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Reflections from the Past

The Combat Edge

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Reflections From The Past

It's a pleasure to introduce this "50th Anniversary of the Air Force" commemorative issue of *The Combat Edge* — dedicated to all the men and women who have served or are currently serving in our nation's Air Force. We have a lot to celebrate this year — as the Air Force marks a half century of helping protect America's vital interests around the globe, Air Combat Command marks its fifth anniversary as well. In this special issue, we've assembled a remarkable historical collection of mishap prevention articles from years gone by, including the January 1961 premier edition of Tactical Air Command's safety magazine (*TAC Attack*). In addition, we have included excerpts from Strategic Air Command's safety publication (*Combat Crew*) as well as Aerospace Defense Command's mishap prevention magazine (*Interceptor*). These classic articles not only chronicle combat and training missions that illustrate our rich airpower heritage, they also depict the remarkable progress we've made in safety awareness and mishap prevention.

Through the years, our efforts in safety education and awareness have been key to building our nation's Air Force and making it the dominant global power it is today. We've come a long way — the pages of the TAC, SAC, ADC and ACC safety magazines mirror our progress. Thirty years ago, for example, TAC experienced 8.6 Class A flight mishaps per 100,000 flying hours; last year, ACC's overall mishap rate was the lowest ever: less than 2 mishaps per 100,000 hours.

When you've been in the Air Force as long as I have, that kind of progress looks quite dramatic. Lately, however, our safety performance appears to have reached a plateau: over the past four years, our mishap rate has stabilized around 2.0. In fact, the Air Force Safety Center can predict with great accuracy how many and what kinds of planes we're going to crash each year. This year, I want them to lose their bets.

I think there's a way to break through that plateau and achieve even more dramatic improvements in the safety of our operations. It's called Operational Risk Management (ORM), a common sense command philosophy based around three simple tenets: Never accept unnecessary risks, make decisions to accept risk at the appropriate level, and accept risk only when the benefits clearly support it. It's an approach that can help put some rigor into our decision-making — an approach that can help us balance the risk involved in any activity against the benefits to be derived from that activity.

In the end, our goal is simple — doing our mission while preserving our people and combat capability. As you read this special commemorative issue and recall our unparalleled aviation heritage, I trust you'll agree that safety awareness is both timeless and of vital importance — vital to the airmen who forged our "golden legacy"; and vital to those who lead us into our "boundless future." And remember . . . YOU can make a difference! ■



General Richard E. Hawley
Commander

What's A Flight Leader?

Reprinted from January 1984 Issue of *TAC Attack*



*Lt Col Alan T. Reid
104 TFG
Barnes MAP MA*



What's a flight leader? The guy out front — right? Unfortunately, at times he may be only that. Look back on your career and think of the instances of good flight leadership. I dare say those that stick in your mind were ones where that leader put himself in your cockpit and made some decisions or moves that made a potentially nasty situation easier. The best flight leaders that I can recall in my opinion embodied the following qualities:

- **They knew their own limits.** They knew what they did well and not so well, and what their weaknesses were likely to be on a given day, in any state of fatigue or proficiency. So they rarely led a wingman into their own weak areas where both were likely to be maxed out.
- **They had an uncanny ability to assess their wingman's limitations at any given moment.** They knew almost instinctively when to back off and call "Knock it off," "Go through dry" or "Go around." Without the wingman even knowing it, perhaps, the flight became less demanding; a decision was made that eliminated some uncomfortable choices and allowed the wingman to concentrate only on the job at hand.
- **They thought ahead — way, way ahead.** You notice I said "thought" instead of the more popular "planned" ahead. Plans are dogmatic, in a sense, and are frequently shot to pieces. By thinking ahead, a leader saves several options so that he may then form a *plan*. The good leaders con-

served fuel so that a no sweat choice could be made between diverting, shooting a formation approach, shooting single-ship approaches or holding. They configured early, on top, so a tired wingman could hang in easier and avoid going lost wingman with its associated hassles.

- **When the mission got complicated, they kept abreast of the situation.** They were constantly checking fuel, checking weather, checking alternates, assigning re-join points and altitude blocks, verifying headings and altitudes, bugging center for lower, searching for traffic and on and on. As a wingman, you put up with it all, at first thinking him a bit of an old hen; then later, after participating in numerous close calls, you understood.

- **They had been there before.** They had witnessed or made mistakes before. They had filed all these situations away after a lot of soul searching and "it-could-have-been-me's." Very likely, they had tossed and turned for more than a few nights over some incidents of the day. As I said, they had been there before...and were not interested in going back.

- **They made decisions.** They made good decisions and some bad decisions, but they made them decisively. (Decisive decisions — that's a beauty, even for me.) They were

more than willing to make a conservative decision based on the wingman's lack of capability. They also took the heat so that wingie could save face, and they even endured a few "I-was-ready-but-Lead-was-nervous" comments later on the ground.

- **They knew the rules.** They could discriminate between the rules that existed just for the sake of having rules or to honor the most recent "trend" and the rules that were really based on long-term experience. Regardless of which rule prevailed, those leaders generally followed them. But if the situation warranted noncompliance with the rules, they took responsibility for their actions and pressed on independently. They recognized that rules are not ends in themselves but serve a greater goal that, on occasions, must be served in other manners. On the other hand, they never excused their mistakes by claiming knowledge of the rules but noncompliance due to "superior judgment."

How do you acquire, learn or relearn these qualities? "Life is a desperate struggle to succeed in being, in fact, that which we are in design," said someone whose name I can't pronounce. You don't learn to be a flight leader. Rather, you commit yourself to succeed with the full knowledge that the process never ends. You gain experience, and you make sure you gain from your experience. You accept responsibility for a flight; and you use all the rules, all the experiences, all the facets of your knowledge to date to make sure it's done to the best of your ability.

That's about the essence of it. You take charge, plan, brief and lead with a determination that it will be done to the best of your ability. If you come through as a "tiger," that's fine. If you come through as an "old hen" sometimes, that's OK too; because along with the acceptance of responsibility comes a total realignment of priorities. And I don't need to define that further — either you understand, or you don't. ■

"One expects a military leader to demonstrate in his daily performance a thorough knowledge of his own job and further an ability to train his subordinates in their duties and thereafter to supervise and evaluate their work."

General Maxwell D. Taylor



Airing Your Dirty Laundry



*Reprinted from November 1989 Issue of Combat Crew
(Safety Magazine of Strategic Air Command)*

Captain Bob Smith, flying safety officer for the 99th Bomb Wing, was disturbed even though he had just watched the B-52 make a successful six-engine approach and landing. Earlier, the command post had notified Bob that two of the eight engines had flamed out during climbout and the crew was unable to restart either engine. What concerned Bob was the fact that he was a close friend of the Instructor Pilot (IP) on board and knew he would have followed Dash One procedures. He also knew the IP would check all other possibilities (i.e., switch positions, air intakes, circuit breakers, etc). So why didn't the crew get an airstart? Bob decided he would have a discussion with the engine specialists in Quality Control (QC) and find out why.

During the course of his investigation,

Bob discovered that the flameout occurred when a new pilot had inadvertently turned off the wrong fuel switch, thereby causing fuel starvation of number seven and eight engines. The IP had taken appropriate action to reroute fuel to the affected engines, but was unable to restart either engine by Dash One procedures.

