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VOLUME 20 NUMBER 9
WHAT IS YOUR REASON?

We all realize there's an underlying reason for everything we do. It may be as simple as just needing some time off, like going on a family outing to relax and have fun. Or it may be extra effort on a special project to show the boss you have the capability to step into the really desirable job that's opening up next month. Reasons are there, even during our normal daily duties.

Some tasks are enjoyable—they're easy to do because we like them. Still others are "not so enjoyable"—and we do them because we need to—they are part of the job. We can't expect everyone to want to do every job—everytime; but it's a lot easier when we understand the reasons for doing a job a certain way. Here's what I...

To follow tech data because the supervisor says so or because QA is on the flight line, is doing the right thing—for the wrong reason. To follow the tech order, step by step, (even though the task has been accomplished at least 300 times before) to keep from making a serious mistake—means we've broken the code.

If we fly proper formation positions only because the flight lead will hammer us if we don't—that's wrong. But, if we're working to maintain the correct positions because it's optimum for mutual support and visual lookout—we're on track.

Doing the "right" thing is important. But we must also understand why we do the things we do. "I said so" may get the job done, but chances are it won't stick to the ribs. Be ready when the "why" comes up, it's an important question that needs to be answered.

RICHARD K. ELY
Colonel, USAF
Chief of Safety
Congratulations! After being subjected to the abuses of flight leads through long, arduous hours of light on the star, your unit has finally recognized your leadership talents and selected you to enter the unit flight lead upgrade program. No doubt you are well deserving and indeed are a "... most highly qualified and experienced individual ...". Your peers will be in awe of your aerospace skills and aerial expertise—hopefully.

I shouldn't have to remind you that as leader you will be responsible for millions of dollars worth of valuable iron, the lives of your flight members, and in the worst case, the safety and freedom of the United States and its allies. Quite a responsibility for a guy who, up to now, was only qualified to say: Two. Bingo. and Mayday.

How do you accept the responsibility for such a heady experience? Not many manuals, regulations, or pamphlets have been published on the subject. A lot of accident reports offer hints on how not to lead. Monday morning quarter-backing is a poor substitute for preparation.

Don't plan on being able to lead a four-ship into the valley of doom on your first mission either. Becoming a good flight leader is usually a lengthy, experience-filled process. You don't become a good flight lead simply by trying to avoid the mistakes you've seen other leads make. That's just one part of it. You need to become knowledgeable and adept in four areas: planning, briefing, leading the flight, and debriefing. In this two-part article, I'll talk about the first two areas in this issue, and next month, we'll cover the others.

PLANNING

What would seem like the easiest portion of the mission is actually one of the more difficult. Whatever you do or do not do in this stage will affect the entire mission. Let's start with the schedule. Your upgrade program may include a four-ship ground attack sortie with other experienced pilots as your wingmen.

You probably have an extensive background in ground attack, your wingmen are experienced, and you've flown the route a thousand times. What can go wrong? Brief the weather and NOTAMS, a little on formation; cover the mandatory special subjects, hit the emergency procedure of the day, and go. Flight? Wrong! First, what is your flight's real experience? If one pilot has been on leave or TDY for 30 days, you will want to tailor your scenario appropriately. How about low altitude training? If someone....
only current at 500' AGL, that could make a difference in the low level route you fly and the training accomplished en route. If you fly a two-seat fighter, your problems are compounded. WSOs have many training events also. Their requirements, experience, and qualifications must be considered on every flight. In a nutshell, intimate knowledge of every flight member’s individual capabilities prior to event planning the mission is a must.

Although you probably know everything about the mission you are about to brief, a periodic review of TACM 3-1, Fighter Weapons Texts, and phase manuals will refresh your memory. Techniques and tactics in any publication are not the final word, but certainly are good starting references from which solid tactics can be developed and practiced.

How about the weather? Fair enough question because it affects the entire mission. Home plate weather determines your Bingo fuel requirements. En route weather affects the training that can be accomplished on the way to the target. Jet weather, of course, determines the events can be accomplished. For example, if the range has a cloud layer at 10,000’ and you plan a pop up to 9,000’ for a high angle tactical delivery, you are asking for trouble. In combat, the gunners know the height of clouds and any maneuver in the vicinity of clouds solves the altitude portion of the equation they must solve for AAA accuracy. Another type of attack, or an attack from a different direction, may make your scenario more realistic and in actual combat increase your survival odds. Of course, if the object of the mission is a box pattern on a conventional range, a thousand-foot clearance from clouds may be acceptable. Many flight leads have found, to their embarrassment or worse, home plate weather and alternate weather had increased Bingo fuel on board—disastrous if discovered too late. How about unexpected weather deterioration or improvement? You must be prepared to cope with a deteriorating situation and gain as much training as possible in exchange for the valuable JP-4 consumed.
Flight Lead Responsibilities

importantly, you must know when to call off the whole show and regroup. Improving weather, it seems, is a situation we don't deal with enough. However, if the weather is better than forecast, be prepared to take advantage of it and maximize training.

Always plan an alternate mission. If the range you are scheduled for becomes unacceptable for any reason and another is available, be prepared to take advantage of it. If weather precludes air-to-ground training but intercepts may be accomplished, be prepared. If weather, munitions loading, and range space all work against you, everyone can usually use formation and/or instrument approach practice. Some scenarios do not lend themselves to alternate missions. Live-weapons delivery is one sort of this type.

BRIEFING

If your preflight planning was thorough, the briefing will be an easy part of the mission. Just a few rules. Keep it simple. The normal training mission is more effective if tactics are simple and straightforward. If it is too complicated to brief comfortably, it probably won't work in the air. Your esoteric plans to confuse the enemy may work—to your disadvantage. Make sure the confusion rests with your foe and not your wingmen! The briefing need not cover every detail you have learned in your flying career. If something will be standard, it is sufficient to say exactly that. The briefing should be detailed enough there is no doubt in any flight member's mind concerning the mission objectives and method of accomplishment.

Keep everyone's attention. One good technique is to have flight members take some of the responsibility. Weather, NOTAMS, mil settings, low-level routes are only a few areas that your wingees can handle for you. Make certain, however, that they understand exactly what is required. You don't need a 20-minute briefing on weapons delivery parameters when all the time you have left is 25 minutes.

Forty minutes is a good time to shoot for in a normal training mission—the type you do day-to-day. If your briefing lasts longer, examine it for content, mission complexity, or perhaps the mission really demands more briefing time. Remember, you have violated a cardinal rule if your flight members don't have time for a stop prior to step time.

