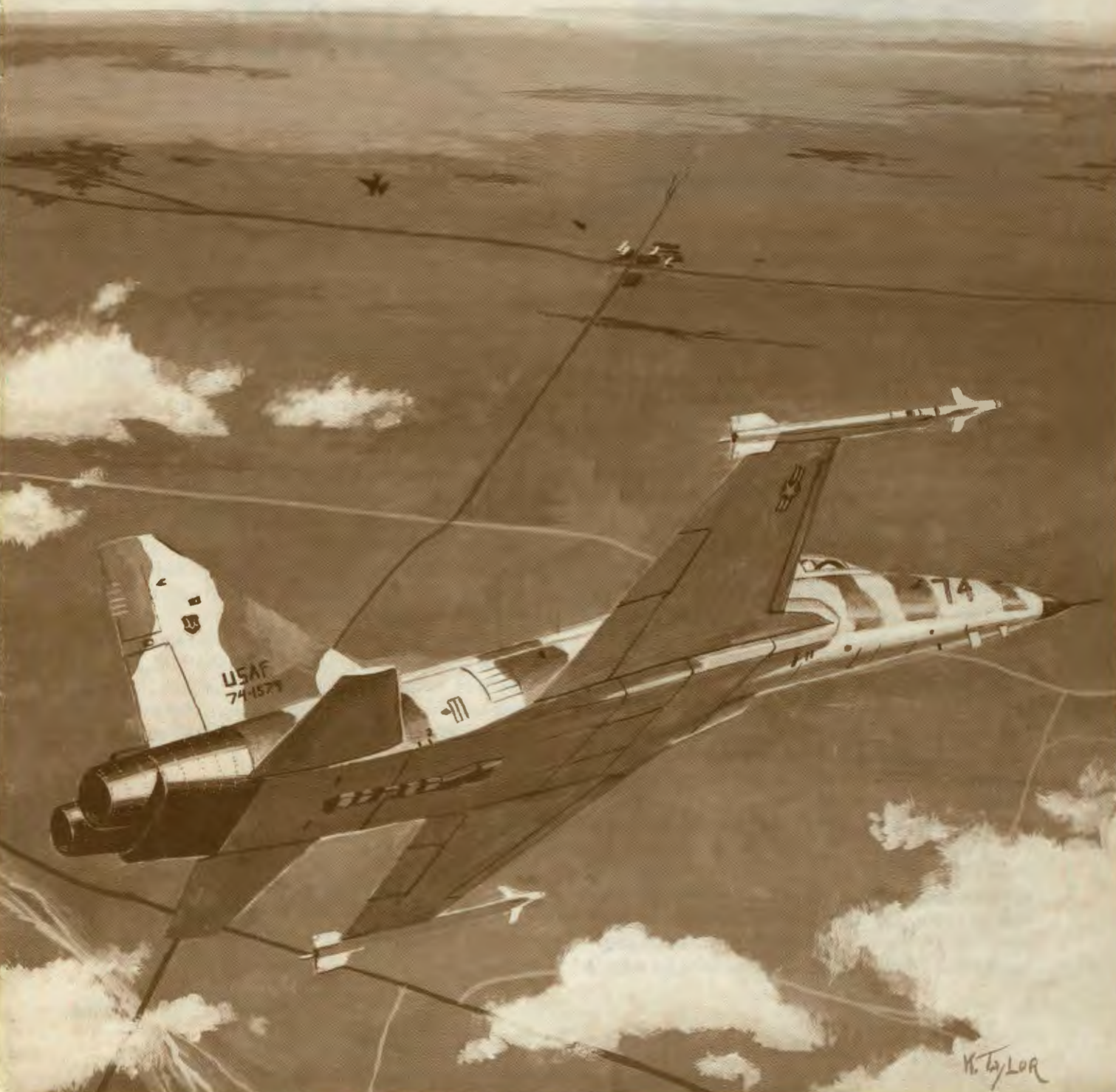


TAC ATTACK

TAC Attack

SEPTEMBER 1984





ANGLE OF ATTACK

Stress—a popular subject in magazines, books, and talk shows. Psychologists make millions treating it and writing about it. TV commercials advertise chemical wonders that promise relief from it. Some people have died because they couldn't handle it. The Air Force formally recognizes its significance by rating each officer's adaptability to stress on OERs; it impacts heavily on block 5 of NCO APRs too.

Stress probably plagued the caveman, and I'm confident that warriors of Frederick the Great and George Washington suffered from it. Today in our busy world, however, stress seems more self-imposed than external or physical. We all know that there are increasing demands on our time, our lives—our physical and mental energies. Yet, only some of us have learned to appreciate the cumulative effect of stress or how to control the legitimate demands made on our lives.

Recently I read an article about learning to *say no by saying yes*. The author's theme was to identify and give proper priority to legitimate demands, then address them in an organized way. He suggested that saying yes to high priority demands naturally meant saying no to lower ones.

Taking the "say no by saying yes" approach into the cockpit or shop will improve the way we operate, thus making our activities more productive and safe. Say no to hurried, reckless work by saying yes to doing it smart, right, and safe. Say no to a bad bomb pass or traffic pattern by saying

yes to going through dry or going around. Say no to flying when you've had more than your share of stressful demands, even if you have to say yes to talking to the boss about a few days leave.

Two of this month's features directly address stress. In "Critics-in-Transit" we followed SSgt Effie Dixon's suggestion to highlight the cumulative effect of the separate stressful events involved in a major change like a PCS move using a familiar chart. In "Flying under the Influence" Major Pete Maese discusses divorce from the perspective of stress (please note the symptoms he lists are not limited to divorce but may be indicators of other emotional setbacks). The point is simple: we need to be cautious of stress buildup in ourselves and in our teammates.

We may not be able to totally avoid stress, but there are things we can do to deal with it. Be positive, forgive and forget, exercise, eat properly, and talk (especially to your family). Say no to the minors by saying yes to the things that matter.

Harold E. Watson, Colonel USAF
Chief of Safety



ON THE COVER:
An F-5E Aggressor
on the prowl.

SEPTEMBER 1984

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Fighter

By Col Paul F. Rost
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People have always been fascinated with the beauty of flight. Certainly one of the joys of fighter pilots that earthbound people miss is the feeling of freedom and power we experience as we "slip the surely bonds of earth." To me, piloting a high-performance fighter provides the ultimate challenge—to become one with your machine through total control of your physical and mental skills. No other profession or sport taxes both the mind and body as much—or requires such precise control of our hands and legs while under physical and mental stress.

Granted, there are a few pilots

Survival in this game requires a balance between two seemingly contradictory values--the feeling of freedom

Pilot Survival Kit, Part I

that flight provides and the self-discipline necessary to handle that freedom.

out there whose physical abilities are more suited to working with pipe wrenches and the like, but they are the exception. Given all the above, it has always fascinated me that survival in this game requires a balance between two seemingly contradictory values—the feeling of freedom that flight provides and the self-discipline necessary to handle that freedom.

While 1983 was a banner year for the Air Force in reducing flight mishaps, the gain has been made primarily on the Logistics side of the house. The Ops cause factors have remained the same. In this article I'd like to share some ideas with you on what you can do to avoid becoming one of those Ops statistics. Sort of a personal survival kit for the fighter pilot. My belief is that the keys to survival lie in the following areas that should be of concern to all of us:

- self-discipline and ego
- risk taking
- crosscheck habit patterns
- task saturation
- night flying
- stress
- fatigue

Let's talk about each of these areas and see if you agree.

Self-Discipline and Ego

My basic premise is that these two assets make up the foundation of any good pilot and fighter pilot in particular; and to really understand how we are affected by them requires that we put ourselves through a form of self-analysis. That shouldn't be too hard since that is exactly what we should do in every debriefing. Why do we need self-discipline? Because all the supervision in the world will not prevent you from killing yourself in a single-seat fighter. All any supervisor can do is reduce that risk by limiting your exposure. It is up to you to take care of yourself—i.e., know thyself and develop the self-discipline to control yourself (ego). Just as a football team must wield controlled aggression to win, we must do the same.

Let's talk about ego—something fighter pilots are famous for having in abundance. If you didn't think you were a heck of a pilot, you wouldn't be a fighter pilot. Some fighter pilots disguise it, others flaunt it; but we all have that inner level of consciousness that says "I'm the best." Not second, third, or fourth, but first.

That is the only place we want to be. If you don't believe that, then you need to change jobs because the basic premise of our business is that the team that comes in second dies and/or loses the war. I know of no other honorable profession that has such a stringent pass/fail criteria. Therefore, it is no wonder strong egos are involved—and certainly are desirable.

This strong ego, combined with the power and freedom of flight, is both our biggest asset and liability. It is our strongest asset when controlled, as it gives us drive, tenacity, and self-reliance. It also gives us the self-confidence to succeed in battle even when outnumbered and outgunned. Uncontrolled by our self-discipline, it becomes our biggest liability and leads us to overreach our needs or abilities.

I submit that there are no "old head" undisciplined pilots. Granted, in the past some may have even willingly violated the regulations, but if they have survived for any extended period of time, they have plenty of self-discipline in their flying.

We all take risks—life itself is a risk—and sooner or later, the grim reaper will get us. The game is in delaying the inevitable. The bottom line is that the

Fighter Pilot Survival Kit

smart pilot understands how his ego drives him and uses his self-discipline to control it and turn it to his advantage.

Risk Taking

As you fly, you often reach decision points that involve risk taking. If you will take just a split second to interrogate yourself—what is the risk?—is it worth it?—if it is, then press on—if not, don't. In some cases this may mean finding the balance between feeding your ego and complying with the rules. My experience has been that most people have a pretty good "feel" for what the odds really are. Usually when we get in trouble, it is because we didn't consider the risk at all.