The investigation revealed that the failure to accomplish an airstart was due to the fact that the cannon plugs for the fuel control units were switched. The result was that the throttle for number seven engine operated the fuel control to number eight and vice versa. After finding this out, the first question that came to Bob's mind was: "How did the crew get those engines started in the first place?" The answer was found in the normal starting procedures for the B-52. After two engines have been started



separately, the remaining engines are started simultaneously; therefore, seven and eight started as if they were operating off their own throttle. However, during airstart procedures, each engine is started separately.

Now Bob's problem was how to report an incident like this without making the wing look too bad. He wrestled with various wordings for the report. He leaned back in his chair and thought, "Does the wing really have to bite the bullet or can we skate past this one without calling too much attention to it?" On one hand, Air Force regulations require the generation of a report since it might save someone else from repeating the same mistake. On the other hand, some may view the situation as only a once in a lifetime incident.

Bob put both hands behind his head to play a game of "what if." What if we report it as required? Everyone will point their finger at maintenance and our crews and laugh. Wiring plugs backward! What kind of supervision do you have? What if we just say we really don't know what caused it? What's the worse that can happen? Wasn't cannon plugs getting wired backward simply a fluke incident that wouldn't happen again in a hundred years? Making rules to allow for every possibility just creates unnecessary rules. You can't prevent every mistake from occurring.

Bob smiled and closed his eyes. No need to draw too much attention to the wing. I'll bet every other wing probably does the same thing. Bob continued to daydream...the wing will probably thank me for preserving their fine image and not airing their dirty laundry. We don't want other wings making jokes about our crews and maintenance teams. Especially with a once in a million occurrence. By now, Bob was convinced he was right. It wasn't such a big deal, just finish the report and business would continue as usual.

Bob leaned back further in his seat and drifted off to sleep. He dreamt that office life continued normally, and he saw himself checking his in-basket with the latest message traffic...his eye caught a mishap

report from another B-52 wing. The message read, "On attempted six-engine missed approach, pilot lost control of aircraft. The crew ejected, but the occupants of downward ejection seats received fatal injuries." Bob felt a tight constriction growing in his throat as he skipped down to the findings and cause factors.

Finding 1. Number one and two engines flamed out during flight due to pilot fuel mismanagement (Cause).

Finding 2. Number one and two engines would not restart because cannon plugs for fuel control units and throttles were switched (Cause).

Bob didn't read any further; he had a sick feeling in the pit of his stomach. He knew the price his wing had paid to prevent embarrassment was the highest extracted in Air Force aviation — loss of human lives...fellow crew member lives.

Suddenly, Bob awoke like a shot and sat straight up. He knew exactly what he had to do. The wing would recover.

Sound far-fetched? Although this story is fiction, it could actually be a lot closer to reality than you think. As you may know from times past, the problem of switched cannon plugs actually occurred in a B-52 unit; but, instead of withholding the information, it was immediately reported through proper channels — with the strong support of the wing commander.

While our fictional story would have possibly made the wing look bad, it doesn't have to be the wing that's involved. How about a Hazardous Air Traffic Report (HATR) caused by a member of your crew? No one wants to make the crew look bad. Besides, it's easy to reason that it can't happen again anyway. Failing to report a hazardous situation or a personnel error that results in an incident doesn't help the system work.

"Airing your dirty laundry" means learning to live with egg on your face to prevent the incident from recurring. Before you decide not to embarrass someone, you must analyze the ramification of your actions. How would you like to be the crew involved in an incident that could have been prevented? **Fly Smart. Fly Safe. ■**



Anatomy of An Accident BEFORE THE ACCIDENT OCCURS!

Major Dick Henderson
ADCOM/SEOD
Colorado Springs CO

Reprinted from July 1977 Issue of *Interceptor*
(Safety Magazine of Aerospace Defense Command)
Courtesy of Peterson Air and Space Museum
Peterson AFB CO

What happens when the crash phone rings and the voice on the other end states that an aircraft accident has just occurred? What are the notification requirements? How is an accident investigation board formed? What are the board's responsibilities? Who sees the report? What actions are taken in response to the findings and recommendations? These questions and many more are asked each time that red phone rings! But what about "before" the accident occurs; are there actions that can and should be done ahead of time...prior to an aircraft mishap? The answer to this question is "Yes!" and the following article provides a foundational understanding of how a unit, aircrew, as well as each aircrew member's family can best be prepared in the event of such a tragedy.

- Ed.

No one can predict with certainty when an accident is going to happen! If this information was known, it would be difficult to classify a mishap as an "accident." The word "accident" implies an unplanned occurrence which has certain adverse effects or results. These adverse effects may vary from a temporary change in an aircrew's schedule to death. But as I stated earlier relative to the hidden timing of an accident — we cannot predict the severity of a mishap either. Nonetheless, there are some definite preparations that can and should

...there are some definite preparations that can and should be made prior to an aircraft mishap. Each unit, each aircrew and each aircrew member's family should be prepared for this possibility!

be made prior to an aircraft mishap. Each unit, each aircrew and each aircrew member's family should be prepared for this possibility!

BE PREPARED — FLYING UNIT RESPONSIBILITIES!

Each unit with a flying mission must prepare a pre-mishap directive. This directive is a plan of action to be followed when an accident occurs. It should contain procedures to ensure notification of key personnel, lateral and higher headquarters as well as relatives of involved personnel. Other immediate actions which must be directed include securing and preserving evidence, obtaining witness statements and photographic support and initiating the investigation. Procedures to obtain all available assistance for search and rescue should also be immediately available to the unit commander/operations section.

BE PREPARED — AIRCREW RESPONSIBILITIES!

Each aircrew, like each flying unit, should have their own "pre-mishap plan." It should include procedures to prepare both themselves and their families to cope with such an "adverse occurrence!" Under the general area of preparing yourself, consider proper nutrition, physical conditioning, crew rest, self-medication/illness and — perhaps most important — aircraft and mission familiarity.

You won't be at the peak of your form if you are not receiving adequate nutrition; and as a result, you may suffer more intense adverse effects than might otherwise be expected. The same can be true for a poorly conditioned body. The seriousness of overextending crew rest limits or flying while ill or under self-medication cannot be debated. Of course, none of this will matter much if you aren't intimately familiar with your airplane, your mission and the limits of your capabilities in the flight environment. And one other thing — is your AF Form 93, Emergency Data Card, current?

PREPARE YOUR FAMILY!

How do you prepare your family to face the possibility of your being involved in an accident? At best, this is a difficult thing to do; and given the wide range of emotion that is available to the average spouse or family member, it may be near impossible. It is essential, however, that they be prepared for the possibility.

Explain your job to them — not just that you fly all day and tell war stories all night — tell the whole story. Your job is flying high performance aircraft in a demanding environment — and there is an element of risk. Each of us believes that we are invulnerable — which is nice; it makes it easier to cut 100 and 1/4 when you think that you'll live forever! But it just "Ain't so!" We have lost airplanes and pilots in the past, and it is not unreasonable to assume that we will lose more in the future! So tell your family the facts of this facet of life.

Certainly, this won't be pleasant, but they need to know. Your spouse will be notified by your commander and probably a chaplain. They are given all possible assistance and won't be facing it alone! They also should know that the accident investigation board may seek their assistance during the investigation — they need to know about your activities, diet and physical/mental state during the preceding 72 hours in order to accomplish a quality investigation. Your spouse may be the only source of this vital information.

