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THE COMBAT EDGE
Published Quarterly by Air Combat Command, HQ ACC, Langley AFB, Virginia 23665-2300, Periodical Postage Paid at Hampton, VA 23669. Additional mailing offices: Postmaster: Send changes of address to HQ ACC, Langley AFB, Virginia 23665-2300.

DISTRIBUTION: 42% to ACC, 58% to public. Distribution is based on a ratio of one copy per 10 persons assigned. Air Force units should contact the Combat Edge Staff to establish an change requirements.

ANNUAL SUBSCRIPTIONS AVAILABLE TO NON-U.S. PERSONNEL ON BILLING BASIS. The U.S. from the Superintendent of Documents, AFB, Fort Knox, KY 40118-5001. All subscription service correspondence should be directed to the Superintendent of Documents, Not National Guard.

CONTRIBUTIONS: Please send articles with name, rank, DSN, phone, number, e-mail, complete mailing address and comments to.

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The Editors reserve the right to edit all manuscripts for readability and good taste.

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There are many times when a discussion of flying safety will give a pilot the lethargic view that it’s all the same old stuff he’s heard over and over again. And it would be completely true except that each and every one of us has had one or more actual experiences where we just barely squeezed by to a safe flight. The story behind some of these flights usually falls under one of the many categories that make up this thing called Flying Safety.

Thinking back over my own experiences, I was tempted to tell a few of these stories on myself, but such true confessions are best told at the Officers’ Club when your buddies can usually top the best tale you have. Regardless, my experiences have impressed me with two factors that have most often made the big difference; flight planning, and knowledge of the equipment. These subjects may seem mundane. We’ve beaten them around since flying school days, so I suspect that you’d rather read about things like skill and judgment from someone who has done experimental test flying. These certainly are excellent qualities and well debated, when fighter pilots get together, but I’ve found that they vary as the sum total of a pilot’s experience and that in the long run it’s the fundamentals that add up to safe flight operation.

This month we have a treat from one of the sharpest pilots in the business, Major Bob White, who took time out from his fine work with the X-15 program to write his views on Flying Safety. Although Bob has no magic formula, he does have some good thoughts about the basic principles that form the foundation for safe and successful flights. I’m certain that you will enjoy his article as much as I did.

— Col James K. Johnson, TAC Chief of Safety, 1963

Reprinted from TAC Attack, March 1963
We’ve all read too many times about someone crashing short of destination because they ran out of fuel. Many of these flights involved the old T-bird. Usually the pilot started from scratch with a flight plan inadequate for the situation. It’s tough to be caught in a corner but it’s mighty grim if you don’t give yourself an even chance. Just recently I got caught in a fuel sweat during one of those maximum range flights. Then, working with the engineers, decide how fast and how high to fly, what angles of attack to use, and where to upset the airplane to see how it responds to Mach 4 or 5 or at 120,000 feet. We use computers tied into a flight simulator and study profiles over and over again to determine what we can learn from a flight and what troubles we might expect. From this we can determine alternatives to use in the event of system failures. Each specialist on the aircraft discusses his system with me in detail until I hopefully know it completely. Finally, with a flight plan in hand, I spend hours in the simulator trying to cope with every emergency thrown my way. During this period I jump off in an F-104 to shoot flameout landing approaches since the X-15 does finish with a dead-stick landing. This may be put in the skill and judgment department, but I like to think that I’m merely putting a fine edge on these qualities so I can come as close as possible to the spot they’ve marked on the runway for landing.

Each time I’ve climbed aboard the X-15 I’ve felt more adequately prepared than for any flight I’ve ever made, mainly because the flight plan and knowledge of the aircraft are all stored in my memory bin. We don’t always have time to read checklists or emergency procedures when an aircraft is in trouble. Knowing what to do immediately has paid off big in the X-15. We’ve had a number of emergencies, failures, and problems in flight that have been quickly handled by the pilot, allowing him to safely recover the machine.

In closing I’d like to make an observation that should be particularly appropriate to TAC drivers. Although the X-15 is a research rocket aircraft, giving many technical answers to the aircraft designers, those of us who fly it are trying to do the job by applying the same facets of flight safety we all use today. In our work, we hope to prove that the human pilot can still do the job best, even though it’s at the higher speeds and higher altitudes. We believe the winged aircraft and its pilot can play as big a part in tomorrow’s Air Force as in today’s.
Major Robert M. White is from New York City and first entered the Air Force in 1942. He graduated from the pilot training program in February 1944, and flew 52 combat missions with the 355th Fighter Group in the ETO before being shot down by anti-aircraft fire between Munich and Nurnberg. He spent the rest of World War II in German prison camps.

Major White was released from active duty in December 1945 and was recalled in May 1951. In January 1952 he was transferred to Johnson Air Base, Japan, where he remained until July 1953, flying with the 40th Fighter Interceptor Squadron.

He graduated from the USAF Experimental Flight Test Pilot School at Edwards Air Force Base in January 1955. At Edwards, he has been active in such projects as Phase IV testing on the F-86K and F-89H, Phase VI on the F-102 and Phase II on the F-105B and the X-3. He is currently assigned as Assistant Chief of the Flight Test Operations Division, Directorate of Flight Test at the Flight Test Center.

In 1958 Major White was appointed the USAF project pilot for the X-15 research program. His initial flight in the X-15 was made April 15, 1960 and in August he took the research craft to 136,500 feet, the highest attained in the vehicle equipped with the interim XLR-11 engine.

