, more specifically, OSHA regulations concerning first aid kits found in CFR 29 1926.50.

It's quite embarrassing
aid kits
co
OS

expired. Another problem was the fact that none of the kits were at a specific location where personnel would know where to find them in a hurry. Equally important, it was obvious that these kits had not been inspected for years.

Common sense will tell you basically all you need to know about what should be contained in a first aid kit, where it should be maintained, and how to keep it updated; however, read the standards and get familiar with them. It will only help.

The recommendations
the content

First Aid Kits REVISITED

A recent article, "First Aid Kits, Do Yours Come First?" (Jun 92), has raised some questions from our units. The requirement to maintain a first aid kit as outlined in the article is dictated by OSHA 1926 which applies to off-site construction where there are no medical facilities readily available. It does not apply to normal industrial operations on-site, on-base.

The article was not meant to circumvent medical treatment at a base hospital, clinic, or infirmary. We highly recommend treatment at medical facilities by trained medical personnel. We discourage self-treatment of any injuries.

We hope this clarifies the intent of the article. However, if you have any questions -- contact the experts in your ground safety office.

Mr Mike Mehalko
HQ ACC/SEG
Langley AFB VA

Fleagle

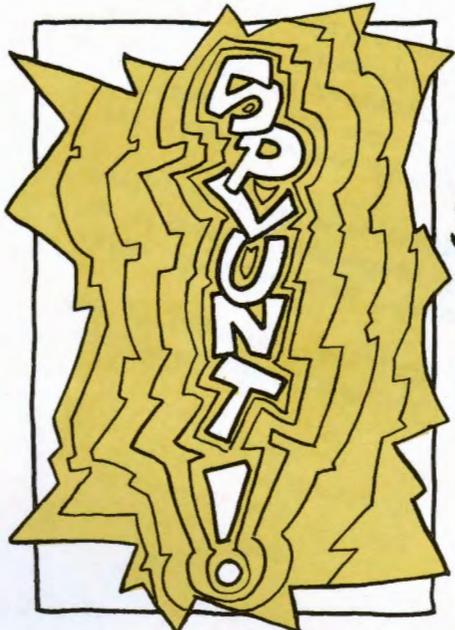
THIS IS TH' SUMMER
I AIN'T GONNA GET KNOCKED ON
MY CAN BY NO OCEAN WAVE.



SEE, IT TAKES MORE
THAN A LITTLE BIT
OF WATER TO PUT
THIS GUY DOWN.

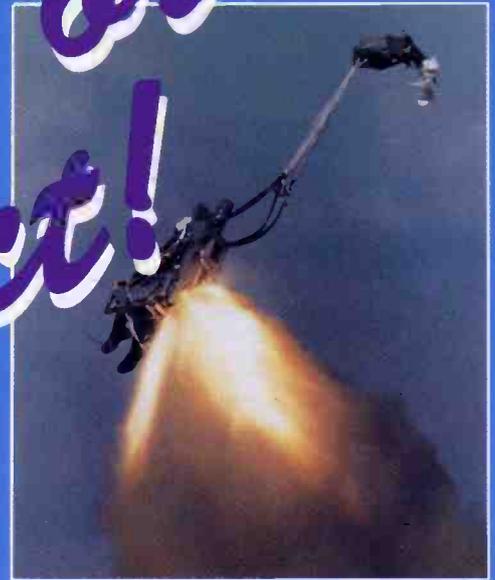


WHAT TH...?



Major Zeke Giglio
HQ ACC/SEF
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To Eject or
not to Eject!



...should there be
a question?

Aviators are, by and large, not “quitters.” Quitters usually don’t make it through the selection process, and undergraduate training for military aviation develops a “sense of commitment.” While this commitment is normally good, it can be a bad thing. (I’ll let you figure out “good” versus “bad” as you read on.) Overcommitment during emergency situations is a recurring problem in military aviation, especially in ejection seat equipped aircraft. A discussion of this phenomenon in non-ejection capable aircraft will have to wait for a future article.