Take the time to set the stage. In the event you're involved in an aircraft mishap, your family needs to be mentally prepared in advance for such an occurrence. There is no way for this to be made easy. However, by having loved ones knowledgeable about your job and what they can expect if you are involved in an accident ahead of time makes it a little easier. One final note, when you're flying high way up in the sky and everything's goin' your way...don't take chances with your life or those of your fellow airmen. You owe it to your family...you owe it to your crew. ■

THE WORST EXPERIENCE I EVER HAD

SSgt Rod Ansel

1 EMS

Langley AFB VA

Reprinted from September 1987 Issue of
TAC Attack



I had an experience 2 years ago during a range clearance that will leave emotional and physical scars with me for the rest of my life. Our Explosive Ordnance Disposal Unit had been assigned to clear a National Guard bombing range, and the job was to be done annually. My turn came in May 1985.

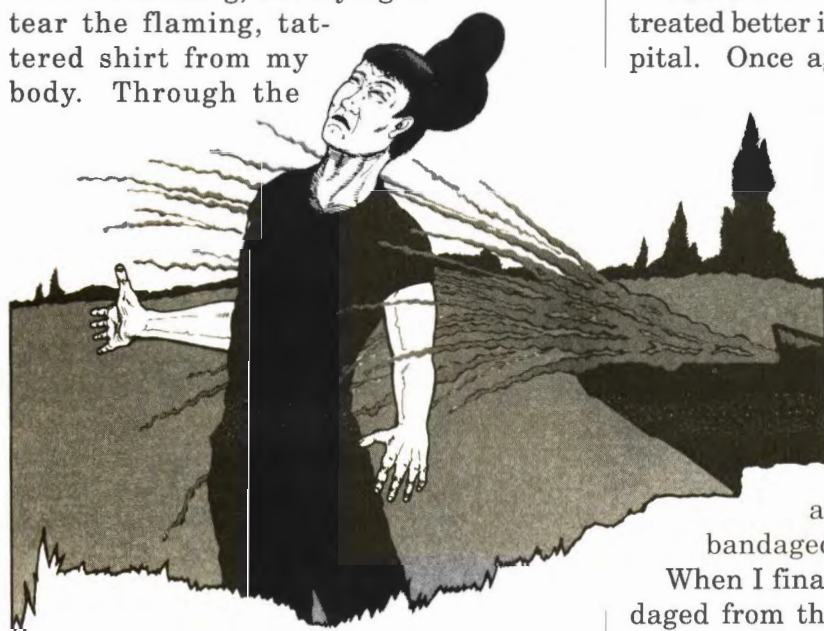
Our job was to pick up 25-pound practice bombs (BDU-33s) and destroy them. Occasionally some bombs do not function as designed when they are dropped. These are called dud-fired or duds, and in this condition they are very dangerous. For this reason every bomb should be checked to

verify that it has functioned. Our first mistake was not checking the bombs to ensure they had fired. Our second mistake was rushing the work so the range could be used for additional missions.

The first 4 days went fairly well as we threw the bombs into small piles for easier loading and removal from the range later. The fifth day, the day we were to leave, started at 8 o'clock in the morning. After we arrived at the range, I removed my shirt as I had on each previous day. As it turned out, this was my third mistake. My fourth one came several moments later as we were loading the bombs, "lobbing" them horizon-

tally into the front-end loader, so we would not initiate any possible duds. We were working on the first pile when I picked up an almost unscratched bomb and tossed it into the bucket of the loader. It landed on its side, on top of the bucket. I bent down to pick up another one as someone threw one in, and it struck the bomb on top of the bucket. All I heard was a loud, ear-shattering bang. Instantly, I was engulfed in the fireball produced by this "practice" bomb.

My face felt extremely hot, my arm was aching and my T-shirt was on fire. I ran away with my eyes closed, not knowing what I was doing, but trying to tear the flaming, tattered shirt from my body. Through the



ringing in my ears, I heard my teammates screaming for me to roll on the ground. My left arm and the left side of my chest were throbbing with pain, but I dropped like a rock and tried to roll. My face hurt so bad, all I could think of was that my skin was burned off. The red phosphorus blown out of the bomb was imbedded in my face and burning.

My teammates put shirts, dampened with muddy water, on my face and upper body to stop the burning. All I wanted was relief. A helicopter from the nearby military installation rushed me to the hospital. My eyes had been covered because the flight medics feared I had eye damage. My upper

body was also covered with cold dressings by the time we arrived at the Army hospital.

The doctor finally gave me a shot of morphine for the pain. I laid on the table, motionless and scared as the drug started to take effect. Everything was running through my mind. WHY ME? How did it happen? Would I be all right? Would I be permanently scarred? What would my wife think? WHY ME? I thought of the last time I was in a hospital, a month and a half earlier to witness the birth of my daughter. That was great. If only I could go back to that time.

The doctors decided my burns could be treated better in the nearby community hospital. Once again, they covered me with dressings and loaded me into an ambulance. When I arrived there, they gave me another shot of morphine and started to remove the dead, burnt skin from my body. The bad news was I had first and second degree burns on the upper left part of my body; the good news was my eyes were undamaged. They cleaned me up,

bandaged me and got me ready to go.

When I finally arrived home, I was bandaged from the waist to my shoulder, my entire left arm bandaged and I looked awful. What followed were countless days of indescribable pain and suffering as I underwent at least 27 scrapings to remove the dead skin from my burns in order to allow proper healing.

After 2 years, the only physical signs remaining from the whole incident are scars on my stomach, chest and left arm. Mentally, however, not a day goes by that I don't think of how much pain and suffering I went through and how it could have been avoided. We didn't follow regulations (i.e., the smart way to do the job), and I paid the price. Believe me, I'll never have to think twice before I follow procedures again. Next time, I might not be so fortunate. ■

LOCAL BUT LOST

Reprinted from the Premiere January 1961 Edition of TAC Attack



The ejection
appears to have
been the only
part of the flight
that was
accomplished
without a hitch.

Had you glanced to the East one afternoon a few weeks back, you would have noticed an unusual reddish glow rivaling the sun in brilliance. Had you investigated the cause of this phenomenon, you would have been amazed and just a little saddened. No, the glow was not from fiercely burning aircraft wreckage -- granted, wreckage was present, but no fire existed. It takes fuel to feed a fire and there was no fuel present when the crash occurred. Instead, the glow could be traced to the flushed faces of those directly involved in the events leading up to the said crash...and therein lies our story.

A young First Lieutenant was scheduled for a round robin photo training mission from an Eastern base. Obnoxious weather delayed his scheduled 0900 departure until 1035. When he did manage to get off on a local VFR clearance, the weather was 800 scattered with 3 miles visibility in haze and fog. By clearing into this, the pilot and briefing officer both violated a base regulation requiring 5 miles visibility for such flights. To compound matters, the aircraft was on a red diagonal restricting it to VFR flight due to an unreliable slave gyro compass. (One and a quarter million bucks worth of aircraft being launched into marginal visibility conditions with an unreliable slave gyro.)

When the pilot started down the active, the slave gyro was 40 degrees out of phase. Fast slave brought it back into agreement with the standby compass, and the pilot climbed out on course. En route to his first target, he attempted a parrot check but was unable to obtain one. He also checked his equipment and found most of it sick. He tried a revised mission only to be frustrated by cloud cover. Ah well, he needed a round robin cross-country anyway.

While homing on the third station en route, the slave gyro again went out of phase and refused to fast slave back. About

this time, the number two needle flopped back and forth and indicated the station was to the rear (sounds like he got station passage). He attempted to tune other omni stations, but didn't consider the needle readings reliable. Taking up a heading for home on the standby compass, the pilot tried working GCI sites. Apparently his IFP was inoperative; at least he got little satisfaction from them, even when he squawked "Emergency."