That pretty well covers the important aspects of flight planning and briefing. Remember, this short rehash is far from the final word in either area. The points I have made should serve as a beginning guide to a prospective leader as well as a mind jogger to you old heads. In the next issue I'll tackle some considerations in leading the flight and mission debriefing.
On 14 May 1980, Captain Steven F. Woodford (IP) and Lieutenant James D. Halsell were returning to Nellis AFB following an air-to-ground weapons delivery mission. Fifteen miles from the field, the MASTER CAUTION and CHECK HYDRAULIC GAUGES lights illuminated. Lt Halsell investigated and noticed a fluctuating PC-2 system which quickly dropped to zero.

Captain Woodford took lead of the flight, declared an emergency, and began going through the PC-2 failure checklist items. As Lt Halsell maneuvered for a straight-in approach and lowered the gear, he noted the main gear extended, the nose gear remained up and locked. As a flightman checked them over to confirm the gear position, Lt Halsell found the utility hydraulic pressure rapidly decreasing.

Continuing the approach, they used the emergency gear lowering procedures to blow the nose gear down and coordinated with the SOF on runway, arresting cables, etc. Lt Halsell maintained a minimum of 230 knots to ensure adequate maneuvering airspeed. Despite degraded lateral control authority, Lt Halsell continued a smooth, straight-in approach, landing, and cable engagement.

The exceptional airmanship, crew coordination, and professional reactions of Captain Woodford and Lieutenant Halsell to a serious inflight emergency averted injury and possible loss of life. This achievement qualifies them for the September TAG Aircrew of Distinction.
A few weeks ago, an ANG A-7 which was deployed to Hawaii was flying a training mission. At 500' AGL (or actually 500' AWL), 300 knots, and 4 miles off the north coast of Molokai Island, the aircraft collided with a red-tailed tropical bird. The impact shattered the windscreen left quarter panel and broke the pilot's helmet visor housing, green visor, eyeglasses, oxygen mask hardshell, and his nose! The pilot maintained control and successfully landed the aircraft.

One super attaboy to the guard troop for handling this one. The incident only reinforces the facts—birds are everywhere and if you run into one it can hurt—you and your airplane. It probably goes without saying the visor saved this guy's eyes and possibly his life.

WHERE'S YOUR CABLE?

The Phantom crew was completing a routine training mission and had planned on an approach and BAK-12 engagement for the full stop landing. The pilot wanted to make sure he touched down well before the cable so he purposely flew a dragged-in approach, aiming for the runway threshold. He was successful—sort of. He touched down in the overrun, just short of the runway. Unfortunately, the tailhook snagged the "B" cable of the MA-1A, which had been lowered, but was still connected. The cable quickly broke taking out some runway lights, etc. The airplane continued on and engaged the BAK-12 normally.

Neither of the crew members, pilot or IP, felt the inadvertent MA-1A engagement. The crew also admitted they never even thought of the webbing and cable at all prior to the mishap. The F-4 rarely uses the MA-1A system, and it's probably somewhat natural to disregard this arresting gear. In a lot of cases, the MA-1A position is not relayed to the pilots since everyone "assumes" it's not important.

Both you and I know that's not the way it should be. The status of all airfield facilities should be one of every aircrew's primary concerns. Think about it. Let's say you're returning to the homedrome, and the weather's getting lousy. Is 30 miles away the time to discover that GCA has been down all day and it's now below TACAN minimums? Or let's take arresting gear?
ary unit's local operating procedures list a "standard" arresting gear configuration. Do you know what's "standard"? Do the members of your flight? The squadron duty officer? The SOF? It's information you need to know. Several incidents of this type have occurred during the past year. Fortunately, none of the aircraft really had a tough emergency. Would you know where all the cables are if you had to make an arrested landing this afternoon with radio failure? I hope so.

One more aside. The Dash 1 recommends landing a minimum of 300' prior to the cable. If you have to aim 1,000' short of the cable from a dragged-in approach just to make sure you don't miss—you may be in the wrong business.

**MOTHER !!!**

By Capt John Braves
366 TFW/DOV

Ah yes, a word that evokes the warm fuzzies in even the most hardened of men, a warm, wonderful word. But wait! What has this sentimental off got to do with me, a fighter jock? Well, when you think about it, ol' Mom was nobody's fool in preparing a runny-nosed rug rat to deal with the hard world: perhaps some reflection is in order. Consider her knowledge of basic science and philosophy. Was there ever a time when you put her heart in her mouth as you heedlessly darted out into a busy street without looking? She was concerned because she knew that two objects can't occupy the same space at the same time, ergo, a badly bruised or slightly flattened kiddo. Basic science. Another example: Given the sheer land area of the planet earth, what are the odds that two minute bits of matter, automobile and curtain climber, would come into conflict? Well, Mom knew there was no immutable LAW which said this couldn't happen, a THEORY perhaps, but not a law. Enough of science, what about philosophy? She knew that if your time had come, well, there were somethings even she couldn't control. But she could increase your odds. That's why shehammered it into your head to look left and right prior to crossing a street. If you did run out, she knew the chances were fair that the driver bearing down on you was blind, drunk, any combination of the latter two, inattentive, had defective brakes, was testing his 429 Hemi in the quarter-mile, trying to grope something attractive in his passenger seat, etc. She appreciated Murphy's Law even if she didn't know it by that name.

Think about it. Have things really changed that much even though you're no longer under her tutelage? A recent midair provided graphic, dramatic proof that two objects still can't share the same spot in space at any given instant. Said accident also proves that the BIG SKY THEORY is just that—a theory. Take a minute and read the final report. Any one of a number of actions by either aircrew or other agencies could have dramatically increased the odds in favor of the aircrews and prevented the tragic turn of events. Murphy was really at work.

Next time you're out flying, and especially when you're in the vicinity of an airfield, remember Mom. She knew enough to teach you the basics. **LOOK!!** The big sky theory doesn't apply; you don't even have to hit something very big to have it hurt a lot. Eyes out of the cockpit increase the odds in your favor and remember the ubiquitous Murphy. When your windscreen fills up with another airplane, your last exclamatory remark may be MOTHER!!! She wouldn't want it that way. She taught you better.

**LISTEN--AND PAY ATTENTION**

Recently a TAC aircrew was the subject of a Hazardous Air Traffic Report. It seems our intrepid aviators were on a cross country preparing to depart an en route stop. The aircraft was taxing to the runway and the aircrew was copying their ATC clearance and climb restrictions on ground control frequency. Approaching the
runway, the crew was directed to tower frequency. The crew did not check in on tower frequency, but continued across the "hold" line and taxied into takeoff position without clearance. Another aircraft on short final to land was forced to go around.