Most of our risk analysis is done on the ground in emergency procedures study. Section III of the flight manual is really a listing of steps to take for the lowest risk path on a given malfunction. I am a strong believer that you should never "react" automatically to warning lights. If you know your aircraft well, it only takes a split second to confirm in your mind the proper actions to take. To me, a Fire warning light shortly after I'm committed to a takeoff is not the time to throttle back in a single-engine fighter (as long as the engine is still producing thrust). I want ejection altitude first, then I'll worry about the light.

One thing about risk taking that has always amazed me is how some pilots are so ready to put all their eggs in one basket. Always have a backup option.

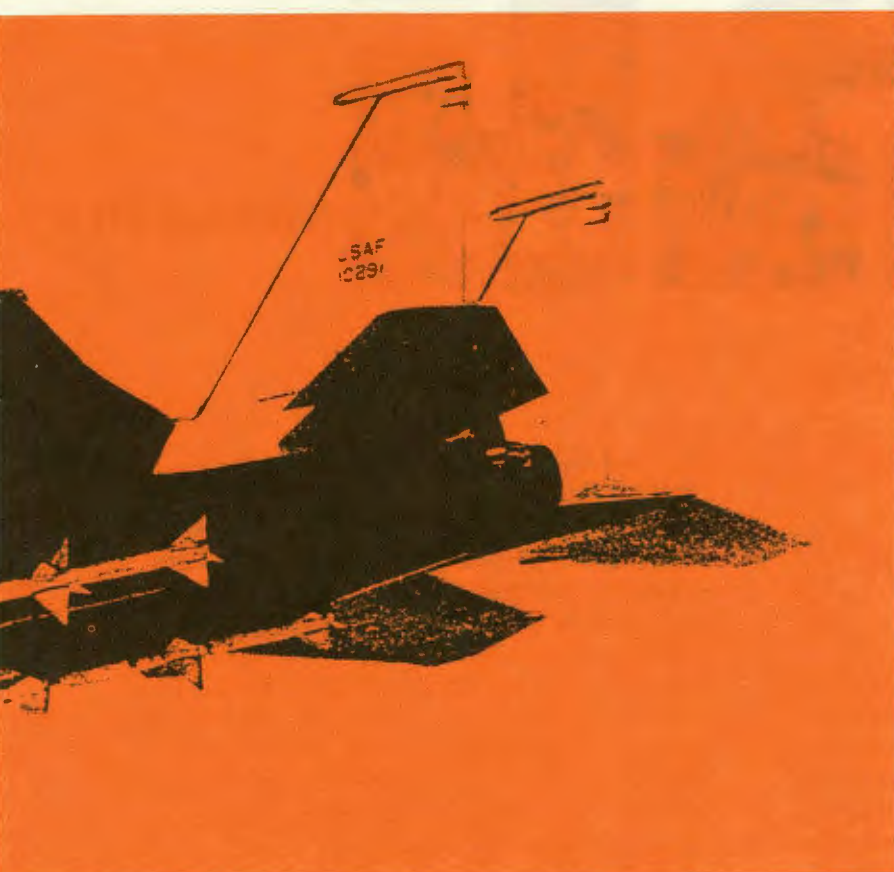
Don't box yourself in. Too often I read of pilots who hit the barrier at unnecessarily high speeds without much apparent concern for the consequences should the hook skip over the cable. Barriers are backups, not primary means of stopping.

Before landing, think beyond the barrier. At what speed will you bail out if you go off the runway? When will you shut down the engine? Would you prefer to leave the runway straight through the overrun or is it safer going off the left or right side? All of these decisions involve risk assessment that you should be thinking through, first on the ground, and then for each emergency as you face it.



Crosscheck

A fundamental of flying that I see violated more and more is precision. When your hands move on the controls, you should be looking out the front of the aircraft or at the ADI. This means that low-altitude turns are done by looking straight ahead over the nose where you have both pitch and bank references—not over your shoulder. I don't want to get hammered by a MiG anymore than anyone else; but if I make turns looking behind me, it won't be Ivan that gets me. The crosscheck should be—clear six and the area of the turn—fly through the turn, crosschecking over the nose—and return to clearing.



In air-to-air, I know we always preach "lose sight, lose fight"; but, the truth is we also need to keep track of our flight parameters. The adage is great when you've got a long-range tally and know you have a lot of smash (energy). However, when you've cleverly got the bandit trapped at six, and you want to reverse, you'd better know your energy state—and that means cross-check. If you can't afford a check of your airspeed and altitude, and still come back out and find the bogey, you either have the world's slowest crosscheck or need glasses. (Your eyes only have to see the gauges for a split second to read them—interpreting what they mean should be done with your eyes outside, not staring at the gauges.)

All I'm saying is, that even our "magic" airplanes today still demand that flying the aircraft is a vital part of fighting with the aircraft.

Every time you're tempted to exclude the airspeed/altimeter, etc., from the crosscheck because they're not necessary—bells and whistles should go off in your mind warning you not to do it. Mishaps have occurred where the

Why did the pilot forget to crosscheck this instrument? I don't think he did. I think the answer is he deliberately excluded that instrument from his crosscheck because he felt confident that he knew where he was.

pilot failed to crosscheck his altimeter for an extended period of time—45 to 60 seconds. Why did the pilot forget to crosscheck this instrument? I don't think he did. I think the answer is he deliberately excluded that instrument from his crosscheck because he felt confident that he knew where he was.

During my first tour in Southeast Asia, we lost two pilots during night formation rejoins. Both were wingmen trying to rejoin immediately after takeoff in clear VMC. Both had aggressive cutoff angles established and only had to maintain that position as they closed with lead. Instead, both descended into the ground. Why?

I think it was because they were rejoining using only visual references, and forgot that at night they had no perception of how close (or rather how far) they were from lead. The altimeter was the only way to know they were heading back into the ground, but they had deliberately excluded it from their instrument crosscheck since they were flying a VMC rejoin. The lesson learned is to beware of dropping items from your crosscheck because you *know* where you are.

Flying on autopilot provides the same trap. The only thing an autopilot does is to let you physically remove your hand from the stick. The crosscheck must continue or someday, somewhere, you'll pay the hard way. ➤

Reprinted from *Flying Safety Magazine*, Mar 84

Next month Col Rost will conclude by taking a look at the remaining contents in the fighter pilot's survival kit: habit patterns, task saturation, night flying, stress, and fatigue.

TAC

tips

INTEREST ITEMS,

But I thought

By Maj H. V. (Scott) Sutton
TAFIG/IIPJ

Well after level-off at FL330, the F-4 crew on the wing of the two-ship formation was spread wide in tactical for the cross-country flight. The wing aircraft, as approved by the flight lead in the premission brief, piloted by the "flyer-in-back (FIB)," was exploring the depth and breadth of the position. Laden with three bags and two travel pods, the Phantom was sluggish and the "flyer up front (FUF)" selected afterburners with the comment, "Here, let me help." Reluctantly the FIB relinquished command and waited for the aircraft commander to rejoin on the leader.

As the heavy fighter rolled inverted and its nose dropped through the horizon, the query from

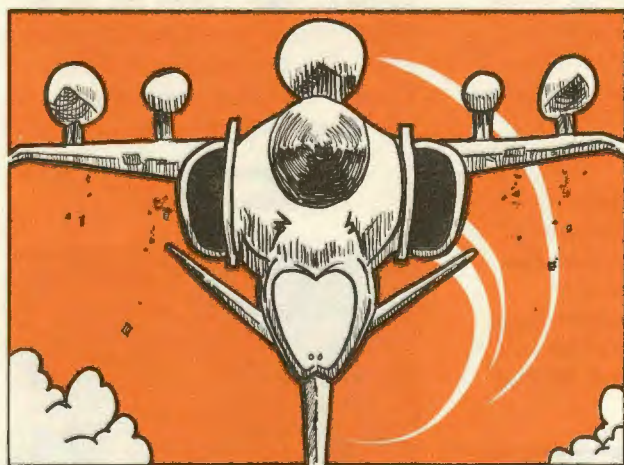
the front was, "Hey, what are you doing?" "WHADDUYAMEAN—WHATAMIDOIN—ITHOTYOUWEREFLYING?" was the response. Although the recovery exceeded assigned airspace and oversped and over-Ged the loaded baggage pods, no other damage was done.

Poor communication began with Adam and Eve, but it bears revisiting. "Here, let me help" does not denote change of control, nor does "I've got it." I've got what? Control of the radio? TACAN? radar? aircraft? A clear call "I have the aircraft" from the assumer while shaking the stick, and from the relinquisher "You have the aircraft," lets everyone know who's in charge.

The trouble with towers

Some DOW types consider using towers for low-level turn points (or other checkpoints directly beneath the planned flight path) tactically unsound for a couple of reasons. First, in bad-guy country, if a tower supports critical communications, it's liable to be defended. Second, because of its value, some enterprising targeteer may select it for interdiction; so it may not still be standing when you're screaming by at treetop level looking for your turn point. If we're really training the way we're going to fight, we'd avoid overflying towers.

But let's face it. There are times when the schedule changes, and we need a map in a hurry—one that gets us from A to B without a



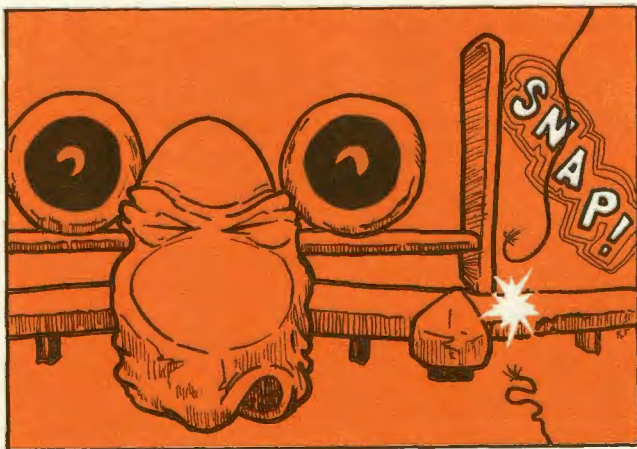
MISHAPS WITH MORALS, FOR THE TAC AIRCREWMAN

tour of somebody's control zone . . .