Tuning in an omni station near homeplate, the pilot received a clear signal and steady needle, but elected to try for a DF steer. He called homeplate and asked for a practice steer, advising them of his gyro malfunction. The first steer was given as 138 (he was holding 50°). Using the slave gyro as a guide, he made the necessary correction.

Approximately once a minute for the next 14 minutes, the DF station gave him 7 to 10 degree right corrections. During this period, he descended from 35,000 to 25,000 feet to permit crossing the field at 20,000. But instead of crossing the field, this series of steers took him in a huge orbit right around the base. This fact apparently dawned on him, because at one point he stated on the air that he seemed to be traveling in a circle...one wonders why he didn't make a definite 90 degree right turn to confirm his suspicions.

Eventually, fuel started to become a problem and the pilot declared an emergency, requesting Class "A" steers. Homeplate then alerted the DF net and fixed him 20 miles SE of the station. By this time, he had lost confidence in his standby compass, but nevertheless continued to accept steers for 3 more minutes. He was then advised to go Channel 17 to attempt contact with RAPCON. Contact was established, but before an IFF check could be accomplished, RAPCON's radio failed. He returned to DF frequency and was advised to go Guard. By now, fuel was critical. The pilot then observed a field underneath which he correctly

identified as an auxiliary base which sported a 10,000 foot concrete runway. The DF steer to homeplate was approximately correct for this position; so despite being down to 1,000 pounds of fuel, he elected to make another try for homeplate.

He departed on a heading which later was calculated to be at right angles to the course to homeplate...and continued to work DF. Spotting a B-66, he pulled up on its wing and attempted to contact the B-66 crew on Guard channel -- with negative results. (And why in thunder wasn't the B-66 monitoring Guard channel as required by regulation?) At this time, DF advised him that he was 12 miles SW and was cleared to descend. Shortly afterwards, RAPCON again got into the act, and, along with several IFF mode changes, gave him some more steers. At this time, the pilot stated that he was completely lost. RAPCON then advised they had him and started issuing gyro out instructions. They continued these instructions for some 3 minutes after both engines had flamed out and the pilot had ejected. Seems they had the wrong aircraft.

The aircraft was 33 miles north of the base when the pilot ejected. The ejection, incidentally, appears to have been the only part of the flight that was accomplished without a hitch. Investigators were able to determine the position of the number two needle on impact and found that it was giving accurate relative bearings. To use these, the pilot would have had to read the heading under the needle, then turn to this course, using the standby compass.

Even had the pilot been hesitant to calculate bearings from the number two needle -- which is understandable under the circumstances -- he missed a bet when he failed to use the ID249. The course selector and to/from features of this instrument rely on a completely different set of impulses than the number two needle and in general are quite reliable. To use the ID249 without a slave gyro, select the course that centers the bar and places "to" in the win-

dow. Use the standby compass and either make a timed turn to this course, or use the slave gyro as a reference when turning to this course, selecting the DG position. This gives a more stabilized reference. (Selecting the DG position is something else this pilot neglected to do.) When on approximately the correct course, steer to center the bar and you will soon be in.

As near as
investigators were
able to tell, he
made a complete
circle of the base,
about 20 to 30
miles out.

Basically, it appears that this pilot became confused and then lost when he started losing confidence in his equipment. Generally, it doesn't look like he had a very good understanding of this equipment. This is particularly true of the standby compass. Aside from someone placing a chunk of iron near it, very little can go wrong with this instrument...but it does have its limitations. Generally speaking, readings are only accurate in stabilized level flight. But with practice, you can run a whole instrument recovery problem using little more than this compass, an attitude gyro, airspeed indicator and a radio fix. However, it is hardly practical to try learning this or any other such procedure during an emergency situation.

The UHF radio in this aircraft was

equipped with the ARA-25 homing adapter. Unfortunately, the pilot didn't get around to using this until just before flameout. By then it was too late. Additionally, one can't help but wonder why this pilot was unable to locate himself from landmarks. As near as investigators were able to tell, he made a complete circle of the base, about 20 to 30 miles out. He passed over some very distinctive landmarks, such as a large lake, (which, incidentally, has one finger that points straight to the base) and the auxiliary field. It would appear that this pilot had paid very little attention to such landmarks during the many previous flights he had made in the local area. Unfortunately, he isn't alone. Not many pilots have the foresight to study the landmarks surrounding their home base, locating and memorizing those features which point to the field.

We hardly need comment on his decision to have another go at getting home when directly over a good usable airpatch, even though that airpatch was only 30 miles from home. Sigh, a bird in the hand....

Stepping off the pilot's neck, let's look into some other areas needing improvement. Our DF system...but let's not blame the DF operator too much for this! How many practice steers have you requested? How many of these did you make simulating a sick gyro? O.K., next time you request a practice steer, add (or subtract) 40, 50 or 100 degrees to the heading given. A practiced operator should pick up the discrepancy and correct his steers accordingly...but there is only one way for him to be-

come practiced...on nice, clear, shiny days, of course.

The accident board shook their finger at RAPCON because they never told the pilot whether or not they were painting his parrot. The board thought this gave him a false sense of security. RAPCON also pulled the old classic and tracked the wrong target...it would appear that like the pilot involved, they were a bit too eager to jump to conclusions.

In summary, while inadequate assistance of ground stations contributed to this pilot's trouble, his failure to understand and utilize available navigation aids and his rejection of a suitable landing field were the primary causes of this accident. ■



THEN



Thunder



NOW

Lightbolt





1954 SAC's Flying Safety Program



General Curtis E. LeMay commanded SAC from October 19, 1948, to June 30, 1957. He built, from the remnants of World War II, an all-jet bomber force, manned and supported by professional airmen dedicated to the preservation of peace. Under his leadership, plans were also laid for the development and integration of an intercontinental ballistic missile capability into the United States Air Force. General LeMay also served as the Air Force Chief of Staff from July 1961 until his retirement in 1965.

Originally published in 1954; reprinted from March 1986 Issue of Combat Crew (Safety Magazine of Strategic Air Command)

Today's flying safety programs — in deed all of our safety initiatives — were born of a concern that goes back to the earliest days of SAC. General LeMay recognized that priceless lives and multimillion dollar assets simply could not be squandered through unsafe practices. This article points out how far we've come while providing a grim reminder of how quickly a momentary lapse in attention or discipline could (and still does) lead to disaster. - Brig Gen Butler (March 1986)

Accident prevention and flying safety programs are taking on an ever increasing importance in the Air Force with the advent of multimillion dollar bombers and fighters costing several hundred thousand dollars apiece. From major commands on down through individual bases, constant research, planning and programming are aimed toward the prevention of costly accidents. The Air Force can point with particular pride to the Strategic Air Command as an example of what a concerted effort to continually seek out better preventive methods and day-to-day emphasis can achieve in a safety program.

During the past 4 years, SAC's aggressive flying safety campaign has resulted in a steadily declining aircraft accident rate and an outstanding flight safety record despite a tremendous increase in the number

HEADQUARTERS
STRATEGIC AIR COMMAND
Offutt Air Force Base
Omaha, Nebraska

26 June 1950

SUBJECT: Message from the Commanding General

TO: All Pilots of the Strategic Air Command

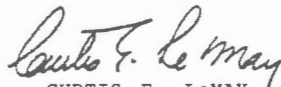
As long as airplanes are flown by human beings, we are going to have accidents. Some accidents will be unavoidable. However, by doing everything possible to reduce those caused through human errors, we can keep our accidents down to the minimum.