Our folks apparently had their heads "up and locked" during this one—and admitted as much. For some undetermined reason they were certain they had been cleared onto the runway and never gave it a second thought.

If the weather had been 200° and 1/2 mile vis, I wonder if the aircraft on final would have seen the other guy. Makes ya wonder, doesn't it?

AND WATCH OUT TOO!

In the same vein as our previous item, at another TAC base an F-4 from a sister service and a MAC mini-lifter came close to tangling themselves up.

The T-39 was on a visual approach about 5 miles from the field when he was cleared to tower frequency. The Sabreliner was advised he was number three behind an F-4. The crew couldn't find the F-4 but were advised by tower the Phantom was one mile on final. When the 39 was 1-1/2 miles on final, the crew observed the F-4 emerge from under the nose about 200° lower, heading towards the runway. The 39 did a 360° turn for spacing and landed.

After everyone got on the ground safely, things were sorted out. The F-4 had been directed by tower to break out from downwind because he did not have a GCA final in sight. The F-4 driver then called the traffic in sight and said he could maintain separation. Even though tower directed the F-4 to break out once more, he remained in the pattern. Tower then issued the F-4 clearance to land.

A slightly steep final flown by the T-39 might have prevented them from seeing the F-4 sooner—but their visual lookout helped avoid a closer conflict.

I guess this is just a reminder that all our fellow professional aviators don't always perform in a "professional" manner.

WHO'S THE REAL FLIGHT LEAD?

An incident at one of our units had all the potential for turning into a real debacle—over a very simple thing. Let me relate what happened; you can draw your own conclusions...

A flight of two F-101s took the runway for a formation takeoff. During the initial portion of the takeoff roll, the number one A/B on the lead aircraft failed to light. The lead had delayed initiating afterburner to make certain the wingman could maintain position.

When the burner failed to light, the leader judged there wasn't enough runway left for abort, so he continued the takeoff...

Meanwhile, number two was in minimum A/B and had passed the lead aircraft assuming the lead. The real leader succeeded in getting burner light at or about rotation speed and was moving back into the picture...

Meanwhile, number two had broken ground and was reaching for the gear handle when lead transmitted, "Hang in there." This caused him to stop his gear retraction and try to stay with the leader as he came past...

Meanwhile, as lead (the original one) passed number two, he raised his gear and flaps. Two attempted to stay in position, but lead pulled away from him. It was then two realized his gear was still down and the airspeed was above 300 kts. He slowed to gear limit speed and asked for a visual check from the flight leader. The leader discovered the right main landing gear fairing door missing from the number two aircraft. RTB and subsequent landing were uneventful.

Considering what went on, a landing gear fairing door costing less than $300 is a small price. Considering what could have happened from a few instances of ignoring directives and lapses in common sense—we were unbelievably lucky.

Flights of aircraft are only supposed to have one leader at a time. Any more than that invites confusion and potential disaster. Make sure you aren't party to one of those.
TAC SAFETY AWARDS

Individual Safety Award

Senior Airman Robert E. Boothe, 834th Equipment Maintenance Squadron, 1st Special Operations Wing, Hurlburt Field, Florida, is the recipient of the Tactical Air Command Individual Safety Award for September 1980. He has been responsible for many innovations in his section involving protective equipment. His actions have been successful in eliminating injuries on the unit's wash racks.

Crew Chief Safety Award

Staff Sergeant Robert M. Slover, 1st Aircraft Generation Squadron, 1st Tactical Fighter Wing, Langley Air Force Base, Virginia, is the recipient of the Tactical Air Command Crew Chief Safety Award for September 1980. During a recent pre-flight inspection, Sergeant Slover's attention to detail resulted in his identification of several aircraft discrepancies which could have had serious consequences had they gone unnoticed.

Ground Safety Award of the Quarter

Staff Sergeant Gary W. Gwaltney, Detachment 2, 20th Air Defense Squadron, Patrick Air Force Base, Florida, 20th Air Division, Fort Lee, Virginia, is the winner of the Tactical Air Command Ground Safety Award for the second quarter of 1980. As additional duty ground safety officer, Sergeant Gwaltney deserves a large portion of the credit for his unit's record of 1,720 consecutive days without a ground mishap. Also, congratulations to Sergeant Gwaltney on his selection for OTS.
The challenges of modern times have created what I like to call the "weekend warrior." This is a conscientious member of the do-it-yourselfers who defends family and home from the ravages of inflation and energy eaters, and from professional repair persons. In the small space of two days, big battles are planned and executed. On many a Monday morning, warriors with various cuts, bruises, and bandages return to work and compare tales of woe about skirmishes for which they were ill-prepared and poorly equipped.

A few months ago I witnessed a typical skirmish involving the task of winterizing a house—installing storm windows and replacing old, deteriorated caulking. No problems were encountered until the valiant warrior tried to reach an illusive attic window tucked away in the peak of the gable. Not only was height a problem—equivalent to three stories—but also the attached garage complicated the task because of the angles and pitch of the connecting roof.

How could that window be reached? The three straight ladders that were on hand were too short. So a little improvising came in. One ladder was leaned against the side of the garage, reaching up to the gutter. Another ladder was placed horizontally with one end on the top rung of the ground ladder, the other end resting midway up the side of the garage roof. But, that end had to be raised to make it level. So a little foot stool was put under it. The scaffolding still fell four feet short to reach the window. No sweat! There was one more ladder left. So a shop stool was balanced on the horizontal ladder, and the third ladder carefully laid on top with one end resting on the ridge of the garage roof.

With the pyramid completed, our warrior climbed to the top, swinging a bucket of paint in one hand—to do a little touch up work. I bet you've guessed what happened next! The makeshift scaffolding gave way. The bottom stool was the culprit because the angle was too steep for it to be secure. Amazingly enough, our warrior came away unscathed. As the scaffolding began to slip, there was enough time to grab the window sill and drop down to the garage roof. However, the paint can went flying through the air painting an art nouveau design on the roof.

Using ladders is tricky business. Especially when you're faced with difficult, hard to reach areas. Here are a few examples of how ladders are used for particular jobs.

Two industrial strength (classified Type I) extension ladders are used with a pair of brackets called ladder jacks to support the platform which is made out of 2-by-10-inch scaffold-grade planks, 10-foot long. Place ladders 6 feet apart and lean them so that they are two and half feet away from the wall at the point you wish to work.
To stand, planks will extend one foot behind the ladder jack on each side. This scaffolding is for light duty work up to 20 feet above the ground. A word of caution: Keep in mind there are no handholds or safety rails to keep you from falling if you should lose your balance.