A pair of A-10s was flying a low altitude tactical navigation route to the range. One of the pre-planned turn points that the flight lead had chosen during his mission planning was a 319-foot tower. Normally, that's not a real hazard on a planned 500-foot LATN mission. It became one on this mission because he didn't see it. About a minute (4 NM) out, he was no-joy, so he went heads-down to reprogram the turn point coordinates into his inertial navigation set.

If you're cruising in a Warthog at 500 feet and look down for a while, guess what may happen to your altitude? Wasn't long before the tower was higher than he was. Unfortunately, the wingman had also been distracted and had his eyes in the cockpit for about 15 seconds taking care of a recurring Master Caution light by turning off his transponder's mode IV.

Both pilots looked up as the leader clipped one of the guy wires several feet below the top of the tower.



Can you think of a technique that may have prevented the \$7,000 plastic surgery job on the flight lead's Warthog? Suppose the flight lead told his wingman that he was going to be heads-down for a few moments. And suppose before the call he climbed up a few hundred feet.

Heavy-handed throttle technique

How can you slow down an F-4 in a hurry when it's cruising at 1.6 Mach?

- A. Just wait a few minutes.
- B. Do anything to make him turn.
- C. A double compressor stall produces *very* rapid deceleration.

This is not a question from the F-5 Aggressor master question file. But it sounds a little like some stan/eval questions, because several answers are correct. Answer A is correct because every fighter's fuel supply is limited. Response B is a well-advertised Rhino liability that too many Aggressors know about. Answer C works, but it cost \$84,000 when one crew tried it.

After level off up in the ionosphere with 1.6 Mach, an F-4 functional check flight crew nosed their Phantom over to accelerate and check if the ramps (forward of the air intakes) would extend as programmed during high Mach flight. At around 25,000 feet when the ramps passed their

TAC TIPS

test, the pilot retarded the throttles out of afterburner to slow down. Kaboom $\times 2$. Both engines compressor stalled—and violently pitched the aircraft about all three axes (to the tune of 8 positive and 3.5 negative Gs recorded on the pilot's gauge).



The engines recovered and the somewhat-shaken FCF crew landed uneventfully after a successful controllability check. But the aircraft didn't fare so well. Parts of both engines were damaged, the trailing edges of the flaps and ailerons were warped, and several panels and doors were cracked or buckled.

The key to safely shutting down the afterburner during high speed flight is S-L-O-W and steady. Gradually reducing thrust allows the aircraft to decelerate before the exhaust nozzles close. Otherwise the nozzles close (and restrict the exit of hot gases from the back of the engine) at the same time the compressor at the front end of the engine is demanding huge volumes of air to support maximum thrust. That combination creates a severe overpressure within the engine that can buckle the afterburner liners and rip the engines from their mounting hardware.

Whether at 25,000 feet or on the deck, gradual AB shut down at high speed is a *Phantom fact of life*.

No tickee, no washee, no gas, engine quits

In the midst of his descent check, an O-2 pilot, returning from a mission on a nearby range, was interrupted by several traffic calls from approach control. The pilot looked all around and moved the airplane around a bit until he finally saw the bogey. Then he completed his descent, contacted the tower, and reported initial for a low approach. After rolling out on final, he started his go-around about 100 feet above the skid marks on the runway.

When he applied maximum power, the front engine didn't respond. He immediately recognized the problem and switched the left fuel selector back to Main—like he intended to do before the interruption to his descent check. It was too late, though, and the Skymaster transitioned to a full stop landing. Good thing the runway was clear . . .

Distraction. Broken habit pattern. These hazards don't occur on every mission, but they will happen. Only by double- and triple-checking can we recover from distractions. Many of us said "Handle, horn, lights, lights, pressure" when we first encountered retractable gear—only to forget the handle when we were distracted. *Them that has and them that will.*

About nutrition

From the TAC Surgeon General

Many very busy, highly motivated people get into the habit of one meal a day. And while they are young, they get away with it. This is *not* the best pattern of eating for lifetime fitness and health.

Several mishaps recently briefed at HQ TAC have involved one-meal-a-day pilots. Nutrition and rest were not found to be factors in these mishaps. However, that may only be because of medical science's inability to find "footprints" of small changes in performance—small changes which may have big results at high speed, low altitude, or under high G-forces . . .

AIRCREW OF DISTINCTION



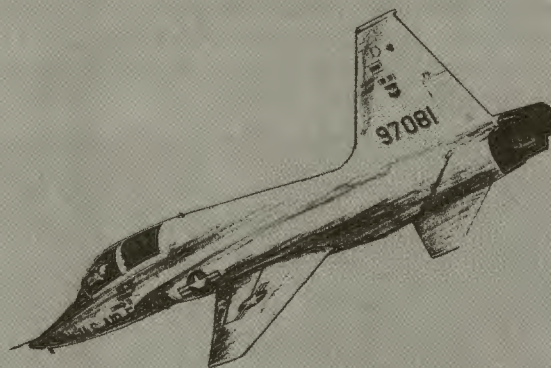
Capt Jon K. Spain
433 TFTS, 479 TTW
Holloman AFB, New Mexico

On 22 February 1984, CAPTAIN JON K. SPAIN, an AT-38B FCF pilot, was flying solo on a functional check flight from Holloman AFB, New Mexico. The flight was the aircraft's third successive FCF for uncommanded yaw oscillations. Shortly after liftoff, the aircraft began fishtailing. The uncommanded yaw oscillations were joined by rolling tendencies as the aircraft accelerated. This is as far as the two earlier FCFs went: at this point previous FCF pilots had turned off the Yaw Damper switch, the uncommanded yaw inputs stopped, and the pilots landed. When Captain Spain quickly turned off the switch, however, the oscillations continued—and magnified. Less than 100 feet above the runway, the aircraft was alternately rolling into 60 degrees of left and right bank.

Captain Spain fought to maintain control of the aircraft while trying to climb to a safe ejection altitude. As the aircraft accelerated during the climb out, controllability improved. With further acceleration above 250 knots, however, the aircraft seemed to have a mind of its own; it rolled inverted at 280 knots.

Unknown to Captain Spain, a miswired cannon plug from the yaw rate gyro was directing the stability augmentation system (SAS) to magnify rather than damp oscillations. And failure of a hydraulic shutoff valve precluded interrupting the supply of hydraulic fluid to the SAS by turning off the Yaw Damper switch.

By immediately slowing to around 240 knots, Captain Spain regained control. At that speed the aircraft still continuously yawed 10 degrees and rolled up to 30 degrees. A chase aircraft reported that the rudder was moving back and forth



causing the difficulties.

Captain Spain burned down fuel at altitude, then slowed and configured the aircraft to see if it was flyable at approach speeds. Satisfactory control for landing was available at 165 knots. He maintained that speed during the approach and safely landed the aircraft.

Captain Spain's superior airmanship in handling this difficult situation prevented the loss of the aircraft and earned him the Tactical Air Command Aircrew of Distinction Award. ➤

WEAPONS WORDS

TERs away

Here are three quick A-10 stories (each happened at a different place) that are *not* about the Warthog's speed or beauty:

1) The first Warthog was on a training mission dropping BDU-33 practice bombs on targets on a local range. Triple ejector racks (TER-9As) (each loaded with three BDU-33s) were loaded on stations 3, 4, 8, and 9. The pilot selected stations 8 and 4 and alternately released a single bomb from each station on each pass without problems. Then he deselected stations 8 and 4 and selected 9 and 3. On the seventh pass, with station 9 selected, the TER and its three bombs came off when he hit the pickle button.



2) Same scenario, same bomb load on the same stations. This pilot also selected stations 8 and 4 and alternately released individual bombs on his first six passes without difficulty. Then he too deselected stations 8 and 4 and selected 9 and 3.

On the seventh pass. A single bomb released from station 9 as planned. But on the eighth pass, the TER and its three bombs came off station 3 when he pickled.

3) Same song. This pilot only made it to the second pass before the TER on station 4 went along for the ride with all three of its bombs.

What's up, Doc? Are A-10's allergic to bomb-dropping? Not really. The culprit in all three of these weapons incidents was at the end of the TER cables—someone didn't hook them up correctly. The cannon plug attachment was cocked and not fully seated. So although the pilot knew there really was a TER and three practice bombs on that station, the release system only sensed a single store. Now, since we know what caused the loss of these racks, maybe we can stop the trend.

Runaway step van

By TSgt Allan R. Otis
178 TFG (ANG)
Springfield, Ohio

A munitions expediter and two weapons technicians headed south on taxiway "able" in a step van towards the dearm area to recover the third four-ship of the day. Weather, lighting, and workload were nearly ideal. The expediter slowed the van to a crawl while requesting clearance from the tower to cross the active runway. Civilian air traffic was light and clearance from the tower came immediately: "Red three—cleared to cross one-five without delay."

The expediter accelerated the van heartily and

was rapidly across the active runway. Once on the other side, deceleration did not occur when the driver removed his foot from the throttle. To the contrary, continued, rapid acceleration occurred; so he stepped on the brakes. But the van's engine continued to increase in rpm, overriding the brakes. The expediter moved the gear-shift lever from Drive to Neutral and continued to apply brakes. Then he shut down the engine and the van coasted into the dearm area on the pavement adjacent to the taxiway.