Nearly 50 years later, the basic foundations of thorough preflight planning, systems knowledge, and flying fundamentals still represent the cornerstones of aviation safety.

Col Mayeux

About the Author

Major Robert M. White is from New York City and first entered the Air Force in 1942. He graduated from the pilot training program in February 1944, and flew 52 combat missions with the 355th Fighter Group in the ETO before being shot down by anti-aircraft fire between Munich and Nurnberg. He spent the rest of World War II in German prison camps.

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The outburst came forcefully at first, and then tapered off to a wistful whine. The pilot was reading the F-15 Dash One for the first time (the word heresy surfaced in his mind). Our Wise One (your basic ops officer), radiating inner strength, omniscience, and humility, calmly deflected the barrage with an appropriate, profound quote from John Muir (flashback to ops officer as a young boy growing up among intellectuals in small Junior College near Malibu Beach): "When we try to pick out anything by itself, we find it hitched to everything else in the universe."
In this article, we’ll attempt to give the reader background information on some new directions being taken in the F-15 community with respect to training – specifically, emergency (we call ‘em abnormal) procedures. The lack of Boldface is just one aspect of a pervasive new philosophy about how to train people to make the SYSTEM (pilot plus machine) more effective. We don’t pretend to have “the answer” for everyone else in the flying business, or the Air Force as a whole, but we do want to encourage review and more study of the training problem in light of the huge advances in the fields of education, engineering, human factors, etc., over the last 20 years. We’ll discuss some of that research and apply it in the light of the direction taken in F-15 methods.

The way in which “all the stuff” involving F-15 operations is digested by the pilots is similar to a model used for training SAGE crews in Aerospace Command. The Sage System Training Program (SSTP) was based on the following five principles developed under laboratory simulation conditions:

1. Train a (large) functionally complete unit.
2. Simulate the environment adequately.
3. Train for FLEXIBILITY. Emphasis was on hypothesis formation testing in a variety of operational contexts. Hence, many different types of problems are run.
4. Promote SYSTEM skills and understanding. Emphasis was on the operator’s understanding of how his job (actions) fitted into the overall systems, rather than on his job, per se.
5. Monitor and record performance and provide knowledge of results.

We feel there are two important points related to flying safely which are indirectly related to Boldface procedures. They are sometimes forgotten or are not intuitively obvious to a pilot under stress.

First, the problem is not an isolated incident which occurs in a vacuum, unrelated to anything else; and secondly, YOU are responsible for your actions in the aircraft and your actions and their effects likewise do not take place in a vacuum. Unfortunately, the sheer weight of numerous Boldface procedures might tend to seduce the user into complacency because Boldface is “the answer.” Once the actions in big, black letters have been accomplished, it is easy for the pilot to implicitly assume that he can no longer be held responsible for what happens afterward. After all, he didn’t have a hand in formulating “the answer.” So, if things go sour after the initial attempt to rectify the problem, the pilot may not be mentally or emotionally prepared to cope with subsequent unanticipated complications.

It is conceivable that, in certain circumstances, the rote memory approach to Boldface procedures training might actually preclude all three steps listed in the introduction to Section III of the Flight Manual:

1. Maintain aircraft control.
2. Analyze the situation and take proper action.
3. Land as soon as practical.

This is certainly not the intent of many training programs currently in effect, but the application of the technique may result in cultivating a flock of parrots rather than pilots (or eagles, if you prefer). At most fighter wings, heavy emphasis is placed on knowing the Boldface steps; but information contained in a warning, caution, or note is asked much less frequently. If you bust Boldface, you don’t fly. Not so much with the other “general knowledge” examinations. This holds true for IG inspections. Busting boldface tests nearly always results in death for all concerned, but missing other questions on aircraft in general is not treated nearly as bad. However, two TAC accidents have indicated that Boldface procedures were not performed as required, or that while performing the Boldface, aircraft control was not maintained. Recommendations from these accidents included, “…reemphasize through Stan/Eval programs the need to maintain aircraft control before prematurely attempting to analyze and correct the situation.” We believe that all this points to a need to reassess emergency procedure training programs.

According to experts at the Air Force Human Resources Laboratory (AFHRL), Boldface procedures and tests have three major limitations: “Judgment is not allowed, diagnosis is provided in the problem statement, and only Boldface procedures are regularly treated.” Overall system knowledge and flexibility are not sufficiently emphasized.

According to experts at the Air Force Human Resources Laboratory (AFHRL), Boldface procedures and tests have three major limitations: “Judgment is not allowed, diagnosis is provided in the problem statement, and only Boldface procedures are regularly treated.” Overall system knowledge and flexibility are not sufficiently emphasized.

Finally, we must point out a basic fact: The real world is not as neat as a laboratory simulation. Training is not as formal as Boldface. The system to which you are subjected is not as rigid. Hence, it is not as calculable. The fact that what happens afterward is more unpredictable is something you must deal with as a pilot; and the knowledge you have of that unpredictability is something you must deal with as a SYSTEM operator. The problem is not isolated; it occurs in a vacuum; you are responsible for your actions in the aircraft and your actions and their effects likewise do not take place in a vacuum.

In this light, it is not only necessary to train pilots for Boldface procedures, but it is also necessary to train them to handle emergency procedures without Boldface.”
In addition, the lack of emphasis on systems knowledge and flexible judgment (a subjective and slippery thing to deal with in our quantitative environment) does not occupy the place it should in the training programs involved with emergency procedures. As stated by the AFHRL: “Boldface training discourages judgment or makes it harder to exercise.”