**Ladder Jack Scaffolding**

A straight ladder, stepladder, and a 2-by-10-inch scaffold-grade plank are all that is needed to make a stairwell platform. Lean the straight ladder against the wall as illustrated (to prevent scratching the wall, wrap the ends with rags). Place the stepladder at the top of the stairs with the plank resting on the rungs of each ladder.

The following ladder accessories help with unique problem areas.

**Ladder Stabilizer**

The stabilizer is a U-shaped device that clamps onto the top of the extension ladder. It has nonskid pads and gives a broad base of support. It enables you to bridge across a single window and lift the ladder away from the wall for easier access to roof overhangs.

**Stairwell Scaffolding**

Access to steep roofs is accomplished by using a straight ladder and a pair of ladder hooks. The hooks clamp to the top two rungs of the ladder and connect to the ridge of the roof. A block of wood should be placed under the hooks to prevent damage to the shingles and to distribute the weight. This set-up gives secure toe-holds up the sloping roof.

**Ladder Hooks**

Ladder hooks away from overhead electric wires.

Lean a ladder against a wall so that the distance between the bottom of the ladder and the wall equals one fourth the working length of the ladder. (The working length is the length along the ladder between the foot and the top support.)

Place the top of a ladder so it never rests on a window pane or screen.

Remember to keep your belt buckle within the space between the ladder's side rails. This rule of thumb will prevent you from trying to over-reach and losing your balance or twisting the ladder.
CONTRASTS

Two automobile accidents, from the same wing, about a week apart, are real food for thought.

#1. Four airmen were traveling in a 1969 model sedan. The driver attempted to take a dangerous "S" curve at well over the posted speed limit. He lost control, and the vehicle rolled one and a half times, coming to rest wheels up. The passenger compartment was almost completely intact—the doors stayed closed and the top was only slightly crushed. The vehicle appeared almost driveable.

All occupants were hospitalized. One may be paralyzed from the neck down—for life. Another is in serious condition with two spinal fractures. Seat belts were available, but not used.

#2. Another airman in a 1979 sport model 2-door was returning home after a long day of work and socializing. He fell asleep at the wheel, left the road, and impacted a solid tree at 45 MPH. The tree met the car directly in front of the driver's position, perfectly head-on. The car was demolished and is almost unrecognizable.

The man received first aid treatment for minor cuts and abrasions—and walked out of the hospital the same night. Seat belt and harness were used.

Now that's a contrast! Remember the decision is yours. Are you sure that belt and harness are uncomfortable?

IT'S GETTING HOT!

Sometimes the right intentions aren't quite enough to prevent a mishap. For instance, in another command, a security gate was being installed in an older wooden building. The metal door frame had been secured to the building, and a welder was welding hinges to the metal frame.

After completing the job, the welder used a water-type fire extinguisher to cool the hinges, then collected his equipment and left. The heat from the welding wasn't only in the hinges, however. The heat had been conducted throughout the metal frame. The heat was sufficient to ignite the parts of the building in contact with the metal. The building was heavily damaged.

Metal is an excellent conductor of electricity—and heat. This incident should remind all amateur and professional welders once more that whatever you're welding isn't the only thing that's getting hot.
HORT CUTS

Two major manufacturers in the auto industry took two identical cars, fitted them with special instruments, and sent each on an identical trip. One driver was told to make the best time he could, while the other was told to avoid risks and move as fast as the traffic flow permitted.

Results showed the first, or fast driver, passed 2,004 cars and was passed by only 13 vehicles. He used his brake a total of 1,339 times over the trip.

By contrast, the slow driver passed only 645 cars, but was overtaken by 142. His brakes were used only 652 times.

The slow car achieved almost the same average speed!

The fast driver arrived sooner, taking 20 hours and 12 minutes. The slow driver took 20 hours and 43 minutes, a difference of less than three per cent.

COULD A HURRICANE HURT YOU?

Hurricane season began a few months ago and goes on into November. The American National Red Cross says the questions below will help you see how "disaster-wise" you and your family are. Read the answers carefully.

What causes most hurricane damage and casualties?

Water. High tides and torrential rains driven by powerful winds can cause swift and catastrophic flooding.

Where do hurricanes occur?

411 areas along the Atlantic and Gulf of Mexico coast are vulnerable. Hurricane-caused flooding can ravage communities far inland. During 1975, Hurricane Eloise went ashore at the Florida panhandle but caused severe floods as far away as Virginia, Maryland, and central Pennsylvania.

What precautions can be taken by families in hurricane-prone areas?

Stock up on canned goods and other foods that need no cooking. Keep battery-powered equipment such as radios and flashlights working, and make sure you have extra batteries and candles. Keep a supply of boards, tools, and other materials needed to board up windows in case of a storm.

How much warning will you have?

It will vary. Meteorologists try to give at least 12 daylight hours of warning before a hurricane strikes a coastal area, but the erratic nature of tropical storms makes it impossible to predict exact landfalls and times.

What should you do if a hurricane warning is broadcast?

Evacuate low-lying areas, especially beaches and other areas likely to be swept by winds and waves, and move inland. Leave early to avoid being trapped in heavy traffic.

Stay away from river banks and streams, which can experience severe flooding as a hurricane moves inland.

Take with you important documents, prescriptions, eyeglasses, foods for special diets, clothing, and toys and books for children.

What if you can’t evacuate the area?

Board up windows and protect them with shutters and tape. Collect drinking water in clean bottles and cooking utensils, and even fill the bathtub. Turn your refrigerator to the coldest setting to preserve food as long as possible in case of a power failure.

Make sure your car is fueled and ready for emergency use if necessary.

What to do when the hurricane actually strikes?

Remain indoors, preferably in a brick or concrete building and away from windows. Stay tuned to National Weather Service advisories to monitor the storm’s progress, as well as the possibility of tornadoes, which often are spawned by hurricanes. Don’t be fooled by the "eye" of the storm passing; stay close to shelter because the fury of the wind will return, this time from the opposite direction.

Why do mobile homes require special safety measures?

Because they are not fixed structures. Mobile homes and their occupants are especially vulnerable to severe winds and floods. Strong winds can roll over and badly damage a mobile home that is not tied down with steel straps fastened to anchors embedded in the ground.

If your base is located in the hurricane (or typhoon) danger zone, they will undoubtedly have more information. Get your hands on it and follow it. It’s hard to be overcautious.
TAKE THAT!!

Being a crew chief ain't always too safe. Case in point. . .

A transient alert crew was preparing to park an aircraft. The marshaller was in position giving the taxi signals, and another crew chief was standing by to chock the aircraft. When the marshaller gave the stop signal, the aircraft didn't. We're not sure why. The man with the chocks ended up with a wing in his midsection and a couple of busted ribs.