Several attempts to restart the van's engine resulted in uncontrollably high acceleration of the engine. So the expediter radioed maintenance control for motorpool technicians to come and look at the suspected carburetor malfunction. While awaiting their arrival, the crew completed dearming the fighters.

The culprit? The threaded portion of a sway-brace from the MER/TER ejector rack had been left on the van's engine cowling. Later it slid forward and left and lodged between the inside firewall and the accelerator linkage. Its position caused the accelerator to remain in the full open setting.

All the team members were immediately aware of "FOD in their own cockpit."

Souvenir

Most of us collect some kind of souvenir from the places we visit, even if it's just a postcard or picture. Deployments are no exception. Who doesn't like to show off his German beer mug, Spanish porcelain, or Korean tailor-made sportcoat? But



some souvenirs can only get us in trouble.

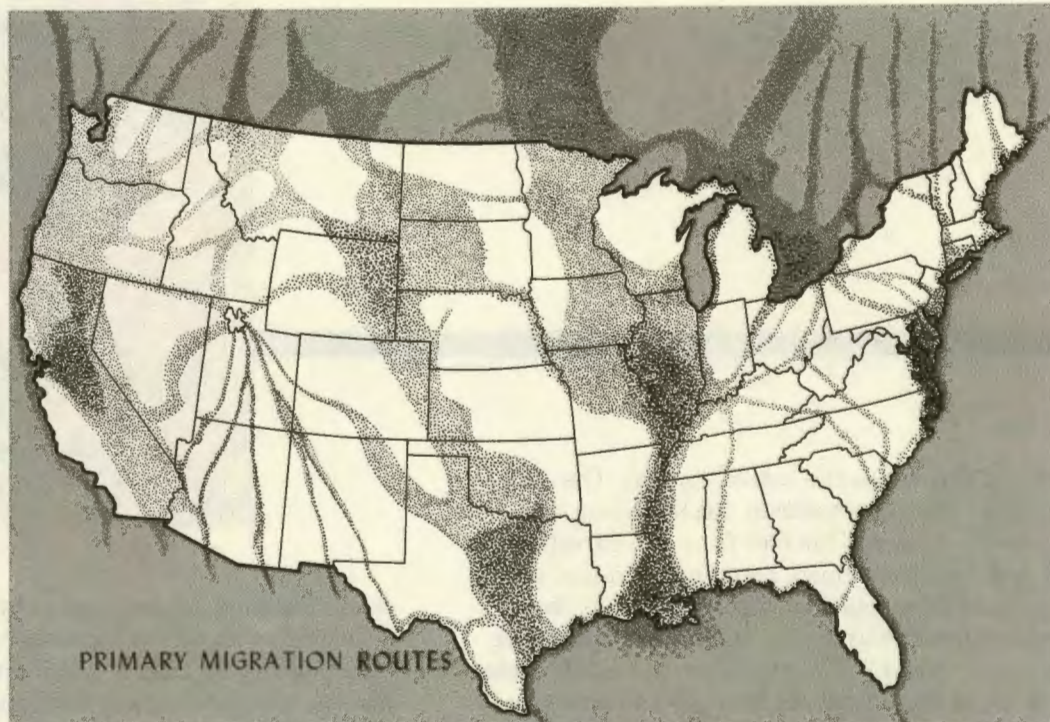
One fellow came back from a deployment with an unauthorized M115A2 ground burst simulator (GBS) like the kind he had seen used during exercises when he was TDY. He was evidently very impressed with its powerful sound and wanted to show it to one of his buddies. After work one afternoon, he took the GBS from the trunk of his car, pulled the pin, and threw the GBS several feet away in the parking lot. It didn't go off.

Determined, he retrieved it and brought it back inside the building where he cut it in half with a hacksaw. Back outside now, he tried to light each half with his cigarette lighter. The first half only burned. But the second exploded in his face causing serious burns to his face and hands.

To those of us who aren't trained in the use of explosives, the lesson is clear—don't. But the incident also serves to remind us to keep close tabs on explosives used to simulate airfield attacks and other mock disasters during our own exercises. Let's not be responsible for a *helper* helping him or herself to "an extra" noise maker.



HEADS UP



The fall bird migration season, which runs from September through November, is the most hazardous time of the year for birdstrikes. Historically, about 40 percent of all strikes occur during this season. In 1983 the Air Force spent over four million dollars repairing damage that was caused by 2,313 birdstrikes. That's a bunch of E $\neq$ MV².

Besides migration, another reason birdstrikes frequently occur during the fall is the huge group of birds that spends the winter in the Southern U.S. where we have a lot of airbases. We humans stick around and complain about the cold, rain, and snow while our feathered friends go south. Which species is brighter, really?

Starting this month, between 10 and 20 million waterfowl and countless other birds are heading south. Many are headed all the way to Central or South America where the dollar is so strong. Others have nesting areas in the U.S. The adjacent map depicts the migration routes.

You might ask, "So other than telling me not to fly in Delaware or Illinois, what good will it do me to learn the location of these bird interstates? Birds or no birds, I still have a mission to fly."

Well, the figure, like RWR gear, is only designed to give us a rough idea of where the threat is. How we use the information is up to us. Looking at your own local flying area is a good place to start. If the weather is good enough to fly low level on two routes and one of them lies within and parallel to

one of the migration routes, choosing to fly the other may demonstrate your field ^{grade} potential to your flight commander.

Most migrating waterfowl fly at night, continuing until daylight in search of suitable stopping areas. Realistic scheduling can reduce exposure. Some units have decided to reduce night flying during the migratory seasons.

And there are a few other things we can all do during the season:

- Visor(s) down.
- In a two-seater, thoroughly brief crew coordination. Consider not only the confusion, noise, and canopy damage, but also the possibility of disabled ejection seats or mangled parachutes. Clearly define who's going to do what, when, and how.
- If birds are reported around the aerodrome, consider landing from a straight-in approach. Experiments have shown that birds can see and hear well, but they don't do well at predicting an airplane's flightpath if it's not a straight line.
- If you take a bird, immediately check the gauges; engine damage is a definite possibility. Even if everything looks OK, abort the mission, consider a controllability check, and land. Your instruments, or even your wingman's view, may not reveal serious damage.

Thanks to Pete Abler
TAC Attack, Sep 78

TAC SAFETY AWARD

INDIVIDUAL SAFETY AWARD

MR. ROBERT A. CURTIS, who works for the 56 TTW Deputy Commander for Maintenance, was reviewing a message read file and noticed a Category I Service Report from Hill AFB, Utah, to Wright Patterson AFB, Ohio, that described a hazardous condition on trailers used for aircraft engine installation. The stop on the bottom of the worm gear of the forward jackscrew was missing. This unsafe condition permits the adapter for engine installation to be extended beyond its limit; the engine may then drop onto the trailer and injure someone or extensively damage the engine or trailer.

Because of the report, Mr. Curtis decided to check a trailer in his maintenance section. The trailer he checked had the same problem. He reported the results of his findings to the Assistant Deputy Commander for Maintenance and suggested a more in-depth inspection of all jet engine trailers. An inspection was conducted; several trailers had the same problem.

Mr. Curtis's sound knowledge of maintenance procedures and initiative prevented the potential for a serious problem to develop.