"Professional Pilot" will bring you important facts concerning major accidents. It will attempt to show you the cause of each accident and how it could have been avoided. In accumulating this information, editors of the publication will study all accident reports and will confer with Flying Safety and Operations and Maintenance personnel through the command.

Through the medium of the "Professional Pilot," each pilot, whether in a staff or flying job, will be given an opportunity to present his ideas on flying safety to other pilots of the command. Your contributions are invited.

Since training methods and new developments in equipment have a direct influence on flying safety, "Professional Pilot" will attempt to keep you posted on points of interest in these fields.

In summary, the goal of the publication will be to help you perform your job in a professional manner. Only a professional performance on your part will provide maximum safety for yourself and your crew.



CURTIS E. LEMAY
Lieutenant General, USAF
Commanding

"As long as
airplanes are
flown by
human
beings, we
are going to
have
accidents.
Some
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Our Rich Safety Heritage in SAC

In 1950, General Curtis E. LeMay established an aggressive flying safety program in response to Strategic Air Command's alarming 54 aircraft per 100,000 flying hour mishap rate experienced the preceding year. Part of Gen LeMay's overall safety campaign effort included the inauguration of a new command safety magazine called the Professional Pilot. (Note: After the first issue was released, the name of the magazine was subsequently changed to Combat Crew in order to recognize everyone's part in safe mission accomplishment.) As reflected in Gen LeMay's personal letter (dated 26 June 1950) to "All Pilots of the Strategic Air Command," he called for crew members across the entire command to share their experiences in their new safety magazine so others could learn how to avoid making the same mistakes. The essence of Combat Crew's thrust was "crews telling crews how to get the job done safely." As a result, the Combat Crew had a definite, positive impact on the safety awareness of all SAC personnel. Over time, the magazine became an integral part of the command's safety culture...with consistent monthly recognition of professional performance and collections of lessons learned for 42 years.

-Ed.

of flying hours and increased responsibilities resulting from accelerated overseas deployment and rotation of units, steady increase of new personnel and equipment and the increased mechanical complexities of flying new type aircraft. The lives of 159 crewmen — almost the equivalent of 53 B-47 combat crews — have been saved in 1950, 1951, 1952 and 1953 as a direct result of the Strategic Air Command's aggressive flying safety program.

For the past 4 years, SAC has been conducting an all-out program for preventing aircraft accidents. The results of any activity must be measured by the results achieved. Based on that criteria, SAC's flying safety program is a highly successful one. While the saving of human lives is most significant, there were other important achievements recorded during the past 4 years. The savings were computed by comparing 1950 with 1949, 1951 with 1950, 1952 with 1951 and 1953 with 1952.

SAC's emphasis on safety in flight averted an estimated 216 accidents during this period, preventing the complete destruction of 49 aircraft.

Of concern to the taxpayer, both military and civilian, are the monetary savings effected. Conservatively computed, these savings total more than 55 million dollars. Not figured in this total are the costs of minor accidents and personal injuries that have been averted. Every dollar spent in promoting the command's flying safety program in a single year — 1952 — returned \$49 in savings.

The year 1953 was the safest in the Strategic Air Command's history. The command's major and minor aircraft accident rate for the year dropped to an all-time low — 18 accidents per 100,000 hours of fly-

ing. This rate marks a 40 percent reduction over the 1951 rate of 30 and is 67 percent lower than the rate of 54 established in 1949 — the year prior to SAC's increased emphasis on flying safety.

The accelerated program began in 1950 when Gen Curtis E. LeMay, the SAC commander, provided flying safety with a new basis. Where the job of flying safety officer had been part time and subordinate to "more important" duties, each wing was given a full time flying safety officer responsible to the wing commander. Each base commander and wing commander was made

personally accountable to the commanding general for the safety of his operation.

So seriously does Gen LeMay view a major accident and its crippling effect on SAC's combat capability that he requires the commander of the wing involved to report to him in person. This provides the SAC commander with a detailed first-hand account of every accident, its causes, where the responsibility lies, the corrective action being taken and

indelibly impresses upon the wing commander the vital importance attached to saving aircrews, planes and tax dollars.

SAC's Flying Safety Division evolved a two-phase attack on the problem: The defensive phase requiring investigation of aircraft accidents to determine causes and trends which indicate action necessary to prevent future accidents: the offensive phase consisting of all-out campaigns to sell safety consciousness to everyone in the command. Almost everywhere a SAC combat crew member pauses at a SAC base these days — the NCO or officers club, PX, operations center, the briefing room or flight line — he is reminded by posters, bulletin board signs, newspaper stories and SAC's own flying safety magazine, Combat Crew,

The lives of 159 crewmen — almost the equivalent of 53 B-47 combat crews — have been saved in 1950, 1951, 1952 and 1953 as a direct result of the Strategic Air Command's aggressive flying safety program.

to "Fly Safely."

The focal point of the "Safe Aircraft Campaign for '54," launched last January 1 by Gen LeMay, is a handsome trophy awarded each month to SAC's safest base. At the end of the flying safety year, a special trophy will be awarded to the safest base of the year.

Monthly, each bomber base nominates an outstanding crew, and each fighter base an outstanding pilot, from which SAC's Flying Safety Division selects a command wide crew and pilot of the month for special recognition and honors. Because of the importance of quality maintenance to safety of flight, a maintenance technician of the month is also given command wide recognition. To focus attention on the campaign, each SAC base has erected an Indian-style totem pole on which the five safest bases are listed each month. A sign at the base of the pole reads — "Get to the top by flying safely."

Designated to save lives, aircraft, equipment and tax dollars, the Strategic Air Command's accelerated aircraft accident prevention program has more than paid for itself many times over. No one person is responsible for this remarkable savings of lives,

materiel and dollars. The results are the aggregate of many factors; the intense personal interest and backing of Gen LeMay; formulation and direction of the program by Maj Gen Archie J. Old, Jr., Director of Operations; his Flying Safety Chief, Col C. J. Cochran; the execution of the program by the wing commanders and SAC's 99 flying safety officers here and abroad; and, finally, the combat crews who fly SAC's bombers and the maintenance personnel who keep them flying safely.


For two successive years — 1951 and 1952 — SAC was awarded the Daedalian Trophy, the Air Force's most coveted flying safety award, in recognition of its outstanding safety record. "But," Gen LeMay has pointed out, "SAC's flying safety program cannot rest on its laurels. We cannot be satisfied with anything less than complete elimination of avoidable accidents caused by poor judgment, carelessness or lack of proficiency. Our program is designed to never let pilots and combat crews forget the importance of safety in flight. By doing this on a continuing basis, we hope to so firmly instill the principles of safe flying that they will become habitual and permanent." ■