Don't ever assume that aircraft can or will stop. It could cost you more than it did this troop.

LOOSE THROTTLE

The helicopter was on an FCF for power problems. After takeoff and flight to a helipad, a power topping check was performed in automatic fuel. All indications were normal, and the aircraft landed on the helipad to switch to manual fuel for continued checks. When the throttle was set at flight idle, the engine did not respond and remained at flight RPM. The throttle was shut off without any response. The engine was then shut down with the main fuel switch.

Investigation revealed the throttle linkage was disconnected at the main fuel control. Previous maintenance had been accomplished requiring disconnect of the linkage. When the linkage was being reconnected, the flight mechanic did not have a cotter key of the correct size and asked another mechanic to obtain one. The other mechanic went to get one, but on his way had to park another helo and forgot about the cotter key.

Meanwhile, the maintenance crew continued their work; and probably because of the perceived pressure to get the aircraft ready for an FCF, neglected to complete the final inspection. The engine cowling was installed, and the aircraft towed out for the FCF. The linkage nut then backed off due to vibration and the lack of the cotter key.

Now what if that nut had backed off completely while the chopper was airborne?
CRUNCH!!

An assistant crew chief was helping in the recovery of an RF-4. While parking the aircraft, he attempted to install the aux air door lock while the engines were motoring down. When the electrical power dropped off the line, as designed, the doors slammed shut. Fortunately for the assistant crew chief, the only thing in the way at the time was the down lock. Substantial damage was done to doors 81L and 82L. But even more "damage" could have been done to the maintenance troop.

Old heads are familiar with all the places a person can get into trouble around aircraft. It is the old heads' responsibility to pass that knowledge to the new troops. Don't let your daily familiarity with hazards blind you to the need to point them out to other people. That's the only sure way we can make certain our new troops are really well trained.

A NEW TWIST

An F-111 was being prepared for a ferry sortie to the programmed depot maintenance facility. As a part of the mission, four unserviceable pivot pylons were installed on the aircraft for delivery to the repair facility also. The mission proceeded normally until just after takeoff. As the aircraft accelerated through 250 kts, the aircrew felt a moderate airframe buffet which they could not identify or correct. After another aircraft joined with the incident aircraft, they determined the number 5 pivot pylon was rotated 75 degrees from its normal position with the front end pointing towards the wing tip. After a controllability check, the aircrew safely recovered the aircraft.

Since the pylons had been recently loaded on the aircraft, primary investigation centered on the correct loading of the pylons. Only two members of the normal team loaded the pylons. A third individual (recently arrived and not qualified on the aircraft) was sent with the team to observe and help. The two members of the team hung the pylons from underneath the wing and did not check for proper teeth alignment at the top except by shaking the pylon. Proper teeth alignment is supposed to be checked both visually and by feel through the pylon access ports on top of the wing. Likewise, the crew did not accomplish several other T.O. required actions.

The two team members were properly trained, but only the team chief had actually loaded pylons during the past year. Furthermore, the team chief was not qualified to perform in-progress inspections. A maintenance supervisor should have completed this inspection prior to reinstalling the pylon panels.

At any rate, it was the disregard of tech data which was the real cause of this incident. The load crew chief felt he could properly hang the pylon by using his own techniques. He got by with three out of four—but .750 is a lousy average in a league where 1.000 is the only acceptable one!
Whazzat? An unknown freeway interchange in Los Angeles? No. It's a go-fast door for the Phantom that restricts and deflects supersonic air in the J-79 engine intake, thus enabling mach 1.7 plus flight. Here at our wing we don't think too much about going real fast. But, I'm talking about "machity mach"—fast enough to wonder if the vgi-ramps will do their trick at mach 1.5. However, very little of our time is spent in that regime anyway.

At the other end of the speed range, how 'bout when they cycle out (extended) when you're going 250 kts on takeoff leg? In the summer? At noon? With three bags? When this happened recently, the aircraft was on takeoff leg. Both ramps had been checked retracted before brake release. At about 250 kts, the WSO alerted the pilot that the ramps extended. KERWHUMP! went the left engine as it compressor stalled in A/B and rolled back. The right engine hung on in A/B but the RPM rolled back to the low 90s. The jet was struggling in the climb and was nosed over at 800' AGL to accelerate. The left throttle was stopcocked to clear the stall. The airstart caught on the first try. After climbing to a safe altitude, the ramps cycled several more times at RPM above 92%. At one point, both engines rolled back to 80% but they cleared when the throttles were retarded. The aircraft was recovered successfully. Phew! Hey Coach, what happens if one or both ramps are extended?

- The worst thing is a compressor stall at flowsettings above 80% RPM.
- As a rule, afterburner operation, airstarts, and stall margin degrade as you climb.
- Range, altitude, and go-around performance are also degraded.

How do you know you have a ramp problem?

The first key is a visual inspection:

- A/Cs can use the rearview mirrors.
- WSOs and IPs look at the indexing marks on top of the ramps.
- Retracted is the position you normally see where the ramp is flush with the fuselage.

For those who haven't seen the ramp extended, the photo should give you an idea of what they look like from the pit. Fully extended travel is about 4 inches, measured inside the intake.

During the before-takeoff check, you should always inspect the ramps during the 85% RPM runup. The scramble procedures checklist in the F-4E Dash One puts it this way: "Variable inlet ramps—check fully retracted. As the throttles are advanced, to 85% RPM, check the variable ramps are in the fully retracted (flush) position."

How come this check is not in the normal before-takeoff checklist? We dunno. but we're working on getting it in there.
Right Vari-Ramp view from rear cockpit. Ramp is fully extended. Pencil shows stripes that may or may not be painted on top of the ramp.

How do you know if you have an open ramp(s) in flight? Well, if you experience:

a. Significantly reduced fuel flow at power settings above 85% RPM or,
b. High pitched howl at airspeeds above 300 kts or,
c. Reduced thrust (approx 35%) at throttle settings above 90% RPM or,
d. An associated duct temp high light, then you probably should check the vari-ramps. After all, if all the engine instruments are normal, there isn't much else but the ramps to check if you're having a thrust problem. If the ramps are cycling or extended, there's a good chance you will stop your problems by watching when they are both retracted and pulling circuit breakers G-6 and G-7 on panel #2. This will capture the ramps where they are. Retracted ramps pose no operational restriction below mach 1.5. It may be possible to retract a ramp which has failed in the extended position by pulling or cycling the appropriate ramp control circuit breaker G-6 and G-7, #2 panel.