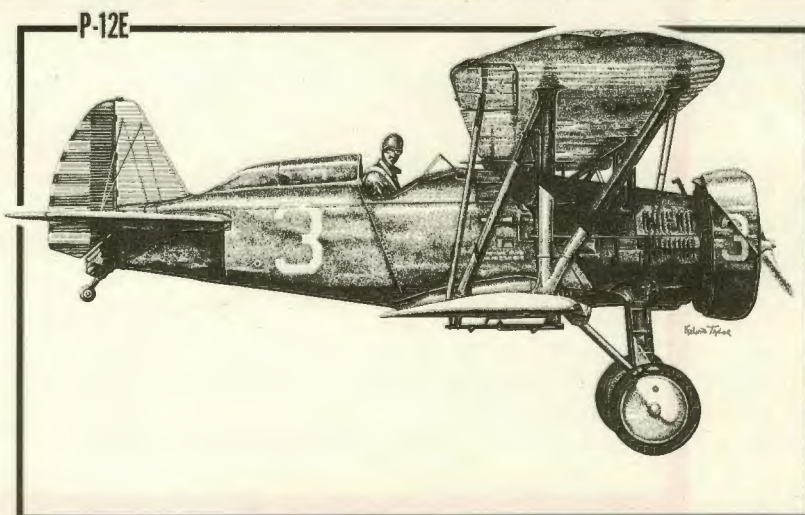


Mr. Robert A. Curtis
56 TTW
MacDill AFB, Florida

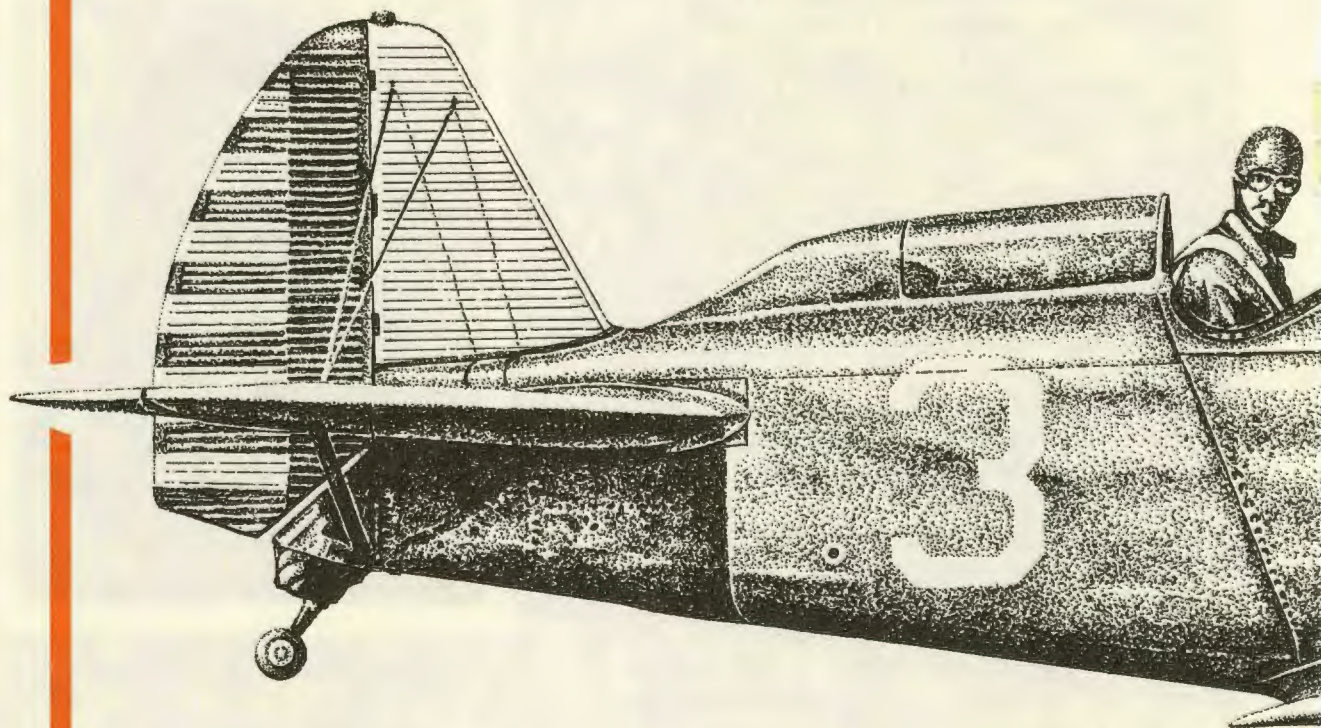
IN THE CENTER

The P-12E was one of the most maneuverable planes ever built according to service pilots who flew her. She could execute all fighting maneuvers with ease, including outside loops. She was the first U.S. Army Air Corps pursuit aircraft with an all-metal fuselage. Built by Boeing, the P-12E's first flight was in Oct 1933.

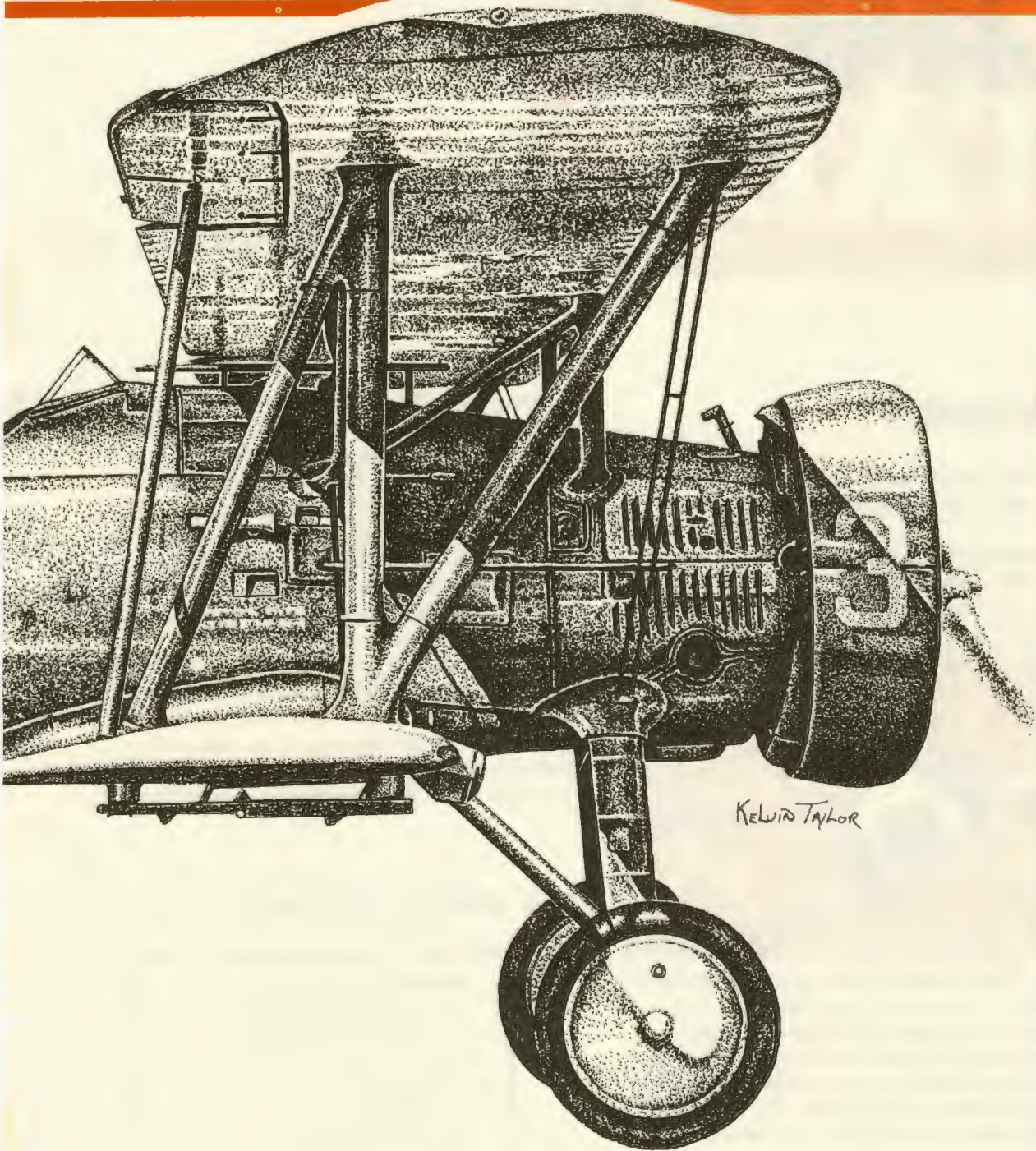
Top speed: 189 mph
Length: 20 feet, 4¹¹/₁₆ inches
Upper wing span: 30 feet
Lower wing span: 26 feet, 4 inches



P-12E



P-12E



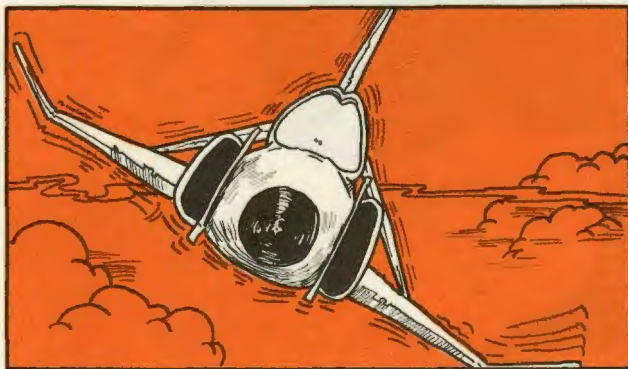
CHOCK TALK

INCIDENTS AND

Just bleed it

The incident described in last month's *Aircrew of Distinction* write-up was exciting. Wonder what caused it?

The aircraft forms showed that this was the F-4's first flight since some hydraulic components were changed to correct leaks at the utility hydraulic reservoir and the utility pressure hose going to the



left engine. Troubleshooters ran a complete check of the Phantom's flight controls but didn't find anything more than the need for some minor adjustments. The rudder actuator, however, failed a test that indicated internal failure; but that alone would not account for the crew's wild ride. Then, air was found in the utility hydraulic lines. Air in the utility hydraulic pressure lines along with a failed rudder actuator could have caused the rudder oscillations that persisted throughout the flight.

No source for the air was found during the inspection. The only explanation seems to be that whoever repaired the hydraulic leak didn't completely bleed all the air from the utility hydraulic

system. When the pilot raised the gear after takeoff, trapped air was released into the utility hydraulic system. The air formed in pockets surrounded by hydraulic fluid within the hydraulic pressure lines. When the air bubbles interrupted the smooth flow of fluid through the rudder actuator, it was easy for them to push the rudder around, because the failed actuator offered no resistance.

Just a minor little thing like bleeding the utility system almost cost an airplane.

Gus Grissom once said that it wasn't very comforting sitting atop 100,000 parts all produced by the lowest bidder. Some of us think there's a ring of truth to that in this business. That makes the quality of our work even more important. Even the *little* jobs we do are important. Let's not forget it.

It's not a choice

By SMSgt Michael J. Hess
474 TFW/MAQ
Nellis AFB, Nevada

See the crew chief's
squinting face,
as he peers into
that darkened place.

He hesitates,
he can't decide,
should he take the chance,
or crawl inside?

Oh, why's that engine
so far away,

INCIDENTALS WITH A MAINTENANCE SLANT

he's almost sure,
yet it's hard to say.
He could sign it off,
then he's free to go
besides, who on earth
is going to know.

Then, as his flashlight
fades to dim,
his conscience starts
to nag at him.

Is that a shadow,
or is something gone?
then again,
he's sure there's nothing wrong . . .

All night our hero fought
his inner voice,
but there never was
a second choice.

He could have saved
a lot of time you see,
if he'd only used a little
IN—TEG—RI—TY.