“Whence cometh Boldface, anyway,” we hear you cry. Boldface was implemented in the late fifties as a result of a meeting on the format of flight manuals. Back then, the aircraft crump rate gave birth to nifty slogans like, “a plan a day in Tampa Bay.” The T-33 was used as a training vehicle in UPT, and some of the IPs were requiring their students to memorize all the checklist items. Actually, there were probably just a few things that would get you killed in a hurry if not immediately taken care of – like an engine flameout at low altitude. With the knowledge and sophistication in training and educational techniques, and the reliability of aircraft of that time, Boldface was deemed the best way to solve the problem of dealing with emergencies. It was implemented in military specification manuals.

Flight, MIL-SPEC MIL M-7700A states that the emergency must:
1. Be a serious emergency.
2. Be acted upon with no time to refer to the printed checklist.
3. Have a reasonable frequency rate.

At first, there were few procedures deemed serious enough to merit Boldface treatment. But, like Jack’s magic beanstalk, they just grew and grew. However, according to Dr. Anchard Zeller (aviation psychologist), Directorate of Aerospace Safety, Norton AFB, CA, no known studies have been conducted to determine the effectiveness of the Boldface training approach.

By surfacing some of the deficiencies inherent in Boldface, we hope to provide a stimulus to explore alternative courses of action, improve present training programs, and reevaluate boldface procedures and the methods used to test them.

Why did the F-15 take another approach to the handling of abnormal situations? From the beginning, the ISD training approach was applied to the F-15. In 1974, TAC sent a letter to the F-15 Systems Program Office (SPO) suggesting that Boldface procedures be implemented until research had been done on the new methods of training. Neither the SPO nor the JTF pilots, working with ISD, MCAIR, and the 555 TFS agreed, so the Dash One was published without Boldface. Section III of the flight manual has an expanded narrative of possible abnormal situations and suggested ways of dealing with them. If this sounds a little wishy-washy, check the safety record of the F-15 to date. It is flown aggressively by your basic Air Force pilots; and although there have been several major mishaps most have been flown to a landing by their pilots, a tribute to their systems knowledge (and a well designed airplane).

Situational emergency training appears to generate a more positive attitude than Boldface training. The CPT is off in a quiet room. Generally there are only two pilots there; a mutually supportive climate exists as “what ifs” are discussed, and even lieutenants find their opinions are respected by others. Moving the switches provides for better transfer of learning than writing Boldface down, but even this is limiting. It’s just another way of attempting to get better simulation. Some CPT sessions last more than 2 hours with almost the entire Dash One covered. Normally, one pilot will act as instructor while the other performs required operations. Then they switch roles. All abnormal procedures are presented in a situational context, limited only by the instructor’s imagination and ingenuity. This has generated an atmosphere in which most pilots find their opinions are normally covered around page E-22 in one’s checklist. In addition, of course, Stan/Eval provides frequent written examinations to keep everyone up to speed (at least that’s standard).

Finally, if your head isn’t already nodding, or if you’re not late for your ground training, we quote from SYTEMS ANALYSIS TECHNIQUES by Dr. Kenyon B. DeGreene which sort of sums up the way we should be looking at our training programs:

“Task analysis is usually iterative ... Task and analysis are basic to the development of other ... subsystem products ... Data derived in task analysis do not generate these products, but they provide for subsequent evaluation and treatment.” (Italics are ours).

Advances within the Air Force over the last 20 years have been impressive indeed. We need to be sure that all the components of the “aerospace system” are optimally integrated at the highest level of development possible. New training concepts need to be explored and utilized.

Boldface was one way the Air Force decided to deal with the problems of emergency situations many years ago. The explosion of knowledge in the fields directly affecting pilot training and education, since Boldface was instituted, needs to be critically evaluated and adapted to the improvement of pilot capabilities today and tomorrow. There’s no doubt that we are being supplied with the best hardware in the world. It’s up to us to learn to employ it effectively and safely.
On your next combat mission, you can expect to be met by a mixed combination of fighter interceptors, missiles, and anti-aircraft guns. All of these threats will be directed by accurate ground and airborne radar systems, and only the most highly skilled and well-trained crews could possibly penetrate these sophisticated enemy defenses. So, what’s new? You think about this every time you prepare for, brief, conduct, and debrief a tactical mission. Knowing and countering the threat, successfully completing the mission, and returning safely make up the name of the game.

In the Tactical Air Command today, we have the most realistic training program, short of actual combat, that I have seen in more than 25 years of flying fighters. Yet not all phases of the mission are always completed: not everyone we send out on a mission returns safely. The crew has not defeated the threat if they and their jet are a smoking hole.

During the war in Southeast Asia, we had a very high aircraft damaged/destroyed rate when operations were conducted below 4,500 feet AGL. The reason quite simply was that every Son-of-a-Bolshevik out there had a weapon, small as it may have been, and he fired it at every passing US aircraft. In that case (and I realize it probably won’t apply in the next conflict), a simple solution was to stay above the area where ground fire became the highest threat.