Ramp failure can occur singly or in pairs. We had three vari-ramp-associated mishaps here in one month. If you see an open write-up about the vari-ramps, you sure aren't going to take the aircraft off the ground. No need to set yourself up for a compressor stall, or a ride like I described at the beginning.

Egress personnel have now been directed to drop the seat side panels and install the safety pins before the inertia reel check and an AFTO 22 has been submitted requiring seat dearming during these checks. All because of a drop or two of paint...
CLOSE
BUT NO CIGAR--THANKFULLY

At one of our TAC-gainèd bases recently, the F-4 WSO was preflighting the ordnance prior to a range mission. The weapons consisted of BDU-33s loaded on TERs. When the troop grasped one of the practice bombs to make sure it was secure, it came loose, twisted out of his hand, and fell to the ramp. The spotting charge functioned but the WSO wasn’t injured since the tail of the bomb was pointing away from him and the aircraft.

The safety pin had been placed in the safety pin hole in the TER instead of the lock pin hole as required by T.O. 1F-43-33-1-2. Placing the pin in the safety pin hole only means the rear hooks are safe. The hooks are released simultaneously but can be cocked independently—unless the pin is in the lock pin hole. When the pin is inserted in the lock pin hole it safes both sets of hooks. If the pin cannot be inserted in the lock pin hole, it’s an indication that one or both sets of hooks are not properly set.

It’s amazing how potentially tragic incidents can result from such seemingly simple mistakes. Watch out.

An aside for you aircrew members, the —34 checklist doesn’t indicate the correct hole for safety pins when BDU-33s are loaded on a TER. The lock pin hole is the rear hole on the TER rack. The checklist discrepancy is in the process of being corrected.
MAKE WEAPONS CROSSTELL WORK
By Maj Gerald Isaac
12 AF/SEW

Is weapons mishap crosstells working at your base? If not, it's a shame because a lot of effort and money are going into this program at all levels of command. In addition, it is considered one of the key means of achieving the Air Force goal of reducing the number and severity of weapons mishaps. Air Force constantly publishes mishap information; TAC takes mishap information from other commands and sends pertinent extracts to the field; numbered air forces get mishap information from a variety of sources and send it to subordinate units in care of SEW. What happens to it then? Is it filed? Is it sent to the AGS or EMS for the additional duty safety person to file in a management book? Is it posted on a bulletin board in a hangar? If any of the above constitutes final action on mishap information, then mishap crosstells is not working for you. Mishap crosstells is not intended to amaze and amuse headquarters, wing safety, or additional duty safety personnel. The intent is to ensure that a person doing a particular job knows WHAT accidents have occurred in that job, and HOW and WHY they happened.

You in Weapons Safety play an important role in ensuring that crosstells information is handled effectively. How you do this is up to you and is limited only by your creativeness. Sending a copy of a crosstell message to the AGS and then forgetting about it isn't creative. Sticking the information on a seldom-used bulletin board and hoping that someone will come along and read it isn't creative either. But, ensuring that pertinent mishap information is included in the "hands on" portion of cockpit familiarization training is creative. Ensuring that swing shift and mids are briefed is creative. Helping establish a good system for rapid dissemination of crosstells throughout the working level of large organizations such as AGS is creative. Verifying your crosstell program by seeing if specialists on the job are familiar with specific recent mishaps is also creative.

The bottom line is the same type mishaps are occurring over and over. Crosstells remains one of our best weapons for preventing recurring mishaps, if it receives proper emphasis at the working level. Don't neglect crosstell information in your Weapons Safety Program. It's important, and it can work.

EVER BEEN PAINTED?

Two egress technicians were performing a TCTO on a T-38 ejection seat. After the TCTO was completed, they were also performing a visual and physical inspection of the automatic inertia reel lock. The technicians raised the leg braces and the reels locked properly. They began to lower the braces and about 1-2 inches above the full down position, the M-27 initiator activated and fired the M-26 initiator. No injuries resulted and little damage was done.

The investigators traced the cause to a bit of painting which had been done on the seat during some previous corrosion control procedures. Paint had been inadvertently deposited on the clevis between the M-27 and the handgrip. The clevis became bonded to the handgrip. You know the rest.

Egress personnel have now been directed to drop the seat side panels and install the safety pins before the inertia reel check and an AFTO 22 has been submitted requiring seat dearming during these checks. All because of a drop or two of paint...
SEPTEMBER

By Maj Pete Abler
Editor

"Welcome aboard, Sergeant Clark," said the line chief warmly. "Glad to have you as a member of our section. We've been busy all summer, but with you and the other troops who got here in the last few weeks, we'll be in pretty good shape this fall. I'm relying on you to help me with the new guys."

"Thanks Sergeant Jones, I'll help all I can and do my best. But, I have some learning to do too—getting to know your way of doing things and all."

"Nonsense! You already know what to do. All you have to do is to show these new troops 'ya' know they don't teach 'em everything at service school. We have to bring them up-to-speed and
teach our way of doing things. At school they have all them fancy mockups and stuff.

"Hello Major Jones, Jim Johnson's my name. I'm the ops officer here. Boy do we need you! We've been short all summer because of rotations. You're going to be assistant ops, and I'm really counting on you to help us keep on top of things. We got a bunch of new guys in last month, and they need an old head to really show 'em the ropes. I've tried, but I just can't do the whole job myself."

"Yes sir, I'll be glad to do all I can. You know, I was on a staff tour for the last three years, and I just finished requalifying. I need to get up-to-speed on the local area procedures."

"No sweat, it'll all come back to you like it was yesterday. Now there are a couple of troops who are new to fighters and I'd like you to take them under your wing."

Hold on! What's going on here? Well, scenes such as this may have been repeated throughout TAC and other commands this summer. It's a nice time of the year, the kids are out of school, and for most people it's the most logical time to make a PCS move. Now that works well for the people, but what about the unit itself? The story's not quite the same.

New folks come to units throughout the year, however, the biggest turnover is always in the summer. And it's during this period that the greatest change in experienced people usually takes place. We need to be careful. We sometimes fail to realize anytime someone comes into a new organization, airplane, weapons system, or shop he or she must undergo a readjustment—a reeducation. Whether they're experienced or brand new, they all need help.

People don't need assistance on the job only. Housing, furniture delivery, pay, and schools are all valid concerns of new arrivals. You can't expect someone to give you 100% when he or she is worried about things such as these. Give them the time and help to get everything squared away. You'll be helping them and your section at the same time. People work a lot better when they know other folks care.