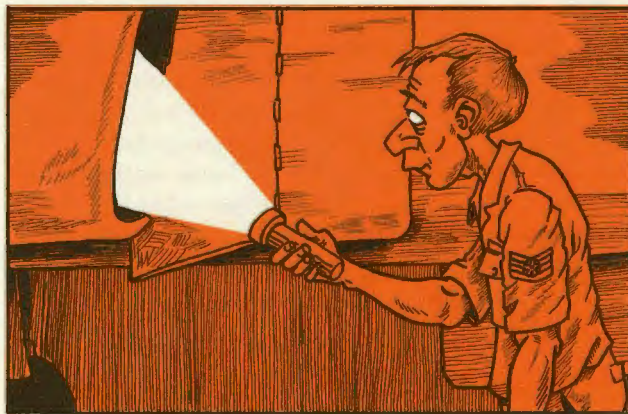
An intake inspection is one of those time-consuming, pain-in-the-neck sort of jobs that many would rather not have to do. To anyone who has performed an infinite number of these inspections and found nothing, it seems all the more unnecessary. Unfortunately, pencil-whipping intake inspections may be perpetuated by trainers or supervisors who have gotten away with it in the past. Each new generation fosters the next until the practice becomes epidemic. If the aircraft you're dealing with has only one engine, the problem goes beyond integrity. It's not a choice, it's an obligation.

TAC ATTACK

Early duty

An F-4 Crew Chief's private thoughts

O-dark-thirty. What a way to earn a living. I should be sleeping like everybody else. Oh well, it's better than day shift when it gets so hot you can't think. But I wish the sun was up, at least; I hate using this flashlight.



I can't believe it. Here comes the aircrew already. What time is it? Man, I'm not ready for this. Better get this 780 gear broken down—nothing makes them sore at the Ol' Chief like having to pull their own downlocks and unpin their own ejection seats. At least I got the WSO's seat ready. Guess I'll set this jury strut here on top of the intake and get it later.

"Good morning, Captain. Here are the forms. Three-eight-nine here just got back from the trim pad, and I'm a little behind schedule. But I'll have her ready before you're finished reading. Here's my flashlight for your preflight, Captain."

Now, where was I? Well, I better help strap the backseater in. *"Yes Sir, I'll be happy to wipe down*

CHOCK TALK

the canopies for you." Back down the ladder to get a rag—I wish I had a dollar for every trip I made up and down this thing. OK, everybody's strapped in, and the windows are all clean. Time to go back down and crank this beast. Where's that jury strut? The WSO must have tossed it down to Howard. *"How do you read, Sir? Yes Sir, fore and aft areas clear, fire guard posted, and here comes air on two."*

*** **

We were lucky this time. One way or another the jury strut ended up hanging in front of the intake, dangling from the wire to the safety pin that caught on the vari-ramp. When the Phantom took off, the engine sucked the strut down the intake with such force that it ripped the safety pin wire from the strut. The pin flew up and over the intake and landed in the overrun. The strut sailed into the engine but lodged against the inlet guide vanes where it remained throughout the flight. The strut only nicked and rubbed the first stage compressor blades, but we're talking close.

The crew chief didn't see the dangling strut because it wasn't where he put it. The pilot didn't see it on his walk-around. And the end-of-runway crew (who didn't have a light-all) didn't see it either. Does the Air Force suddenly have an epidemic of bad eyesight? Not really. But we have rediscovered a formula for trouble: DARKNESS + HASTE + BROKEN HABIT PATTERNS + ASSUMPTIONS = TROUBLE. Looks like something that supervisors could take an interest in, doesn't it?

Bald Eagle

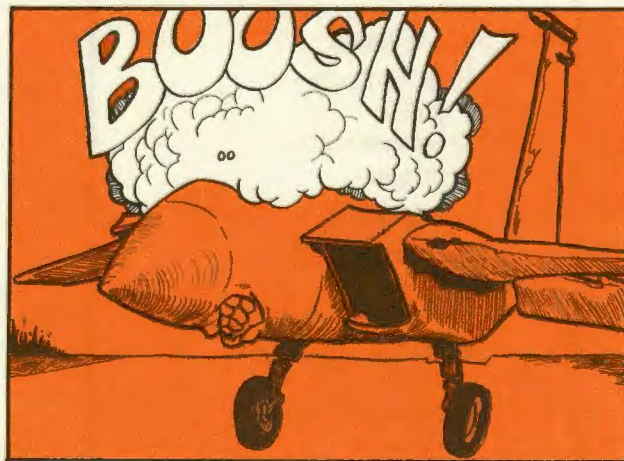
A worker was sitting in the front cockpit of a two-seat F-15B using his job guide to check the aircraft's environmental system. He removed the safety wire that held the cabin pressure regulator switch in the Flight position, and moved the switch to Test. But then he realized that before he could go any further, he needed a canopy restraint kit. So he left the cockpit to look for a kit. But he left without making an entry in the aircraft forms about the switch being out of the Flight position.

When he searched the shop for a kit, he struck out. All the kits were either missing (taken TDY) or

damaged and unusable. "3%!! No tools, no work," said the specialist as he headed back to the dispatch office for another job assignment.

Meanwhile, a trio of workers came out to the same aircraft for other repairs. They checked the AFTO Form 781A for write-ups that might preclude a double-engine run. Not finding any, two of them climbed aboard, started the Eagle, lowered the canopy, and worked with the other man outside the aircraft to correct the discrepancies.

Soon, excessive pressure in the cockpit bothered the workers who were inside. So the one in the front seat momentarily opened the vent valve; which relieved the pressure. Later, when the cockpit pressure rose again, the worker in front tried to crack open the canopy to relieve the pressure by pulling the emergency canopy release lever (as he had been taught). But when he pulled the lever, the excess cockpit pressure blew the canopy off the aircraft. Boosh! The glass shattered when the canopy hit the wing.



No one noticed the cabin pressure relief valve. Why should they? It wasn't in their job guide. But that's not where the trouble lies. The first worker could have prevented the conditions that set the stage for this \$50,000 incident.

It may be impractical to require a worker who expects to be away from the work area for a few minutes to rewire a switch to its original position. But it certainly isn't asking too much to require a write-up in the forms before leaving.

Our aircraft forms are not just some bureaucratic nuisance. They are an important means of communicating with each other. We use forms to pass on what's wrong, what's been done to fix it, and what still needs to be done. The trouble here wasn't a switch or a job guide—it was a failure to communicate.

WEAPONS SAFETY AWARD OF THE QUARTER

As munitions inspector crew chief, SSGT THOMAS D. JOHNSTON performs his duties with a high regard for safety and quality. He has submitted five AFTO 22s that added local repair procedures for missile malfunctions. One AFTO 22 received high praise from the item manager for eliminating a major deficiency. The item, an initiator used to start the aircrew ejection/egress sequence, had no technical order requirement to inspect its port assembly. Sergeant Johnston identified the problem of FOD in the port assembly that could cause the seat to misfire. Because of his conscientious efforts, a critical inspection checkpoint is being added to the technical order, eliminating this potentially dangerous situation.

In the past quarter, Sergeant Johnston has received three personal excellent evaluations and five excellent quality verification inspections with a zero defect record on all quality assurance evaluations. The agencies that received munitions certified and inspected by Sergeant Johnston found no discrepancies.



SSgt Thomas D. Johnston
58 EMS, 58 TTW
Luke AFB, Arizona

Sergeant Johnston works hard to ensure that FOD prevention procedures, safety self-inspections, and technical data procedures are correct and being followed.

Sergeant Johnston has been a dominant factor in the squadron and instrumental in its ability to perform highly reliable and safe munitions maintenance.

GROUND SAFETY AWARD OF THE QUARTER

Lt Col DALE W. SMITH, Commander of the 366 CRS, Mountain Home AFB, Idaho, takes safety seriously and works hard to promote safety awareness in his squadron.

His personally implemented seat belt program has improved seat belt use throughout the squadron. At Commander's Call, he has unit personnel brief how seat belts have saved their lives. Colonel Smith issued a challenge letter to everyone in the squadron stating that "Anyone caught not wearing a seat belt . . . owes a steak dinner to the one who catches him or her."

Colonel Smith established a squadron safety council of representatives from each work center. The council's purpose is to increase safety consciousness, identify safety hazards, promote the use of safety equipment, and select people for safety awards.



Lt Col Dale W. Smith
Commander, 366 CRS
Mountain Home AFB, Idaho

Driving under the influence (DUI) is an important topic with Colonel Smith. He personally counseled everyone in the squadron who was considered a high risk driver. As a result, there has been a 30-percent reduction in DUIs.

Colonel Smith promotes safety—not as just a program, but as a way of life.

crisis-in-transit

Idea Submitted by
SSgt Effie H. Dixon
832 AD/SEG
Luke AFB, Arizona

Have you PCSed, changed jobs, attended a school, or taken a vacation in the past couple of months. If so, take a look at the Life Stresses Quiz. Notice that the points assigned for each stressor are added to determine your individual stress score.

Dr. Norriss Hansell, professor of psychiatry at Northwestern University, says that when a person experiences a major loss or change in life, such as a PCS move, that person enters what he calls a "crisis-in-transit" period. This period can last 20 to 40 days.

Stress and its effects are a popular subject today, especially in the safety business: stress affects performance and that causes accidents. Stress is also a part of day-to-day living; each person is affected differently and handles it differently. Can we benefit from stress? Dr. Hansell says yes.

He suggests that management has a good chance to strengthen a relationship or improve an individual's performance during a crisis-in-transit period. During this period not only does a person's behavior change, he or she also becomes more flexible and able to accept change.

A crisis-in-transit period could be a good time for supervisors to observe a person's basic skills; there's a good chance that bad or incorrect work practices could be changed since the person is more flexible and able to accept change. And it could be the best time to establish the boss-to-worker relationship. During a crisis-in-transit period, existing relationships are loosened; a person is more open to establishing new relationships. And what better time to do either of these than right after a PCS move.

Stress and how it affects performance is real. Learn to recognize it in yourself and others. Here's how to keep it from getting the best of you.