Obviously, as we rip over the enemy terrain at 500 KTS in today’s projected threat environment, the priority threat at any instant may very well be different than it was 10 miles and slightly over one minute ago. We have to react fast to what’s around us; at the same time, we must think more than 10 miles ahead of our jet, exercise good visual lookout, check RHAW, monitor aircraft systems, and do the whole gamut of tasks associated with successfully accomplishing the assigned mission.
Consider the way we train to be able to really do this job. There are those who feel the only way is to fly as close to the ground as they can get, hoping not to be detected. Others plan and fly profiles that use different heights above the ground, direct and/or indirect terrain masking, based on the highest in that segment of the mission. In reality, as surely as there are going to be times in combat that you must fly at 100 feet or less to survive, there are times that you should be at 1,000 or even 10,000 feet. Let’s look at a hypothetical mission where you ingress through an area protected by fighters, transition into a rolling terrain area populated by mobile SAMs, and finally, hit a target protected by short range SAMs and AAA: a tough but typical scenario.

Take the mission apart and look at the pieces. The first threat is GCI controlled fighters. You would like to make it difficult for them to find and intercept you and at the same time limit the area of visual lookout required for you or your wingie to detect them. If your choice is to fly near the ground, you have to cover only a hemisphere of airspace. Stay high enough that your shadows won’t make it easy for the enemy to find you and low enough that he can’t slip up from below. To have good visual lookout behind your 3-9 o’clock line, and stay far enough from your shadows, an altitude around 1,000 feet AGL seems to best fit the circumstances. If attacked by a fighter, detection probability is high, you have maneuvering room to counter the attack, and still have some room to maneuver. If needed, you can still take it down; but again, once you have made your move down, the rocks become the big threat.

The final run into and out of the target areas is tough, and there is where you earn your pay. Defenses may be intense, but, if your only option is to run in at high speed in the weeds, the greatest real threat may be Old Mother Earth. The other things distract you from watching this real threat. You make your pop, put the bombs on target, and hang your backside out to all these other threats and then get back down in the weeds. While you’re descending into the ground threat environment, the enemy is doing his best to get your attention at a time when even a minor distraction can give him a cheap kill. The enemy threats are many, mobile, and good; but they are not perfect. The ultimate threat of high speed contact with the ground is almost perfect, but it’s controlled by you, the highly trained, steely eyed fighter pilot. The ground won’t “jump up and hit you in the face” if you keep your perspective and priorities straight when you fly close to the earth in an environment that’s always high threat.

When you finally commit to as low as you can go, the most serious threat is the rocks! In training, it’s the only real threat. It’s not simulated; you hit it and you’re dead as surely as if you were gunned by a MIG or a SAM. The difference is that the enemy never fired a shot.

But, on with the scenario: as you continue your mission into the SAM defended areas, the air threat decreases. I’m fairly confident their aerial hunters are not too interested in becoming a target for one of their own underpaid conscripts (although some capability for simultaneous engagement probably exists). Now your primary threat is a combination of radar detection, medium to long range SAMs, and the ground, in this area you may need to fly lower. Depending on how much terrain masking is available, you will probably need to be in the 300 to 500 foot range. That gives you less lookout behind the 3-9 o’clock line, but plenty of time to look and plan ahead and monitor RHAW, and still some room to maneuver. If needed, you can still take it down; but again, once you have made your move down, the rocks become the big threat.