TAC ATTACK

Let's back up to our first mythical example. A crew chief who's been working on a particular aircraft for several years knows quite a bit about the airplane. But if he or she is new to your outfit, the acquaintances in the AGE section, sheet metal shop, the tool kit section, or supply just aren't there like they were at their old unit. Because of this, if you put a load on their shoulders and expect them to fully train newer people, they might not do as good a job as they could do once they got adjusted.

The basic problem still remains—all people who are new to a unit need time to adjust to the different operations and will require additional training based on their personal experience and capabilities. Take the time to acquaint people with office procedures and personnel on base whom they need to know. If we want to have a smooth running operation through the fall and winter, we have to get our people trained. We must let them know what is expected of them, what goals the unit is working towards and how they fit into the "big picture" of our operations. Our success in the upcoming months depends on your efforts today.

September marks the beginning of one of TAC's most hazardous periods. Part of the problem may be the influx of new personnel during the summer months and our inability to shift our thinking away from vacations, etc and "get it all together" again. This is one part of the problem we can certainly influence if we work at it. Besides, a smooth operation can make the winter go faster and next summer will seem that much closer.
By Robert E. Coward
William H. Nelson
AFHRL/OTO

"Fox 41, this is Berkley Control. Squawk 2041 and turn to heading 055. Contact Berkley Approach prior to leaving your assigned altitude..."

"Fox 41, this is Fox 42. Do you have engine problems? You're trailing a heavy smoke plume..." Fox 41, do you read...?"

A busy day in the cockpit for ole 41. Sounds as though he has lots of information coming in from the many systems of the aircraft, not to mention what's coming from outside. His problem is something like the bells ringing and lights flashing at the desk of a very busy executive office. Information processing can be difficult at such times.

We've always been concerned with our human capability to process data compared to the vast amount of information blasted at our sensory systems such as might occur in the cockpit environment of today's fighter/attack aircraft. We've only recently recognized the hazards of task saturation—in particular we've found there are critical times in an aircraft, when an emergency condition exists and an incident or accident may occur because the crew cannot "process" all the warnings and "help" they're given.

Task saturation is directly related to an individual's aptitude and trained capability to process information. An individual's ability to organize and make decisions about information that has been received by the senses (sight, sound, smell, taste, touch) may well result in mentally setting up priorities.

The cognitive domain (our thinking cap... or better... our own on-board computer) does have varying levels of capability based on how the system is matured. The growth process occurs throughout our lifetime. Our experiences are kin to training, or programming, of our on-board computer. This prepares us for information processing and organizing of the various tasks that come along with flying today's missions. At times you may well be "max'd" out mentally by the extensive information provided for visual, auditory, and kinesthetic systems to process. Vital safety-related messages from the aircraft systems may be overshadowed by other information being presented to you. Radar presentations and the various heads-up displays provide compelling visual inputs that demand your attention. Do you ever remember being so engrossed in a movie or show that you shut out people? It can happen in the air!

Cathode Ray Tube (CRT) technology and instrument miniaturization have allowed many features to be placed into all corners of the cockpit. However, with today's complex aircraft, can aircrews and training managers help in the "programming" of the executive in the cockpit of Fox 41 before critical mission or safety decisions must be made? Absolutely! Information processing must be approached from two angles: the aircrew's potential and the training systems' responsibilities. First, the aircrew must understand that potential for increased information processing and decision making is similar to physical fitness potential. Your mind and body...
sensory systems require exercise and peaking just like the body’s muscle system. By studying the thinking/reasoning processes (input, processing, output), aircrews can become more aware of their personal potential for increased information handling. As the body can be trained to increase muscle power so can the cognitive system be conditioned to handle and process information more effectively. You can be trained to read faster, comprehend more—so why won’t the same thing work in the cockpit?

Task saturation, or task overloading, is a function of how much information you can assimilate or move through your own on-board computer. Similar to physical limitations, you should become aware of mental workload limits in a mission environment and determine how you match up to those limits. You may find that training for increased information handling potential should be a continuing part of your professional growth.

Another angle deserving consideration for increasing information processing potential is the approach training managers take in training aircrews in decision making. Developers of flying training academic programs should become intimately familiar with the current knowledge about development of cognitive processes. The technology exists—it should be taught in flying training. By studying decision making processes aircrew members can become better prepared to deal with periods of being “max’d” out.

As students progress from basic flying training to mission-ready aircrews, their conceptualization of the mission matures based on building blocks of information. This growth process develops such that the individual must learn some lessons before he can use other information about the mission. As the individual matures, expansion of information processing can occur if the building blocks are a sound foundation. The aircraft and its weapons fit the mission. The sequencing in which these blocks are presented can both facilitate and enhance learning. A solid, comprehensive understanding of the mission requirements allows aircrews to organize information and prioritize data for decision making.

Consider this: In the business world many executives bail out of critical situations or make bad decisions because they are not trained to process information that is available to them. Some tend to make decisions on the latest information available without ever considering a second opinion. A rapid drop in some commodity may only be an indicator of trouble or it may be critically important to future profits. In the same way the aircrew may have to decide on bailing out or coming home... completing the mission or returning another day under better conditions. Either or both decisions may have to occur during the same time frame. Fox 41 might well need that bit of news about the smoke if he missed getting the information from the engine instruments.

Awareness of your mind’s potential and training for improved decision making are conditions we need to work on in today’s modern, computer enhanced, flying environment. Your own on-board computer requires periodic updating and modification. Good thinking habits can help you quickly prioritize information in an emergency situation and decide what to do and when to do it. By organizing your thinking to consider the various elements of the mission, the conditions that must be faced, the capabilities of the aircraft, interactions that must occur with other aircraft and controllers, the expected end result of the mission, potential emergencies and probability of mission success; you can be better prepared to deal with cognitive task loading.

Prioritizing your responses to unexpected events will occur more logically if you have done a good job of thinking out the complete mission in advance—that means on the ground long before you step into the airplane. Keeping in mind that the mission is vitally important, it is also essential to consider how you will deal with potential emergencies, how you plan to react based on the information available to you, where is your best source of assistance and how all of this type of thinking might help toward making the decision to press on... or to fly the mission another day.
AIRCRAFT RECOGNITION
Dear Editor,

Your June edition had several great articles worthy of "sister services" reading, but I most enjoyed the "Angle of Attack" safety message. I never thought I'd hear those words from a safety officer! A strong NATOPS/STAN-EVAL program, properly executed by the aircrews is the key, and would relegate every Safety Officer to mundane report filing. "Safety is the by-product of doing the job correctly," I love it! When each service breaks that code and trains to that goal and demands that type performance from their aircrews, we'll need no more safety officers.