- Learn to plan—disorganization breeds stress.
- Set reasonable goals, no one is perfect.
- Make time to have fun.
- Focus on being positive—praise others and yourself.
- Forgive and forget; if you don't, frustration and anger set in.
- Exercise, exercise, exercise.
- Talk. Find someone you can trust and talk, talk, talk.



Life Stresses Quiz

Stressor (occurring in last year)	Score
Death of Spouse	100
Divorce	73
Marital Separation	65
Jail Term	63
Death of Close Family Member	63
Personal Injury or Illness	53
Marriage	50
Fired at Work	47
Marital Reconciliation	45
Retirement	45
Change in Health of Family Member	44
Pregnancy	40
Sex Difficulties	39
Gain of New Family Member	39
Business Adjustment	39
Change in Financial State	38
Death of Close Friend	37
Change to a Different Line of Work	36
Change in Number of Arguments with Spouse	35
Mortgage or Loan over \$10,000	31
Foreclosure of Mortgage or Loan	30
Change in Responsibilities at Work	29
Son or Daughter Leaving Home	29
Trouble with In-Laws	29
Outstanding Personal Achievement	28
Spouse Begins or Stops Work	26
Begin or End Some Type of Schooling	26
Change in Living Conditions	25
Revision of Personal Habits	24
Trouble with Boss	23
Change in Work Hours or Conditions	20
Change in Residence	20
Change in Schools	20
Change in Recreation Activities	19
Change in Church Activities	19
Change in Social Activities	18
Mortgage or Loan Less than \$10,000	17
Change in Sleeping Habits	16
Change in Number of Family Get-Togethers	15
Change in Eating Habits	13
Vacation	13
Christmas	12
Minor Violation of the Law	11

The higher the score, the greater the chance of experiencing a severe stress reaction within the next two years. Of course this doesn't apply to everyone, but it could be used as a general assessment of accumu-

lated stress. A score of 0-150 indicates no significant problems; 151-199, mild (33 percent chance of a severe stress reaction); 200-299, moderate (50 percent chance); 300-plus, major (80 percent chance). ➤

DOWN TO EARTH

Cordless phones can ring your ear

The U.S. Consumer Product Safety Commission (CPSC) and the Electronic Industries Association (EIA) have issued a joint consumer alert urging owners of cordless or portable telephones to exercise caution when using the product.

The CPSC and EIA urge users to place the phone in the talk position before moving the telephone to their ear. Otherwise, they may be exposed to a loud, possibly painful ring in the ear.



The CPSC has received consumer complaints about the loud sound that is made when the telephone rings or when someone near the base station presses the intercom or page button while the headset is close to the user's ear. Several of

these complaints, including some from physicians, claim that some hearing loss has resulted from the loudness of the ring.

Currently most cordless phones are designed so that the ring or page signal comes through the earphone of the unit. From the information received in the complaints, it is clear that the users were not expecting the phone to ring and had placed it against or near their ears without setting the phone for the talk position. In at least one case, the user was preparing to place a call when the phone rang unexpectedly. Some users have encountered unexpected ringing of the cordless phone while they were first learning to use it.

CPSC advises consumers who now have one of these phones to be sure that everyone using it is thoroughly familiar with it and knows the proper way to operate it.

Teach them to be safe shots

Seasoned hunters have an obligation to teach safe hunting practices to the novices who accompany them. No one likes to preach, but a hunter should not hesitate to point out mistakes made by beginners, says the National Shooting Sports Foundation. Most accidents in the field are the result of carelessness or violations of basic gun safety rules.

Although there are many aspects to safe hunting, three fundamental concepts cover many of them.

First, treat every gun as if it's loaded. In a vehicle or in the field, firearms should be handled



one way: unloaded, but carried as if loaded. There is no reason for a gun to be loaded until the hunter is in the field and ready to use it.

Secondly, learn muzzle control. This means keep the muzzle pointed in a safe direction at all times, and know when to briefly unload, such as



when going through difficult terrain or crossing a fence or stream.

Finally, identify the target. New hunters are prone to become excited when they believe game is nearby. But every new hunter should understand that he shouldn't even think about taking a shot until he's absolutely sure of his target.

The National Shooting Sports Foundation offers a booklet, "Firearms Safety Depends on You," for 25 cents. Write to the foundation's literature department, Box 1075, Riverside, CT 06878.

TAC ATTACK

Lightweight headphones can tune you out

Those lightweight headphones and portable radios or cassette players that you hang on your belt while jogging or commuting might keep you out of touch with sounds around you if you turn up the volume too high.

The *New England Journal of Medicine* reports that physicians are becoming concerned about the hearing losses of teenaged youths that may be caused by the portable stereos.

Government regulations prohibit noise exposure to workers ranging from 85 to 115 decibels, depending on the length of exposure. No exposure is allowed above this upper limit. However, investigators from Boston's Tufts New England Medical Center found that all the radio and cassette players they tested at volume settings of eight or greater were consistently near or above 115 decibels. The researchers said that any hearing loss suffered from such exposure is permanent. Thus, they recommend that volumes be set no higher than four and preferably lower.

Microwave warning

Manufacturers of baby foods and nursing kits warn that special care must be taken if their products are heated in microwave ovens, but some parents ignore the warnings. A serious injury can result.

An article in *Pediatrics* describes the case of a

DOWN TO EARTH

baby who was scalded and needed two weeks of hospital care after his mother heated his formula in her microwave. The mother poured formula into a commercial nurser and heated it for one minute at the highest setting. Several seconds after she removed the bottle from the oven, the plastic liner exploded, spilling hot formula on the baby.

The authors say that the water in baby foods and formulas heats more rapidly than fats or proteins; overheating is easy to do. Liquids heated in a microwave can become dangerously hot while the outside container remains deceptively cool, the doctors note. As a result, mouth burns are possible.

Physicians should warn parents about possible hazards of heating baby food or formula in a microwave, the authors conclude. And no matter how they are heated, baby foods and formulas should be tested for temperature before being given to infants.



Smoke Detectors. Smoke detectors double your chances of surviving a home fire. Have you checked yours recently to make sure it works?

Test Your Ladder Lean. When using a ladder, keep your belt buckle aligned within the side rails. Otherwise you are leaning out too far and could fall.

Stolen Vehicles. Nearly one in five stolen vehicles is left unlocked. But many are simply towed away. You know what to do about an unlocked car—lock it. But did you know that you can also make it harder for a thief to tow your

car? When you park next to the curb along the street, turn the front wheels all the way to the right or left. If your car has front wheel drive, pull on the emergency brake and put the transmission in "park."

Lined Draperies. Two University of Minnesota researchers began a study of the flammability of lined draperies after they spotted a label stating that the material conformed to federal standard CS 191-53. This standard, adopted in 1953, applies to *clothing*, not draperies. Drapery material in federal buildings and hospitals does have to meet a National Fire Protection Association standard, but home draperies don't. The fire test results were interesting: flames spread much more rapidly in lined draperies than unlined draperies. So, if you buy home draperies that are lined and have a CS 191-53 standard, fire-retardant label, beware.

Need a Pick-Me-Up? Eat raw carrots. Research shows that carrots raise blood sugar levels much quicker than honey, chocolate bars, raisins, potato chips, pastry, cornflakes, and ice cream. And the only food that beats a carrot is a parsnip. Besides the blood sugar benefit, carrots are rich in vitamin A—that's good for night vision.

READY TO BE READY

By Maj Lew Witt
Editor, *TAC Attack*

The centerfold of the August issue of *TAC Attack* vividly reminds us of our loss of more than a few highly-trained, professional aircrew members. These men were as we are—professional fighter pilots and WSOs. Their loss saddens us and gives us cause to reflect.

We knew these men to be dedicated, dependable high achievers, like us. Yet at a critical moment in flight, some of them apparently misjudged their abilities or those of their aircraft. Others just made a faulty split-second decision in an unforgiving environment. And some just had a bad moment (as opposed to bad day) when their hand didn't perform exactly as their mind directed. Perhaps they were *fatigued* from the pressures of day-in/day-out responsibilities of work, or home. Perhaps they weren't as *proficient* at a particular maneuver as they needed to be because of a layoff. Perhaps their minds were *preoccupied* sorting out self-doubts or pondering marital or financial problems.

We often speak in glowing terms of the pride that comes from being a fighter pilot. The rewards are great—but the stakes are high. Most other professions make allowances for an occasional bad day. But in tactical aviation, participating in realistic training with anything less than total concentration or commitment can be a dangerous proposition.

We may never know exactly why these men died. But we *do* know the circumstances that we face, and we *do* know our own mental/emotional state. When things in our own lives are seriously wrong, way down deep inside, we sense a still, small voice whispering "Caution." At the gut level, we know when we should take it easy—or when we should take it through dry—because of our proficiency, fatigue, or mental/emotional stress. It's at this point that we choose to listen to either pride (which says "I can hack it; I've done it a hundred times before") or to conscience. Some of our departed friends listened to pride.

We are training to be the best. We are training the way we expect to fight. It's a fast-paced, busy environment with many, many inputs. We cannot



juggle the extreme physical and mental demands of some of the events we fly if our minds are not peaked. And our minds cannot be peaked if they are burdened, fatigued, or worried.

We are each unique. Only you know your own mental/emotional state. You can hide it behind a mask (either the plastic smile or the Stoic variety), and perhaps no one will know. But if you mask or deny these realities, you do so at your own risk or peril. Courage is obeying a whispering conscience rather than boisterous pride.

Be courageous. ➤

flying under the influence

By Maj Peter M. Maese
24 COMPW/SEF
Howard AFB, Panama

Flying under the influence? What is this, another not-so-welcome attack on my social behavior? Who needs it? Well, take heart. The kind of influence I'm talking about deals strictly with emotions—the emotional aspects of a poor, perturbed mind, possibly yours or someone you work with. Specifically, I'm talking about that great American institution, divorce. If you think alcohol and flying don't mix, you ought to try this one (or should you?).