The ground threat environment is always high threat. You make your pop, put the bombs on target, and hang your backside out to all these other threats and then get back down in the weeds. While you’re descending into the ground threat environment, the enemy is doing his best to get your attention at a time when even a minor distraction can give him a cheap kill. The enemy threats are many, mobile, and good; but they are not perfect. The ultimate threat of high speed contact with the ground is almost perfect, but it’s controlled by you, the highly trained, steely eyed fighter pilot. The ground won’t “jump up and hit you in the face” if you keep your perspective and priorities straight when you fly close to the earth in an environment that’s always high threat.
There we were, slipping the surlies in our “Bone.” The flight progressed normally until we started an en route descent 30 miles north of Base D. At that point, the Central Integrated Test System (CITS) flagged a MUX 13 message. For those not familiar with the B-1B’s many acronyms, the CITS is a system that monitors aircraft systems. When a system is out of certain parameters, a message is displayed in the CITS monitor at the aft station. By using certain codes, we can also check all kinds of neat stuff such as brake temperatures, bleed air temperatures, valve positions, your astrological sign, etc. The Electric Multiplex (EMUX) system manages the aircraft’s electric load through the use of several black boxes (MUX boxes), with each box having a backup (redundancy box). In some systems, when we move a switch in the jet, all we are doing is requesting permission from EMUX to use that system. If the right conditions are met (airspeed, electric load, etc.), then EMUX in its great wisdom allows us to use that system (yes, this material is testable).
The CITS flagged a MUX 13 redundancy message signaling the total loss of the MUX 13 box and possibly some of the associated systems. We checked to see which systems might be affected. Among these were the hydraulic system and the landing gear. I immediately lowered the landing gear, obtaining good indications. The hydraulic systems showed normal pressure. We lost the Inertial Navigation System (INS), so we used the backup Gyro Stabilization System for navigation. At odd intervals, a handful of caution lights would flash in the pilot’s master caution panel. They would flash so fast that we could not determine which lights they were. We decided that even though there were no steady caution lights and all systems looked good other than the INS, we would make one approach to a full stop. Our Defensive Systems Officer (DSO) advised our command post of this and tried to get more specific information on possible effects of our problem. While the copilot flew the aircraft, I (Aircraft Commander) performed the necessary checklist items with the help of the Offensive Systems Officer (OSO) and the Instructor OSO (oh yeah, I forgot to tell you, we had 16 crew total flying and figured out flying 6 crewmembers with 4 ejection seats at .95 Mach was not such a hot idea). The DSO attempted the B-1 fix-all (reset) on the MUX system to no avail. The interval between the caution lights flashing seemed to decrease, so I elected to configure the aircraft early and fly the approach at flap limiting airspeed until 2 miles from touchdown. The copilot watered my eyes with an excellent landing, and at touchdown, CITS flagged the anti-skid system. I visually checked the anti-skid switch position and verified the anti-skid caution light was out. I had experienced this message at touchdown on several occasions with no actual malfunction, so I advised the copilot to continue with our briefed procedure of checking the brakes at the 7000 feet remaining marker. He also added a slight forward stick pressure for aerobraking until 40 knots below approach speed, when he applied full aft stick. At 7000 feet remaining, he checked the brakes successfully, and at the 5000 marker he applied the brakes again, slowing down below 50 knots. With 1500 feet remaining, the copilot attempted to slow down the aircraft to taxi speed to clear the runway. This time the brakes were inoperative and he announced “We have no brakes!” I took command of the jet and applied the brakes with no response. I then told the copilot “Go to emergency.” He placed the emergency brake switch to Emergency, calmly announced the loss of brakes to the tower and requested fire coverage. With the emergency brake system, we had no anti-skid; so I tried to be gentle applying the brakes. However, as soon as I applied pressure with my size 11s, I heard a loud bang and the aircraft started moving sideways toward the right edge of the runway with the tail skidding considerably. I released the brakes and attempted to engage the nosewheel steering, with no result. With both the departure and the right edge of the runway rapidly approaching, I slammed on the left brake and started to reach for the engine start and shutdown switches. The aircraft started to skid to the left and came to an abrupt stop about 100 feet from the departure end and 30 feet from the right edge of the runway. I was then concerned with the possibility of engine damage/fire from what I assumed would be at least one blown tire. While I questioned tower on any smoke/unusual indications, the Instructor OSO lowered the ladder and visually scanned the area. The OSO and DSO verified on CITS that the temperatures were normal. Tower personnel reported some white smoke had been seen before, but there was none now. This was verified by our fearless Instructor OSO, who also found no visible damage. We shut down the engines on the runway and the aircraft was towed to parking. All main gear tires were changed; however, there was no aircraft damage. Three were worn beyond limits and the side stress on the others had rendered them unusable. Besides scoring a few years off of my life, the incident really brought to my mind a few things that I had instructors drill to me and I passed on to my students. Fly the Airplane I have to admit I relaxed some after we touched down and checked the brakes. However, when I heard the pilot’s comment about the brakes, my adrenaline went back to where it was and then some. Even though you have landed the aircraft, there are a lot of things to be done before you can start patting yourself and your crew on the back. The brakes in this airplane work so well that 9 times out of 10 you have to add power to taxi to the end of the runway. Someone a lot smarter than me once said, “There is nothing more useless than the altitude above you and the runway behind you.” You may think twice before trying to rush to get to the end of the runway to let the airplane behind you get a touch and go. I’d hate to think what could have happened if we had been going much faster or if the runway was wet, especially with the rubber deposits we then had at Base D. With the loss of MUX 13, the anti-skid system malfunctioned so that it released the pressure on the brakes. By selecting the emergency brake system, we deenergized the anti-skid system. The accumulators used for emergency braking can give us up to 14 applications. However, in this case, the engines were running and the hydraulic systems were operating normally keeping the accumulators charged; so we had unlimited applications available.

Know your Boldface

They are boldface items for a reason. With the end of the runway rapidly approaching, there was no time to think about the brake failure procedure. I cannot print the word that came to my mind after I stepped on the brakes with no effect, but the first words out of my mouth were the boldface I had written so many times for our beloved Stan/Eval types. Judging by the quickness of his reaction, I’m sure it was on the copilot’s mind also.

When in Doubt, Get Help

Since the only system we had actually lost was the INS, I elected not to declare an emergency. The fire department responded in a short time, but it felt like an eternity for somebody sitting in a crippled jet. There are many things we have yet to learn concerning partial MUX failures. It doesn’t pay to underestimate MUX. If some of your black boxes go TILT on you, maybe you ought to get as much help as you can.

The old adage that goes “Aviation in itself is not inherently dangerous; but to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect” still applies in our electric jets just as in any other aircraft. This is true not only for actual flying but also mission planning. When you are about to run out of runway is not the time to decide who is going to do what and when. Take your time in mission planning to decide how you will handle an emergency. You owe it to yourself. FLY SAFE!
An F-16 had experienced a cockpit while waiting for the successful completion of de-... (Feb 11)

BATT 12, 43 ECS, 355 FW, DAVIS-MONTHAN AFB AZ. Three hours into a night training mission, the crew of EC-130H recognized an unsafe Left Main Landing Gear (LMLG) indication on final approach. The crew confirmed the LMLG was stuck in the up position and hydraulic fluid was leaking onto it. With no published procedures for this malfunction, the crew utilized CRM on board and determined the gear should be manually raised. With gear secured, it was determined that normal brakes were inoperative due to the hydraulic leak, and landed light weight using the emergency brakes. The crew stopped the aircraft on the runway with the use of reverse power from the propellers. (Mar 11)