Monthly Awards

PILOT SAFETY AWARD OF DISTINCTION

Capt Kevin T. McManaman
357 FS, 355 WG
Davis-Monthan AFB AZ



Capt McManaman was number two on an A-10A two-ship surface attack tactics (SAT) mission at Davis-Monthan AFB. After a successful mission, he returned to Davis-Monthan for an overhead pattern. After the break, he brought the gear handle down. He was greeted with a loud "thunk" and only two green lights for the main gear and an unsafe indication for the nose gear. He discontinued the overhead and informed his flight lead of the situation. He asked his flight lead to look at the nose gear for any discrepancies. The front nose gear door hinge had broken loose and the door was jammed between the fuselage and the Pave Penny pod, blocking

the nose gear from extending. Capt McManaman then contacted the Supervisor of Flying (SOF) and informed him of the problem. The SOF looked up the emergency in the Dash-1, read the checklist, and initiated a Conference Hotel call to Depot to solicit technical support from his airspeed in an attempt to blow the door clear in the airstream. This sounded like an interesting idea and had been successful in a previous nose gear door incident several years ago. Capt McManaman increased his airspeed to over 360 knots but only managed to bend the door further around the Pave Penny pylon. Shortly thereafter, and after further discussion with Depot, he raised the gear handle up and the main gear retracted normally. The door remained bent 90 degrees to his airplane, jammed between the Pave Penny pod and the fuselage. They finally agreed that a gear-up landing was his best option given his fuel state and time available for further discussion. He accomplished the "Landing with Gear Not Down" checklist and set himself up for a 10-mile straight-in approach. His flight lead looked him over one last time and landed in front of him. He flew a slightly shallow final approach and touched down with a minimal sink rate. He set down lightly touching the rudders first and then settled on the retracted gear. After touching down, he used differential braking for directional control and kept the aircraft centered on the runway. The Fairchild engineers were really thinking when they designed this airplane; he still had speedbrakes and normal braking and was gear up! During touchdown, after a modest landing roll, Capt McManaman shut the Warthog down and performed an emergency ground egress. It was later confirmed the door hinge did fail and with the airstream jamming the door, a gear up landing was the only option.

FLIGHT LINE SAFETY AWARD OF DISTINCTION

SrA Anthony D. Valdez
4 FS, 388 FW
Hill AFB UT

During the Phase I Operational Readiness Exercise, SrA Valdez was replacing a worn engine nozzle divergent flap seal on an F-16C/D. As required by technical data, he performed a serviceability check of the nozzle area prior to installing the new seal. Aware of the potential for foreign object damage (FOD), he proceeded to inspect the area. His keen attention to detail prompted him to notice a primary flap rolleron assembly worn and broken into several pieces. He notified the cell director of the condition and immediately performed a complete engine nozzle inspection. He removed and recovered all the broken pieces and replaced the worn and broken roller. SrA Valdez's actions prevented the eventful binding of the engine nozzle and engine FOD. This enabled the aircraft to be generated ahead of schedule. The quick and decisive actions of SrA Valdez were instrumental in the prevention of an in-flight mishap and catastrophic engine failure, including the loss of valuable Air Force assets.

AIRCREW SAFETY AWARD OF DISTINCTION

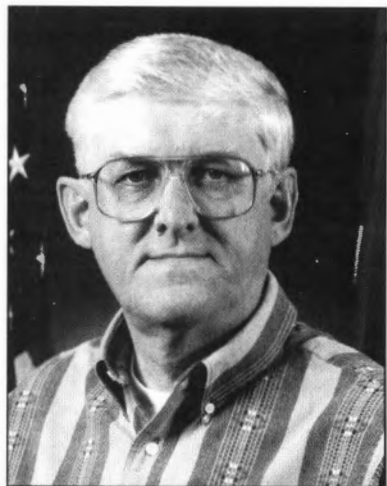
*Maj Brian D. Theisen, Maj Christopher W. Timberlake, Maj Charles E. Parks,
Maj Paul R. Yakes, Capt Michael E. Tellier, Capt Kevin A. Britt,
MSgt Frederick W. Koch, TSgt Henry L. Frakes, TSgt Dan L. Perez,
SrA Pamela R. Burch
55 WG
Offutt AFB NE*

On 14 Feb 97, an E-4B was flying an air refueling/transition mission for the first time in over a year due to extensive down time for modifications. An unqualified pilot, Capt Tellier, was flying during the air refueling with Maj Theisen as the instructor. During the second hookup, heavy fuel spray was observed flowing over the pilots' windscreens from the air refueling receptacle in front of the cockpit. A disconnect was initiated, and the fuel spray did not stop. The flight engineer closed the air refueling door in an attempt to stop the fuel, to no avail. The crew continued in the precontact position to evaluate the problem. Another contact was considered to attempt reseating the receptacle, but not made due to reduced visibility from massive fuel spray. The flight engineer then closed the A/R isolation valve and evacuated the air refuel manifold. With the manifold supposedly evacuated, the fuel spray continued unabated. This problem is not addressed in the flight manual. After discussing possible causes, the crew came to the conclusion that leakage of the isolation valve and crossfeed valve(s) could allow the engine crossfeed manifold to keep the A/R manifold pressurized, thus preventing the crew from stopping the leak. The crew decided to return to Offutt AFB as the situation was both unknown and unsafe with fuel streaming over the entire fuselage. Static discharge could have been catastrophic.



An emergency was declared, and the crew discussed the best option for landing, shutting down and egressing the aircraft. It was decided that minimum braking was necessary to preclude fuel from running down the fuselage after landing and pouring on hot brakes. The APU could not be used for power during the egress as it was unknown if fuel had leaked into the APU area. Maj Timberlake and Maj Theisen landed the aircraft as the most qualified pilots. After stopping on the runway, the inboard engines were immediately shut down. The navigators exited out the lower electrical service door to install chocks at the nose gear, while the flight steward and communications specialist opened the forward cargo door to allow egress using the airstairs. Escape slides were only to be used if the aircraft caught fire as the crew decided fuel running onto the escape slides might pose a hazard during egress. The crew ran the evacuation check and departed the aircraft as fuel poured from the receptacle and ran off the length of the fuselage.

The crew was faced with an unknown malfunction, no procedures to direct them and an extremely hazardous situation. Forward visibility was reduced from a massive fuel leak which enveloped the aircraft. The crew acted as a team and thought the situation through with outstanding crew coordination, choosing options most appropriate for this unusual emergency. The actions of the crew resulted in the safe return of the aircraft and crew in what could have been a disaster.



GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

*Mr. Robert Sukalski
355 CES, 355 WG
Davis-Monthan AFB AZ*

Mr. Sukalski has developed and maintained an impressive safety program which serves as a benchmark for the 355th Civil Engineering Squadron and has consistently received laudatory comments from the safety professionals in the 355th Wing Safety Office. Mr. Sukalski supervises a five-person Liquid Fuels Shop within the infrastructure branch and is responsible for maintenance and repair of all base fuel systems. He has been particularly proactive in ensuring personnel safety during maintenance activities performed in the potentially-lethal areas in and around the fuel pits. Mr. Sukalski researched, procured and trained personnel in the use of \$50,000 worth of vapor indicators and combustible gas indicators to provide an adequate and reliable safety environment. Additionally, he developed detailed two-person control procedures to ensure personnel working in confined-space tanks and pits are properly and adequately protected. Mr. Sukalski's safety documentation procedures are outstanding, and he has consistently implemented all wing safety initiatives within his comprehensive program. Mr. Sukalski has developed the liquid fuels safety program into a model which serves as a superb example that other shops strive to emulate. Our FY 96 annual inspection once again highlighted his superb accomplishments and his section had zero discrepancies noted. In particular, his job safety training outline was noted as a benchmark. Finally, and most importantly, his safety program produces results. Although his personnel experience daily exposure to the many hazards associated with fuels and confined-space operations, the liquid fuels shop has never suffered a mishap.