In early aviation, the parachute was developed as the final backup for machine problems; after all, people were worth more than aircraft. Initially, there was some sentiment that wearing this new item was a sign of lack of commitment (i.e., cowardice) on the part of the wearer. Eventually, use of

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this survival equipment became standard for military aviators.

When ejection systems were invented, there was probably some distrust of these new-fangled contraptions. This is understandable since, with early

“bang” seats, there was a good possibility that the ejectee could suffer injury from the system’s operation; but that was still better than the alternative. These old systems were also very limited in performance (remember the T-37?), so absolute mini-

mums and recommended minimums were published. The recommended minimums are still with us. (“Allright class, what are they?” “10,000’ AGL uncontrolled and 2,000’ AGL controlled, Teacher!” “That’s right!”) The absolute minimums vary by system, but newer ones are usually “zero-zero.” The current state of the art for USAF ejection seats is the ACES-II, which can save you in a high sink

rate even relatively close to the ground. These improved systems should engender great confidence in ejection as the best key to survival in a bad situation.

So, where's the problem? To roughly quote the Bard (Shakespeare, for you non-literary types), "The problem lies not in our systems, but in ourselves." Aviators continue to press below the recommended minimums for ejection, or sometimes choose not to eject when it's necessary. These instances usually occur while "working a problem." Examples:

(1) While attempting a BUC airstart in an F-16, the pilot continued well below 2,000' AGL before ejecting. In this instance, the pilot's commitment to re-starting his engine was the culprit.

(2) A pilot continued a flame-out landing attempt even though he was below minimum airspeed and altitude parameters for the flameout pattern. The aircraft impacted in the overrun in a heavy sink rate, and the pilot was severely injured. Here, the pilot was committed to landing the aircraft, and he also underestimated the capabilities of his ejection system. In fact, he was within the ejection envelope until one second prior to impact.

"Well, what's your point?" you may ask. We as aviators need to encourage discussion about ejection decisions. I think most aviators have in their own mind some basic conditions that mean "eject" to them. Usually, when there is a serious aircraft problem, like a fire, or catastrophic structural failure, the ejection decision is automatic, but what about other less obvious situations?

How long do you continue in a steadily deteriorating situation, like a steady hydraulic leak? How long do you continue an airstart? What if you aren't sure about making a flameout landing from your present position? What if the control forces required to maintain flight exceed your physical capabilities? Should the proximity of houses, buildings, or other ground structures enter into the decision?

What about crew decisions? Different people have different outlooks. Yeah, I know it's a standard briefing item; but just how "standard" is it? Are you going to stay with a jet that departs the runway? Is there a maximum speed for "off-road" in your jet? How about incapacitation, like GLC or birdstrikes? Who commands the ejection? Who pulls the handle? Is it command sequenced or everyone for themselves?

This also applies when you have a "passenger," such as orientation and incentive flights. Does the passenger have a vote? Should the passenger take responsibility for ejection? When?

Spend some time talking about these things, formally and informally, because if you wait until the situation is at hand, you could be surprised. Discuss the ejection decision in emergency procedures training, safety briefs, even at the bar.

The other area of discussion is whether the 10,000' 2,000' guidance is still good, given the state-of-the-art systems' capabilities. The bottom line is that guidance is given for an insurance pad. Temporal distortion is a very real threat in emergency situations; these minimums give you a needed pad. By the way, I have yet to hear anyone second-guess an

Are you going to stay with a jet that departs the runway? Is there a maximum speed for "off-road" in your jet? How about incapacitation, like GLC or birdstrikes? Who commands the ejection? Who pulls the handle? Is it command sequenced or everyone for themselves?

ejection decision, except a late one. Even in these days of multi-million dollar wonder jets, your lives are worth more than any piece of aluminum alloy out there.

Hey! Train right, fly smart, and let's be careful out there! ■