SSGT ANDREW T. BYRD, 451 EAMXS, 451 AW, KANDAHAR AF, AFGHANISTAN. During inspection of an A-10, Ssgt Byrd identified a cut in the sidewall of the nose landing gear tire. The cut was deep enough to render the tire unserviceable for flight. As he backed tracked the steps of the aircraft, he noticed a large metal bracket mounted on the ground in front of the fuel barn used to secure the cowl door during inclement weather. To prevent further incidents, he coordinated with the Fabrication Flight to cut off the bolt threads flush with the nuts. Due to his proactive actions, a hazard on the ramp has been identified and eliminated and zulu ramp is now a safer place to operate our aircraft. (Feb 11)

SSGT WILLIAM A. HATTEN, 28 AMXS, 28 BW, ELLSWORTH AFB SD. During a B-1 recovery, Ssgt Hatten discovered a brake overtemp upon landing. He correctly identified a faulty brake temperature sensor during the brake change by collecting data from the aircrew regarding temperature fluctuations during landing and taxi. Both the brake and temperature sensor were ordered, received and replaced in less than 1 hour vs. the 2.5 hour standard, ensuring the aircraft was returned to full mission-capable status in record time. (Mar 11)

SSGT DEXTER J. WHITE, 432 AMXS, 432 BW, ELLSWORTH AFB SD. Ssgt White created a standalone lighting system for the windowless Reaper Aircraft Maintenance Unit Support section. Using spare uninterruptable power supplies, light fixtures, and a light-all-generators, he provided light to a hazardous industrial area, greatly reducing the potential for a major mishap. He discovered an arcing Gorgon Star power supply indicator posing a risk of serious electrocution. He also identified a government motor vehicle with a malfunctioning airbag system. Ssgt White’s continued attention to detail and constant safety awareness is to be commended. (Feb 11)

SSGT THOMAS J. TATRO, 7 CMS, 7 BW, DYESS AFB TX. Ssgt Tatro safeguarded the life of an Airman who had suffered a head injury while moving a workbench. He assessed the situation, removed the Airman from the danger, and applied self-aid and buddy care. His use of first aid skills reduced the potential of long-term injury or death of the Airman. He also called a knock-off for all equipment relocation until the status of each unit could be verified. Ssgt Tatro inspected and secured the light assemblies on three additional workbenches, and briefed the shop about the ORM process and how it pertains to moving heavy furniture. (Mar 11)

SSGT GREGORY BREITLING, 966 AACS, 552 AEW, TINKER AFB OK. While waiting for the successful completion of de-icing on his aircraft, Ssgt Breitling noticed that another aircraft, taxing for takeoff, did not appear to be completely clear of ice. He called the SOP and directed the taxiing aircraft informing them to stop taxi. He conveyed the concern that any ice formation on the runway could break off during the takeoff roll or while in flight, severely damaging the aircraft’s vertical stabilizer, rudder, or flight controls making the aircraft uncontrollable. Ssgt Breitling’s swift actions broke the potentially dangerous chain of events and prevented damage to a $330M E-3 aircraft. (Mar 11)

CAPT OLIVER E. AARON, 27 FS, 1 FW, JOINT BASE LANGLEY-EUSTIS, VA. While accomplishing his night MQT syllabus flight in the F-22, as #2 in sensor trail, Capt Aaron got a RADAR FAIL Integrated Caution Advisory and Warning. Finding himself in a cloud bank, he lost sight of #1; he executed lost Wingman procedures and kept the attitude deconfliction he had built into the rejoin. While setting up aeronics, the left and right secondary multi-function displays and the HUD/DOP all went blank. Capt Aaron and his chase aircraft proceeded to RTB to a visual approach and landed uneventfully. (Mar 11)

SSGT STEVEN CAMARAO, 332 EAMXS, 332 AEW, JOINT BASE BALAD, IRAQ. An F-16 had experienced a cockpit malfunction and inadvertent munitions release while jettisoning the external wing tanks during an in-flight emergency. After helping replace the MMC, Ssgt Camarao realized there was no written tech data to reference while trying to reproduce the fault or checking to see if the replacement fixed the problem. He devised a plan to use elements of several different weapons load testers and additional technicians to monitor all available stations. His shrewd and creative troubleshooting assured the aircraft was fully functional and safe for return to flying Air Tasking Order missions. (Feb 11)

TSGT DANIEL DELOSSANTOS, 407 EODS, ALI AB, IRAQ. As the subject matter expert for all arms-related issues, Tsgt Deloossantos provided basic armory training for the Iraqi AF personnel, ensuring they are prepared for army duties and responsibilities. His knowledge and abilities helped him to develop a comprehensive Shoot, Move, Communicate course of fire for ESFF personnel. His initiative and expertise provided for safe weapons handling practices, thwarted multiple weapons malfunctions, provided for a seamless integration of host nation forces, and improved the overall effectiveness of personnel. (Mar 11)

407TH EXPLOSIVE ORDNANCE DISPOSAL (EOD) UNIT, ALI BASE, IRAQ. Upon notification of a suspicious un-attended vehicle just outside of Entry Control Point 1, EOD personnel quickly swept and cleared the vehicle, minimizing the impact to coalition operations and ensuring the safety of security personnel. Skilled robot driving expedited threat resolution, ensuring minimal impact to aircraft operations. Through training opportunities and real-world events, EOD effectively prevented coalition/Iraqi casualties from explosive-related hazards. (Mar 11)
QUARTERLY AWARDS