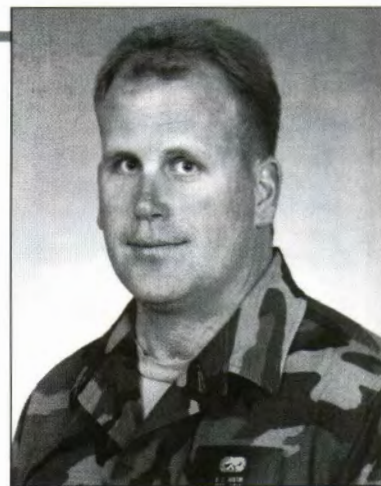
UNIT SAFETY AWARD OF DISTINCTION

*963d Airborne Air Control Squadron
552 ACW
Tinker AFB OK*

Success is rarely the product of individual effort. In fact, success is most often the hallmark of outstanding teamwork. The 936 AACs's recent safety inspection highlighted the importance of such teamwork as the 963 AACs became the first flying squadron in over 2 years to earn "Outstanding" ratings in all inspection areas during its quarterly Unit Safety Assessment/Inspection. In under 6 months, the unit safety staff accomplished a complete revision of both its flight and ground safety programs through the use of proactive leadership and effective teamwork amongst all unit agencies. In addition to a complete update of the unit's safety publications library and safety program management books, the safety staff developed and implemented a computerized tracking program for on- and off-duty ground mishaps. This innovative program, coupled with aggressive training, resulted in a 60 percent reduction in the reporting time for unit mishaps. Additionally, the unit's safety staff was directly responsible for the enhancement of the deployed safety programs for Operations NORTHERN WATCH and SOUTHERN WATCH. In order to better integrate safety into deployed operations, the safety staff created a unit-specific Deployed Detachment Commander's Safety Program Management Guide, outlining key elements of a deployed safety program. In fact, the Operating Instruction governing mishap reporting at Incirlik Air Base, Turkey, drafted by the 963 AACs, has been adopted by the Combined Task Force as a benchmark program. The 963 AACs safety staff's initiative and leadership has made them the lead squadron in the wing's strong safety program. Their outstanding teamwork has resulted in an outstanding safety program and a level of commitment to safety and successful mission accomplishment rarely seen.

CREW CHIEF EXCELLENCE AWARD

*SSgt Brett C. Austin
48 RQS, 49 FW
Holloman AFB NM*



On 23 Dec 96, SSgt Austin, while performing routine maintenance on an HH-60G, discovered two improper flight control components (Bell Crank and Tie Rod Support Assembly) on 91-26356's year and model. These parts were not correct on this aircraft at the time of production. Finding this discrepancy led to the 48 RQS maintenance unit's inspection of other aircraft of the same year model, discovering two more improper parts installed in its flight control system. The impact of continued flight with the improper parts could have been catastrophic. SMSgt Scott Regenscheid (HQ ACC/LGRH) stated: "This oversight (improper parts) has greatly jeopardized the safety of our aircraft. We have been flying T-701 aircraft with unimproved T-700 flight controls (without warning placards) for 1500-plus hours." The 48 RQS grounded these aircraft pending part replacement. SSgt Austin's superb attention to detail and prompt actions drove a fleet-wide inspection of all aircraft of this year and model for the proper parts, potentially saving valuable aircraft and lives.

WEAPONS SAFETY AWARD OF DISTINCTION

*MSgt Ronnie Jaenisch, MSgt Michael Niska,
MSgt Joe Kern, TSgt James Pawelski,
SSgt John Alziebler, SSgt Kevin Bohn,
SSgt Stephen Rokosz, Mr. Leo Heuwagen
28 OG/MXS/MUNS/TRANS, 28 BW
Ellsworth AFB SD*



Following their second MB-4 tow vehicle and MHU-196/M weapons trailer jackknife within 6 months, Ellsworth AFB chartered a Tiger Team, led by weapons safety, to investigate the incidents. After brainstorming possible causes, the team conducted a series of operational checks. During one of these checks, team members found one of the airbrake couplers (glad hands) was loose due to normal wear and tear of its rubber grommet. When the team applied the tow vehicle's brakes gradually, they detected excessive air leakage from the service air ("stopping side") glad hand. Abrupt braking, however, masked the problem as greater instantaneous pressure made the seals airtight. Through systematic research, the team learned while drivers normally used abrupt braking on pre-tow brake checks, they generally used gradual braking during towing, thus increasing the jackknife potential. The reason for using gradual braking was uneven terrain between Ellsworth's munitions storage area and flight line. The team's tenacious approach to the investigation yielded several important findings and recommendations. First, existing T.O.s for the tow vehicle and trailer do not cover braking technique and differences between gradual and abrupt braking. The team recommended adding a "Warning" to applicable T.O.s regarding the potential for air leaks—and jackknives—with gradual braking. They also recommended adding discussion of braking technique to local operator training. On the materiel side, the team recommended instituting a local policy to always change glad hand rubber grommets during semiannual inspections of the MB-4 and MHU-196/M. They also proposed depot assess procurement and retrofit of a new, more airtight coupler. The team's outstanding cooperation, expertise and commitment will enhance mishap prevention across the Air Force, as the equipment involved in these incidents is widely used.

Ground Safety Notes:

FLASH and SPLASH

Reprinted from August 1965 Issue of TAC Attack

Flash

"Yes, sir; it happened while I was working around the house. I forgot that my wife wanted me to light the charcoal. When I went to the patio, I saw that she had already started it. You see, my barbecue is like a 55 gallon drum split in half, and she had put the charcoal in the lid and the electric fire starter was on."

"No, I didn't pour the gas on it then..."

"Well, if you'll let me continue, sir...I put some briquettes in the other half and poured this gasoline and water solution over it."

"No...I've been using it for years, can't understand how..."

"Well, the whole bottle burst into flames, and well...I yanked it back and threw it over my shoulder."

"Yes, sir; that's when I got the burns on my back."

"Yea...Yes, sir; it's kinda hard to talk on the phone while lying on my belly."

"OK, sir...the Doc says I should be back to work in about a week." ■

Splash

"Honest, Major, the boat just headed straight at me and ran me down. I couldn't get away from it!"

"Well, I did reach for it when it came around the second time. I thought maybe I could grab it and get back in...or at least hold onto the side instead of having to dodge it every time it made a circle."

"No, sir; I didn't think about the prop. As a matter of fact, I was real surprised when my sweater got tangled in it...these cuts on my arms'll heal in a couple of weeks."

"No, I wasn't dressed for swimming; I was going fishing. I fell overboard when the motor kicked in and the boat took off."

"Yes, sir; I was standing up while I pulled the starter."

"No, sir; I had left it in gear."

"Well...I hadn't thought about that, but starting it with the motor turned to the side probably did have a lot to do with throwing me off balance."

"That's right, sir...and I'll not leave the life jacket lying on the floorboards from now on either. I'll wear it."