John M. Nash
Commander, USN
VX-4, Pt Mugu, CA 93042

Dear Commander Nash,

AMEN!

Ed

What's Happening

To TAC Safety Folks

—Congratulations to SSgt Gary W. Gwaltney, Safety NCO for Det 2, 20 ADS, Patrick AFB, FL, on his selection for OTS.

—Captain Eugene "Gino" Arnold, formerly with the 1st TFW flight safety office, left Langley in June for Test Pilot School at Edwards AFB.

—Congratulations to the following personnel recently selected for promotion:
  To Major
  Capt James D. Franks, HQ TAC
  Capt Robert L. Herklaez, 355 TFW
  Capt Henry Fiumara, 49 TFW
  Capt Robert Giacomozza, 67 TRW
  Capt Richard S. Baldwin, 552 AWACW
  Capt Robert K. Akers, 9 AF

To Senior Master Sergeant
  MSgt Peter Donohoe, 67 TRW
  MSgt Dean Frazier, ADTAC!

To Master Sergeant
  TSgt Ronald Landram, USAF
  TSgt Thomas E. Daniel, 56 TFW
  TSgt Kenneth N. Woeller, TT Holloman
  TSgt William Roberts, 9 AF
  TSgt Billy Hester, 307 TARCW
  TSgt Ellis Mann, HQ TAC
  TSgt Michael Mehalco, 4 TFW
  TSgt Raymond Chisolm, 347 TFW
  TSgt Phillip Henriksen, TT George
  TSgt Edward Monteiro, 27 TFW
  TSgt Roger Cox, 27 TFW

To Technical Sergeant
  SSgt Ronald J. Kunke, TT Holloman
  SSgt Wallace King, 31 TFW
  SSgt Edward Klima, 823 CES
  SSgt James Hayes, ADWC
  SSgt Richard Papineau, 56 TFW
  SSgt Richard Burklow, 552 AWACW

Readers,

We goofed! In the August issue, we neglected to indicate that Lt Col James Bustle, 23 TFW/SE was the Fleagle T-Shirt winner for his article, "The Mission...And The Man."

Our apologies and a T-shirt to Lt Col Bustle.
Dear Editor,

As always, enjoyed the magazine and Stan Hardison’s “Fleagle”, but...

In the June issue, Maj Tim Brown’s article included a chart and referenced elsewhere the hieroglyphic F-100. Unless I’m seriously mistaken you will find that an F-100 is a vintage century series aircraft. On the other hand, you will find F100 (sans the dash) is “state of the art” turbo fan engine.

As an old maintenance officer with fond memories for the “Hun” and as an F-15 maintenance person today, I take pride in using the proper nomenclature—so please—an F-100 is an aircraft and F100 is an engine!

Lt Col William C. Morrison
405 EMS/CC
Luke AFB, AZ

Dear Col Morrison,

You’re right. Fortunately, we’re in good company since AEROSPACE SAFETY made the same mistake. Sure seems to be a lot of fuss over a little hyphen. Perhaps we should use hyphens for aircraft and asterisks for engines or periods. All in favor of making exclamation marks on their chests in felt pen.

Ed

Dear Editor,

I opened the cover of the July 1980 issue of TAC ATTACK and couldn’t believe the title of Colonel Ely’s article, “When You’ve Done All You Can—Get Out.” When you have done “all you can” is a pretty indefinite point in an emergency situation. You can be doing “all you can” as you impact the ground.

Like it or not, statements by full colonels do influence young, low ranking fliers, and the reason they stay with aircraft and die is because they have heard statements like, “when you’ve done all you can, get out.” There is a subconscious pressure that they need to do something to save the iron beast that is letting them down.

I agree with the bulk of Colonel Ely’s article, however it is time to tell the troops that when ejection parameters are reached, it doesn’t matter if you have done all you can or not, it is time to pull the handle.

Major David Hudlet
124 TRG/SE (ANG)
Boise, Idaho

Dear Major Hudlet,

Since you state you agree with the bulk of the article, I can only guess you let the title get in the way as you read the article. TAC and USAF have lost too many people who got into trouble well above minimum ejection altitude and had plenty of time to perform emergency procedures and still get out—but for reasons unknown, never made it. In five short paragraphs we didn’t intend to say everything which could be said on this subject. We tried to convey the philosophy that too many of our folks are jeopardizing themselves needlessly by trying to save the “iron beast.” If we got the troops thinking along those lines, we may have done the most we can. The folks with the most influence on our line airmen are the line supervisors—flight leads, flight commanders, ops officers, and squadron commanders. They’re the ones who can, and should, carry the message.

Ed

Answers to AIRCRAFT RECOGNITION, page 28
### TAC ANG AFR

**CLASS A MISHAPS**

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**AIRCREW FATALITIES**

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**TOTAL EJECTIONS**

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**SUCCESSFUL EJECTIONS**

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### TAC'S TOP 5 thru JULY '80

**TAC FTR/RECCE**

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**TAC AIR DEFENSE**

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**TAC GAINED Other Units**

<table>
<thead>
<tr>
<th>CLASS A mishap free months</th>
<th>TAC GAINED Other Units</th>
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<tbody>
<tr>
<td>137</td>
<td>152 TRG (ANG)</td>
</tr>
<tr>
<td>99</td>
<td>188 TFG (ANG)</td>
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<tr>
<td>91</td>
<td>138 TFG (ANG)</td>
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<td>90</td>
<td>917 TFG (AFR)</td>
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<tr>
<td>87</td>
<td>116 TFW (128 TFS) (AFR)</td>
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<tr>
<td>132</td>
<td>182 TASG (ANG)</td>
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<tr>
<td>125</td>
<td>193 TEGW (ANG)</td>
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<tr>
<td>117</td>
<td>110 TASC (ANG)</td>
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<tr>
<td>112</td>
<td>USAFTAWC (TAC)</td>
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<tr>
<td>108</td>
<td>919 SOG (AFR)</td>
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### CLASS A MISHAP COMPARISON RATE 79/80

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

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<th></th>
<th>TAC</th>
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<th>AFR</th>
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<td>5.9</td>
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### JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

* US GOVERNMENT PRINTING OFFICE: 1980–635–083/4
OK FLEAGLE, BRAKES NOW.

LEAD, TWO IS PASSIN' YA ON TH'RIGHT.

HANG IN THERE... I'M CATCHIN' UP!!

I GOT TH'LEAD.

DONT MATTER HOW WHICH ONE GOT IT 'CAUSE THEY'VE BOTH HAD IT.

NO, I GOT TH'LEAD.

I GOT IT.

NO I GOT IT.

I GOT IT.

I GOT IT.