Flight Safety

CAPT BENJAMIN N. JODY, 386 AEW, ALI AL SALEM AB, KUWAIT. Capt. Jody’s supercharged mishap prevention efforts enabled the 386th to exceed 900 combat sorties in support of OIF and OEF as well as Pakistani flood relief without a major incident. When a brake fire handcuffed a C-130 at Mosul, Iraq, he sprang into action leading an eight-person mx and safety team to the site within hours of the incident. The crew’s instant response and spectacular repair efforts had the plane flying combat missions the next day. Capt. Jody continued his quest to make OIR flying safer by attacking AFCENT’s #1 flight safety issue - HATRIs. His phenomenal knowledge of flying procedures and investigative investigations of seven reports yielded findings that slashed flight risks in some of the most congested airspace in the world. He furthered his risk mitigation efforts by energizing ties with the Wing’s EOG which led to monthly safety briefs to over 100 flyers which included lessons learned from three Class A mishaps. He also hatched and executed an innovative plan to brief the Wing’s 24 crews on recent HATRI activity as they stepped to fly. His proactive approach to flight safety put critical information where it is needed most – with crews. The results speak for themselves – zero major incidents. Along with mishap prevention, Capt. Jody took Host Nation relations to a new level when he lectured at the second ever KAF Safety Officer Course. As part of the Army-led class, he briefed KAF officers on aircraft accident investigation helping to shape their fledging safety program and establish a partnership capacity. Capt. Jody’s superb flight safety performance didn’t stop there. Always looking to eliminate hazards, he alertedly identified deteriorating runway conditions, at Ali Al Salem, to leadership, as a threat to flight ops.

Ground Safety

SMSgt DAVID J. MARTIN, 552 ACW, TINKER AFB OK. During the FY11 first quarter, SMSgt Martin exemplified the warfighter ethos and displayed his dedication to safety while deployed to USAFCENT. As AFCENT’s Ground Safety functional, SMSgt Martin directed the efforts of 84+ safety professionals and managed 20 wing ground safety programs in the NAF and AOR. He provided guidance and technical advice to leaders and helped mitigate risks for 63K+ war fighters and $900B worth of AF assets. Acting as the AEF coordinator, he facilitated MAJCOM and AEF Center efforts to ensure safety program Malone challenges were resolved and ground safety positions across the AOR were 100% posted. Moreover, SMSgt Martin revised the SAV and PME checklists to ensure USAFCENT/SE compliance. He also revamped 20 questions for the 2011 AFCAST survey ensuring a critical safety resource for AF leaders. Using his expertise, he was able to ensure a flawless re-write and close out of a high-interest Class B mishap report within 5 days of his arrival. In addition, he provided critical logistics support to a Class A Safety Investigation Board (AISB). His efforts ensured a timely investigation and closure of a hazardous mishap prevention. This strategic thinker collaborated with USAFCENT/JA, AFSC/JA, AMC, ACC, CENTCOM, DynCorp, and others to resolve AOR vehicle mishap reporting, material handling, electrical safety and motorcycle safety concerns. As one of many speakers attending the USAFCENT AISB Chief of Safety Conference, Dave articulated an articulation briefing and was personally invited to the ACC Safety Summit by ACC’s Deputy Director of Safety. Finally, SMSgt Martin was selected as NAF/MAJCOM safety awards board member, where he reviewed over 100 records and ensured over 25 Airmen were recognized for their contributions to safety. SMSgt Martin’s hard work and dedication embodies the safety ethos.

Weapons Safety

MSGT KEVIN D. METZGER, 380 AEW, AL DHAIFRA, UAE. MSGt Metzger promoted safety by encouraging the safety of 2,000+ base personnel and thousands of Host Nation civilians/military. At HN request, he created an ESP package for healthy and safe living. He closely monitored the large arms and impulse carts. Let’s focus on these two weapons mishaps in ACC. Additionally, the mishaps we experienced fell within two munitions types -- small arms and impulse carts. All five mishaps were the result of complacency and not following technical order procedures. This trend continues to be the leading contributor to most weapons mishaps in ACC. The weapons community is the leading contributor to most weapons mishaps in ACC. The weapons community needs to take personal responsibility for the safety of our equipment and personnel.

Equipment Notes

As of March 31, 2011

Class A - Permanent Total Disability. Property Damage $2,000,000 or more
Class B - Permanent Partial Disability. Property Damage between $500,000 and $2,000,000
Class C - Lost Workday. Property Damage between $50,000 and $500,000

Class Description Effective October 1, 2009

** Non-rate Producing = Fatality

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Mishap Statistics Scoreboard

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<tr>
<th>FY11 Flight</th>
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<tr>
<td>12 AF</td>
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<td>AWFC</td>
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Ground Notes

As of the end of March 2011, ACC experienced five Class A mishaps. The last Class A mishap in March was not a fatal mishap, but involved a Permanent Total Disability. The mishap occurred when a PMV2 left the road and crashed into a ditch. As a result of the mishap, the operator of the PMV2 sustained multiple injuries; alcohol was a contributing factor in the mishap. There are rules and standards by which we all must abide. Following said rules could be the difference between saving your life or not making it home safely.