My aim in this article is to help everyone realize the impact of divorce on our flyers. I'll also point out some danger signals for supervisors to look for. For you veterans who have experienced divorce, this represents very little in the way of news—perhaps only a review of unpleasant memories. For those of you blessed enough to have escaped the trauma, bear with me; you may need this some day. I hope not.

Psych tests seem to show that we pilots and navs are the roughest, toughest, most unshakable forms of *American Perfection*. By comparison, the Roman legions were a bunch of shoe clerks. Nothing bothers us, least of all a paltry thing like divorce, right? I'm here to tell you that divorce sets up a series of emotional disturbances that, if not recognized and corrected, can affect one's whole life (or what remains of it).

An amazing bit of news, to me at least, came from a summary of research done by two Michigan Universities on the character profile of pilots compared to non-



flying civilians. The objective of the study was to determine whether or not the legendary image of aviators, the John Wayne (a moment of silence please) stereotype, is fact or fiction. Good news. It looks as though we *are* such people. The study concluded that pilots tend to have character traits of—

- dominance—likely to argue a point of view
- heterosexuality (any questions?)
- achievement—a real TAC hacker
- change—amenable to doing new things
- endurance—plain hard work, in that order.

Other areas were also discussed, but they are too numerous to mention here.

Take a guy like that and think about his wife's influence on these traits, particularly the first two. Now, imagine situations that overstimulate one or more of the traits and create an imbalance of his character. Next, consider the emotional aspects of a decaying close relationship. Eyes water, aches and pains develop, and the guy is on the way to becoming an emotional wreck. If you're on this fellow's wing, or you're his supervisor, you've got real trouble.

You would think that unless

the supervisor is aware of the problem, it can be as tough to see as a lone tree in a thick forest. Not so if you get to know your guys well enough to detect subtle character changes. Depression, anxiety, hostility, and rationalization are all indicators.

Take a hard look at the guy who suddenly seems mad at the world or seems somewhat displaced. Whether he's taking bites out of everyone or unusually quiet and sullen, he's obviously uncomfortable. How about the guy who suddenly starts making a lot of little mistakes, errors of omission? Could be he's on his way to a bigger mistake, like an aircraft accident. Remember, this guy could have just lost a big chunk out of his life. Could be he doesn't care a whole lot about anything, including airplanes.

Typically, people under a great deal of stress will forget things or rush through projects and tasks before they're complete. Bad news: flyers are not exempt. How about poor vigilance, decreased reaction time, and decreased problem-solving ability?

The first thing to do is talk to the guy and find out the facts. Maybe a little walking on eggshells is appropriate. Be careful; you could be getting into all kinds of sensitive areas. By all means, if you see changes in

character and discover serious marital problems, get the guy away from the cockpit, or at least take a hard look at the amount and type of flying he is doing. Don't be talked out of using your good judgment by the "I can hack it" alibi.

Step two is, get some professional help for the guy. It doesn't need to be the village shrink or someone he fears—that might cause more problems than already exist. There are others, like the neighborhood Big Guy coordinator (Chaplain). In spite of our not-so-humble egos, there are some things even pilots and navs can't do alone.

The lesson is simple, friends. Take care of your folks. Be concerned with their well-being. And you'll be repaid tenfold with superior performance and a stable force. Divorce can emotionally tear a person apart. Learn to recognize its effects. It represents a real threat to maintaining a fully competent and, above all, safe flying organization. ➤

(Editor's note: Divorce can be as devastating to an individual as Maj Maese relates. But the symptoms discussed in this feature article are not always indicative of marital problems. They may indicate any kind of serious problem in the individual's life that's important enough to take his mind off the job at hand. Squadron mates as well as supervisors must recognize symptoms of preoccupation, regardless of their cause. He may not be your best friend—but your best friend might be on his wing.)



After graduating from Southwest Texas State University in 1971, Major Maese went to pilot training at Laredo AFB, Texas. Since then he's flown C-130s at Little Rock AFB, AR; T-37s with the ACE program at Webb AFB, TX, and Wurtsmith AFB, MI; and AC-130H Gunships at Hurlbert Field, FL. When he sent us his article he was the 24th Comp Wing's Flying Safety Officer flying O-2As with orders back to Texas in hand.

FLIGHT SAFETY AWARD OF THE QUARTER

The nominations for this quarter were so strong that the awards board declared a tie.

CAPT EDD P. CHENOWETH, Flight Safety Officer at the 366 TFW, Mountain Home AFB, Idaho, has earned an excellent reputation for his sound investigative work. Even though a Materiel Deficiency Report (MDR) on a leaking pneumatic accumulator was closed, Captain Chenoweth continued his research. Because of what he found, the MDR was reopened. He wrote an excellent high accident potential report concerning a subtle but serious malfunction in the terrain following radar; his report brought the problem and how to recognize it to the attention of all F-111 operators. His thorough investigation of a pitot-static malfunction, which almost caused a midair with a KC-135, was highly praised. He followed it up with an article that was published in *TAC Attack*.

Captain Chenoweth is frequently selected for special jobs such as interim investigating officer for an F-111 Class A mishap, as leader of a team providing staff assistance to a nearby ANG unit, and as investigator of an F-111D liquid oxygen fire at another Air Force base. But he devotes most of his time to anticipating and preventing problems. His work on the F-111 oil indicating



system and engine overspeed warning problems resulted in hardware changes which should reduce engine emergencies in flight by 15 to 20 percent. He recognized shortcomings with local aircraft impoundment procedures, and set up a training seminar for impoundment officers; now this training is mandatory for all new maintenance officers.

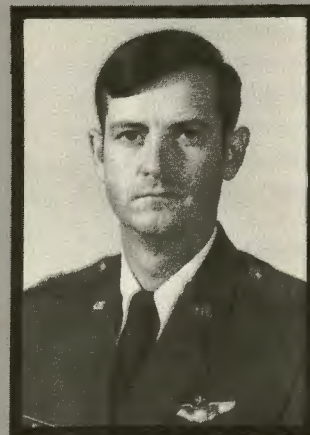
Captain Chenoweth's persistence, sound judgment, and initiative as a flight safety officer have earned him the TAC Flight Safety Award of the Quarter.

CAPT JAMES M. WILLIAMS, Chief of Flight Safety for the 405 TFW, Luke AFB, Arizona, has also earned an excellent reputation for his effective management of the wing flight safety office and five tactical training squadrons located at Luke AFB and Williams AFB, Arizona.

During his tenure as the Chief of Flight Safety, the wing flew a total of 32,807 sorties and 35,451 hours without a Class A or B mishap. And in 1983, the 405th was the only F-15 wing to achieve a zero (chargeable) FOD rate.

Capt Williams developed and implemented an excellent Midair Collision Avoidance (MACA) program providing extensive cooperation with federal and civil aviation agencies, participation in local flying seminars, MACA displays in local airports, and publicity through Federal Aviation Administration newsletters.

In addition to his wing duties, he assumed the role of the 832 AD flight safety officer, supervising safety program elements common to both wings in the air division. In this capacity Captain Williams initiated an extensive air division-wide spot inspection program that has successfully identified potential problem areas. He made things



happen by establishing standard continuity guides for squadron flying safety officers. During a recent TAC MEI, the safety programs at both wings and the air division all received excellent ratings. The comprehensive operating procedures developed by Capt Williams were largely responsible for the success.

Captain Williams' vision, leadership, and effective management of squadron, wing, and air division safety programs have earned him the TAC Flight Safety Award of the Quarter.

TAC TALLY



CLASS A MISHAPS	▶
AIRCREW FATALITIES	▶
TOTAL EJECTIONS	▶
SUCCESSFUL EJECTIONS	▶

TAC		
JUL	THRU JUL	
	1984	1983
0	13	19
0	10	6
0	10	20
0	9	17

ANG		
JUL	THRU JUL	
	1984	1983
0	3	8
0	2	6
0	2	7
0	2	4

AFR		
JUL	THRU JUL	
	1984	1983
0	0	1
0	0	1
0	0	0
0	0	0

TAC's TOP 5 thru JUL 84



TAC FTR/RECCE	
class A mishap-free months	
56	355 TTW
35	58 TTW
28	4 TFW
24	405 TTW
22	27 TFW

TAC AIR DEFENSE	
class A mishap-free months	
138	57 FIS
91	5 FIS
88	48 FIS
47	318 FIS
38	87 FIS

TAC-GAINED FTR/RECCE		
class A mishap-free months		
147	188 TFG	(ANG)
139	138 TFG	(ANG)
138	917 TFG	(AFR)
116	114 TFG&174TFW	(ANG)
111	112 TFG	(ANG)

TAC-GAINED AIR DEFENSE	
class A mishap-free months	
121	177 FIG
87	125 FIG
70	119 FIG
54	107 FIG
45	147 FIG

TAC/GAINED Other Units		
class A mishap-free months		
180	182 TASG	(ANG)
164	110 TASG	(ANG)
160	USAFTAWC	
152	84 FITS	
94	552 AWACD	

CLASS A MISHAP COMPARISON RATE

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

TAC	1984	3.4	3.4	2.8	2.0	2.6	3.5	3.0					
	1983	6.9	5.3	3.4	3.8	4.0	3.9	4.5					
ANG	1984	0.0	2.3	1.5	2.2	2.6	2.1	1.8					
	1983	9.1	7.0	4.4	4.3	3.4	4.2	4.8					
AFR	1984	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
	1983	0.0	0.0	0.0	0.0	0.0	0.0	3.6					

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

FLEAGLE