"OK, sir...the Doc says I should be back to work in about a week." ■



QUESTIONS OR COMMENTS
CONCERNING DATA ON THIS
PAGE SHOULD BE
ADDRESSED TO HQ ACC/SEF,
CAPT "E.T." MOORE
DSN: 574-7031

ACColades

	TOTAL			ACC			CANG			CAFR		
	APR	THRU APR		APR	THRU APR		APR	THRU APR		APR	THRU APR	
		FY97	FY96		FY97	FY96		FY97	FY96		FY97	FY96
CLASS A MISHAPS	3	12	6	3	5	3	0	4	3	0	3	0
AIRCREW FATALITIES	1	13	0	1	1	0	0	2	0	0	10	0
* IN THE ENVELOPE EJECTIONS	2/0	8/0	4/0	2	2/0	2/0	0	3/0	2/0	0	3/0	0
* OUT OF ENVELOPE EJECTIONS	0	0	1/0	0	0	0	0	0	1/0	0	0	0

* (SUCCESSFUL/UNSUCCESSFUL)

CLASS A MISHAP COMPARISON RATE

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

ACC	FY 96	0	1.1	0.8	0.6	0.9	1.2	1.0	0.9	1.0	1.4	2.1	2.0
	FY 97	0	0	0	0.6	1.0	0.8	1.6					
8 AF	FY 96	0	0	0	0	0	0	0	0	1.2	1.0	1.7	1.5
	FY 97	0	0	0	0	0	0	0					
9 AF	FY 96	0	0	0	0	0	1.1	1.0	0.8	0.8	2.1	1.9	1.8
	FY 97	0	0	0	1.7	1.4	1.1	2.9					
12 AF	FY 96	0	3.4	2.4	1.8	2.9	2.3	2.0	1.7	1.5	1.4	3.1	2.9
	FY 97	0	0	0	0	0	0	1.0					
DRU	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
	FY 97	0	0	0	0	5.7	4.7	4.0					
CANG	FY 96	0	1.9	1.3	2.2	1.8	2.2	1.9	1.7	2.0	1.8	2.0	1.9
	FY 97	0	3.8	2.6	3.3	2.7	3.0	2.6					
CAFR	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
	FY 97	0	6.3	4.2	3.1	5.2	6.1	5.3					
TOTAL	FY 96	0	1.3	0.9	1.0	1.1	1.4	1.2	1.0	1.2	1.1	1.9	1.8
	FY 97	0	1.9	1.3	1.7	1.9	2.0	2.3					
MONTH		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

(BASED ON HOURS FLOWN)

With God in their P-51's

Reprinted from March 1970 Issue of TAC Attack

An aviator's windfall in the form of a POW's World War II diary crossed the editor's desk the other day. It contained some classic examples of inspirational, brown-shoe-days poetry from years gone by. This particular nostalgic, heart-warming ballad sustained the lagging spirits of downed aircrew members in the war who were incarcerated in enemy concentration camps. As you take a moment to reflect back on the past through an unknown poet-pilot's words of prose, join us as we honor the memories of those airmen who have led the way and gone before. - Ed.

Back in the days of the second Great War
Many of Uncle Sam's sons
Began to write Air Force history anew,
With God in their P-51s.

As big bombers flew on their everyday task
The sergeants would fondle their guns.
High up above them, churning contrails clear,
Were their friends in P-51s.

Soon they arrived over the enemy's lair,
And up came terrible flak.
A hit! An explosion! Down went a Lib,
With ten lads who'll never come back.

When enemy fighters swirl 'round the Libs,
Mid the chatter of turret guns.

We'll surely need help, why it's already here.
Here come our P-51s!

Now homeward they drone, like great birds of prey,
The shrill whine of in-lines they hear.
The air battle is over, ere hardly begun,
And their P-51s are still near.

The target's destroyed, they're back on their field,
A sorrowful sun sinks in the West.
Bombier crews trudge off, like weary old men,
To seek their much needed rest.

As they sit by home fires and think of those days,
And tell tales of valor to sons,
They pray for saving young eagles who joined,
With God in their P-51s.



BOLD FACE...



Schmol Face... Who Needs It!

*Lt Col Ted Baader
F-4 Central Instructor School
Davis-Monthan AFB AZ*

Reprinted from January 1970 Issue of TAC Attack

Flying the F-4 is probably the most enjoyable experience a fighter pilot can have, especially if he's going to instruct in this sophisticated aerospace vehicle. Here at the F-4 Central Instructor School, we specialize in upgrading F-4 frontseaters to instructor pilot status. Some of our experiences with pilots that come through this TAC-sponsored course are quite rewarding. And some quite alarming!

Naturally, the alarming experiences seem to remain fixed in my mind, more so than the rewarding. Some of these might be of interest to the rest of TAC's Phantom Flyers.

For instance, yesterday afternoon I was walking past one of the squadron briefing rooms and happened to overhear one of our young instructor-pilot upgraders (these troops are some of the sharpest stick and rudder jocks that ever strapped a two-million dollar F-4 to their tailbone) make the comment, "Who needs to memorize BOLD FACE procedures!" At first, the remark didn't catch my attention; he was correct in his statement. The F-4 Dash One no longer

states: "BOLD FACE letters contained in the various emergency procedures will be subject to memory by aircrews." But after sitting down at my desk and thinking about it for a few minutes, I decided how totally wrong this statement can be.

Why? Well, in my moment of meditation on what was said, I remembered the time a BOLD FACE procedure saved me from punching out and learning desert survival the hard way. This occurrence goes back quite a while and the aircraft involved is hanging in the Air Force Museum. Nevertheless, maybe you'll see the correlation between an old fighter and a modern one when it comes to common sense and knowing BOLD FACE letters verbatim.



It happened on my first solo ride in that beloved P-51D known to Korean War veterans as the old "Spamcan." This torque-machine is a lot of horses to handle when you've got less than a hundred hours flying time. As a matter of fact, it's a lot of horses to handle anytime. Well, to get on with it, I was really having a ball doing every acrobatic maneuver in the books. Then it happened. On top of a loop (which I entered at too low an airspeed), the old "Mustang" snapped into the most beautiful inverted spin you've ever seen. It was all my own fault; I had cross controlled at a low airspeed and was now a passenger instead of a pilot.

Immediately, I applied the spin recovery procedure only to reenter a spin in the opposite direction. This happened twice, so I decided I better hit the nylon and "save the body for the board." As I reached for the canopy jettison handle, I hesitated a second and thought to myself, "Wait a minute, settle down, maybe there's something you forgot." Sure enough, in my panic to break the spin, I had forgotten to cut the throttle.

"Okay, guy, you don't have much time, get with it." This time, I used the correct spin recovery; and before I accomplished the last step in the procedure, the bird was flying and I was back to pilot duty.

Now, what does this hairy tale of goofing-up prove? It's obvious. You don't have time to get the checklist out, turn to the page on inverted spin recovery and start reading. Whether it's a P-51 or an F-4, the BOLD FACE emergencies have got to be firmly established in your mind, in the correct order and reviewed periodically so they're not forgotten.

In regard to the use of common sense in the old and new fighters, let me give you a few quotations from the P-51 Dash One. That's right, I still have the old manual and some of the logic that applied then still applies now. The following are excerpts from the page on spins:

Remember these tips on spin recovery:

- 1. Don't get excited.**
- 2. Don't be impatient. Leave the controls on long enough for them to take effect.**
- 3. Fix in your mind the altitude at which to bail out, and bail out before it is too late.**
- 4. Never make an intentional power-on spin.**
- 5. In making an intentional power-off spin, start in with plenty of altitude. Be sure you can recover above 10,000 feet.**

Sound familiar? Well, there it is; it was no different in the old Mustang than it is now in the modern Phantom when it comes to common sense and BOLD FACE procedures. Combine these two factors and you not only have money in the bank, but, additionally, a good safe flying operation.

Everything I've said has been heard by most of us sometime during our flying careers. The main point is that BOLD FACE procedures should be committed to memory as long as we commit men to the sky, or for that matter, beyond the sky.

As I pointed out to our young instructor-pilot upgrader, "The F-4 Dash One may no longer state that these procedures will be memorized; however, page E-3 of the checklist states: 'Procedures appearing in BOLD FACE are considered critical. These steps must be performed immediately and should be committed to memory.'" ■



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