Weapons Notes

Great job ACC weapons community for educating yourselves and others on mishap prevention. Safety awareness never stops and we need to be ever vigilant. Over the last quarter, we experienced one Class C and four Class B mishaps. All five mishaps were the result of complacency and not following technical order procedures. This trend continues to be the leading contributor to most weapons mishaps in ACC. Additionally, the mishaps we experienced fell within two munitions types -- small arms and impulse carts. Let’s focus on these two areas and eliminate human error from the equation. Then and only then will we reverse this negative trend. Thanks for all you do for the ACC weapons safety community.

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THE COMBAT EDGE | 50th ANNIVERSARY EDITION | MAY 2011
ARE YOU READY FOR THE CRITICAL DAYS OF SUMMER?

don’t be one of the “NUMBERS”

Seven Stupid Airmen
Tanned or sunburned — it’s damaged skin.

Choose Your Cover

Over the Edge

If you’re tanned, you’re toast.

You might be THAT GUY if...

THE LAST THING YOU REMEMBER IS LYING DOWN
If you've been around the Air Force for any length of time, you've heard of the “Critical Days of Summer (CDoS).” It's that long-awaited time of year when the weather gets warm and the days are long, which allows us to partake in a wider range of outdoor activities. Cookouts, swimming, fishing, softball, hiking, boating, camping, and road trips as well as a plethora of other activities are very popular. Historically, these activities lead to an increase in serious injuries and mishaps during this period.

As much as most people would like to think that nothing could happen to them, the fact is, the real statistics are pretty astounding. In ACC we have statistics dating back for many years and I bet that each one of those individuals involved in a mishap at that time did not think anything would happen to them either. And how did they become one of the “numbers” you may ask?

There were several causes, which contributed to their mishaps. However, if we do not want to repeat those mistakes, every one of us must accept responsibility for our actions and be good Wingmen for our fellow Airmen. These responsibilities include refraining from taking unnecessary risks, especially when alcohol is involved, wearing appropriate safety gear, being aware of your surroundings, skipping an activity if you’re inexperienced, and avoiding activities when you’re fatigued.

There’s always a sense of security when you are taking part in an activity, and you fully believe that nothing will go wrong. It’s when you let your guard down, by believing this false sense of security that mishaps occur. But there is one thing you can do to keep you and everyone around you safe this summer: it’s called Risk Management. When you’re about to take part in any activity, think about the worst-case scenario and then do everything you can to eliminate or at least minimize the risk. If you do, chances are you won’t become one of the “numbers.”

https://afkm.wpafb.af.mil/CombatEdge
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Seven Stupid Airmen

BY AMI L. ALKONIS

The following story is true. Names of the people involved have been changed to protect the stupid. 

One sunny spring morning, seven stupid Airmen decided to go fishing and camping at Fort Bragg, North Carolina. As they had many times before, they made their way past the base and onto the narrow dirt road leading to the family camping grounds just northeast of the main base. The road leading to the campsite followed a lake and was relatively smoothed out from both engineering expertise and frequent traffic from the local population. While meeting up at the backside of the lake, one of the vehicles, a Toyota truck, got lost and ended up being unpredictably narrow, and they soon tired of being smashed with branches and pine needles – painfully sticky. While taking a break, one of the perilous seven is sitting on the hood of the car when Rich lunches the car forward yelling, “Get in – it’s time to go!” The dim light flickers above Shane’s head … then goes out. “I’ll take the hood!” And so Shane takes his spot on the hood, his arm bent backward to hold onto the passenger side of the car. Penny has had enough drama and decides to ride in the front passenger seat. Emily can’t get enough. She and Chris are bungee corded to the roof while Chase and Brett ride “chariot” in the back. Rich is emboldened by the power his “POS” now holds. “Bet you wish your truck could do this, eh Chris?!”

Rich decides to take the “long” way back to camp and, being unfamiliar with the roads, he gets lost. But nobody complains as it adds to the adventure. After awhile, they begin to hear “… ting … ting … ting … What’s that?” “Stop being paranoid, it’s just rocks hitting the car.” On they ride ‘… Ting … ting … muffled pop’ “… What’s that?” “Stop being paranoid, it’s just rocks hitting the car!” ‘… Ting … ting … SCREECH!!!’ Slam on the breaks!!!

Shane flies forward into a deep trench in the road as his life and car pass before his eyes. Chris flies over Emily and lands in front of the car, ripping part of the luggage rack as he goes. Emily summersaults into Chris’ ribcage. Chase and Brett slam into the back of the car then recoil back against the rope. Rich and Penny, inside the car, complain as it adds to the adventure. After awhile, they break for lunch, the boys can’t get enough of the adrenaline rush and convince their girlfriends that, not only is this the most awesome ride ever, it’s also safe because they’re “strapped in” with ropes. Penny is onboard, but Emily is more skeptical; what if she looses her grip on the luggage rack? Hmmm … valid point! But never fear, when recklessness is at hand, crazy, ill-conceived solutions are, too. I present to you (drum roll onboard, but Emily is more skeptical; what if she looses her grip on the luggage rack? Hmmm … valid point! But never fear, when recklessness is at hand, crazy, ill-conceived solutions are, too. I present to you (drum roll please) – the bungee cord!

And so down the tank trails they travel: One driver, two on the bumper – holding the ropes, and two on the roof (bungee corded). Everyone wants to ride, but there are only four “positions” outside the car. That’s an adventure seeking Airman to do? They tried sitting in the window Dukes of Hazard style, but the trails could be unpredictably narrow, and they soon tired of being�

~ Chief Yance Childs, ACC/SEG

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